

INITIAL STUDY

FOR THE

BEAR VALLEY UNIFIED SCHOOL DISTRICT
BIG BEAR HIGH SCHOOL FOOTBALL AND
TRACK STADIUM PROJECT

Prepared for:

Bear Valley Unified School District

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LIST OF ABBREVIATIONS AND ACROYNMS

AAM	American Association of Museums
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ACM	Asbestos-containing materials
ADA	American Disability Act
APE	Area of Potential Effect
APN	Assessor Parcel Number
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
BBHS	Big Bear High School
BBLDWP	City of Big Bear Lake DWP
bgs	below ground surface
BLM	Bureau of Land Management
BMPs	Best Management Practices
BRA	Biological Resources Assessment
BVES	Bear Valley Electric Service
BVUSD	Bear Valley Unified School District
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalOSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Building Code
CCAR	Climate Action Registry
CDFW	California Department of Fish & Wildlife
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
CUP	Conditional Use Permit
CWA	Clean Water Act
CWP	Countywide Plan
dB	decibel
dba	A-weighted decibel
DOI	Department of Interiors
DTSC	Department of Toxic and Substance Control
DWP	Department of Water and Power
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FGC	Fish & Game Code
FIRM	Flood Insurance Rate Map
GCC	Global Climate Change
GHG	Greenhouse Gas

GSAs	Groundwater Sustainability Agencies
GSPs	Groundwater Sustainability Plans
HCP	Habitat Conservation Plan
HAS	Hydrologic Sub-Area
HUD	U.S. Housing & Urban Development
IN	Institutional
IS/MND	Initial Study / Mitigated Negative Declaration
LRA	Local Responsibility Area
LSTs	Localized Significance Thresholds
LUST	Leaking Underground Storage Tank
MARTA	Mountain Area Regional Transit Authority
MBTA	Migratory Bird Treaty Act
MCLs	maximum contaminant levels
MM	Mitigation Measure
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
OS	Open Space
PA	Production/Attraction
PEIR	Program Environmental Impact Report
PF	Public Facility
PRMMP	paleontological resources monitoring and mitigation plan
RL	Rural Living
RWQCB	Regional Water Quality Control Board
SBCTA	San Bernardino County Transportation Authority
SBTAM	San Bernardino Transportation Authority Model
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SMBMI	San Manuel Band of Mission Indians
SPOW	spotted owl
SVP	Society of Vertebrate Paleontology
SWPPP	Storm Water Pollution Prevention Program
SWRCB	State Water Resources Control Board
TAZ	Traffic Analysis Zone
TCP	Timberland Conversion Permit
TGA	Trip Generation Assessment
THP	Timber Harvest Plan
TCR	Tribal Cultural Resource
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture

USFWS	U.S. Fish & Wildlife Services
UWMP	Urban Water Management Plan
VdB	velocity in decibels
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	Vehicle Miles Traveled
WOTUS	Waters of the United States
WTP	Wastewater Treatment Plant
WQMP	Water Quality Management Plan

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ENVIRONMENTAL CHECKLIST

INTRODUCTION

1. Project Title: Big Bear High School Football and Track Stadium Project
2. Lead Agency Name: Bear Valley Unified School District
Address: *Physical:* 42271 Moonridge Road, Big Bear Lake, CA 92315
Mailing: 201 N E St, San Bernardino, CA 92401
3. Contact Person: Terry Planz, Director of Maintenance & Operations
Phone Number: (909) 866-4179
4. Project Location: The project is located at the northwest corner of the intersection at Maple Lane and Baldwin Lane in the Unincorporated Community of Sugarloaf within San Bernardino County, CA. The project is located within the USGS Topo 7.5-minute map for Big Bear City, CA, and the site is located in Section 13, Township 2 North and Range 1 East. The approximate GPS coordinates of the project site are 34.251683, -116.825905 (34° 15' 6.00" N, 116° 49' 33.36" W). Refer to Figures 1 and 2 for the regional and site location maps.
5. Project Sponsor Name: Bear Valley Unified School District
Address: *Physical:* 42271 Moonridge Road, Big Bear Lake, CA 92315
Mailing: 201 N E St, San Bernardino, CA 92401
6. General Plan Designation: Previous General Plan Designation: Institutional (IN) and Rural Living-10/20/40 acre minimum (RL); NEW: Public Facility (PF)
7. Zoning: Previous Zoning: Bear Valley/Institutional and Bear Valley/Rural Living-20 Acre Minimum; NEW: Institutional (IN)
8. Project Description:

Existing Site Conditions

The proposed project site is located in the Mountain Region of San Bernardino County, just east/southeast of the City of Big Bear Lake. More specifically, the proposed project site is located in the unincorporated community of Sugarloaf in Big Bear, California. Figures 1 and 2 provide a regional and local context, respectively, of the project location.

The proposed project site has been previously engineered, as it contains the previously occupied Chautauqua High School, which is a continuation school serving Bear Valley Unified School District (BVUSD or District) students, the operations for which have since been relocated to Big Bear High School. The site contains five large structures, two deteriorating baseball fields (one dirt, one containing some grass), as well as several areas that have been paved with concrete or asphalt. Vegetation within the site is minimal, though several trees are located along the Baldwin Lane frontage, which continues north along the site frontage at Maple Lane for about 200 feet.

Introduction

The BVUSD serves the community of Bear Valley area, including the City of Big Bear Lake, as well as the surrounding unincorporated communities. The District operates one High School, one Continuation School, one Middle School, three Elementary Schools, and one K-8 school located in nearby Forest Falls. The BVUSD will serve as the Lead Agency under the California Environmental Quality Act (CEQA) for this project. The District desires to repurpose an existing site that recently served as the Chautauqua High School (Continuation School) to provide a new football and track stadium to serve Big Bear High School, as well as the Chautauqua High School, which currently operates at the same site as Big Bear High School. This Initial Study evaluates the potential effects to the environment from implementing the project.

Project Description

The proposed Big Bear High School Football and Track Stadium Project consists of development within a ~7-acre site designated for Institutional use by the County of San Bernardino General Plan on the northwest corner of Maple Lane and Baldwin Lane in the Unincorporated Community of Sugarloaf. The project consists of one parcel with the following Assessor's Parcel Numbers (APN): 0312-311-20. Refer to the site plan, provided as Figure 3.

The project proposes to demolish the existing structures on site, and develop the site as a continuation of the Big Bear High School athletic fields with a new football and track stadium to serve the High School and District athletics.

The football field will be of standard size (100 yards long between the goal lines and 160 feet wide), with additional turf area surrounding the entirety of the field to accommodate the use of the field for soccer games, as well as football games. This is typical of athletic fields throughout the State and County because it allows the field to serve multiple sports within one space. Around the football field, the District plans to install a 400 meter track with 8 1.22-meter wide lanes.

On the western edge of the site, centered with the football and track field, the project proposes to install a home team grandstand with a 750± seating capacity. On the eastern edge of the site, centered with the football and track field, the project proposes to install a visiting team grandstand with a 250 ± seating capacity. The style of grandstands will be bleachers. The project proposes to install field lighting illuminating to 50 footcandles on either side of the home and visiting team grandstands, with lighting directed towards the fields, shielded to the greatest extent possible from the nearby residential community to the south of the project site.

At the southern end of the site toward Baldwin Lane, the project proposes to install a north facing scoreboard that will be approximately 8-feet high by 25-feet wide in size and will be about 23-feet in height. On either side of the scoreboard, two flag poles will be installed.

The proposed project will be accessible via new driveways at Baldwin Lane and Maple Lane, which connect to a parking lot that provides exit at either access point. The parking provided at the site will be limited to handicapped (ADA) parking, and a designated drop-off zone. Approximately 5-7 ADA parking spaces will be installed. At the entryway to the site along Maple Lane, a new concrete sign will be installed for the Big Bear High School Stadium, stating the site address, as well as notating the Bear Valley Unified School District.

At several locations throughout the site, night lighting will be provided through 12' high LED light poles that will be installed as needed for a minimum of 1 footcandle per square-foot (SF). Additionally, concrete walkways and curbing will be installed at various locations throughout the site to provide pedestrian movement and access throughout the site. Several drinking fountains will be installed throughout the site, as shown on the site plan provided as Figure 3. Portable restrooms will be available for use on the site.

Along the outskirts of the project boundary, slope stabilization is required, and rip-rap slope stabilization will be installed to ensure slope stability.

The site boundary will be fenced with an 8' high chain link security fencing and gates pursuant to District Standards. Additionally, the project includes landscaping around the boundary of the site, within the parking lots. The landscape coverage of the site will equal about 15-20% of the total site area.

Electric service is available on Baldwin Lane from Bear Valley Electric Service. Water service is available in Baldwin Lane from the City of Big Bear Lake, Department of Water and Power (DWP). Sewer and Solid Waste service will be provided by the Big Bear City Community Services District (BBCCSD).

Operational Information

The new Big Bear High School Football and Track Stadium Project will require 2 additional employees of the District to operate the project site. The field is anticipated to be utilized in the following ways:

- Practice for various athletic teams during after-school hours 2:30 PM to 5:30 PM for an anticipated 5 days per week with limited use during the summer.
- Use for home games, matches, and meets for the Football, Track, Soccer, athletic teams at the high school. The new Stadium is anticipated to host 16 games per year, typically between the hours of 2:30 PM to 9:30 PM on weekdays, or 10:00 AM to 4:00 PM on weekends.
- Other field uses include middle school promotion, high school graduation, and possibly use by the high school band for practice.

It is anticipated that the stadium could host a maximum of about 1,000 persons, excluding the staff and students participating in the athletic events, of which anywhere from 75 persons to 100 persons would attend each event, depending on the type of event the new stadium would be hosting at a given time. Lighting will only be in use from 4:00 PM to 11:00 PM, with no lighting allowed after 11:00 PM.

Construction Scenario

Construction of the proposed Big Bear High School Football and Track Stadium Project is anticipated to require approximately 6-12 months, with the anticipated start date of construction in May 2022 and the completion date by the January 2023. The project site currently contains 5 existing buildings. It is possible two of the five structures contain asbestos. The site also contains two deteriorating baseball fields (one dirt, one containing some grass), as well as several areas that have been paved with concrete or asphalt. As such, the project will also require demolition and removal of the existing buildings, as well as the existing concrete and pavement within the

site. The project is anticipated to require minimal cut and fill with any cut being reused to balance of the site through grading, which will minimize import/export of material.

Any on-site trees within the cut and fill areas and the roadway will be removed. It is anticipated that a maximum number of 25 employees will be required to support the construction of the project each day. Grading will be by traditional mechanized grading and compaction equipment including, but not limited to the following: front end loader, excavator, loader backhoe, dump truck, forklift, skid steer, mobile crane, bulldozer, grader, roller, water wagon, asphalt compactors, telehandlers, cement trucks, various hand tools traditional to grading operations, etc. For the areas that require paving, such as the new parking area, the asphalt or concrete will be delivered to the site and applied to these areas in a routine manner. It is the intent of the District to attenuate and minimize noise, traffic, and dust during the course of construction.

9. Surrounding land uses and setting: (Briefly describe the project’s surroundings)

The San Bernardino County General Plan Land Use is Institutional (IN), while the Zoning classification is Institutional (IN). The land uses bordering the project site are outlined in Table 1 below and a general outline of adjacent uses are depicted on Figure 4:

**Table 1
EXISTING LAND USE AND LAND USE ZONING DISTRICTS**

Location	Existing Uses	Land Use
Project Site	Chautauqua High School (vacant)	Institutional (IN) and Rural Living-10/20/40 acre minimum (RL) NEW: Public Facility (PF)
North	Big Bear High School	Public Facility (PF)
South	A residential neighborhood	Low Density Residential (LDR) 2-5 du/ac max
East	Baldwin Lane Elementary School	Public Facility (PF)
West	Big Bear Skate Park and other Park facilities and vacant land	Public Facility (PF)

10. Other agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

Notice of Intent (NOI) to the State Water Resources Control Board (SWRCB) for a NPDES general construction stormwater discharge permit. This permit is granted by submittal of an NOI to the SWRCB, but is enforced through a Storm Water Pollution Prevention Plan (SWPPP) that identifies construction best management practices (BMPs) for the site. In the project area, the Santa Ana Regional Water Quality Control Board enforces the BMP requirements described in the NPDES permit by ensuring construction activities adequately implement a SWPPP. Implementation of the SWPPP is carried out by the construction contractor, with the Regional Board and County providing enforcement oversight.

Additionally, the project must comply with the San Bernardino County Fire Department, Land Use Services-Building and Safety/Code Enforcement, Public Health-Environmental Services, Department of Public Works, and any other responsible agency that may have discretionary authority over all or a portion of the Project.

No other permits or agency requirements have been identified in association with the proposed project.

11. Have California Native American tribes traditionally and cultural affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

No consultation letters were sent to any Tribes, as none have requested consultation from the District under AB 52 to the District's knowledge.

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology / Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards & Hazardous Materials |
| <input checked="" type="checkbox"/> Hydrology & Water Quality | <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources |
| <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation | <input type="checkbox"/> Tribal Cultural Resources |
| <input checked="" type="checkbox"/> Utilities / Service Systems | <input checked="" type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation, the following finding is made:

<input type="checkbox"/>	The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input checked="" type="checkbox"/>	Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
<input type="checkbox"/>	The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION , including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Tom Dodson & Associates
 Prepared by _____

12/28/21
 Date _____



 Lead Agency (signature)

12/28/2021
 Date _____

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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
I. AESTHETICS: Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning or other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

Environmental Setting

The Big Bear High School Football and Track Stadium site contains the remaining structures that comprised the Chautauqua High School (Continuation School), which has since been relocated to Big Bear High School. The proposed project site has been previously engineered and contains five large structures, two deteriorating baseball fields (one dirt, one containing some grass), as well as several areas that have been paved with concrete or asphalt. Vegetation within the site is minimal, though several native trees are located along the Baldwin Lane frontage, which continue north along the site frontage at Maple Lane for about 200 feet. Please refer to Figures I-1 through I-5, which depict the ground level views of the project site along Baldwin Lane and Maple Lane.

Impact Analysis

- a. *Less Than Significant Impact* – A scenic vista can generally be defined as a viewpoint from a public vantage point that provides expansive views of a highly-valued landscape for the benefit of the general public. Common examples include undeveloped hillsides, ridgelines, and open space areas that provide a unifying visual backdrop to a developed area. Scenic resources are those landscape patterns and features that are visually or aesthetically pleasing and that contribute affirmatively to the definition of a distinct community or region such as trees, rock outcroppings, and historic buildings. As stated above, the proposed Football and Track Stadium would be developed within a site containing existing facilities that would be demolished in order to enable the Stadium to be built. None of the features of the proposed project site contain or would impair views of any scenic vistas.

A scenic vista impact can also occur when a scenic vista can be viewed from the project area or immediate vicinity and a proposed development may interfere with the view to a scenic vista. The project is situated in the Mountain Region of the County of San Bernardino. Development at this location would not interfere with mountain views to the North or any surrounding mountain views. The proposed project is located within a site that is at a slightly higher elevation than the surrounding area (the highest point is about 6,979’ in elevation at the southwest corner of the project site, and the lowest is about 6,952’ at the northeast corner of the project site), situated in the area that separates the Big Bear City area from the Sugarloaf community area (refer to Figure 1). Views from residences

to the north of the project would not be impacted by the proposed project development as the hills and tree line prevent views to Big Bear High School. Views from the residences to the south of the project would not be substantially impacted by the proposed development. Based on a review of ground-level views, the existing views to the north consist of trees in the foreground view, school facilities in the middle-ground view, and very limited/highly obstructed background views of the mountains to the north. The proposed project may further obstruct these views to the mountains to the north, but given that the existing setting does not offer pristine nor scenic vistas of the mountains, the development of the project site with a new stadium would not result in a significant impact to a scenic vista. Additionally, the proposed project would develop a sports field that would be consistent with surrounding uses, as the project site currently contains two baseball fields, and is adjacent to the Big Bear High School fields, creating a use consistent with and supportive of the existing High School setting.

The San Bernardino Countywide Plan Program EIR (PEIR) states the following pertaining to impacts to scenic vistas and other aesthetic impacts: *"In many cases, such development would occur in the region's forested areas, where scenic vistas are already fragmented by trees and topography"* (pg. 5.1-14). Given that the County utilizes the above as rationale for why development in the mountain region would not have an impact on a scenic vista, the same rationale can be applied to the type of development proposed as part of this project. As such, given that the proposed project would both occur adjacent to the regions forested area, and that views in this area are fragmented by trees and topography, it is anticipated that the proposed project would have a less than significant impact on scenic vistas within the project area. Therefore, given that the elevation of the proposed Stadium would be similar or only slightly elevated compared to the surrounding uses, that the proposed project is consistent with the surrounding uses, and that vistas of the mountains to the north and south would not be substantially impacted by development of this project, the project will have a less than significant potential to have a substantial adverse effect on a scenic vista. No mitigation is required.

- b. *Less Than Significant Impact* – The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. The project site is located on Baldwin Lane, which is not considered by the State or the County to be a scenic highway. The proposed project consists of Great Basin sagebrush scrub and Pinyon-juniper woodland plant communities. Impacts on this vegetation type would be considered less than significant since this vegetation type is common throughout the San Bernardino Mountains and other mountain ranges in the region. The County has utilized the following as criteria for designating scenic resources:

Features meeting the following criteria shall be considered for designation as scenic resources: A roadway, vista point, or area that provides a vista of undisturbed natural areas; Includes a unique or unusual feature that comprises an important or dominant portion of the viewshed (the area within the field of view of the observer); and Offers a distant vista that provides relief from less attractive views of nearby features (such as views of mountain backdrops from urban areas). (San Bernardino General Plan EIR, February 2007)

The proposed project site does not meet any of the above criteria that would define the area as containing a scenic resource. A few trees will be removed as part of the proposed project, though only those located internally within the site boundaries; most of the trees along the roadway and are anticipated to remain in place. The number of trees that would be removed in order to develop the site as proposed is anticipated to be no more than 10. There are no regulations that apply to the proposed development as the School District does not require development permits or any applications with San Bernardino County Development Code. As such, the removal of a minimal number trees in order to develop the project site with the proposed Stadium would not constitute substantially damaging scenic resources including trees, particularly given that many of the trees located internally are intended for landscape purposes, and the proposed project will include landscape features that would effectively replace the loss of landscape trees on site. Therefore, given

that no significant scenic resources exist on site, development of the proposed Big Bear High School Football and Track Stadium project would have a less than significant potential to substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

- c. *Less Than Significant Impact* – The proposed project would be installed in an area defined as an “urban cluster” under the Census,^{1,2} and as such is considered to be in an urban area. The proposed project occurs in a suburban portion of the Community of Sugarloaf, within the County of San Bernardino. The proposed facilities would be constructed within existing school facilities, and would develop new school facilities that are commensurate with some of the existing uses on site, and also with the adjacent use. Additionally, the proposed project does not require any entitlements to proceed once funded. According to the San Bernardino County General Plan, the proposed project is not located in a delineated scenic area. The proposed project is currently zoned Institutional (IN) in order to be compatible with the Land Use Category of Public Facility (PF) within the recently approved (October 27, 2020) Countywide Plan (CWP). The IN zoning district provides sites for public and quasi-public uses facilities, and similar and compatible uses, such as the proposed public use sports complex. The proposed project would comply with the applicable zoning development standards governing scenic quality pertaining to the Institutional Zoning District. The San Bernardino General Plan Policy NR-4.1 Preservation of Scenic Resources states that “*We consider the location and scale of development to preserve regionally significant scenic vistas and natural features, including prominent hillsides, ridgelines, dominant landforms, and reservoirs.*” As discussed under issues I(a) and I(b), above, the proposed project would not disrupt or otherwise impact regionally significant vistas or other natural features. The proposed project would install a Stadium that would serve the Community, adjacent to existing developed school facilities, thus blending with the surrounding environment. Given the discussion above, and under issues I(a) and I(b), the proposed project would have a less than significant potential to conflict with applicable zoning or other regulations governing scenic quality
- d. *Less Than Significant With Mitigation Incorporated* – Implementation of the proposed project will create new sources of light during the construction and operational phases of the project. Light and glare from the proposed stadium includes field lighting, which will be controlled to focus the light on the fields and minimize light spillage into the surrounding area, and safety and security lighting within the parking lot. The San Bernardino County Development Code requires new projects to adhere to the provisions of the Chapter 83.07.040 Glare and Outdoor Lighting – Mountain and Desert Region. While the proposed project will generate a new source of lighting, the majority of the lighting will be directed east, west, and north, avoiding the sensitive receptors (residences) to the south. The project proposes to install field lighting illuminating to 50 footcandles on either side of the home and visiting team grandstands, with lighting directed towards the fields, shielded to the greatest extent possible from the nearby residential community to the south of the project site. Compliance with the provisions outlined in San Bernardino County Development Code 83.07.040 Glare and Outdoor Lighting – Mountain and Desert Regions is a mandatory requirement for all new construction with which a project must comply. However, because the proposed project is located within the Mountain Region, which generally is more sparsely populated and contains substantial areas providing “dark skies” with minimal ambient nighttime illumination (County General Plan page 5.1-24), a facilities lighting plan shall be prepared to ensure that nearby residences are not substantially impacted by the introduction of new light sources and potential glare from the proposed BBHS Football and Track Stadium Project. Therefore, to protect nearby sensitive uses from direct light and glare from new lighting and to protect vehicles traveling on adjacent roadways, the following mitigation measures shall be implemented:

AES-1 *A facilities lighting plan shall be prepared and shall demonstrate that glare from the proposed sports complex lighting and facility design that may create light and glare affecting adjacent occupied property are sufficiently shielded to prevent light and glare from spilling into occupied structures. This plan*

¹ <https://sitecheck.opr.ca.gov/>

² <https://databasin.org/datasets/2e85241791144ded9bba064b7d196f7b/>

shall specifically indicate that the lighting doesn't exceed the standards set forth in Section 83.07.040 of the County's Development Code pertaining to lighting requirements. This plan shall be reviewed and implemented by the District to minimize light or glare intrusion onto adjacent properties.

AES-2 *Prior to approval of the Final Design, an analysis of potential glare from sunlight or exterior lighting of the project that may impact vehicles traveling on adjacent roadways shall be prepared and approved by the District. This analysis shall demonstrate that due to orientation and/or shielding of lighting, no significant glare may be caused that could negatively impact drivers on the local roadways or impact adjacent land uses. If potential glare impacts are identified, the District shall modify the lighting orientation, use non-glare reflective materials or shall implement other design solutions to eliminate any identified potentially significant glare impacts.*

With implementation of these mitigation measures, potential light and glare impacts associated with the proposed project will be reduced to a less than significant level.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<p>II. AGRICULTURE AND FORESTRY RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</p>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a. *No Impact* – The proposed project site has been previously engineered and contains five large structures, two deteriorating baseball fields (one dirt, one containing some grass), as well as several areas that have been paved with concrete or asphalt. Vegetation within the site is minimal, though several trees are located along the Baldwin Lane frontage, which continue north along the site frontage at Maple Lane for about 200 feet. No agricultural uses exist within the project site. Neither the project footprint nor the surrounding area are designated for agricultural use; no agricultural activities exist in the project area; and there is no potential for impact to any agricultural uses or values as a result of project implementation. According to the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, and to the San Bernardino Countywide Plan Agricultural Resources Map, no prime farmland, unique farmland, or farmland of state importance exists within the vicinity of the proposed project (Figures II-1 and II-2).

No adverse impact to any agricultural resources would occur from implementing the proposed project. No mitigation is required.

- b. *No Impact* – There are no agricultural uses currently within the boundaries of the project site or adjacent to the project site. The San Bernardino County General Plan Land Use designation is Public Facility (PF), while the Zoning classification is Institutional (IN). Therefore, no potential exists for a conflict between the proposed project and agricultural zoning or Williamson Act contracts within the project area. No mitigation is required.
- c. *No Impact* – Please refer to issues II(a) and II(b) above. The project site is located within the Unincorporated Community of Sugarloaf, within the County of San Bernardino. The San Bernardino County General Plan Land Use designation is Public Facility (PF), while the Zoning classification is Institutional (IN). This land use designation would not support forest land or timberland uses or designations. The proposed project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)). CAL FIRE stipulates that when a project will convert timberland to a use other than growing timber a Timberland Conversion Permit (TCP) is required [PRC 4621(a)]. Also, when projects are converting timberland to another use, the operations are considered commercial timber operations even if the logs are not being sold [PRC 4527(a)(1) and (2)]. While trees are found in abundance in the project area, no timberland resources would be disturbed as a result of project implementation because the project site contains the former Chautauqua High School, and as such, the project site is not considered forest land. The site is already disturbed and the use of the site as the proposed BBHS Football and Track Stadium would have a less than significant potential to conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).
- d. *No Impact* – The proposed project would not result in the loss of forest land or conversion of forest land to non-forest use. The proposed project would develop a project site that is zoned for Institutional (IN) uses and the land use designation is Public Facility (PF), no timberland designations exist at the project site. No forest resources occur within the area of potential effects (APE). Thus, no impacts to forest resources are anticipated to be associated with the implementation of the proposed project.
- e. *No Impact* – Because the project site and surrounding area do not support either agricultural or forestry uses and, furthermore, because the project site and environs are not designated for such uses, implementation of the proposed project would not cause or result in the conversion of farmland or forest land to alternative use. No adverse impact would occur. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: The following information utilized in this section was obtained from the technical study “Air Quality and GHG Impact Analyses, BV-191, Big Bear High School Football and Track Stadium Project, Big Bear (San Bernardino County), California” prepared by Giroux & Associates dated October 19, 2021, and provided as Appendix 1 to this document.

Background

Climate

The project area is in the San Bernardino Mountains. The area is characterized by an alpine climate, with substantial winter precipitation in the form of winter snow because of its high elevation. Snowfall, as measured at lake level, averages 61.8 inches each year (although upwards of 100 inches can accumulate on the forested ridges bordering the lake, above 8,000 feet). Snow has fallen in every month except July and August. There are normally 16.5 days each year with measurable snow (0.1 inch or more).

On average, the Bear Valley area receives approximately 24 inches of precipitation per year, with a sharp transition between the western edge of the Valley at the dam and the eastern edge at Baldwin Lake. Historical precipitation consists of both rainfall and snowfall. Within the Big Bear watershed, the precipitation varies with location. At the dam, Big Bear Lake receives about 36 inches of precipitation per year, and about 14 inches at the east end of the Valley.

Daily minimum temperatures in the summer are from 60°F to 70°F. Temperatures in the winter average approximately 35 °F to 40 °F. According to the National Weather Service, the warmest month at Big Bear is July, when the average high is 80.7 °F and the average low is 47.1 °F. The coolest month is January, with an average high of 47.1 °F and an average low of 20.7 °F.

Air Quality Standards

Existing air quality is measured at established Southern California Air Quality Management District (SCAQMD) air quality monitoring stations. Monitored air quality is evaluated and in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect are shown in Table III-1. Because the State of California had established Ambient Air Quality Standards (AAQS) several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion

meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in Table III-1. Sources and health effects of various pollutants are shown in Table III-2.

**Table III-1
AMBIENT AIR QUALITY STANDARDS**

Pollutant	Average Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (PM ₁₀) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		–		
Fine Particulate Matter (PM _{2.5}) ⁹	24 Hour	–	–	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³	15.0 µg/m ³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	–	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		–	–	
Nitrogen Dioxide (NO ₂) ¹⁰	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	–	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		0.053 ppm (100 µg/m ³)	Same as Primary Standard	
Sulfur Dioxide (SO ₂) ¹¹	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	–	Ultraviolet Fluorescence; Spectrophotometry (Paraosaniline Method)
	3 Hour	–		–	0.5 ppm (1300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ¹¹	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas) ¹¹	–	
Lead ^{8,12,13}	30-Day Average	1.5 µg/m ³	Atomic Absorption	–	–	–
	Calendar Quarter	–		1.5 µg/m ³ (for certain areas) ¹²	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Avg	–		0.15 µg/m ³		
Visibility Reducing Particles ¹⁴	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No Federal Standards		
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

Source: California Air Resources Board 5/4/16

Footnotes:

- 1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter – PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- 2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year, with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$, is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
- 3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- 4 Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
- 5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- 6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- 7 Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
- 8 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- 9 On December 14, 2012, the national PM2.5 primary standard was lowered from $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at $35 \mu\text{g}/\text{m}^3$, as was the annual secondary standard of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM10 standards (primary and secondary) of $150 \mu\text{g}/\text{m}^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
- 10 To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
- 11 On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
- 12 The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- 13 The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ($1.5 \mu\text{g}/\text{m}^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- 14 In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

**Table III-2
HEALTH EFFECTS OF MAJOR CRITERIA POLLUTANTS**

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> Reduced tolerance for exercise. Impairment of mental function. Impairment of fetal development. Death at high levels of exposure. Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> Motor vehicle exhaust. High temperature stationary combustion. Atmospheric reactions. 	<ul style="list-style-type: none"> Aggravation of respiratory illness. Reduced visibility. Reduced plant growth. Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> Aggravation of respiratory and cardiovascular diseases. Irritation of eyes. Impairment of cardiopulmonary function. Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> Contaminated soil. 	<ul style="list-style-type: none"> Impairment of blood function and nerve construction. Behavioral and hearing problems in children.
Fine Particulate Matter (PM-10)	<ul style="list-style-type: none"> Stationary combustion of solid fuels. Construction activities. Industrial processes. Atmospheric chemical reactions. 	<ul style="list-style-type: none"> Reduced lung function. Aggravation of the effects of gaseous pollutants. Aggravation of respiratory and cardio respiratory diseases. Increased cough and chest discomfort. Soiling. Reduced visibility.
Fine Particulate Matter (PM-2.5)	<ul style="list-style-type: none"> Fuel combustion in motor vehicles, equipment, and industrial sources. Residential and agricultural burning. Industrial processes. Also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics. 	<ul style="list-style-type: none"> Increases respiratory disease. Lung damage. Cancer and premature death. Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> Combustion of sulfur-containing fossil fuels. Smelting of sulfur-bearing metal ores. Industrial processes. 	<ul style="list-style-type: none"> Aggravation of respiratory diseases (asthma, emphysema). Reduced lung function. Irritation of eyes. Reduced visibility. Plant injury. Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002

Baseline Air Quality

Existing and probable future levels of air quality in the project area can be best inferred from ambient air quality measurements conducted by the SCAQMD. The data resource in closest proximity to the project site is the Big Bear City Monitoring Station. However, this station only monitors small particulates (PM-2.5). The closest available data for ozone and large particulates (PM-10) is the Crestline Monitoring Station. Data for carbon monoxide and nitrogen oxide were obtained from the San Bernardino 4th Street Monitoring Station. Summary data compiled from these resources is provided in Table 3. Findings are summarized below:

Photochemical smog (ozone) levels frequently exceed standards at Crestline. The 8-hour state ozone standard has been exceeded an average of 30 percent of all days in the past four years near the project

site while the 1-hour state standard has been violated an average of 17 percent of all days. While ozone levels are still high, they are much lower than 10 to 20 years ago.

Measurements of carbon monoxide have shown very low baseline levels in comparison to the most stringent one- and eight-hour standards.

Respirable dust (PM-10) levels very rarely exceed the state or federal standard PM-10 standard. There have only been four violations in the last four years of measurement days for state PM-10 and no violations of the federal standard.

A substantial fraction of PM-10 is comprised of small diameter particulates capable of being inhaled into deep lung tissue (PM-2.5). However, PM-2.5 readings rarely exceed the federal 24-hour PM-2.5 ambient standard and there have had no violations within the previous four years.

Although complete attainment of every clean air standard is not yet imminent, extrapolation of the steady improvement trend suggests that such attainment could occur within the reasonably near future.

Table III-3
AIR QUALITY MONITORING SUMMARY (2015-2018)
(Number of Days Standards Were Exceeded and Maximum Levels During Such Violations) *

Pollutant/Standard	2017	2018	2019	2020
Ozone				
1-Hour > 0.09 ppm (S)	76	57	53	69
8-Hour > 0.07 ppm (S)	110	113	99	118
8- Hour > 0.075 ppm (F)	90	91	79	97
Max. 1-Hour Conc. (ppm)	0.146	0.142	0.129	0.159
Max. 8-Hour Conc. (ppm)	0.121	0.125	0.112	0.139
Carbon Monoxide				
8- Hour > 9. ppm (S,F)	0	0	0	0
Max 8-hour Conc. (ppm)	1.7	2.0	1.2	1.4
Nitrogen Dioxide				
1-Hour > 0.18 ppm (S)	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.063	0.055	0.056	0.054
Respirable Particulates (PM-10)				
24-Hour > 50 µg/m ³ (S)	2/55	1/59	0/54	1/40
24-Hour > 150 µg/m ³ (F)	0/55	0/59	0/54	0/40
Max. 24-Hr. Conc. (µg/m ³)	56.	78.	38.	51.
Fine Particulates (PM-2.5)				
24-Hour > 35 µg/m ³ (F)	0/49	0/54	0/46	0/58
Max. 24-Hr. Conc. (µg/m ³)	23.5	17.3	31.0	24.3

Source: South Coast Air Quality Management District;
Crestline Monitoring Station for Ozone and PM-10 (5181)
San Bernardino 4th Street Monitoring Station for CO and NO₂ (5203)
Big Bear City Monitoring Station for PM-2.5 (5818)
data: www.arb.ca.gov/adam/

Air Quality Planning

The U.S. EPA is responsible for setting and enforcing the NAAQS for O₃, CO, NO_x, SO₂, PM₁₀, PM_{2.5}, and lead. The U.S. EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the California Air Resources Board (CARB).

The Federal Clean Air Act (CAA) was first enacted in 1955, and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance. The CAA also mandates that states submit and implement State Implementation Plans (SIPs) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met. Substantial reductions in emissions of ROG, NO_x and CO are forecast to continue throughout the next several decades. Unless new particulate control programs are implemented, PM-10 and PM-2.5 are forecast to slightly increase.

The Air Quality Management District (AQMD) adopted an updated clean air “blueprint” in August 2003. The 2003 Air Quality Management Plan (AQMP) was approved by the EPA in 2004. The AQMP outlined the air pollution measures needed to meet federal health-based standards for ozone by 2010 and for particulates (PM-10) by 2006. The 2003 AQMP was based upon the federal one-hour ozone standard which was revoked late in 2005 and replaced by an 8-hour federal standard. Because of the revocation of the hourly standard, a new air quality planning cycle was initiated.

With re-designation of the air basin as non-attainment for the 8-hour ozone standard, a new attainment plan was developed. This plan shifted most of the one-hour ozone standard attainment strategies to the 8-hour standard. As previously noted, the attainment date was to “slip” from 2010 to 2021. The updated attainment plan also includes strategies for ultimately meeting the federal PM-2.5 standard.

Because projected attainment by 2021 required control technologies that did not exist yet, the SCAQMD requested a voluntary “bump-up” from a “severe non-attainment” area to an “extreme non-attainment” designation for ozone. The extreme designation was to allow a longer time period for these technologies to develop. If attainment cannot be demonstrated within the specified deadline without relying on “black-box” measures, EPA would have been required to impose sanctions on the region had the bump-up request not been approved. In April 2010, the EPA approved the change in the non-attainment designation from “severe-17” to “extreme.” This reclassification set a later attainment deadline (2024), but also required the air basin to adopt even more stringent emissions controls.

**Table III-4
SOUTH COAST AIR BASIN EMISSIONS FORECASTS (EMISSIONS IN TONS/DAY)**

Pollutant	2015 ^a	2020 ^a	2025 ^a	2030 ^a
NO _x	357	289	266	257
VOC	400	393	393	391
PM-10	161	165	170	172
PM-2.5	67	68	70	71

^a2015 Base Year.

Source: California Air Resources Board, 2013 Almanac of Air Quality

AQMPs are required to be updated every three years. The 2012 AQMP was adopted in early 2013. An updated AQMP was required for completion in 2016. The 2016 AQMP was adopted by the SCAQMD Board in March, 2017, and has been submitted the California Air Resources Board for forwarding to the EPA. The

2016 AQMP acknowledges that motor vehicle emissions have been effectively controlled and that reductions in NO_x, the continuing ozone problem pollutant, may need to come from major stationary sources (power plants, refineries, landfill flares, etc.). The current attainment deadlines for all federal non-attainment pollutants are now as follows:

8-hour ozone (70 ppb)	2032
Annual PM-2.5 (12 µg/m ³)	2025
8-hour ozone (75 ppb)	2024 (former standard)
1-hour ozone (120 ppb)	2023 (rescinded standard)
24-hour PM-2.5 (35 µg/m ³)	2019

The key challenge is that NO_x emission levels, as a critical ozone precursor pollutant, are forecast to continue to exceed the levels that would allow the above deadlines to be met. Unless additional stringent NO_x control measures are adopted and implemented, ozone attainment goals may not be met.

The proposed project does not directly relate to the AQMP in that there are no specific air quality programs or regulations governing school related athletic facility development projects. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which impact significance of planned growth is determined. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less-than-significant just because the proposed development is consistent with regional growth projections. Air quality impact significance for the proposed project has therefore been analyzed on a project-specific basis.

Appendix G of the California CEQA Guidelines offers the following four tests of air quality impact significance. A project would have a potentially significant impact if it:

- a. Conflicts with or obstructs implementation of the applicable air quality plan.
- b. Results in a cumulatively considerable net increase of any criteria pollutants for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- c. Exposes sensitive receptors to substantial pollutant concentrations.
- d. Results in other emissions (such as those leading to odors) adversely affecting a substantial number of people

Primary Pollutants

Air quality impacts generally occur on two scales of motion. Near an individual source of emissions or a collection of sources such as a crowded intersection or parking lot, levels of those pollutants that are emitted in their already unhealthy form will be highest. Carbon monoxide (CO) is an example of such a pollutant. Primary pollutant impacts can generally be evaluated directly in comparison to appropriate clean air standards. Violations of these standards where they are currently met, or a measurable worsening of an existing or future violation, would be considered a significant impact. Many particulates, especially fugitive dust emissions, are also primary pollutants. Because of the non-attainment status of the South Coast Air Basin (SCAB) for PM-10, an aggressive dust control program is required to control fugitive dust during project construction.

Secondary Pollutants

Many pollutants, however, require time to transform from a more benign form to a more unhealthy contaminant. Their impact occurs regionally far from the source. Their incremental regional impact is minute on an individual basis and cannot be quantified except through complex photochemical computer models. Analysis of significance of such emissions is based upon a specified amount of emissions (pounds, tons, etc.) even though there is no way to translate those emissions directly into a corresponding ambient air quality impact.

Because of the chemical complexity of primary versus secondary pollutants, the SCAQMD has designated significant emissions levels as surrogates for evaluating regional air quality impact significance independent of chemical transformation processes. Projects with daily emissions that exceed any emission thresholds in Table III-5 are recommended by the SCAQMD to be considered significant under CEQA guidelines.

**Table III-5
DAILY EMISSIONS THRESHOLDS**

Pollutant	Construction	Operations
ROG	75	55
NOx	100	55
CO	550	550
PM-10	150	150
PM-2.5	55	55
SOx	150	150
Lead	3	3

Source: SCAQMD CEQA Air Quality Handbook, November, 1993 Rev.

Additional Indicators

Some of the structures to be demolished have been surveyed and are assumed to contain asbestos. The SCAQMD CEQA Handbook identifies various secondary significance criteria related to toxic, hazardous or odorous air contaminants. Such pollutants may be associated with demolition of existing structures if they contain asbestos, lead-based paint, or other hazardous building materials. Prior to demolition detailed surveys will be conducted to ascertain the possible presence of asbestos, lead-based paint, etc. If any such materials are present, they will be remediated using mandatory procedures specified by Rule 1403-Asbestos Emissions from Demolition and Renovation Activities SCAQMD and state air toxics agencies.

Impact Analysis

- a. *Less Than Significant Impact* – Projects such as the proposed BBHS Football and Track Stadium Project do not directly relate to the AQMP in that there are no specific air quality programs or regulations governing general development. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which impact significance of planned growth is determined. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less-than-significant just because the proposed development is consistent with regional growth projections. Air quality impact significance for the proposed project has therefore been analyzed on a project-specific basis. The project will be consistent with the County's General Plan and Zoning Code within which the project is located. The proposed project is forecast to be consistent with regional planning forecasts maintained by the Southern California Association of Governments (SCAG) regional plans. Air quality impact significance for the proposed project has been analyzed on a project-specific basis. As the analysis of project-related emissions provided below indicates, the proposed project will not cause or be exposed to significant air pollution if implemented, and is, therefore, consistent with the applicable air quality plan.
- b. *Less Than Significant With Mitigation Incorporated* – Air pollution emissions associated with the proposed project would occur over both a short and long-term time period. Short-term emissions include fugitive dust from construction activities (i.e., site prep, demolition, grading, and exhaust emission) at the project site. Long-term emissions generated by future operation of the proposed project primarily include energy consumption and trips generated by the proposed stadium.

Construction Emissions

The approximately 7-acre site contains the previously occupied Chautauqua High School and contains five large structures. The project proposes to demolish the existing structures and develop the site as a continuation of the Big Bear High School athletic fields with a new football and track fields and stadiums to serve District athletics. Construction was modeled in CalEEMod2020.4.0 using the following construction equipment and schedule for a project of this size as shown in Table III-6.

**Table III-6
CONSTRUCTION ACTIVITY EQUIPMENT FLEET**

Phase Name and Duration	Equipment
Demolition (20 days)	1 Concrete Saw
	3 Excavators
	2 Dozers
Site Prep (10 days)	3 Dozers
	4 Tractors
	4 Loader/Backhoes
Grading (20 days)	1 Grader
	1 Excavator
	1 Dozer
	3 Loader/Backhoes
Construction (130 days)	3 Forklifts
	1 Crane
	3 Loader/Backhoes
	1 Welder
	1 Generator Set
Paving (20 days)	2 Pavers
	2 Paving Equipment
	2 Rollers

Utilizing this indicated equipment fleet and durations shown in Table III-6 the following worst-case daily construction emissions are calculated by CalEEMod and are listed in Table III-7.

**Table III-7
CONSTRUCTION ACTIVITY EMISSIONS MAXIMUM DAILY EMISSIONS (POUNDS/DAY)**

Maximal Construction Emissions	ROG	NOx	CO	SO ₂	PM-10	PM-2.5
2022	4.7	51.2	27.8	0.1	10.8	6.2
2023	2.1	16.4	21.8	0.0	2.4	1.1
SCAQMD Thresholds	75	100	550	150	150	55

*assumes SCAQMD Rule 403 Fugitive Dust applied.

SCAQMD Rules 402 and 403 (prohibition of nuisances, watering of inactive and perimeter areas, track out requirements, etc.), are applicable to the project and were applied in CalEEMod to minimize fugitive dust emissions. With this measure, peak daily construction activity emissions are estimated be below SCAQMD CEQA thresholds without the need for added mitigation. Nevertheless, emissions minimization through enhanced dust control measures is recommended for use because of the non-

attainment status of the air basin. As such, the following measures shall be implemented to minimize air quality emissions impacts:

- AQ-1 Fugitive Dust Control. The following measures shall be incorporated into Project plans and specifications for implementation:**
- **Apply soil stabilizers or moisten inactive areas.**
 - **Water exposed surfaces to avoid visible dust leaving the construction site (at least 2-3 times/day).**
 - **Cover all stock piles with tarps at the end of each day and as needed during the construction day.**
 - **Provide water spray during loading and unloading of earthen materials.**
 - **Require the contractor to minimize in-out traffic from construction zone to the extent feasible, and enforce a speed limit of 15 MPH on site to avoid dust migration from the site.**
 - **Cover all trucks hauling dirt, sand, or loose material and require all trucks to maintain at least two feet of freeboard.**
 - **Sweep streets daily if visible soil material is carried out from the construction site.**

Similarly, ozone precursor emissions (ROG and NOx) are calculated to be below SCAQMD CEQA thresholds. However, because of the regional non-attainment for photochemical smog, the use of reasonably available control measures for diesel exhaust is recommended. Combustion emissions control options include:

- AQ-2 Exhaust Emissions Control. The following measures shall be incorporated into Project plans and specifications for implementation:**
- **Utilize off-road construction equipment that has met or exceeded the maker's recommendations for vehicle/equipment maintenance schedule.**
 - **Contactors shall utilize Tier 4 or better heavy equipment.**
 - **Enforce 5-minute idling limits for both on-road trucks and off-road equipment.**

With the above mitigation measures, any impacts related to construction emissions are considered less than significant. No further mitigation is required.

Operational Emissions

The new Big Bear High School Football and Track Stadium Project will require 2 additional employees to operate the project site. Practice for various athletic teams during after-school hours will occur 2:30 PM to 5:30 PM for an anticipated 5 days per week with limited use during the summer.

The new stadium is anticipated to host 16 games per year. Other field uses include middle school promotion, high school graduation, and possibly use by the high school band for practice. The existing football games were found to generate an average of 460 trips per day.

It is anticipated that the stadium could host a maximum of about 1,000 persons. For this analysis, it is assumed that a worst-case day would include 1,000 persons attending an event such as a graduation with a conservative estimate of 2 persons per vehicle. Therefore, there would be 1000 in and out trips on that day.

In addition to vehicular trips, the athletic facility requires water for irrigation, generates a small amount of solid waste from bathrooms and requires a small amount of electricity for lighting. Operational emissions were calculated using CalEEMod2020.4.0 for an assumed operational year of 2023. The operational impacts are shown in Table III-8. The assumptions modeled were that every weekday could generate 460 trips and every weekend could generate 1,000 trips although this would not occur

with such regularity. As shown, operational emissions will not exceed applicable the SCAQMD operational CEQA thresholds of significance.

**Table III-8
PROPOSED USES DAILY OPERATIONAL IMPACTS (2020)**

Source	Operational Emissions (lbs/day)					
	ROG	NOx	CO	SO ₂	PM-10	PM-2.5
Area	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Energy	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mobile	0.6	4.3	7.4	<0.1	2.1	0.6
Total	0.7	4.3	7.4	<0.1	2.1	0.6
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod Output in Appendix

As shown in the table above, operational emissions will not exceed applicable SCAQMD operational emissions CEQA thresholds of significance. No mitigation is required to minimize operational air quality emissions.

Conclusion

With the incorporation of mitigation measures (MMs) **AQ-1** through **AQ-2**, the development of the BBHS Football and Track Stadium Project would have a less than significant potential to 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. *Less Than Significant Impact* – The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Localized Significance Thresholds (LSTs). LSTs were developed in response to Governing Board's Environmental Justice Enhancement Initiative 1-4 and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005.

Use of an LST analysis for a project is optional. For the proposed project, the primary source of possible LST impact would be during construction. LSTs are applicable for a sensitive receptor where it is possible that an individual could remain for 24 hours such as a residence, hospital or convalescent facility.

LSTs are only applicable to the following criteria pollutants: oxides of nitrogen (NOx), carbon monoxide (CO), and particulate matter (PM-10 and PM-2.5). LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

LST screening tables are available for 25, 50, 100, 200- and 500-meter source-receptor distances. For this project, there are adjacent academic uses such that the most conservative 25-meter distance was modeled.

The SCAQMD has issued guidance on applying CalEEMod to LSTs. LST pollutant screening level concentration data is currently published for 1, 2- and 5-acre sites for varying distances. According to guidelines provided by SCAQMD, based on grading equipment, data for a 3.5-acre site was used (derived via interpolating between a 2-acre and 5-acre site).

The following thresholds and emissions in Table III-9 are therefore determined (pounds per day):

**Table III-9
LST AND PROJECT EMISSIONS (POUNDS/DAY)**

3.5 acre/25 meters East San Bernardino Mountains	CO	NOx	PM-10	PM-2.5
LST	1,625	220	11	7
Max On-Site Emissions				
2022	28	51	11	6
2023	22	16	2	1

CalEEMod Output in Appendix

LSTs were compared to the maximum daily construction activities. As seen in Table III-9, with active dust suppression, mitigated emissions meet the LSTs for construction. As such, with implementation of MMs **AQ-1** and **AQ-2**, LSTs would be less than significant.

Construction equipment exhaust contains carcinogenic compounds within the diesel exhaust particulates. The toxicity of diesel exhaust is evaluated relative to a 24-hour per day, 365 days per year, 70-year lifetime exposure. The SCAQMD does not generally require the analysis of construction-related diesel emissions relative to health risk due to the short period for which the majority of diesel exhaust would occur. Health risk analyses are typically assessed over a 9-, 30-, or 70-year timeframe and not over a relatively brief construction period due to the lack of health risk associated with such a brief exposure.

As such, with implementation of MMs **AQ-1** and **AQ-2**, the proposed project would have a less than significant potential to expose sensitive receptors to substantial pollutant concentrations.

- d. *Less Than Significant Impact* – Heavy-duty equipment in the proposed project area during construction will emit odors; however, the construction activity would cease to occur after a short period of time. Land uses generally associated with odor complaints include:
- Agricultural uses (livestock and farming)
 - Wastewater treatment plants
 - Food processing plants
 - Chemical plants
 - Composting operations
 - Refineries
 - Landfills
 - Dairies
 - Fiberglass molding facilities

The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential sources of operational odors generated by the project would include disposal of refuse. All project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with solid waste regulations, thereby precluding substantial generation of odors due to temporary holding of refuse on-site. Moreover, SCAQMD Rule 402 acts to prevent occurrences of odor nuisances. No other sources of objectionable odors or other emissions have been identified for the proposed project. As such, the proposed project would have a less than significant potential to result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION: The following information is provided based on a Biological Resources Assessment and Jurisdictional Delineation of the project site. The assessment was conducted by Jacobs Engineering Group, Inc. dated December 2021, and is titled “Bear Valley Unified School District Big Bear High School Sports Field Project Biological Resources Assessment and Jurisdictional Delineation Report.” The following information is abstracted from the Biological Resources Assessment (BRA) provided as Appendix 2.

General Site Conditions

The project area is within the Sugarloaf area of unincorporated San Bernardino County, which is east/southeast of Big Bear Lake and situated near the eastern end of Big Bear Valley in the San Bernardino Mountains.

The project site is situated within a flat to gently sloped, mostly graded area. The elevation of the project site is approximately 6,965 feet above mean sea level (amsl).

Hydrologically, the project area is situated within the Baldwin Hydrologic Sub-Area (HSA 801.73). The Baldwin HSA comprises a 22,789-acre drainage area, within the larger Santa Ana Watershed (HUC 18070203). The Santa Ana River is the major hydrogeomorphic feature within the Santa Ana Watershed.

One of several tributaries to the Santa Ana River is Bear Creek, which outflows from Big Bear Lake from the Bear Valley Dam located at the westernmost (downstream) end of Big Bear Lake. Big Bear Lake is one of the head waters of the Santa Ana River Watershed.

Soils within the project area are comprised mostly (>90%) of Garloaf-Urban land complex, 4 to 9 percent slopes, with some Garloaf-Cariboucreek complex, 15 to 30 percent slopes along the undisturbed western edge of the project site. Garloaf family soils consist of very cobbly loam to very cobbly clay loam that is comprised of alluvium derived from granitoid. This soil type is well drained and does not have a hydric soil rating. Cariboucreek family soils consist of clay loam that is comprised of mixed alluvium. This soil type is well drained and does not have a hydric soil rating.

Vegetation within most of the site is minimal, though several trees are located along the Baldwin Lane frontage, which continue north along the site frontage at Maple Lane for about 200 feet. Additionally, there is an approximately 1-acre area (70 feet wide by 570 feet long) of undeveloped, forested land along the western edge of the project site. The site is bordered by BBHS on the north, Baldwin Lane on the south, Maple Lane on the east, and vacant (forested) land on the west. Existing land use surrounding the project area consists of BBHS to the north, residential neighborhood to the south, Big Bear Skate Park, other park facilities and vacant land to the east, and Baldwin Lane Elementary School and vacant land to the west.

Habitat within the project site is sparse, as the entirety of the site has been developed. Habitat adjacent to the project site, within the undeveloped westernmost edge of the project site consists of mixed *Juniperus grandis* Woodland Alliance (mountain juniper woodland), *Pinus jeffreyi* Forest and Woodland Alliance (Jeffrey pine forest and woodland), and *Artemisia tridentata* Shrubland Alliance (big sagebrush) plant communities. Other trees/large shrub species conspicuous within the undeveloped portion of the project area include curl leaved mountain mahogany (*Cercocarpus ledifolius* var. *intermontanus*) and California fremontia (*Fremontodendron californicum*). The shrub layer on site is dominated by big sagebrush (*Artemisia tridentata*) and rubber rabbitbrush (*Ericameria nauseosa*).

The project area is within and adjacent a high school and residential community, and due to the historic and existing disturbances on site and adjacent, only those wildlife species at least partially adapted to urban environments are expected to occur. The only wildlife species observed or otherwise detected within the project area during the reconnaissance-level field survey were California scrub jay (*Aphelocoma californica*), common raven (*Corvus corax*), Steller's jay (*Cyanocitta stelleri*), dark-eyed junco (*Junco hyemalis*), mountain chickadee (*Poecile gambeli*), and pygmy nuthatch (*Sitta pygmaea*). Additionally, evidence of domestic dogs was observed in the project area. No focused faunal surveys were conducted, and no small mammal trapping was performed.

Of the 20 state and/or federally listed species documented within the Big Bear Lake, Big Bear City, Fawnskin and Moonridge USGS quadrangles, the following 13 state and/or federally listed species have been documented in the project vicinity (within approximately 3 miles):

- ash-gray paintbrush (*Castilleja cinerea*)
- southern rubber boa (*Charina umbratica*)
- Big Bear Valley sandwort (*Eremogone ursina*)
- southern mountain buckwheat (*Eriogonum kennedyi* var. *austromontanum*)
- Cushenbury buckwheat (*Eriogonum ovalifolium* var. *vineum*)
- unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*)
- bald eagle (*Haliaeetus leucocephalus*)
- San Bernardino Mountains bladderpod (*Physaria kingii* ssp. *bernardina*)
- San Bernardino blue grass (*Poa atropurpurea*)
- southern mountain yellow-legged frog (*Rana muscosa*)
- bird-foot checkerbloom (*Sidalcea pedata*)
- California dandelion (*Taraxacum californicum*)
- slender-petaled thelypodium (*Thelypodium stenopetalum*)

Conclusion

Sensitive Biological Resources

A BRA survey was conducted by Jacobs in October 2021 to identify potential habitat for special status wildlife within the project area. No special status wildlife species, including state and/or federally listed threatened or endangered species, were observed within the project area during the reconnaissance-level assessment survey and none are expected to occur. Due to the environmental conditions on site and the adjacent disturbances, the project area is likely not suitable to support any of the special status wildlife species that have been documented in the project vicinity (within approximately 3 miles), including the state listed as threatened southern rubber boa, the federally delisted and state listed as endangered bald eagle, and the California species of special concern (SSC) San Bernardino flying squirrel and California spotted owl.

The project area does not contain any sensitive habitats, including any USFWS designated Critical Habitat for any federally listed species, and the project will not result in any loss or adverse modification of Critical Habitat.

Nesting Birds

There is vegetation throughout the project area that is suitable to support nesting birds, including possible habitat for California spotted owl (SPOW). Most native bird species are protected from unlawful take by the Migratory Bird Treaty Act (MBTA). In December 2017, the Department of the Interior (DOI) issued a memorandum concluding that the MBTA's prohibitions on take apply "[...] only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" (DOI 2017). Then in April 2018, the USFWS issued a guidance memorandum that further clarified that the take of migratory birds or their active nests (i.e., with eggs or young) that is incidental to, and not the purpose of, an otherwise lawful activity does not constitute a violation of the MBTA. However, the State of California provides additional protection for native bird species and their nests in the California Fish and Game Code (FGC).

In general, impacts to all bird species (common and special status) can be avoided by conducting work outside of the nesting season, which is generally February 1st through September 1st. However, if all work cannot be conducted outside of nesting season, mitigation is recommended.

Lighting Impacts

To avoid potential impacts to nocturnal species including SPOW, and other nocturnal species due to light pollution, project related night lighting (both temporary and permanent) should be directed away from adjacent undeveloped areas to protect nocturnal species from direct night lighting. Shielding should be incorporated in project designs to ensure ambient lighting in adjacent habitat is not increased.

Jurisdictional Waters

In addition to the BRA and focused botanical field survey, Jacobs also assessed the project area for the presence of any state and/or federal jurisdictional waters. The result of the jurisdictional waters assessment is that there are no wetland or non-wetland waters of the United States (WOTUS) or waters of the State potentially subject to regulation by the United States Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), the Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and/or Porter Cologne Water Quality Control Act, or the California Department of Fish and Wildlife (CDFW) under Section 1602 of the California Fish and Game Code (FGC), respectively. Therefore, the project will not impact and jurisdictional waters and no state or federal jurisdictional waters permitting will be required.

Impact Analysis

- a. *Less Than Significant With Mitigation Incorporated* – Implementation of the proposed project is not anticipated to have a potential for an adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special species in local or regional plans, policies, or regulations, or by CDFW or U.S. Fish and Wildlife Service (USFWS). The project area lies within

the range of several sensitive species including several that have been documented in the project vicinity (approximately 3 miles), namely: ash-gray paintbrush (*Castilleja cinerea*), southern rubber boa (*Charina umbratica*), Big Bear Valley sandwort (*Eremogone ursina*), southern mountain buckwheat (*Eriogonum kennedyi* var. *austromontanum*), Cushenbury buckwheat (*Eriogonum ovalifolium* var. *vineum*), unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), bald eagle (*Haliaeetus leucocephalus*), San Bernardino Mountains bladderpod (*Physaria kingii* ssp. *bernardina*), San Bernardino blue grass (*Poa atropurpurea*), southern mountain yellow-legged frog (*Rana muscosa*), bird-foot checkerbloom (*Sidalcea pedata*), California dandelion (*Taraxacum californicum*), and slender-petaled thelypodium (*Thelypodium stenopetalum*). As stated above, due to the environmental conditions on site from past use as the Chautauqua High School and the adjacent disturbances, the project area is likely not suitable to support any of the special status wildlife species that have been documented in the project vicinity (within approximately 3 miles), including the state listed as threatened southern rubber boa, the federally delisted and state listed as endangered bald eagle, and the California SSC San Bernardino flying squirrel and California spotted owl. This is specifically due to the past disturbance within the project site, as the entirety of the site has been developed with the Chautauqua High School. However, as noted in the BRA and Background provided above, the proposed project would create a new source of lighting in the project area with a potential to impact nocturnal species in the area. As such, the following mitigation measure shall be implemented:

BIO-1 *To avoid potential impacts to nocturnal species including SPOW, and other nocturnal species due to light pollution, project related night lighting (both temporary and permanent) shall be directed away from adjacent undeveloped areas to protect nocturnal species from direct night lighting. Shielding shall be incorporated in project designs to ensure ambient lighting in adjacent habitat on the project's western boundary specifically, is not increased.*

Therefore, with the implementation of MM **BIO-1** above, and based on the data contained in the BRA, the proposed project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

- b. *Less Than Significant Impact* – The project area does not contain any sensitive habitats, including any USFWS designated Critical Habitat for any federally listed species, and the project will not result in any loss or adverse modification of Critical Habitat. Furthermore, the result of the jurisdictional waters assessment is that there are no wetland or non-wetland WOTUS or waters of the State potentially subject to regulation by the USACE under Section 404 of the CWA, the RWQCB under Section 401 of the CWA and/or Porter Cologne Water Quality Control Act, or the CDFW under Section 1602 of the FGC, respectively. Therefore, the project will not impact any jurisdictional waters and no state or federal jurisdictional waters permitting will be required. Given that no other riparian habitat or sensitive natural communities have been identified within the project area, the proposed project would have a less than significant potential to have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- c. *No Impact* – According to the data gathered by Jacobs in Appendix 2, no federally protected wetlands occur within the project footprint. Therefore, implementation of the proposed project will have no potential to impact state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. No mitigation is required.
- d. *Less Than Significant With Mitigation Incorporated* – Based on the field survey of the project site, the project will not substantially interfere with the movement of any native resident or migratory species or with established native or migratory wildlife corridors, or impede the use of native nursery sites.

The proposed project is currently fenced, and thus prevents any migration from adjacent forested areas at present, and would continue to do so once developed as the BBHS Football and Track Stadium Project. However, the State does protect all migratory and nesting native birds. Several bird species were identified as potentially occurring in the project area, and given that the proposed project contains some trees and is located adjacent to forestland to the west of the project site, the project area may include locations that function as nesting locations for native birds nesting birds exists within and adjacent to the site. To avoid impacting nesting birds as required by the MBTA and California FGC, the following mitigation measure shall be implemented:

BIO-2 Nesting bird surveys shall be conducted by a qualified avian biologist no more than three (3) days prior to vegetation clearing or ground disturbance activities. Preconstruction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a Nesting Bird Plan (NBP) shall be prepared and implemented by the qualified avian biologist. At a minimum, the NBP shall include guidelines for addressing active nests, establishing buffers, ongoing monitoring, establishment of avoidance and minimization measures, and reporting. The size and location of all buffer zones, if required, shall be based on the nesting species, individual/pair's behavior, nesting stage, nest location, its sensitivity to disturbance, and intensity and duration of the disturbance activity. To avoid impacts to nesting birds, any grubbing or vegetation removal should occur outside peak breeding season (typically February 1 through September 1).

- **Preconstruction nesting bird surveys shall include a nighttime component to address the potential for presence of nocturnal species in which a qualified avian biologist will conduct 3 consecutive nights of survey.**

Thus, with implementation of the above measure, any effects on wildlife movement or the use of wildlife nursery sites can be reduced to a less than significant impact.

- e. *Less Than Significant Impact* – Development of the proposed project would have a less than significant potential to conflict with any local policies or ordinances protecting biological resources. Impacts to biological resources have been addressed above under issues IV(a-d). Therefore, the potential for the project to conflict with local policies or ordinances pertaining to biological resources would be considered less than significant.
- f. *No Impact* – Please refer to the discussion under response IV(a) above. The project has not been identified as being located within an area within a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, and implementation of the project will therefore not result in a significant impact to any such plans. No further mitigation is necessary.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: The information utilized in this section of the Initial Study was obtained from the following technical study: "Historical/Archaeological Resources Survey Report: Big Bear High School Football and Track Stadium Project, 525 Maple Lane, Sugarloaf Area, San Bernardino County, California" prepared by CRM TECH dated December 15, 2021 (Appendix 3).

Summary of the Finding

The purpose of the study is to provide the BVUSD with the necessary information and analysis to determine whether the proposed project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area. In order to identify such resources, CRM TECH initiated a historical/archaeological resources records search and a Native American Sacred Lands File search, pursued historical background research, and carried out a systematic field survey.

Throughout these research procedures, no "historical resources" were encountered within or adjacent to the project area. However, the Sacred Lands File indicates the presence of unspecified Native American cultural resource(s) in the general vicinity of the project area. The State of California Native American Heritage Commission referred further inquiries on such resource(s) to the San Manuel Band of Mission Indians and other local tribes. During ensuing correspondence, the San Manuel Band identified cultural resources near but not in the immediate vicinity of the project area.

Based on these findings, CRM TECH recommends to the BVUSD a preliminary determination of No Impact regarding cultural resources, pending the completion of further consultations with local Native American groups by the district. No other cultural resources investigations will be necessary for the project unless construction plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are discovered during earth-moving operations associated with the project, all work at that location should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

Impact Analysis

a&b. *Less Than Significant With Mitigation Incorporated* – CEQA establishes that "a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (PRC §21084.1). "Substantial adverse change," according to PRC §5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired."

Per the above discussion and definition, as well as the information contained in Appendix 3, no historical or archaeological sites or isolates were located within the project boundaries during the field review of the project area. Thus, none of them requires further consideration during this study. In

light of this information and pursuant to PRC §21084.1, the following conclusions have been reached for the project:

- No historical resources within or adjacent to the project area have any potential to be disturbed as they are not within the proposed area in which the facilities will be constructed and developed, and thus, the project as currently proposed will not cause a substantial adverse change to any known historical resources.
- No further cultural resources investigation is necessary for the proposed project unless construction plans undergo such changes as to include areas not covered by this study.

However, if any earth moving activities are required, the following mitigation measure will ensure that impacts to any buried cultural materials that may be discovered during earth moving activities is carried are less than significant:

CUL-1 Should any cultural resources be encountered during construction of these sewer facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with BVUSD. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.

Additionally, the following measure will ensure that the treatment of any discovered cultural materials follows the appropriate protocol to minimize impacts to such resources:

CUL-2 If significant cultural resources, as defined by CEQA, are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to District for review and comment. The archaeologist shall monitor the remainder of ground disturbing activities and shall implement the Plan accordingly.

With the incorporation of the above mitigation measures, potential for impact to cultural resources will be reduced to a less than significant level. No additional mitigation is required.

- c. *Less Than Significant With Mitigation Incorporated* – As noted in the discussion above, no available information suggests that human remains may occur within the Area of Potential Effect (APE) and the potential for such an occurrence is considered very low. Human remains discovered during the project will need to be treated in accordance with the provisions of HSC §7050.5 and PRC §5097.98, which is mandatory. State law (Section 7050.5 of the Health and Safety Code) as well as local laws requires that the Police Department, County Sheriff and Coroner's Office receive notification if human remains are encountered. Compliance with these laws is considered adequate mitigation for potential impacts, however, the following mitigation measure shall be implemented in relation to discovery and treatment of human remains:

CUL-3 If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the project.

With the incorporation of the above mitigation measure, potential for impact to discovery and treatment of human remains will be reduced to a less than significant level. No additional mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VI. ENERGY: Would the project:				
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

a&b. *Less Than Significant With Mitigation Incorporated* – During construction, the proposed project will utilize construction equipment that is CARB approved, minimizing emissions generated and electricity required to the extent feasible (as outlined under Section III, Air Quality, above). As stated in Section III, Air Quality, the construction of the proposed BBHS Football and Track Stadium Project would require mitigation measures to minimize emissions impacts from construction equipment use (refer to MM AIR-2). These mitigation measures also apply to energy resources as they require equipment not in use for 5 minutes to be turned off, and for electrical construction equipment to be used where available. These measures would prevent a significant impact during construction due to wasteful, inefficient, or unnecessary consumption of energy resources, and would also conform to the CARB regulations regarding energy efficiency.

The proposed project consists of a Football and Track Stadium that would include a field and a track that would accommodate sports such as soccer, football, and track, and would include a small amount of vehicle parking with night lighting as well as stadium lighting. The Stadium would not require substantial energy to operate, as the only energy required will be in support of the Stadium when in use and lighting is required in the evening hours.

Energy consumption encompasses many different activities. For example, construction can include the following activities: delivery of equipment and material to a site from some location (note it also requires energy to manufacture the equipment and material, such as harvesting, cutting and delivering wood from its source); employee trips to work, possibly offsite for lunch (or a visit by a catering truck), travel home, and occasionally leaving a site for an appointment or checking another job; use of equipment onsite (electric or fuel); and sometimes demolition and disposal of construction waste. To minimize energy costs of construction debris management, mitigation has been established to require diversion of all material capable of being recycled. Energy consumption by equipment will be reduced by requiring shutdowns when equipment is not in use after five minutes and ensuring equipment is being operated within proper operating parameters (tune-ups) to minimize emissions and fuel consumption. These requirements are consistent with State and regional rules and regulations. Under the construction scenario outlined above, the proposed project will not result in wasteful, inefficient, or unnecessary energy consumption during construction.

The proposed project is currently, and will continue to be supplied power by Bear Valley Electric Service (BVES) (a division of Golden State Water Company) through the power distribution system located at the site. BVES will be able to supply sufficient electricity, as the proposed use would likely utilize less energy than did the Continuation High School when it was in use as generally, the energy required to operate indoor structures, is much greater than that which would be required to light Stadium fields on an as needed basis. The project site will not require natural gas to operate. Park lighting must be constructed in conformance with a variety of existing energy efficiency regulatory requirements or guidelines including:

- Compliance California Green Building Standards Code, AKA the CALGreen Code (Title 24, Part 11), which became effective on January 1, 2017. The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of building through the use of building concepts encouraging sustainable construction practices.
- Compliance with diversion of construction and demolition materials from landfills.
- Compliance with AQMD Mandatory use of low-pollutant emitting finish materials.
- Compliance with AQMD Rules 431.1 and 431.2 to reduce the release of undesirable emissions.
- Compliance with diesel exhaust emissions from diesel vehicles and off-road diesel vehicle/equipment operations.

Compliance with these regulatory requirements for operational energy use and construction energy use would not be wasteful or unnecessary use of energy. Under both the operational and construction scenarios for the proposed project, with implementation of MM **AQ-2**, the proposed project will not result in wasteful, inefficient, or unnecessary energy consumption that could result in a significant adverse impact to energy issues based on compliance with the referenced laws, regulations and guidelines.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VII. GEOLOGY AND SOILS: Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

a. i. Ground Rupture

Less Than Significant Impact – The project site is located within the Community of Sugarloaf within the Mountain Region of the County of San Bernardino to the southeast of Big Bear Lake. California as a whole is a seismically active state, though the proposed project site is not located on a fault or within a fault zone. According to the recently updated Fault Activity Map of California prepared for the County’s updated General Plan (Figure VII-1), the proposed project is not located within a delineated Alquist-Priolo fault zone or other active fault zone. The project site is located in close proximity to several fault zones, as delineated on Figure VII-2, which depicts the Fault Activity Map of California prepared by the California geologic Survey; however, the proposed project is located outside of the boundaries of the delineated fault zones, and as such is not anticipated to be within a site that would experience ground rupture as a result of seismic activity. Furthermore, based on the

project site's location outside of a delineated fault zone, the risk for ground rupture at the site location is low; therefore, it is not likely that future visitors of the BBHS Football and Track Stadium Project will be subject to seismic hazards from rupture of a known earthquake fault. Therefore, any impacts under this issue are considered less than significant; no mitigation is required.

ii. Strong Seismic Ground Shaking

Less Than Significant Impact – As stated in the discussion above, several faults run through the area surrounding the proposed project, and as with much of southern California, the proposed sports complex will be subject to strong seismic ground shaking impacts should any major earthquakes occur in the future, though the proposed project is not in close proximity to an Alquist-Priolo fault zone. Due to the proximity of the active faults located in the vicinity of the project site, the project site and area can be exposed to significant ground shaking during major earthquakes on nearby regional faults. Much of the project operations scenario will occur in outdoor spaces, which presents minimal hazards from strong seismic ground shaking to humans working at or visiting the site. Like all other development projects in the County and throughout the Southern California Region, the proposed project will be required to comply with all applicable seismic design standards contained in 2019 California Building Code (CBC), including Section 1613 Earthquake Loads. Compliance with the CBC will ensure that structural integrity will be maintained in the event of an earthquake. Therefore, impacts associated with strong ground shaking will be less than significant without mitigation.

iii. Seismic-Related Ground Failure Including Liquefaction

Less Than Significant Impact – According to the San Bernardino Countywide Plan Liquefaction and Landslides map provided as Figure VII-3, the project site consists of land that has been not identified as containing land with liquefaction susceptibility. Therefore, given that the proposed project does not propose any habitable structures, and that no indoor structures would be developed to serve visitors of the new Stadium, and because the majority of the proposed project activities would be conducted outdoors in support of the Stadium activities, it is anticipated that the proposed project will have a less than significant potential to be susceptible to seismic-related ground failure, including liquefaction.

iv. Landslides

Less Than Significant Impact – The proposed project site is currently developed with structures and associated facilities of the former Chautauqua High School campus. The site is relatively flat, sloping slightly from south to north. According to the San Bernardino Countywide Plan Liquefaction and Landslides map provided as Figure VII-3, the project site consists of land that has been not identified as being susceptible to landslides. The proposed project would be graded and compacted to enable development of the BBHS Football and Track Stadium Project, and with no proposed habitable structures, no potential events have been identified that would result in adverse effects from landslides or that would cause landslides that could expose people or structures to such an event as a result of project implementation. Therefore, no significant impacts under this issue are anticipated, and no mitigation is required.

- b. *Less Than Significant With Mitigation Incorporated* – The potential for soil erosion, loss of topsoil, and/or developing the site on unstable soils is anticipated to be marginally possible at the site during ground disturbance associated with construction. The project site is vacant with a modest amount of vegetation coverage. County grading standards, best management practices and the Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) are required to control the potential significant erosion hazards. The topography of the site slopes gently from north to south. During project construction when soils are exposed, temporary soil erosion may occur, which could be exacerbated by rainfall. Project demolition and grading would be managed through the preparation and implementation of a SWPPP, and will be required to implement best management practices to achieve concurrent water quality controls after construction is completed

and the recreation uses are in operation. The following mitigation measures or equivalent best management practices (BMPs) shall be implemented to address these issues:

GEO-1 *Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of stored backfill material. Where covering is not possible, measures such as the use of straw bales or sand bags shall be used to capture and hold eroded material on the project site for future cleanup such that erosion does not occur.*

GEO-2 *All exposed, disturbed soil (trenches, stored backfill, etc.) shall be sprayed with water or soil binders twice a day, or more frequently if fugitive dust is observed migrating from the site within which the project is being constructed.*

With implementation of the above mitigation measures, implementation of the SWPPP and associated BMPs, any impacts under this issue are considered less than significant.

- c. *Less Than Significant Impact* – The project site has been previously developed with structures, concrete, pavement, and baseball fields that made up the Chautauqua High School campus. The proposed development will include demolition of existing facilities, and will include mass grading the site to provide level surfaces upon which to develop the proposed athletic facilities. As discussed under issue VII(a[iii]) above, landslide and liquefaction potential have been determined to be less than significant within the project site. According to the County’s General Plan, land subsidence in the Mountain Region is known to occur in basins containing aquifer systems that at least in part consist of fine-grained sediments and that have undergone extensive groundwater development. Generally, subsidence is not considered a significant geologic hazard in the Mountain Region as it is underlain predominantly by bedrock, which is not subject to subsidence due to the lack of fine-grained sediments. Furthermore, according to the County’s General Plan, collapsible soils are less likely in the Mountain Region, which typically receives more precipitation than other areas of the County. However, the California Geological Survey has detected small amounts of land deformation (uplift and subsidence) in the area near Big Bear Lake and Sugarloaf. The proposed project is located just within the Community of Sugarloaf, and according to the United States Department of Agriculture (USDA) Web Soil Survey (Appendix 4), the proposed project is located on Garloaf-Urban land complex and Garloaf-Cariboucreek complex soils. These alluvial sediments are not considered prone to collapse or subsidence. Thus, the project will have a less than significant potential to 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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse.
- d. *Less Than Significant Impact* – The proposed project is located within the Unincorporated Community of Sugarloaf, and according to the United States Department of Agriculture (USDA) Web Soil Survey, the proposed project is located on Garloaf-Urban land complex and Garloaf-Cariboucreek complex soils. These are alluvial sediments that are not considered to contain expansive properties, as these soils are not fine loamy soils, and do not contain a high percentage of clay. The type of project proposed—an outdoor Stadium—is such that expansive soils would not cause substantial risks to life or property, and that the proposed project will be mass graded and compacted to form the proposed field and Stadium, thereby further minimizing risks related to expansive soils. Based on the above, the proposed project would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- e. *No Impact* – The proposed project will utilize portable restrooms on site, with no municipal sewer connections or septic tanks or alternative wastewater disposal systems required. Therefore, determining if the project site soils are capable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater does not apply. No impacts are anticipated. No mitigation is required.

- f. *Less Than Significant With Mitigation Incorporated* – The San Bernardino Countywide Plan indicates that the proposed project area is located in a low-to-high sensitivity area for paleontological resources. Previously unknown and unrecorded paleontological resources may be unearthed during excavation and grading activities of the proposed project. If previously unknown potentially unique paleontological resources are uncovered during excavation or construction, significant impacts could occur. According to the 2019 San Bernardino County General Plan EIR, the County requires that projects located within areas that have been delineated as low-to-high sensitivity for paleontological resources by the Countywide Plan (Figure VII-4) meet the requirements of mitigation measure (MM) **CUL-5**, which states:

All projects involving ground disturbance in previously undisturbed areas mapped with low-to-high paleontological sensitivity will only require monitoring if construction activity will exceed the depth of the low sensitivity surficial sediments. The underlying sediments may have high paleontological sensitivity, and therefore work in those units might require paleontological monitoring, as designated by the Qualified Paleontologist in the PRMMP. When determining the depth at which the transition to high sensitivity occurs and monitoring becomes necessary, the Qualified Paleontologist should take into account: a) the most recent local geologic mapping, b) depths at which fossils have been found in the vicinity of the project area, as revealed by the museum records search, and c) geotechnical studies of the project area, if available.

The proposed project shall implement the following measure to meet the County's requirements pertaining to paleontological resources:

GEO-3 *The District shall retain the services of a Qualified Paleontologist meeting the standards of SVP (2010). The Qualified Paleontologist shall determine that the depth at which the transition to high sensitivity occurs and monitoring becomes necessary, by taking into account: a) the most recent local geologic mapping, b) depths at which fossils have been found in the vicinity of the project area, as revealed by the museum records search, and c) geotechnical studies of the project area, if available. Should the project require excavation that will exceed the depth of low sensitivity surficial sediments as determined by a Qualified Paleontologist, a project-specific paleontological resources monitoring and mitigation plan (PRMMP) shall be developed and adhered to for the duration of ground disturbance activities during construction or as otherwise determined by the Qualified Paleontologist. This plan will address specifics of monitoring and mitigation for the development project, and will take into account updated geologic mapping, geotechnical data, updated paleontological records searches, and any changes to the regulatory framework. This PRMMP shall meet the standards of the SVP (2010).*

The MM **CUL-6** (sourced from the 2019 San Bernardino County General Plan EIR), which addresses the potential for discovery of fossils, shall also be required as part of this project as follows:

In the event of any fossil discovery, regardless of depth or geologic formation, construction work will halt within a 50-ft. radius of the find until its significance can be determined by a Qualified Paleontologist. Significant fossils will be recovered, prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility in accordance with the standards of the SVP (2010) and BLM (2009). A repository will be identified and a curatorial arrangement will be signed prior to collection of the fossils. Although the San Bernardino County Museum is specified as the repository for fossils found in the county in the current General Plan (San Bernardino County, 2007), the museum may not always be available as a repository. Therefore, any accredited institution may serve as a repository.

The proposed project shall implement the following measure to meet the County's requirements pertaining to paleontological resources:

GEO-4 In the event of any fossil discovery, regardless of depth or geologic formation, construction work will halt within a 50-ft. radius of the find until its significance can be determined by a Qualified Paleontologist. Significant fossils will be recovered, prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility in accordance with the standards of the SVP (2010) and BLM (2009). A repository will be identified and a curatorial arrangement will be signed prior to collection of the fossils. Although the San Bernardino County Museum is specified as the repository for fossils found in the county in the current General Plan (San Bernardino County, 2007), the museum may not always be available as a repository. Therefore, any accredited institution may serve as a repository.

With incorporation of the above project specific and County developed mitigation measures, the potential for impact to paleontological resources will be reduced to a less than significant level. No additional mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VIII. GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: The following information utilized in this section was obtained from the technical study “Air Quality and GHG Impact Analyses, BV-191, Big Bear High School Football and Track Stadium Project, Big Bear (San Bernardino County), California” prepared by Giroux & Associates dated October 19, 2021, and provided as Appendix 1 to this document.

Background

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. Many scientists believe that the climate shift taking place since the industrial revolution (1900) is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases in the earth’s atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases. Many scientists believe that this increased rate of climate change is the result of greenhouse gases resulting from human activity and industrialization over the past 200 years.

An individual project like the project evaluated in Appendix 1 cannot generate enough greenhouse gas emissions to effect a discernible change in global climate. However, the project may participate in the potential for GCC by its incremental (cumulative) contribution of greenhouse gasses combined with the cumulative increase of all other sources of greenhouse gases, which when taken together constitute potential influences on GCC.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California’s reputation as a “national and international leader on energy conservation and environmental stewardship.” It will have wide-ranging effects on California businesses and lifestyles as well as far reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions are the short time frames within which it must be implemented. Major components of the AB 32 include:

- Require the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate “early action” control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California’s GHG emissions be reduced to 1990 levels.
- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual, to be achieved by 2020.
- Must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Maximum GHG reductions are expected to derive from increased vehicle fuel efficiency, from greater use of renewable energy and from increased structural energy efficiency. Additionally, through the California Climate Action Registry (CCAR now called the Climate Action Reserve), general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized

into direct sources (i.e., company owned) and indirect sources (i.e., not company owned). Direct sources include combustion emissions from on-and off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

Thresholds of Significance

In response to the requirements of SB97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March, 2010. The CEQA Appendix G guidelines were modified to include GHG as a required analysis element. A project would have a potentially significant impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or
- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

Section 15064.4 of the Code specifies how significance of GHG emissions is to be evaluated. The process is broken down into quantification of project-related GHG emissions, making a determination of significance, and specification of any appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility.

Emissions identification may be quantitative, qualitative, or based on performance standards. CEQA guidelines allow the lead agency to “select the model or methodology it considers most appropriate.” The most common practice for transportation/combustion GHG emissions quantification is to use a computer model such as CalEEMod, as was used in the ensuing analysis.

The significance of those emissions then must be evaluated; the selection of a threshold of significance must take into consideration what level of GHG emissions would be cumulatively considerable. The guidelines are clear that they do not support a zero net emissions threshold. If the lead agency does not have sufficient expertise in evaluating GHG impacts, it may rely on thresholds adopted by an agency with greater expertise.

On December 5, 2008 the SCAQMD Governing Board adopted an Interim quantitative GHG Significance Threshold for industrial projects where the SCAQMD is the lead agency (e.g., stationary source permit projects, rules, plans, etc.) of 10,000 Metric Tons (MT) CO₂ equivalent/year. In September 2010, the SCAQMD CEQA Significance Thresholds GHG Working Group released revisions which recommended a threshold of 3,000 MT CO₂e for all land use projects. This 3,000 MT/year recommendation has been used as a guideline for this analysis. In the absence of an adopted numerical threshold of significance, project related GHG emissions in excess of the guideline level are presumed to trigger a requirement for enhanced GHG reduction at the project level.

a. *Less Than Significant Impact –*

Construction Activity GHG Emissions

The project is assumed to require less than one year for construction. During project construction, the CalEEMod2020.4.0 computer model predicts that the construction activities will generate the annual CO₂e emissions identified in Table VIII-1.

SCAQMD GHG emissions policy from construction activities is to amortize emissions over a 30-year lifetime. The amortized level is also provided. GHG impacts from construction are considered individually less than significant.

**Table VIII-1
CONSTRUCTION EMISSIONS**

	Metric Tons CO₂e
Year 2022	367.2
Year 2023	32.3
Total	399.5
Amortized	13.3

CalEEMod Output provided in appendix

Operational GHG Emissions

During project operation, the CalEEMod2020.4.0 computer model predicts that the operational activities will generate the annual CO₂e emissions identified in Table VIII-2. The project GHG emissions are considered less than significant.

**Table VIII-2
OPERATIONAL EMISSIONS (METRIC TONS CO₂e)**

Consumption Source	CO₂e
Area Sources	<0.1
Energy Utilization	<0.1
Mobile Source	446.2
Solid Waste Generation	0.3
Water Consumption	16.5
Construction	13.3
Total	476.0
Guideline Threshold	3,000
Exceeds Threshold	No

b. *Less Than Significant With Mitigation Incorporated –*

Consistency with GHG Plans, Programs and Policies

In March 2014, the San Bernardino Associated Governments and Participating San Bernardino County Cities Partnership (Partnership) created a final draft of the San Bernardino County Regional Greenhouse Gas Reduction Plan (Reduction Plan) for each of the 25 jurisdictional Partner Cities in the County. The plan was recently updated in March of 2021. The Reduction Plan was created in accordance with AB 32, which established a greenhouse gas limit for the state of California. The Reduction Plan seeks to create an inventory of GHG gases and develop jurisdiction specific GHG reduction measures and baseline information that could be used by the Partnership Cities of San Bernardino County, including the County itself.

Projects that demonstrate consistency with the strategies, actions, and emission reduction targets contained in the Reduction Plan would have a less than significant impact on climate change. The project operations will generate little GHG emissions as shown in Table VIII-2. The only reduction measures applicable to this project are presented below. As such the proposed project shall implement the following mitigation measure to ensure consistency with applicable GHG plans, programs, and policies.

GHG-1 *The Project shall be required to adhere to the following GHG reduction measures:*

- *The District shall implement water-efficient landscaping practices.*
- *The District shall utilize recycled water for landscaping purposes if recycled water connections become available at the project site in the future. The District shall establish a goal that at least 50% of the water used for non-potable sources be recycled wastewater, where such sources are available for use at the site.*
- *The District shall work to exceed the waste diversion goal recommended by Assembly Bill 939 and CalGreen.*
- *The District shall retain a landscaping contractor(s) that uses electric landscaping equipment, if contractors with electric equipment readily available are feasible to retain within the immediate project area, or shall otherwise mandate that future landscaping at the site shall utilize electric equipment where feasible and reduce gasoline-powered landscaping equipment use and reduce the number and operating time of such equipment.*
- *The District shall install water conserving plumbing fixtures and fittings in accordance with Title 24 of the California Code of Regulations.*

With the implementation of MM **GHG-1**, the proposed project would be consistent with the Reduction Plan would result in a less than significant impact with respect to GHG emissions.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
IX. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

a&b. *Less Than Significant With Mitigation Incorporated* – The project should not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; but it may 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 during construction. The proposed project would develop a new sports stadium at the former Chautauqua High School to serve BBHS within the Community of Sugarloaf. During construction there is a potential for accidental release of petroleum products in sufficient quantity to pose a significant hazard to people and the environment. The following mitigation measure will be incorporated into the Storm Water Pollution Prevent Plan (SWPPP) prepared for the project and implementation of this measure can reduce this potential hazard to a less than significant level.

HAZ-1: All accidental spills or discharge of hazardous material during construction activities shall be reported to the Certified Unified Program Agency and shall be remediated in compliance with applicable federal, State, and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste shall be collected and disposed of at a licensed disposal or treatment facility. This measure shall be incorporated into the Stormwater

Pollution Prevention Plan (SWPPP) prepared on each future facility developed under the CBP. Prior to accepting the site as remediated, the area contaminated shall be tested to verify that any residual concentrations meet the standard for future residential or public use of the site.

Since the proposed project involves the demolition of the existing structures on site, some of which may contain asbestos or lead based paint, appropriate abatement of identified asbestos is necessary prior to demolition, federal and State regulations govern the demolition of structures where materials containing lead and asbestos are present. Asbestos-containing materials (ACMs) are regulated both as a hazardous air pollutant under the Clean Air Act and as a potential worker safety hazard under the authority of Cal/OSHA. These requirements include SCAQMD Rules and Regulations pertaining to asbestos abatement (including Rule 1403); Construction Safety Orders 1529 (pertaining to asbestos) and 1532.1 (pertaining to lead) from CCR Title 8; CFR Title 40, Part 61, Subpart M (pertaining to asbestos); and lead exposure guidelines provided by the U.S. Department of Housing and Urban Development (HUD). Asbestos and lead abatement must be performed and monitored by contractors with appropriate certifications from the California Department of Health Services.

In addition, Cal/OSHA has regulations concerning the use of hazardous materials, including requirements for safety training, availability of safety equipment, hazardous materials exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces the hazard communication program regulations, which include provisions for identifying and labeling hazardous materials, describing the hazards of chemicals, and documenting employee-training programs. All demolition that could result in the release of lead and/or asbestos would be conducted according to Cal/OSHA standards. Adherence to existing regulations would ensure that potential impacts related to ACMs and LBPs would be less than significant.

The use of hazardous materials and substances during construction would be subject to the federal, State, and local health and safety requirements for the handling, storage, transportation, and disposal of hazardous materials, summarized in the Regulatory Setting. During operation, no storage or use of hazardous materials is anticipated, other than the use of common household and commercial cleaning products. With compliance with mandatory regulations, and preparation and implementation of MM HAZ-1, identified above, hazardous material impacts related to construction activities would be less than significant.

- c. *Less Than Significant Impact* – The project site is located within one-quarter mile of two public schools. The proposed project would be developed within a site adjacent to Big Bear High School, and within 0.1 mile of Baldwin Lane Elementary School. The project is adjacent to fields, which are similar to that which is proposed by this project. Additionally, a sports complex was recently approved to be developed about 0.2 mile northwest of the proposed project site. The proposed project is not anticipated to emit hazardous emissions as discussed under issue IX(a&b), above, as it is a project that would develop a sports complex with no potential for use of substantial amounts of hazardous materials. Based on this information, implementation of the project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Impacts under this issue are considered less than significant. No mitigation is required.
- d. *Less Than Significant Impact* – The project site has been previously developed with structures, concrete, pavement, and baseball fields that made up the Chautauqua High School campus. The proposed development will include demolition of existing facilities, and will include mass grading the site to provide level surfaces upon which to develop the proposed Stadium. The project will not be located on a site that is included on a list of hazardous materials sites that are currently under remediation. According to the California State Water Board's GeoTracker website (consistent with Government Code Section 65962.5), which provides information regarding Leaking Underground Storage Tanks (LUST) and Department of Toxic Substance Control (DTSC) cleanup sites, there are no open LUST, DTSC, or other clean-up sites within 2,500 feet of the project site (Figure IX-1).

Therefore, there is no potential for the project to be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 thereby creating a significant hazard to the public or the environment. Project construction and operation of the site as the Big Bear High School Football and Track Stadium Project will have a less than significant potential to create a significant hazard to the population or to the environment from its implementation. No mitigation is required.

- e. *Less Than Significant Impact* – The project site is located less than a mile southeast of the Big Bear Airport. According to the Big Bear City Airport Comprehensive Land Use Plan³, the project is located within the AR3 overlay, which requires an avigation easement as this project is located beneath the flight path for the airport. Airport staff has indicated that they are comfortable with the proposed project so long as they maintain access to a beacon that can only be accessed from the proposed project site. Given that the proposed project would comply with the Airport’s avigation easement requirement, and that the proposed project does not contain residences and would not facilitate long term visitation of the project site, the potential for the project to result in a safety hazard for people residing or working in the project area, or otherwise utilizing the proposed project site is less than significant. Therefore, through compliance with the avigation easement requirement, construction and operation of the project at this location would result in less than significant potential safety hazard for people residing or working in the project area as a result of proximity to a public airport or private airstrip. No mitigation is required.
- f. *Less Than Significant With Mitigation Incorporated* – The proposed project is not anticipated to interfere with an adopted emergency response plan or emergency evacuation plan. There is an emergency evacuation route located north and east of the project, as State Highway 18/Big Bear Boulevard and State Highway 38 have been delineated as such on the San Bernardino County Mountain Area Emergency Route: Area 2 map provided as Figure IX-2. The proposed project will be constructed entirely within the boundaries of the project site, with minimal improvements to the site frontage and entrances to the site along Baldwin Lane and Maple Lane. The project would involve ingress and egress of traffic onto Baldwin Lane and Maple Lane from the existing and proposed access driveways that will provide entry to the site. As such, the proposed project will not experience substantial conflicts with surrounding traffic. However, because the proposed project will require construct an internal driveway and access road of sorts in the project parking lot, and minimal improvements that may affect the flow of traffic along Baldwin Lane or Maple Lane, a limited potential to interfere with an emergency response or evacuation plan will occur during construction. Mitigation to address traffic disruption and emergency access issues are included in the Transportation Section (XVII). Therefore, with the implementation of MMs **TRAN-1** and **TRAN-2** identified in the Transportation Section of this document, there is a less than significant potential for the development of the project to physically interfere with any adopted emergency response plans, or evacuation plans.
- g. *Less Than Significant Impact* – The proposed project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. The proposed project area is an area susceptible to wildland fires, and is located within a delineated within a Very High Fire Hazard Severity Zone (VHFHSZ) in a Local Responsibility Area (LRA); the majority of the area surrounding Big Bear Lake and Baldwin Lake are located within a VHFHSZ, as shown on Figure IX-3, the Countywide Plan Policy Map of Fire Hazard Severity Zones. The project is also located within the County Fire Safety Overlay. The proposed project is required to, and will incorporate the most current fire protection designs, including an adequate water supply for fire flow and fighting purposes. Regardless of the benefits, the proposed development on the project site will expose future visitors of the proposed BBHS Football and Track Stadium Project to a potential for damage during a major wildland fire. However, the potential for loss of life is considered to be low for the following reasons: there are emergency routes that lead away from the project area—State Highway 18 (west and north) and State Highway 38 (east and south)—and, the project would install setbacks from adjacent

³ <http://www.sbcounty.gov/Uploads/lus/Airports/BigBear.pdf>

forestland that could support a wildfire, thus minimizing wildfire risk at the site. Based on past experience with wildfires in the area, the Mountain Region can be successfully evacuated and life preserved, even if structures or property is damaged. Given the type of project proposed—an outdoor stadium—exposure to wildfire would have a limited potential to substantially damage the site. As a result, and due to the availability of and access to emergency routes, the potential for loss of life and structures is considered to be a less than significant impact without mitigation.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
X. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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,	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

Impact Analysis

- a. *Less Than Significant With Mitigation Incorporated* – The proposed project is located within the planning area of the Santa Ana Regional Water Quality Control Board (RWQCB). The project site contains features similar to much of the Big Bear area including Great Basin sagebrush scrub and Pinyon-juniper woodland plant communities. The project would be supplied with water by the City of Big Bear Lake, Department of Water and Power (DWP). Water is supplied to customers by pumping groundwater from local aquifers to meet customer demand. No sewer connections are required as the project will provide restroom services through portable facilities.

For a developed area, the only three sources of potential violation of water quality standards or waste discharge requirements are from generation of municipal wastewater, stormwater runoff, and potential discharges of pollutants, such as accidental spills. The project will not generate municipal wastewater. Portable restrooms will be serviced by the portable restroom service provider, which will comply with regulations pertaining to wastewater disposal.

The County implements National Pollutant Discharge Elimination System (NPDES) requirements for surface discharge for all qualified projects. The project site is greater than one acre in size, therefore, it is required to obtain coverage under an NPDES permit. To address stormwater and accidental spills within this environment, any new project must ensure that site development implements a Storm Water Pollution Prevention Plan (SWPPP) to control potential sources of water pollution that could violate any standards or discharge requirements during construction. Also, a Water Quality Management Plan (WQMP) must be prepared and implemented to ensure that project-related surface runoff meets discharge requirements over the long term. The SWPPP would specify the Best Management Practices (BMPs) that the project would be required to implement during construction activities to ensure that all potential pollutants of concern are controlled, minimized, and/or otherwise appropriately treated prior to being discharged from the subject property as stormwater runoff. Compliance with the terms and conditions of the NPDES and the SWPPP is mandatory and is judged adequate mitigation by the regulatory agencies for potential impacts to stormwater during construction activities. Implementation of the following mitigation measure is also considered adequate to reduce potential impacts to stormwater runoff to a less than significant level.

HYD-1 *The District shall require that the construction contractor prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving offsite into receiving waters. The SWPPP shall include a Spill Prevention and Cleanup Plan that identifies the methods of containing, cleanup, transport and proper disposal of hazardous chemicals or materials released during construction activities that are compatible with applicable laws and regulations. BMPs to be implemented in the SWPPP may include but not be limited to:*

- *The use of silt fences;*
- *The use of temporary stormwater desilting or retention basins;*
- *The use of water bars to reduce the velocity of stormwater runoff;*
- *The use of wheel washers on construction equipment leaving the site;*
- *The washing of silt from public roads at the access point to the site to prevent the tracking of silt and other pollutants from the site onto public roads;*
- *The storage of excavated material shall be kept to the minimum necessary to efficiently perform the construction activities required. Excavated or stockpiled material shall not be stored in water courses or other areas subject to the flow of surface water; and*
- *Where feasible, stockpiled material shall be covered with waterproof material during rain events to control erosion of soil from the stockpiles.*

With implementation of these mandatory Plans and their BMPs, as well as MMs **HAZ-1** and **HYD-1** above, the development of the proposed project will not cause a violation of any water quality standards or waste discharge.

- b. *Less Than Significant Impact* – The project does not propose the installation of any water wells that would directly extract groundwater and the change in pervious surfaces to impervious surfaces will be minimal because the site itself will consist of a large amount of pervious surfaces. The project is located within Bear Valley, which lies in the northeastern portion of the Santa Ana River Watershed, and the underlying groundwater basin is the Bear Valley groundwater basin. According to the Big Bear Lake Department of Water and Power (BBLDWP) 2020 Urban Water Management Plan (UWMP), the total demand for water was 2,332 acre-feet per year (AFY) in 2020⁴. BBLDWP anticipates that the total demand for water within its service area will grow to 2,283 AFY by 2045 AFY. The proposed project would require use of water to support site landscaping and to support drinking fountains within the project site, as well as to serve the fire hydrants developed on site for

⁴ <https://www.bldwp.com/ArchiveCenter/ViewFile/Item/249>

fire flow in instances where such flow is needed. As such, the District estimates that the proposed project would require nominal water (less than 1 AFY) to operate, as the proposed field will be developed with synthetic turf, which does not require water. BBLDWP receives about 3,100 AFY of groundwater from the Bear Valley groundwater basin as a base supply within its service area. Therefore, though the proposed project might require water supply from BBLDWP, the increase of an anticipated 1 AFY is well within the planned demand for water for in 2025 (2,147) and in 2040 (2,283 AFY), given the surplus of supply (anticipated at 3,100 AFY for every year between 2025 and 2045). The anticipated demand of water supply within BBLDWP's retail service area is anticipated to be greater than the demand for water in the future, which indicates that BBLDWP has available capacity to serve the proposed project. Thus, based on the availability of water within the area—the maximum perennial yield for the Bear Valley groundwater basin has been estimated at 4,800 AFY, with approximately 3,100 AFY of that volume being available to the BBLDWP—the development of the BBHS Football and Track Stadium Project within the approximately 7-acre site is not forecast to cause a significant demand for new groundwater supplies. The potential impact under this proposed project is considered less than significant; no mitigation measures are required.

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

Less Than Significant Impact – The project site has been generally developed as it contains the former Chautauqua High School, with the western boundary of the site, as well as small portions of the southern and eastern site frontages supporting Pinyon-juniper woodland plant communities. The proposed project is not anticipated to significantly change the volume of flows downstream of the project site, and would not be anticipated to change the amount of surface water in any water body in an amount that could initiate a new cycle of erosion or sedimentation downstream of the project site. The proposed project will be developed to be relatively flat in support of the field and stadium installation. The proposed improvements include parking, landscaping, fields, and bleachers. The proposed project will include drainage structures to convey the runoff to natural flowlines, or to flow dissipation structures. Furthermore, a basin is proposed at the entrance near Baldwin Lane and the sports fields will have subsurface storm drains that outlet to the natural flowline for that drainage area. The proposed project would develop a sports field, which would provide allow for some infiltration; when compared to the existing site conditions, the proposed project would not alter impervious surface area significantly, as the site is currently developed with similar impervious areas to that which is proposed by this project. Regardless, given that the proposed development would include drainage improvements to accommodate the facilities proposed as part of the proposed project, on site flows within the new development will be collected and conveyed in a controlled manner such that runoff will be collected and allowed to infiltrate on site. This system will be designed to capture the peak 100-year flow runoff from the project site or otherwise be detained on site and discharged in conformance with County requirements. The downstream drainage system will not be altered and given the control of future surface runoff from the project site, the potential for downstream erosion or sedimentation will be controlled to a less than significant impact level.

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

Less Than Significant Impact – The proposed project will alter the existing drainage courses or patterns onsite but will maintain the existing offsite downstream drainage system through control of future discharges from the site. The onsite drainage system will capture any incremental increase in runoff from the project site associated with project development. On site flows within the new development will be collected and conveyed in a controlled manner such that runoff will be collected and allowed to infiltrate on site through the provision of subsurface storm drains and a new proposed bioretention basin. The development of these drainage improvements would conform to County of San Bernardino Requirements and would prevent flooding onsite or offsite from occurring. Furthermore, the proposed project is required to prepare and implement a WQMP, which would specify specific measures to manage long-term runoff and stormwater onsite. Thus, the implementation of onsite drainage improvements and compliance with the measures developed in

the WQMP, stormwater runoff will not substantially increase the rate or volume of runoff in a manner that would result in substantial flooding on- or off-site. Impacts under this issue are considered less than significant with no mitigation required.

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

Less Than Significant With Mitigation Incorporated – The proposed project will alter the site such that stormwater runoff within the site may be increased, but will maintain the existing off-site downstream drainage system through control of future discharges from the site to be equivalent to the current conditions. This would prevent the project from exceeding the capacity of existing or planned stormwater drainage systems and from providing substantial additional sources of polluted runoff. The development of the project site collect and convey on site flows in a controlled manner such that runoff will be collected and allowed to infiltrate on site through the provision of subsurface storm drains and a new proposed bioretention basin. The development of these drainage improvements would be designed to prevent runoff from leaving the project site or otherwise pretreat the runoff before leaving the site to meet County of San Bernardino Requirements. Varying amounts of urban pollutants, such as motor oil, antifreeze, gasoline, pesticides, detergents, trash, animal wastes, and fertilizers, could be introduced into downstream stormwater within the watershed. However, the proposed project is not anticipated to generate discharges that would require pollution controls beyond those already incorporated into the project design as a standard operating procedure to meet water quality management requirements from the RWQCB. As such, the project is not anticipated to result in a significant adverse impact to water quality or flows downstream of the project with implementation of mitigation outlined below.

Although BMPs are mandatory for the project to comply with established pollutant discharge requirements, the following mitigation measure is designed to establish a performance standard to ensure that the degree of water quality control is adequate to ensure the project does not contribute significantly to downstream water quality degradation.

HYD-2 The District will select best management practices and reduce future non-point source pollution in surface water runoff discharges from the site to the maximum extent practicable, both during construction and following development. The identified BMPs shall be installed in accordance with schedules contained in the Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP).

Compliance will also be ensured through fulfilling the requirements of a SWPPP and WQMP monitored by the District and the County/RWQCB, and through the implementation of mitigation measure **HAZ-1**, which will ensure that discharge of polluted material does not occur or is remediated in the event of an accidental spill. The SWPPP must incorporate the BMPs that meet the performance standard established in **HYD-1** for both construction and operation stages of the project. Thus, the implementation of onsite drainage improvements and applicable requirements will ensure that that drainage and stormwater will not create or contribute runoff that would exceed the capacity of existing or planned offsite stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts under this issue are considered less than significant with mitigation required.

- c. iv. Impede or redirect flood flows?

Less Than Significant Impact – As shown on the Federal Emergency Management Agency (FEMA) Federal Insurance Rate Map (FIRM) #06071C7315H provided as Figure X-1, the project site is located within Zone D, which represents areas of undetermined flood hazard. Furthermore, according to the Countywide Plan Policy Map showing Flood Hazards (Figure X-2), the proposed project is not located within a flood hazard zone. As such, development of this site is not anticipated to redirect or impede flood flow at the project site, particularly given that surface flows will be conveyed and

captured by subsurface storm drains and a new proposed bioretention basin to prevent increased runoff from leaving the project site or otherwise pretreat the runoff before leaving the site to meet County of San Bernardino Requirements, which would prevent flooding onsite or offsite from occurring. Therefore, impacts under this issue are considered less than significant and no mitigation is required.

- d. *Less Than Significant Impact* – As stated under issue X(c)(iv), the proposed project is located in an area with no known flood hazard, as mapped by the County and by FEMA. Furthermore, the proposed project is mapped outside of the dam inundation area delineated by the San Bernardino Countywide Plan (Figure IX-3). The proposed project is located in proximity to Big Bear Lake, about 2.9 miles to the east/southeast from the Lake, and is located about 1.7 miles to the west/southwest of Baldwin Lake, though Baldwin Lake is not frequently full with water. The proposed project is also located at an elevation that is about 100 feet higher than Big Bear Lake, and about 50 feet higher than Baldwin Lake, and is separated from both lakes by hills. Big Bear Lake is formed by a dam. As such, dam inundation would occur west of the dam flowing down in elevation to the Santa Ana River watershed several thousand feet below the elevation of the project site. The proposed project is not located within the seiche zone for either lake, and is removed from the ocean by both elevation and a distance of 60 miles. Therefore, given that the proposed project is not located within a flood hazard, tsunami, or seiche zone, there is a less than significant potential for release of pollutants due to project inundation. No mitigation is required.
- e. *Less Than Significant Impact* – The proposed project is located within the Bear Valley Groundwater Basin, which has been designated very low priority by the Sustainable Groundwater Management Act (SGMA). The SGMA empowers local agencies to form Groundwater Sustainability Agencies (GSAs) to manage basins and requires GSAs to adopt Groundwater Sustainability Plans (GSPs) for crucial groundwater basins in California.⁵ The SGMA “requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, that will be 2040. For the remaining high and medium priority basins, 2042 is the deadline.”⁶ Given that the project is located within a basin that is considered very low priority, no conflict or obstruction of a water quality control plan or sustainable groundwater management plan is anticipated. As such, the project would not conflict with a sustainable groundwater management plan. Water consumption and effects in the basin indicates that the proposed project’s water demand is considered to be minimal. By controlling water quality during construction and operations through implementation of both short- (SWPPP) and long- (WQMP) term best management practices at the site, no potential for conflict or obstruction of the Regional Board’s water quality control plan has been identified.

⁵ <https://www.bbarwa.org/bear-valley-basin-groundwater-sustainability-agency/>

⁶ <https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XI. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

- a. *No Impact* – Refer to the aerial photos provided as Figures 1 and 2, which depict the project’s regional and site-specific location. The project site would be installed within a site zoned for Institutional (IN) use, and the land use designation is Public Facility (PF). The proposed project would occur within a site located within the Sugarloaf Community within the Mountain Region of San Bernardino County. The proposed stadium would be developed within the site previously used as the Chautauqua High School, which is adjacent to Big Bear High School, which both contain similar features (fields) what is proposed by the Football and Track Stadium Project. To the west of the project site is vacant undeveloped land, with Baldwin Lane Elementary School being located a little farther to the west. To the south of the project, on the south side of Baldwin Lane, are residences. Given that the development of the proposed sports complex project at this site would be consistent with and similar to the surrounding uses, development of the BBHS Football and Track Stadium Project at this location would be consistent with both the existing uses of the project site, as well as the uses surrounding the project and the surrounding land use designations and zoning classifications. Consequently, the development of the project site with the proposed use will not divide any established community in any manner. Therefore, no significant impacts under this issue are anticipated and no mitigation is necessary.

- b. *Less Than Significant Impact* – The proposed project will develop a stadium athletic complex within a site that previously served as the Chautauqua High School, and as such contains existing vacant development and trees. The project site is located within the Public Facility land use designation, and within the Institutional (IN) zoning classification. The County’s recently approved Countywide Plan lists the following Goals and Policies under the Land Use Element:
 - Goal LU-2 Land Use Mix and Compatibility: An arrangement of land uses that balances the lifestyle of existing residents, the needs of future generations, opportunities for commercial and industrial development, and the value of the natural environment.
 - Applicable policies:
 - Policy LU-2.1: Compatibility with existing uses
 - Policy LU-2.3: Compatibility with natural environment
 - Policy LU-2.4: Land Use Map consistency
 - Policy LU-2.5: Hillside preservation
 - Policy LU-2.6: Coordination with adjacent entities
 - Policy LU-2.8: Rural lifestyle in the Mountain/Desert regions
 - Goal LU-4 Community Design: Preservation and enhancement of unique community identities and their relationship with the natural environment.
 - Applicable policies:
 - Policy LU-4.1: Context-sensitive design in the Mountain/Desert regions
 - Policy LU-4.2: Fire-adapted communities
 - Policy LU-4.3: Native or drought-tolerant landscaping
 - Policy LU-4.4: Natural topography in the Mountain region
 - Policy LU-4.5: Community identity
 - Policy LU-4.7: Dark skies

The proposed project would be consistent with the above goals and policies. A review of all other General Plan Goals (Housing Element, Infrastructure & Utilities Element, Transportation & Mobility Element, Natural Resources Element, Renewable Energy & Conservation Element, Cultural Resources Element, Hazards Element, Personal & Property Protection Element, Economic Development Element, and Health & Wellness Element) indicates that the proposed project is consistent with all applicable Goals, often with mitigation, as demonstrated by the findings in the pertinent sections of this Initial Study. The proposed project can be implemented without significant effects on the circulation system; all infrastructure exists at or can be extended to the site to support the BBHS Football and Track Stadium Project; it will not generate significant air emissions or GHG emissions, particularly once in operation; it will meet noise design requirements with mitigation; it can meet all Safety Element requirements; and it implements the Health and Wellness Element objectives and goals. Therefore, the implementation of this project at this site will be consistent with surrounding land uses, and current use of the site.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XII. MINERAL RESOURCES: Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a. *No Impact* – The proposed project is located on a site that has been previously developed as the Chautauqua High School, containing the structures and sports fields that supported the former school campus. As such, the proposed project site does not, and as such, does not contain any known important minerals resources. Furthermore, the San Bernardino County Countywide Plan Program Environmental Impact Report (PEIR) map depicting Mineral Resource Zones indicates that the proposed project is not located within an area containing delineated mineral resources (Figure XII-1). Therefore, the development of the site is not anticipated to 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. No impacts are anticipated and no mitigation is required.

- b. *No Impact* – The proposed BBHS Football and Track Stadium Project would not result in a significant impact under any of the Initial Study Checklist Topics, provided mitigation measures are implemented. As stated above, the proposed project site does not contain any known mineral resources delineated by the County in its Countywide Plan (Figure XII-1), and is currently vacant containing trees and other native vegetation. As such, the development of the proposed BBHS Football and Track Stadium Project at the proposed site would not result in the loss of any available locally important resource recovery site delineated on a local general plan, specific plan or other land use plan, as no such delineations of this site are known. No impacts under this issue are anticipated and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIII. NOISE: Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of a project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION: A Noise Impact Analysis is provided as Appendix 5 to this Initial Study, titled “Big Bear High School Football and Track Stadium Project, Noise Impact Analysis” prepared by Urban Crossroads dated December 20, 2021.

Background

Noise is generally described as unwanted sound. The proposed BBHS Football and Track Stadium Project will develop a three field multi-use sports complex within a ~7-acre site designated for Institutional use by the San Bernardino Countywide Plan on the northwest corner of Maple Lane and Baldwin Lane in the Unincorporated Community of Sugarloaf. Nearby sensitive uses include BBHS, which is located adjacent to the project site and would essentially be a continuation of BBHS once developed as it will serve the school and the District. Additionally, the project is located about 0.1 mile to the east of Baldwin Lane Elementary School, and is located about 80 feet from the nearest residences to the south of the project site. The existing background noise at the site would be minimal to moderate, given that the site shares a boundary with vacant forest land to the west, while the northern portion of the site shares a boundary with BBHS and the school’s associated fields and sport facilities, and with a park located to the east. Traffic noise in this area is minimal to moderate given that the project site is located at the northwest corner of Maple Lane and Baldwin Lane.

The unit of sound pressure ratio to the faintest sound detectable to a person with normal hearing is called a decibel (dB). Sound or noise can vary in intensity by over one million times within the range of human hearing. A logarithmic loudness scale, similar to the Richter scale for earthquake magnitude, is therefore used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to all sound frequencies within the entire spectrum. Noise levels at maximum human sensitivity from around 500 to 2,000 cycles per second are factored more heavily into sound descriptions in a process called “A-weighting,” written as “dBA.”

Leq is a time-averaged sound level; a single-number value that expresses the time-varying sound level for the specified period as though it were a constant sound level with the same total sound energy as the time-varying level. Its unit of measure is the decibel (dB). The most common averaging period for Leq is hourly.

Because community receptors are more sensitive to unwanted noise intrusion during more sensitive evening and nighttime hours, state law requires that an artificial dBA (A-weighted decibel) increment be added to quiet time noise levels. The State of California has established guidelines for acceptable community noise levels that are based on the Community Noise Equivalent Level (CNEL) rating scale (a

24-hour integrated noise measurement scale). The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," and "clearly unacceptable" noise levels for various land use types. The State Guidelines, Land Use Compatibility for Community Noise Exposure, single-family homes are "normally acceptable" in exterior noise environments up to 60 dB CNEL and "conditionally acceptable" up to 70 dB CNEL based on this scale. Multiple family residential uses are "normally acceptable" up to 65 dB CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries and churches are "normally acceptable" up to 70 dB CNEL, as are office buildings and business, commercial and professional uses with some structural noise attenuation.

a. *Less Than Significant With Mitigation Incorporated –*

Short Term Construction Noise

Short-term construction noise impacts associated with the proposed project will occur in phases as the project site is developed. The earth-moving sources are the noisiest type of equipment typically ranging from 82 to 85 dB at 50 feet from the source. Temporary construction noise is exempt from the County Noise Performance Standards between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays. The proposed project would be constructed within the confines of these hours, and therefore would be in compliance with the County's Noise Performance Standards, and therefore construction of the project would be less than significant. However, to minimize the noise generated on the site to the extent feasible, the following mitigation measures shall be implemented:

NOI-1 All construction vehicles and fixed or mobile equipment shall be equipped with operating and maintained mufflers.

NOI-2 All employees that will be exposed to noise levels greater than 75 dB over an 8-hour period shall be provided adequate hearing protection devices to ensure no hearing damage will result from construction activities.

NOI-3 No construction activities shall occur during the hours of 7 PM through 7 AM, Monday through Saturday; at no time shall construction activities occur on Sundays or holidays, unless a declared emergency exists.

NOI-4 Equipment not in use for five minutes shall be shut off.

NOI-5 Equipment shall be maintained and operated such that loads are secured from rattling or banging.

NOI-6 Construction employees shall be trained in the proper operation and use of equipment consistent with these mitigation measures, including no unnecessary revving of equipment.

NOI-7 The District shall require that all construction equipment be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections by the District.

NOI-8 Construction staging areas shall be located as far from adjacent sensitive receptor locations as possible, for example toward the middle/northwestern boundary of the site.

b. *Less Than Significant Impact –* Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by vibration of room surfaces is called structure borne noises. Sources of groundborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous or transient. Vibration is often described in units of velocity (inches per second), and discussed in decibel (VdB) units in order to compress the range

of numbers required to describe vibration. Vibration impacts related to human development are generally associated with activities such as train operations, construction, and heavy truck movements.

The background vibration-velocity level in residential areas (from ongoing activities in a residential area such as cars driving by, etc.) is generally 50 VdB, while the groundborne vibration directly adjacent to an industrial facility requiring movement of heavy machinery might be greater. Groundborne vibration is normally perceptible to humans at approximately 65 VdB, while 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible. Construction activity can result in varying degrees of groundborne vibration, but is generally associated with pile driving and rock blasting. Other construction equipment—such as air compressors, light trucks, hydraulic loaders, etc.—generates little or no ground vibration. The San Bernardino County Development Code offers guidance on Vibration. San Bernardino County Development Code 83.01.090 provides guidance regarding how vibration should be measured and offers the following Standard:

(a) Vibration standard. No ground vibration shall be allowed that can be felt without the aid of instruments at or beyond the lot line, nor shall any vibration be allowed which produces a particle velocity greater than or equal to two-tenths (0.2) inches per second measured at or beyond the lot line.

Additionally, according to the San Bernardino County Development Code, construction is exempt from vibration regulations during the hours of 7 AM and 7 PM. As such, vibration related to construction activities will be less than significant because the project will limit construction to these hours. Operational vibration is anticipated to be less than significant given that there are no large pieces of heavy machinery that would operate at or near the property line. Therefore, any vibration generated within the site is not anticipated to be felt beyond the lot line. Therefore, any impacts under this issue are considered less than significant. No mitigation is required.

- c. *No Impact* – There nearest public airport is the Big Bear City Airport, which is located less than a mile to the northwest. According to the Big Bear City Airport Comprehensive Land Use Plan⁷, the project is not located within a safety zone requiring an aviation easement as this project is located beneath the flight path for the airport. Additionally, the proposed project is located outside of the delineated noise contours for the Airport, as shown on Figure XIII-1. Given that the proposed project is located outside of the 65 CNEL dBA airport noise contour, the project area has a less than significant potential to expose people residing or working in the project area to excessive noise levels as a result of the site's proximity to the airport. No mitigation is required.

⁷ <http://www.sbcounty.gov/Uploads/lus/Airports/BigBear.pdf>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIV. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant Impact* – Implementation of the project will not induce substantial population growth in the area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). This project proposes to develop a new stadium within an approximately 7-acre site. The provision of a new stadium is not typically considered to be growth inducing, but instead is considered growth accommodating to meet the current demand for an athletic stadium to serve the student athletics within the District boundaries. It should be noted that the District currently utilizes Big Bear Middle School to hold District football and other sports games, and these activities would be relocated to Big Bear High School; there is no increase in attendance anticipated with the new stadium. The proposed project would not require a significant number of employees to operate, only an anticipated 2 additional employees will be necessary to serve the new Stadium. It is unknown whether the new employees will be drawn from the general area or will bring new residents to the project area, but it is anticipated that the employees will reside in Mountain Region, which is an unincorporated area in San Bernardino County. According to the Countywide Plan, the total population within unincorporated San Bernardino County was 304,300 persons in 2020, or 13.8% of the overall County population of 2,197,400. According to the San Bernardino Countywide Plan PEIR, the population of unincorporated San Bernardino County is anticipated to grow to 344,100 by 2040. The proposed project would create a potential for 2 more permanent opportunities for employment during operation, and 25 temporary opportunities for employment in support of project construction. This would constitute a permanent increase in population of 0.00066% if each of the 2 new workers are new residents to unincorporated San Bernardino County. Given that the County General Plan indicates that the planned population within unincorporated San Bernardino is anticipated to grow by 39,800 from the 2020 population identified in the Countywide Plan (304,300), the potential increase in residents is well within the planned population growth within unincorporated San Bernardino County. As such, the County has planned for growth in population beyond that which exists at present, and should the project result in a temporary increase in population by 25 persons, or by 2 persons in the long term to manage and maintain the new sports complex, this growth would be well within the planned growth within the County as indicated by the Countywide Plan PEIR. Thus, based on the type of project, and the small increment of potential indirect population growth the project may generate, the population generation associated with project implementation will not induce substantial population growth that exceeds either local or regional projections.

- b. *No Impact* – There are no residences within the project site, as the project site contains the former Chautauqua High School campus. No persons currently reside on the site and therefore, implementation of the proposed project will not displace substantial numbers of existing housing, or persons necessitating the construction of replacement housing elsewhere. Thus, no impacts will occur and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XV. PUBLIC SERVICES: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

a. *Less Than Significant Impact* – The proposed project site is served by the Big Bear Fire Department, and the nearest Fire Station to the proposed project is Station #283, which is located across the street to the east of the project site at 550 Maple Ln, Big Bear Lake, CA 92315. Station #283 provides fire protection, fire prevention, and emergency medical services to the Big Bear Lake area. The proposed BBHS Football and Track Stadium Project would result in some potential increase in emergency and fire protection services at the project location. However, this would generally be a transfer of demand for such services as the District currently utilizes the Big Bear Middle School campus for football games. Given the close proximity to fire protection and emergency services, the project will be adequately served by fire equipment at Station #283, which would be capable of reaching the proposed project in the event of an emergency of fire in less than 3 minutes. Based on the above information, the proposed project does not pose a significant fire or emergency response hazard, nor is the proposed project forecast to cause a significant demand for fire protection services. The District will be required to ensure adequate fire flow at the proposed facilities. These requirements are considered adequate measures to prevent any significant impacts under this issue, thus no mitigation is required.

b. *Less Than Significant Impact* – The community of Sugarloaf receives police services through the San Bernardino County Sheriff’s Department. The Department enforces local, state, and federal laws; performs investigations and makes arrests; administers emergency medical treatment; and responds to County emergencies. The Big Bear Sheriff’s Station is located at 477 Summit Boulevard, Big Bear Lake, California 92315, which is approximately 3 miles to the west of the project site. The Station polices 258 square miles of unincorporated area to include the communities of Big Bear City, Sugarloaf, Erwin Lake, Baldwin Lake, Lake Williams and Fawnskin. In general, the Mountain Area has a low crime rate, which can be attributed to an increased law enforcement staff that includes both Sheriff personnel and an active Citizen Patrol with about 50 to 60 volunteer members funded by donations.

The project site is located within existing Sheriff patrol routes and future calls can be responded to within the identified priority call target response times. The proposed project will incrementally add to the existing demand for police protection services. The proposed stadium is anticipated to create a minimal demand for law enforcement protection services based on the type of uses and the general lack of activities that would substantially increase demand for such services. As such, the project is not expected to result in any unique or more extensive crime problems that cannot be handled with

the existing level of police resources. No new or expanded police facilities would need to be constructed as a result of the project. Therefore, impacts to police protection resources from implementation of the proposed project are considered less than significant; no mitigation measures are required.

- c. *Less Than Significant Impact* – The proposed project is anticipated to temporarily employ a maximum of 25 persons during construction. The project is not anticipated to generate any new direct demand for the area schools. The BBHS Football and Track Stadium Project would be developed within a site adjacent to both BBHS and Baldwin Lane Elementary School, which contain fields that are similar in nature to that which is proposed by this project, with the stadium being a unique feature intended to serve the District athletics. As addressed above under issue Population and Housing, XV(a) above, the proposed project does not include any land uses that would substantially induce population growth, and will not require a substantial temporary or permanent labor force. The development of a stadium at this site is not anticipated to adversely impact schools in any manner. Furthermore, the proposed project is intended to support the District, and thus support the schools and students within the District. As such, the proposed project would benefit schools, as it would provide a stadium in support of student athletics. Furthermore, as discussed throughout this Initial Study, the development of the proposed stadium project is not anticipated to cause any significant adverse impacts. As such, given that the proposed project would develop new school facilities to serve the Bear Valley Unified School District, it is anticipated that the proposed BBHS Football and Track Stadium Project would have a less than significant potential to cause a substantial adverse impact to Parks. No mitigation is required.
- d. *Less Than Significant Impact* – The proposed project would develop a stadium with a multi-use field and track to serve the District's students. The BBHS Football and Track Stadium Project would develop a field for use during school-related events, and therefore would not contribute to the area public park acreage. However, the proposed project would not significantly impact area parks as it would not include any land uses that would substantially induce population growth, and will not require a substantial temporary or permanent labor force. The proposed project will not directly add to the existing demand on local park facilities. The County collects a park and recreation impact fee from residential projects. The proposed project would be developed by the Bear Valley Unified School District, which is exempt from payment of such fees, and no residences are proposed; thus, with no existing or planned park facilities located within the project site, and no required payment of fees, the proposed project would have a less than significant impact to parks and recreation facilities.
- e. *Less Than Significant Impact* – Other public facilities include library and general municipal services. Since the project will not directly induce substantial population growth, it is not forecast that the use of such facilities will increase as a result of the proposed project. The project will develop a stadium that will contribute to the County's available Public Services, as it would develop a stadium that would serve Bear Valley Unified School District athletics. Thus, any impacts under this issue are considered less than significant, and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVI. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant Impact* – As addressed in the discussion under XIV and XV(d) above, the proposed project does not include a use that would substantially induce population growth. As stated in the discussion under Population and Housing, the project would create approximately 2 permanent and 25 temporary positions of employment. It is unknown what portion of the temporary workforce will be new residents. The County collects a park and recreation impact fee from residential projects. The proposed project would be developed by the Bear Valley Unified School District, which is exempt from payment of such fees, and no residences are proposed. Additionally, the proposed project will be developed on land that is designated by the County’s General Plan for Institutional use, and is not listed in any planning documents as desirable land for future park or recreation development. Furthermore, the proposed project would install a football field and track, but does not include any public recreational facilities that would contribute to the availability of recreational facilities in the area. As the project would not substantially induce population growth such that area recreation facilities would deteriorate from over-use, the proposed project would have a less than significant potential to physically deteriorate park or recreational facilities through increased use. No mitigation is required.

- b. *No Impact* – As discussed under issue XV(d) and issue XVI(a) above, the proposed project consists of the development of a stadium to serve District athletics. The project will provide a football field and track, but as the stadium is intended to provide an event space for District use, and may be used by students for practice, it does not include any public recreational facilities that would contribute to the availability of recreational facilities in the area. Based on the data and analysis contained in this Initial Study, the proposed construction of the stadium is not anticipated to cause a substantial adverse impact on the environment under any issue. As such, though the proposed project includes the construction of park/recreational facilities, the BBHS Football and Track Stadium Project would have a less than significant potential to have an adverse physical effect on the environment. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVII. TRANSPORTATION: Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: A Trip Generation Assessment (TGA) is provided as Appendix 6a to this Initial Study, titled “Big Bear High School Football Stadium Trip Generation Assessment” prepared by Urban Crossroads, dated November 1, 2021. Additionally, Urban Crossroads prepared a Vehicle Miles Traveled Screening Evaluation (VMT Evaluation) dated September 27, 2021 and provided as Appendix 6b to this initial Study.

- a. *Less Than Significant Impact* – Implementation of the proposed project will not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. The proposed project is located at the northwest intersection of Baldwin Lane and Maple Plan. Baldwin Lane delineated as a Mountain Major Highway serving the Community of Sugarloaf and Mountain Region, while Maple Lane is considered a Mountain Secondary Highway serving the community of Sugarloaf, connecting the community with Big Bear City and Baldwin Lake.

The TGA provided as Appendix 6a indicates that the high school football games are currently being held at Big Bear Middle School (located at 41275 Big Bear Boulevard in Big Bear Lake). The football games are the only events that are affected (being relocated) by the new proposed stadium as graduations and other large events are currently already held at the high school. The existing seating capacity is currently 550 seats for the home team and approximately 100 seats for visitors. The seating for the visiting team is low in comparison to the home team due to the travel distance of the visiting teams which limits the attendees to immediate family only.

In order to determine the trip generation associated with the existing football games that would be relocated from Big Bear Middle School to Big Bear High School, the activities on September 25, 2021 and October 2, 2021 were observed and counted. Both of these dates included both Junior Varsity and Varsity games which anticipated a high turnout. There are other weekday games that were scheduled, but they are relatively new and have fewer attendees and are usually Junior Varsity games only. Night games are also rare since there are currently no permanent lights for the evening games and portable lights need to be brought in. Traffic counts were collected at the driveways and on-street parking (where applicable along Jeffries Road and Georgia Street) were surveyed at Big Bear Middle School on September 25, 2021, and October 2, 2021 (both Saturdays). A summary of the count data collected is provided in Attachment A. Table 1 summarizes the trip generation for the existing football games (accounting for all driveways). As shown on Table 1, the existing football games generate an average of 460 two-way trips per day (on Saturday), with 160 trips during the afternoon peak hour. The peak activity on both Saturdays occurred between 3:30 and 4:30 PM.

**Table XVII-1
EXISTING SURVEY DATA FOR BIG BEAR MIDDLE SCHOOL**

Land Use	Saturday Peak Hour			Daily
	In	Out	Total	
Day 1: September 25, 2021 Total Trips	18	125	143	352
Day 2: October 2, 2021 Total Trips	27	150	177	565
2-Day Average Trip Generation Total Trips	23	138	150	460

According to the County Guidelines, operations analysis (traffic study) may not be required if the weekday AM or PM peak hour trip generation is less than 100 vehicle trips. The Project is anticipated to generate 160 Saturday afternoon peak hour trips, however, the weekday trips for Junior Varsity games occur during the mid-day outside of the typical peak commute hours. Lastly, it should be noted that these are not new trips as they are existing trips occurring at Big Bear Middle School that would be relocated to Big Bear High School (there is no increase in attendance anticipated with the new stadium). As such, no significant impacts on the Bear Valley automobile circulation system are anticipated over the long-term.

The project will also generate construction traffic, which is temporary; during construction, the project is anticipated to generate no more than 50 round truck trips per day, and a maximum of 60 employee roundtrips per day; these trips will be spread throughout the day during construction. As such, no significant impacts on the automobile circulation system are anticipated over the short-term period of construction.

The project site is currently accessible by car, by adjacent sidewalk, and is planned to be accessible by an adjacent Class III Bike Trail along Baldwin Lane. The site will continue to be accessible by the above means of transport once the stadium has been developed, with enhanced access to the site through the new driveways.

The Mountain Area Regional Transit Authority (MARTA) is the primary public transportation provider on the mountain-top, providing local and off-the-mountain bus service to the Big Bear Valley, Running Springs, Lake Arrowhead, Crestline and San Bernardino. MARTA operates both fixed route and demand-response services (Dial-A-Ride). The proposed project is located about three-quarter mile away from the nearest bus stop located at Baldwin Lane and Maple Lane through the Big Bear Route 11 (Erwin Lake to Interlaken Center). The proposed BBHS Football and Track Stadium Project is not anticipated to conflict with the circulation of any alternative modes of transportation.

Based on a review of the circulation in the vicinity of BBHS Football and Track Stadium Project, the minimal peak hour traffic that would be generated over the short- and long-term by the proposed project, and that will contribute to off- and on-site improvements to area roadways and sidewalks, this project would have a less than significant potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. No mitigation is required.

- b. *Less Than Significant Impact* – The proposed project would develop a stadium within the unincorporated Community of Sugarloaf in San Bernardino County. The County of San Bernardino utilizes the San Bernardino County Transportation Authority (SBCTA) VMT Screening Tool (Screening Tool). The Screening Tool allows users to input an assessor's parcel number (APN) to determine if a project's location meets one or more of the screening thresholds for land use projects. The County Guidelines provides details on appropriate screening criteria that can be used to identify when a proposed land use project is anticipated to result in a less than significant impact without conducting a more detailed analysis. Screening thresholds are broken into the following three types

and a land use project need only to meet one of the above screening thresholds to result in a less than significant impact:

- **Local Community Screening:** The County Guidelines notes projects which serve the local community and have the potential to reduce VMT should not be required to complete a full VMT analysis. Projects such as local serving retail (less than 50,000 square feet in building area), K-12 schools, local parks, day care centers, local serving gas stations, local serving banks, student housing, and local serving community colleges are examples of local serving land uses that would tend to shorten vehicle trips. The Project intends to develop an athletic field as the continuation of Big Bear High School. Currently, games and events are held at nearby Big Bear Middle School. Upon Project completion games and events will be relocated from Big Bear Middle School into the newly developed facility. In other words, the Project would serve these existing attendees and guests; and not result in new vehicle trips coming to and from the local area.
 - Local Community screening criteria is met.
- **Projects Generating Less Than 110 Daily Vehicle Trips**
 - Projects Generating Less Than 110 Daily Vehicle Trips screening criteria is not met.
- **Transit Priority Area (TPA) Screening**
 - The TPA screening criteria is not met.
- **Low VMT Area Screening:** The Screening Tool uses the sub-regional San Bernardino Transportation Analysis Model (SBTAM) to measure VMT performance within individual traffic analysis zones (TAZ's) within the region. The parcel containing the proposed Project was selected and the Screening Tool was run for Production/Attraction (PA) VMT per employee and VMT per capita measure of VMT. County Guidelines indicate that projects within traffic analysis zones (TAZs) that are found to generate VMT per employee 4% below the unincorporated County's existing regional baseline VMT per employee are considered to have a less than significant impact. Based on the Screening Tool results the baseline VMT per employee is 5.9 or 69.73% below the County VMT per employee average and VMT per capita is 16.6 or 33.09% below the County VMT per capita average. Therefore, the Project resides within a TAZ that generates VMT per employee and VMT per capita that exceeds 4% below the unincorporated County existing VMT per employee and per capita threshold.
 - The Low VMT Area Screening is met.

In addition to the above, the proposed BBHS Football and Track Stadium Project is located in an area that connects to alternative modes of transportation, such as sidewalks, planned bike paths, and is located near an existing bus route, making the area in the vicinity of the project accessible to alternative modes of transportation. Therefore, in accordance with the VMT thresholds and the analysis above and contained within Appendix 6b, the BBHS Football and Track Stadium Project is not anticipated to result in significant impact related to vehicle miles travelled, and thus would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). Impacts under this issue are considered less than significant.

- c. *Less Than Significant With Mitigation Incorporated* – The proposed project will occur entirely within the project site boundaries, though it will involve improvements along Baldwin Lane and Maple Lane in order to develop the proposed driveways that will provide access to the proposed stadium. Large trucks delivering equipment or removing small quantities of excavated dirt or debris can enter the site without major conflicts with the flow of traffic on the roadways used to access the site. Primary access to the site will be provided along existing and new driveways along Baldwin Lane and Maple Lane. Baldwin Lane delineated as a Mountain Major Highway serving the Community of Sugarloaf and Mountain Region, while Maple Lane is considered a Mountain Secondary Highway serving the community of Sugarloaf, connecting the community with Big Bear City and Baldwin Lake. The project site is located at the northwest corner of the intersection of Maple Lane and Baldwin Lane, and these roadways are generally moderately heavily traveled as the roads serve as a major access roads to the Community of Sugarloaf. The proposed new driveways will be designed such that the project would not increase hazards due to a geometric design feature or incompatible uses. Additionally, the proposed project would be required to comply with all applicable fire code and ordinance require-

ments for construction and access to the site. Emergency response and evacuation procedures would be coordinated with the District and the County, as well as the police and fire departments. Because the proposed project will require development of new driveways to provide access to the proposed stadium, the project will require implementation of a traffic management plan, which will ensure adequate circulation within the area. As such, to mitigate the potential impacts to traffic flow during construction, the following mitigation measure shall be implemented:

TRAN-1 *The District shall require its contractors prepare a construction traffic control plan. Elements of the plan should include, but are not necessarily limited to, the following:*

- *Develop circulation and detour plans, if necessary, to minimize impacts to local street circulation. Use haul routes minimizing truck traffic on local roadways to the extent possible.*
- *To the extent feasible, and as needed to avoid adverse impacts on traffic flow, schedule truck trips outside of peak morning and evening commute hours.*
- *Install traffic control devices as specified in Caltrans' Manual of Traffic Controls for Construction and Maintenance Work Zones where needed to maintain safe driving conditions. Use flaggers and/or signage to safely direct traffic through construction work zones.*
- *For roadways requiring lane closures that would result in a single open lane, maintain alternate one-way traffic flow and utilize flagger-controls.*
- *Coordinate with facility owners or administrators of sensitive land uses such as police and fire stations, hospitals, and schools. Provide advance notification to the facility owner or operator of the timing, location, and duration of construction activities.*

TRAN-2 *The District shall require that all disturbances to public roadways be repaired in a manner that complies with the Standard Specifications for Public Works Construction (green book) or other applicable County of San Bernardino standard design requirements.*

Upon implementation of a construction traffic management plan, any potential increase in hazards due to design features or incompatible use will be considered less than significant in the short term. In the long term, no impacts to any hazards or incompatible uses in existing or planned roadways are anticipated. Operation of the proposed project would be similar to the surrounding uses, and the design of the project would not create any hazards to surrounding roadways. Thus, any impacts are considered less than significant with implementation of mitigation.

- d. *Less Than Significant With Mitigation Incorporated* – The proposed project consists of activities that will take place along Baldwin Lane and Maple Lane within the Community of Sugarloaf in the County of San Bernardino. Vehicles travelling to and from the project site would utilize Baldwin Lane and Maple Lane and nearby State Highway 38 to access the site. Primary access to the site will be provided by the new proposed driveways. Access to the site is adequate and the nearest emergency response station is located across the street from the project site at 550 Maple Ln, Big Bear Lake, CA 92315. There is an emergency evacuation route located north and east of the project, as State Highway 18/Big Bear Boulevard and State Highway 38 have been delineated as such on the San Bernardino County Mountain Area Emergency Route: Area 2 map provided as Figure IX-2. With implementation of MMs **TRAN-1** and **TRAN-2**, adequate emergency access along Baldwin Lane will be maintained. Furthermore, the proposed stadium would utilize existing parking at BBHS to serve the stadium, as such, in the event of an emergency during the event, safe evacuation can be accomplished through use of existing facilities. Site access would mainly serve to enable pick up and drop off at the stadium with limited parking available onsite, primarily to provide handicapped site access. Thus, because of the lack of adverse impact on local circulation a less than significant

potential for significant impacts on emergency access are forecast to occur during construction and operation. No further mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVIII. TRIBAL CULTURAL RESOURCES: Would the project cause a substantial change in the significance of tribal cultural resources, 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 the California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant With Mitigation Incorporated* – The Bear Valley Unified School District has not been contacted by any Tribes under Assembly Bill (AB) 52. Therefore, no consultation is required, and the analysis and conclusions under the Cultural Resources Section above shall ensure that no significant impacts to any Tribal Cultural Resources occur. As such, MM **CUL-1** and **CUL-2**, which requires earthmoving or grading activities in the immediate area of any cultural materials to be halted and for an onsite inspection to be performed immediately by a qualified archaeologist, impacts to tribal cultural resources would be less than significant. No further mitigation is required beyond that which was identified under Section V, Cultural Resources, above.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIX. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

a. Water
Less Than Significant Impact – Water will be provided by the BBLDWP. Water service is available through existing connections at the project site that previously served the Chautauqua High School. As previously stated under Issue X, Hydrology and Water Quality, the BBLDWP’s 2020 UWMP identifies sufficient water resources to meet demand in its service area. The anticipated demand of water supply within BBLDWP’s retail service area is anticipated to be greater than the demand for water in the future, which indicates that BBLDWP has available capacity to serve the proposed project. Therefore, development of the BBHS Football and Track Stadium Project would not result in a significant environmental effect related to the relocation or construction of new or expanded water facilities. Impacts are less than significant.

Wastewater
No Impact – Municipal wastewater collection will not be required at the project site as the District will utilize portable restrooms onsite. This will require trips to and from the site to collect the portable restrooms and dispose of the waste. This will be handled by the portable restroom service provider. This action will require minimal trips to and from the site, and would not result in any significant impacts related to waste disposal, as the waste will be handled in accordance with all federal, state, and local regulations. Therefore, development of the BBHS Football and Track Stadium Project would not result in a significant environmental effect related to the relocation or construction of new or expanded wastewater facilities.

Stormwater
Less Than Significant Impact – The surface water runoff from the project site will be managed in accordance with the approved SWPPP and WQMP, as discussed in the Hydrology and Water Quality

Section (Section X) of this Initial Study. The onsite drainage system will capture the incremental increase in runoff from the project site associated with project development. The development of the project site stormwater management system will require incorporation of infiltration mechanisms throughout the site to prevent runoff from leaving the project site or otherwise pretreat the runoff before leaving the site to meet County of San Bernardino Requirements. Therefore, surface water will be adequately managed on site and as such, development of the BBHS Football and Track Stadium Project would not result in a significant environmental effect related to the relocation or construction of new or expanded stormwater facilities. Impacts are less than significant.

Electric Power

Less Than Significant Impact – Bear Valley Electric Service (BVES) (a division of Golden State Water Company) will provide electricity to the site, at which a connection already exists due to the previous site use as the Chautauqua High School. The BVES power distribution system will be able to supply sufficient electricity. The effort to connect to the existing electrical system, and to install electricity connections within the project site to serve the lighting requirements and electricity requirements for visitors of the BBHS Football and Track Stadium Project is not anticipated to result in significant impacts, as evidenced by the discussions in preceding sections. Therefore, development of the Football and Track Stadium Project would not result in a significant environmental effect related to the relocation or construction of new or expanded electric power facilities. Impacts are less than significant.

Natural Gas

No Impact – Development of the proposed stadium would not create a demand for natural gas. Therefore, the project would not result in a significant environmental effect related to the relocation or construction of new or expanded natural gas facilities. No impacts are anticipated.

Telecommunications

No Impact – Development of the proposed stadium would not require installation of wireless internet service or phone service; regardless, access to internet service is available at the site as services are and were available for BBHS and Chautauqua High School. Therefore, the project would not result in a significant environmental effect related to the relocation or construction of new or expanded telecommunication facilities. No impacts are anticipated.

- b. *Less Than Significant Impact* – Please refer to the discussion under Hydrology, Section X(b). The project is located within Bear Valley, which lies in the northeastern portion of the Santa Ana River Watershed, and the underlying groundwater basin is the Bear Valley groundwater basin. The proposed project would require use of water to support site landscaping and to support drinking fountains within the project site, as well as to serve the hoses developed on site for fire flow in instances where such flow is needed. Based on the data contained in the BBLDWP 2020 UWMP, as discussed under Section X(b), BBLDWP receives about 3,100 AFY of groundwater from the Bear Valley groundwater basin as a base supply within its service area. The BBLDWP 2020 UWMP indicates that the anticipated demand of water supply within BBLDWP's retail service area is anticipated to be greater than the demand for water in the future, which indicates that BBLDWP has available capacity to serve the proposed project. Furthermore, while the maximum perennial yield for the Bear Valley groundwater basin has been estimated at 4,800 AFY, approximately 3,100 AFY of that volume is made available to the BBLDWP, which exceeds the service area's demand for water. Thus, based on the availability of water within the area the development of the proposed project, which is anticipated to require about 1 AFY, is not forecast to cause a significant demand for water supplies and is therefore anticipated to be served by a water provider with sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. Based on these substantiating data, provision of domestic water supply can be accomplished without causing significant impacts on the existing water system or existing entitlements. The potential impact under this proposed project is considered less than significant; no mitigation measures are required.

- c. *No Impact* – No sewer connections are required as the project will provide restroom services through portable facilities. Given that no municipal wastewater connections are required in order to install the proposed project, the proposed project will not result in the determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. The portable restroom service provider will be responsible for the collection of the portable restrooms and disposal of the waste. As such, no impacts under this issue are anticipated to occur.
- d. *Less Than Significant With Mitigation Incorporated* – BBCCSD collects approximately 6,800 tons of trash and over 80 tons of household recyclables from 11,000 residences within a service area of 11.4 square miles. A fleet of 7 refuse-hauling trucks and 3 support vehicles sustain department operations. BBCCSD offer monthly dumpster rentals with timely and flexible pickups. The nearest landfill to the project area is the Big Bear Transfer Station, at 38550 Holcomb Valley Road in Big Bear City, which can receive 400 tons per day. Beyond the Transfer Station, the nearest landfills are either the Landers Landfill in Landers, CA, the San Timoteo Landfill in Redlands, CA or the Victorville Landfill in Victorville, CA. The Landers Sanitary Landfill has a maximum permitted capacity of 1,200 tons per day, and a remaining capacity of 11,148,100 cubic yards (CY), with a maximum permitted capacity of 13,983,500 CY according to CalRecycle.⁸ The San Timoteo Landfill has a maximum permitted capacity of 2,000 tons per day, and a remaining capacity of 12,360,396 cubic yards (CY), with a maximum permitted capacity of 22,685,785 CY according to CalRecycle.⁹ The Victorville Landfill has a maximum permitted capacity of 3,000 tons per day, and a remaining capacity of 81,510,000 CY, with a maximum permitted capacity of 83,200,000 CY according to CalRecycle.¹⁰ Using the an averaging of the Solid Waste Generation Rates from CalRecycle¹¹, the solid waste generation rate for a golf course (the most applicable use listed), is 0.5 lbs per day per visitor. With an average number of up to 1,000 visitors per day for about 40 days per year and use by up to 75 students and staff about 260 days per year, the proposed project is anticipated to generate 14.88 tons per year, or about 81.5 pounds of waste per day without the required 50% diversion of waste as required by BBCCSD and the County. BBCCSD maintains, operates, and facilitates operations for solid waste disposal in an effort to meet AB939 (50% diversion by the year 2000).

Construction would require demolition of structures, the materials of which can be removed and transported by a construction and demolition (C&D) hauler. There is adequate capacity at the nearest landfill as well as in other landfills that serve the area to handle construction and operational waste from the proposed project. Any hazardous materials collected on the project site during construction of the project will be transported and disposed of by a permitted and licensed hazardous materials service provider. Since the proposed project involves the demolition of the existing structures on site, some of which may contain asbestos or lead based paint, appropriate abatement of identified asbestos is necessary prior to demolition, federal and State regulations govern the demolition of structures where materials containing lead and asbestos are present. Asbestos and lead abatement must be performed and monitored by contractors with appropriate certifications from the California Department of Health Services. All demolition that could result in the release of lead and/or asbestos would be conducted according to Cal/OSHA standards. Adherence to existing regulations pertaining to lead and asbestos disposal would ensure that potential impacts related to ACMs and LBPs would be less than significant.

Considering the availability of landfill capacity and the amount of solid waste generation from the proposed project during both construction and operations, project solid waste disposal needs can be adequately met without a significant impact on the capacity of the nearest landfills. However, to further reduce potential impacts to solid waste facilities due to the large scale of the materials that may require disposal or recycling, the following mitigation measure will be implemented:

⁸ <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1882?siteID=2664>

⁹ <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1906?siteID=2688>

¹⁰ <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1870?siteID=2652>

¹¹ <https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates>

UTIL-1 *The contract with construction contractors shall include the requirement that all materials that can feasibly be recycled shall be salvaged and recycled, including C&D materials, and trees and site vegetation that must be removed. The contractor shall submit a recycling plan to the District for review and approval prior to the start of demolition/construction activities to accomplish this objective.*

Therefore, with the above mitigation measure, it is expected that implementation of the BBHS Football and Track Stadium Project will be served by landfills with sufficient permitted capacity to accommodate the project's solid waste disposal needs. Any impacts under this issue are considered less than significant. No mitigation is required.

- e. *Less Than Significant With Mitigation Incorporated* – All collection, transportation, and disposal of any solid waste generated by the proposed project is required to comply with all applicable federal, state, and local regulations. As previously stated, solid waste produced in the Community of Sugarloaf is collected and transported by the BCCSD. The area is served by several nearby landfills, though the closest are the Big Bear Transfer Station, the San Timoteo Landfill or the Victorville Landfill, which, as stated under issue XIX(d) above, have adequate capacity to serve the project. Additionally, any hazardous materials collected on the project site during either construction or operation of the project will be transported and disposed of by a permitted and licensed hazardous materials service provider, as stated under issue IX, Hazards and Hazardous Materials above. The construction contract for this project will require concrete, asphalt and base material to be recycled by grinding, which allows reuse of these materials, should any require removal as part of the project. All woods and other vegetation that is reusable shall be recycled or composted, where applicable.

Thus, with the implementation of MM **UTIL-1**, and the amount and types of wastes that will be generated both during construction and operation of the project, the potential impacts to the waste disposal systems are considered less than significant. Therefore, the project is expected to comply with all regulations related to solid waste under federal, state, and local statutes. No further mitigation is necessary.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XX. WILDFIRE: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION

- a. *Less Than Significant Impact* – The proposed project area is an area susceptible to wildland fires, and is located within an area delineated as a Very High Fire Hazard Severity Zone (VHFHSZ) in a State Responsibility Area (SRA); the majority of the area surrounding Big Bear Lake and Baldwin Lake are located within a VHFHSZ, as shown on Figure IX-3, the Countywide Plan Policy Map of Fire Hazard Severity Zones. As stated under Section XVII, Transportation under issue (d), there is an emergency evacuation route located north and east of the project, as State Highway 18/Big Bear Boulevard and State Highway 38 have been delineated as such on the San Bernardino County Mountain Area Emergency Route: Area 2 map provided as Figure IX-2. The proposed project is not located along this emergency route, nor would implementation of the project impede emergency response from accessing the site or surrounding area. As stated under issue XVIII(c), the proposed project would develop a stadium and access to the site as well as site design must comply with County design standards to ensure that inadequate design features or incompatible uses do not occur. Furthermore, the proposed stadium would utilize existing parking at BBHS to serve the stadium, as such, in the event of an emergency during the event, safe evacuation can be accomplished through use of existing facilities. Site access would mainly serve to enable pick up and drop off at the stadium with limited parking available onsite, primarily to provide handicapped site access. Additionally, the proposed project would be required to comply with all applicable fire code and ordinance requirements for construction and access to the site. Though the project is located within a very high fire hazard severity zone within an SRA, impacts to emergency response and/or emergency evacuation plans are considered less than significant.

- b. *Less Than Significant Impact* – The proposed project is located within the former Chautauqua High School which contains structures and compacted dirt and grass fields, in addition to developed parking areas located in the Community of Sugarloaf. It is located on a relatively flat parcel, due to this previous development. The project site slopes gently from north to south, and will be graded to create level foundations upon which to develop the proposed stadium, parking lot, and other design features. The proposed project is located in a relatively rural environment, though it has been urbanized as much of the site is surrounded by development. The proposed project is also located in an area adjacent to the nearby forest. Effectively, the proposed project will constitute a replacement

of an existing use with a new, similar use, which would not result in any greater potential to expose visitors of the project site to pollutant concentrations from a wildfire. Once in operation, the proposed project will consist of a stadium, with no indoor structures. The proposed project will remove onsite vegetation, including trees on the boundaries of the site, thereby minimizing the potential fire risks within this site, and the proposed project be designed in accordance with fire department recommendations and design standards. Furthermore, based on past experience with wildfires in the area, the Mountain Region can be successfully evacuated and life preserved due to the availability of evacuation routes. As such, there is a less than significant potential for the proposed project to expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire. Impacts under this issue are considered less than significant.

- c. *Less Than Significant With Mitigation Incorporated* – The project will require associated infrastructure in support of the stadium development as follows: the project will require a potable water connection to BBLDWP's service area; the project will require a connection to BVES's electrical system though electricity and water service are already available at the project site due to the past site use; and the project will develop new driveways providing access to the stadium that will intersect with Baldwin Lane and Maple Lane. As stated above, the project will require removal of a majority of the trees located on the boundaries of the project site. The removal of these trees and other vegetation in support of the proposed project could exacerbate fire risk due to the type of equipment that may be necessary to facilitate the tree removal. Because the project will be required to implement the following mitigation measure, which would minimize fire risk during activities that would utilize electric equipment by requiring construction crews to carry fire prevention equipment during activities involving electrical equipment.

WF-1 *All staging areas, welding areas, or areas slated for development that are planned to use spark-producing equipment shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that can include a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the project facilities, all vehicles and crews working at the project site shall have access to functional fire extinguishers and related fire prevention equipment (such as emergency sand bags, etc.) at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.*

The proposed project would not result in any ongoing impacts to the environment that would exacerbate fire risk as the proposed project is a stadium that will be designed in accordance with fire department recommendations and design standards. Therefore, with the implementation of MM **WF-1** above, the project would not have a significant potential to exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. Impacts under this issue are considered less than significant with mitigation incorporated.

- d. *Less Than Significant Impact* – The proposed project is located within a site that slopes slightly from north to south, with a minor variation in elevation. The discussion under Section VII, Geology and Soils, concluded that the project would not have a significant potential to experience landslides or slope instability, particularly given that this project area has not been delineated as containing potential for landslides or slope instability by the San Bernardino Countywide Plan, and that the project would be graded to enable a level surface for the stadium to be developed by this project. Furthermore, the project site has previously been in use as the Chautauqua High School, and no landslides are known to have occurred at the site since it has been occupied. The proposed project is located in an area that has not been historically subject to flooding. The site design will incorporate driveways providing access to the site such that the project drainage would be controlled on site or otherwise discharged in conformance with County requirements. Furthermore, given that the project would construct an athletics stadium containing a field, much of the runoff associated with the site would be retained within the field and landscaped areas; compaction, grading, and overall construction of this site would minimize slope instability by design. Therefore, the development of the

BBHS Football and Track Stadium Project at this site is anticipated to have a less than significant potential to 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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XXI. MANDATORY FINDINGS OF SIGNIFICANCE:				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SUBSTANTIATION: The analysis in this Initial Study and the findings reached indicate that the proposed project can be implemented without causing any new project specific or cumulatively considerable unavoidable significant adverse environmental impacts. Mitigation is required to control potential environmental impacts of the proposed project to a less than significant impact level. The following findings are based on the detailed analysis of the Initial Study of all environmental topics and the implementation of the mitigation measures identified in the previous text and summarized in this section.

- a. *Less Than Significant With Mitigation Incorporated* – The project has no potential to cause a significant impact to any biological or cultural resources. The project has been identified as having no potential to degrade the quality of the natural environment, substantially reduce 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, or reduce the number or restrict the range of a rare or endangered plant or animal. The project requires contingency mitigation to prevent significant impacts from occurring as a result of implementation of the project. Based on the data contained in the Cultural Resources Report (Appendix 3), the potential for impacting cultural resources is low. The Cultural Resources Report determined that no cultural resources of importance were found at the project site upon field review and a review of the records search performed for the project and project area, so it is not anticipated that any resources could be affected by the project because no cultural resources exist. However, because it is not known what could be unearthed upon any excavation activities, contingency mitigation measures are provided to ensure that, in the unlikely event that any resources are found, they are protected from any potential impacts, and to ensure that any potential resources are treated in accordance with guidance from a qualified archaeologist. Please see biological and cultural sections of this Initial Study, as well as the technical studies that have been prepared to substantiate these findings (Appendices 2 and 3).
- b. *Less Than Significant With Mitigation Incorporated* – The project has fourteen (14) potential impacts that are individually limited, but may be cumulatively considerable. The issues of Aesthetics, Air Quality, Biological Resources, Cultural Resources, Energy, Geology and Soils, Greenhouse Gas, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, Utilities and Service Systems, and Wildfire require the implementation of mitigation measures to reduce impacts

to a less than significant level and ensure that cumulative effects are not cumulatively considerable. The project is not considered growth-inducing, as defined by *State CEQA Guidelines*, as it would develop a stadium to accommodate the existing and future needs of the population for such uses that are intended to serve the Community. These issues require the implementation of mitigation measures to reduce impacts to a less than significant level and ensure that cumulative effects are not cumulatively considerable. All other environmental issues were found to have no significant impacts without implementation of mitigation. The potential cumulative environmental effects of implementing the proposed project have been determined to be less than considerable and thus, would have a less than significant cumulative impact.

- c. *Less Than Significant With Mitigation Incorporated* – The project will achieve long-term community goals by providing additional school athletic facilities to the Mountain Region of San Bernardino County. The short-term impacts associated with the project, which are mainly construction-related impacts, are less than significant with mitigation, and the proposed project is compatible with long-term environmental protection. The issues of Air Quality, Geology and Soils, Hazards and Hazardous Materials, Noise, and Wildfire require the implementation of mitigation measures to reduce human impacts to a less than significant level. All other environmental issues were found to have no significant impacts on humans without implementation of mitigation. The potential for direct human effects from implementing the proposed project have been determined to be less than significant.

Conclusion

This document evaluated all CEQA issues contained in the latest Initial Study Checklist form. The evaluation determined that either no impact or less than significant impacts would be associated with the issues of Agriculture and Forestry Resources, Land Use, Mineral Resources, Population/Housing, Public Services, and Recreation. The issues of Aesthetics, Air Quality, Biological Resources, Cultural Resources, Energy, Geology and Soils, Greenhouse Gas, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, Tribal Cultural Resources, Utilities and Service Systems, and Wildfire require the implementation of mitigation measures to reduce impacts to a less than significant level. The required mitigation has been proposed in this Initial Study to reduce impacts for these issues to a less than significant impact.

Based on the findings in this Initial Study, Bear Valley Unified School District (BVUSD or District) proposes to adopt a Mitigated Negative Declaration (MND) for the Big Bear High School Football and Track Stadium Project. A Notice of Availability/Notice of Intent to Adopt a Mitigated Negative Declaration (NOA/NOI) will be issued for this project by the District. The Initial Study and NOA/NOI will be circulated for 30 days of public comment because this project involves the state as either a responsible or trustee agency. At the end of the 30-day review period, a final MND package will be prepared and it will be reviewed by the District for a possible adoption at a future School Board hearing, the date for which has not yet been determined. If you or your agency comments on the MND/NOA/NOI for this project, you will be notified about the meeting date in accordance with the requirements in Section 21092.5 of CEQA.

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; *Sundstrom v. County of Mendocino*, (1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors*, (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

Revised 2019

Authority: Public Resources Code sections 21083 and 21083.09

Reference: Public Resources Code sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3/ 21084.2 and 21084.3

SUMMARY OF MITIGATION MEASURES

Aesthetics

- AES-1 A facilities lighting plan shall be prepared and shall demonstrate that glare from the proposed sports complex lighting and facility design that may create light and glare affecting adjacent occupied property are sufficiently shielded to prevent light and glare from spilling into occupied structures. This plan shall specifically indicate that the lighting doesn't exceed the standards set forth in Section 83.07.040 of the County's Development Code pertaining to lighting requirements. This plan shall be reviewed and implemented by the District to minimize light or glare intrusion onto adjacent properties.
- AES-2 Prior to approval of the Final Design, an analysis of potential glare from sunlight or exterior lighting of the project that may impact vehicles traveling on adjacent roadways shall be prepared and approved by the District. This analysis shall demonstrate that due to orientation and/or shielding of lighting, no significant glare may be caused that could negatively impact drivers on the local roadways or impact adjacent land uses. If potential glare impacts are identified, the District shall modify the lighting orientation, use non-glare reflective materials or shall implement other design solutions to eliminate any identified potentially significant glare impacts.

Air Quality

- AQ-1 Fugitive Dust Control. The following measures shall be incorporated into Project plans and specifications for implementation:
- Apply soil stabilizers or moisten inactive areas.
 - Water exposed surfaces to avoid visible dust leaving the construction site (at least 2-3 times/day).
 - Cover all stock piles with tarps at the end of each day and as needed during the construction day.
 - Provide water spray during loading and unloading of earthen materials.
 - Require the contractor to minimize in-out traffic from construction zone to the extent feasible, and enforce a speed limit of 15 MPH on site to avoid dust migration from the site.
 - Cover all trucks hauling dirt, sand, or loose material and require all trucks to maintain at least two feet of freeboard.
 - Sweep streets daily if visible soil material is carried out from the construction site.
- AQ-2 Exhaust Emissions Control. The following measures shall be incorporated into Project plans and specifications for implementation:
- Utilize off-road construction equipment that has met or exceeded the maker's recommendations for vehicle/equipment maintenance schedule.
 - Contactors shall utilize Tier 4 or better heavy equipment.
 - Enforce 5-minute idling limits for both on-road trucks and off-road equipment.

Biological Resources

- BIO-1 To avoid potential impacts to nocturnal species including SPOW, and other nocturnal species due to light pollution, project related night lighting (both temporary and permanent) shall be directed away from adjacent undeveloped areas to protect nocturnal species from direct night lighting. Shielding shall be incorporated in project designs to ensure ambient lighting in adjacent habitat on the project's western boundary specifically, is not increased.
- BIO-2 Nesting bird surveys shall be conducted by a qualified avian biologist no more than three (3) days prior to vegetation clearing or ground disturbance activities. Preconstruction surveys shall focus on both direct and indirect evidence of nesting, including nest locations and nesting

behavior. The qualified avian biologist will make every effort to avoid potential nest predation as a result of survey and monitoring efforts. If active nests are found during the preconstruction nesting bird surveys, a Nesting Bird Plan (NBP) shall be prepared and implemented by the qualified avian biologist. At a minimum, the NBP shall include guidelines for addressing active nests, establishing buffers, ongoing monitoring, establishment of avoidance and minimization measures, and reporting. The size and location of all buffer zones, if required, shall be based on the nesting species, individual/pair's behavior, nesting stage, nest location, its sensitivity to disturbance, and intensity and duration of the disturbance activity. To avoid impacts to nesting birds, any grubbing or vegetation removal should occur outside peak breeding season (typically February 1 through September 1).

- Preconstruction nesting bird surveys shall include a nighttime component to address the potential for presence of nocturnal species in which a qualified avian biologist will conduct 3 consecutive nights of survey.

Cultural Resources

- CUL-1 Should any cultural resources be encountered during construction of these sewer facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with BVUSD. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.
- CUL-2 If significant cultural resources, as defined by CEQA, are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to District for review and comment. The archaeologist shall monitor the remainder of ground disturbing activities and shall implement the Plan accordingly.
- CUL-3 If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the project.

Geology and Soils

- GEO-1 Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of stored backfill material. Where covering is not possible, measures such as the use of straw bales or sand bags shall be used to capture and hold eroded material on the project site for future cleanup such that erosion does not occur.
- GEO-2 All exposed, disturbed soil (trenches, stored backfill, etc.) shall be sprayed with water or soil binders twice a day, or more frequently if fugitive dust is observed migrating from the site within which the project is being constructed.
- GEO-3 The District shall retain the services of a Qualified Paleontologist meeting the standards of SVP (2010). The Qualified Paleontologist shall determine the depth at which the transition to high sensitivity occurs and monitoring becomes necessary, by taking into account: a) the most recent local geologic mapping, b) depths at which fossils have been found in the vicinity of the project area, as revealed by the museum records search, and c) geotechnical studies of the project area, if available. Should the project require excavation that will exceed the depth of low sensitivity surficial sediments as determined by a Qualified Paleontologist, a project-specific paleontological resources monitoring and mitigation plan (PRMMP) shall be developed and adhered to for the duration of ground disturbance activities during construction or as otherwise determined by the Qualified Paleontologist. This plan will address specifics of

monitoring and mitigation for the development project, and will take into account updated geologic mapping, geotechnical data, updated paleontological records searches, and any changes to the regulatory framework. This PRMMP shall meet the standards of the SVP (2010).

GEO-4 In the event of any fossil discovery, regardless of depth or geologic formation, construction work will halt within a 50-ft. radius of the find until its significance can be determined by a Qualified Paleontologist. Significant fossils will be recovered, prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility in accordance with the standards of the SVP (2010) and BLM (2009). A repository will be identified and a curatorial arrangement will be signed prior to collection of the fossils. Although the San Bernardino County Museum is specified as the repository for fossils found in the county in the current General Plan (San Bernardino County, 2007), the museum may not always be available as a repository. Therefore, any accredited institution may serve as a repository.

Greenhouse Gas Emissions

GHG-1 The Project shall be required to adhere to the following GHG reduction measures:

- The District shall implement water-efficient landscaping practices.
- The District shall utilize recycled water for landscaping purposes if recycled water connections become available at the project site in the future. The District shall establish a goal that at least 50% of the water used for non-potable sources be recycled wastewater, where such sources are available for use at the site.
- The District shall work to exceed the waste diversion goal recommended by Assembly Bill 939 and CalGreen.
- The District shall retain a landscaping contractor(s) that uses electric landscaping equipment, if contactors with electric equipment readily available are feasible to retain within the immediate project area, or shall otherwise mandate that future landscaping at the site shall utilize electric equipment where feasible and reduce gasoline-powered landscaping equipment use and reduce the number and operating time of such equipment.
- The District shall install water conserving plumbing fixtures and fittings in accordance with Title 24 of the California Code of Regulations.

Hazards and Hazardous Materials

HAZ-1: All accidental spills or discharge of hazardous material during construction activities shall be reported to the Certified Unified Program Agency and shall be remediated in compliance with applicable federal, State, and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste shall be collected and disposed of at a licensed disposal or treatment facility. This measure shall be incorporated into the Stormwater Pollution Prevention Plan (SWPPP) prepared or each future facility developed under the CBP. Prior to accepting the site as remediated, the area contaminated shall be tested to verify that any residual concentrations meet the standard for future residential or public use of the site.

Hydrology and Water Quality

HYD-1 The District shall require that the construction contractor prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving offsite into receiving waters. The SWPPP shall include a Spill Prevention and Cleanup Plan that identifies the methods of containing, cleanup, transport and proper disposal of hazardous chemicals or materials released during construction activities that are compatible with applicable laws and regulations. BMPs to be implemented in the SWPPP may include but not be limited to:

- The use of silt fences;
- The use of temporary stormwater desilting or retention basins;
- The use of water bars to reduce the velocity of stormwater runoff;
- The use of wheel washers on construction equipment leaving the site;
- The washing of silt from public roads at the access point to the site to prevent the tracking of silt and other pollutants from the site onto public roads;
- The storage of excavated material shall be kept to the minimum necessary to efficiently perform the construction activities required. Excavated or stockpiled material shall not be stored in water courses or other areas subject to the flow of surface water; and
- Where feasible, stockpiled material shall be covered with waterproof material during rain events to control erosion of soil from the stockpiles.

HYD-2 The District will select best management practices and reduce future non-point source pollution in surface water runoff discharges from the site to the maximum extent practicable, both during construction and following development. The identified BMPs shall be installed in accordance with schedules contained in the Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP).

Noise

NOI-1 All construction vehicles and fixed or mobile equipment shall be equipped with operating and maintained mufflers.

NOI-2 All employees that will be exposed to noise levels greater than 75 dB over an 8-hour period shall be provided adequate hearing protection devices to ensure no hearing damage will result from construction activities.

NOI-3 No construction activities shall occur during the hours of 7 PM through 7 AM, Monday through Saturday; at no time shall construction activities occur on Sundays or holidays, unless a declared emergency exists.

NOI-4 Equipment not in use for five minutes shall be shut off.

NOI-5 Equipment shall be maintained and operated such that loads are secured from rattling or banging.

NOI-6 Construction employees shall be trained in the proper operation and use of equipment consistent with these mitigation measures, including no unnecessary revving of equipment.

NOI-7 The District shall require that all construction equipment be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections by the District.

NOI-8 Construction staging areas shall be located as far from adjacent sensitive receptor locations as possible, for example toward the middle/northwestern boundary of the site.

Transportation

TRAN-1 The District shall require its contractors prepare a construction traffic control plan. Elements of the plan should include, but are not necessarily limited to, the following:

- Develop circulation and detour plans, if necessary, to minimize impacts to local street circulation. Use haul routes minimizing truck traffic on local roadways to the extent possible.
- To the extent feasible, and as needed to avoid adverse impacts on traffic flow, schedule truck trips outside of peak morning and evening commute hours.

- Install traffic control devices as specified in Caltrans' Manual of Traffic Controls for Construction and Maintenance Work Zones where needed to maintain safe driving conditions. Use flaggers and/or signage to safely direct traffic through construction work zones.
- For roadways requiring lane closures that would result in a single open lane, maintain alternate one-way traffic flow and utilize flagger-controls.
- Coordinate with facility owners or administrators of sensitive land uses such as police and fire stations, hospitals, and schools. Provide advance notification to the facility owner or operator of the timing, location, and duration of construction activities.

TRAN-2 The District shall require that all disturbances to public roadways be repaired in a manner that complies with the Standard Specifications for Public Works Construction (green book) or other applicable County of San Bernardino standard design requirements.

Utilities and Service Systems

UTIL-1 The contract with construction contractors shall include the requirement that all materials that can feasibly be recycled shall be salvaged and recycled, including C&D materials, and trees and site vegetation that must be removed. The contractor shall submit a recycling plan to the District for review and approval prior to the start of demolition/construction activities to accomplish this objective.

Wildfire

WF-1 All staging areas, welding areas, or areas slated for development that are planned to use spark-producing equipment shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that can include a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the project facilities, all vehicles and crews working at the project site shall have access to functional fire extinguishers and related fire prevention equipment (such as emergency sand bags, etc.) at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks.

REFERENCES

- CRM TECH. "Historical/Archaeological Resources Survey Report: Big Bear High School Football and Track Stadium Project, 525 Maple Lane, Sugarloaf Area, San Bernardino County, California" dated December 15, 2021
- Giroux & Associates. "Air Quality and GHG Impact Analyses, BV-191, Big Bear High School Football and Track Stadium Project, Big Bear (San Bernardino County), California" dated October 19, 2021
- Jacobs Engineering Group, Inc. "Bear Valley Unified School District Big Bear High School Sports Field Project Biological Resources Assessment and Jurisdictional Delineation Report" dated December 2021
- Urban Crossroads, "Big Bear High School Football and Track Stadium Project, Noise Impact Analysis" dated December 20, 2021
- Urban Crossroads. "Big Bear High School Football Stadium Trip Generation Assessment" dated November 1, 2021
- Urban Crossroad. Vehicle Miles Traveled Screening Evaluation (VMT Evaluation) dated September j27, 2021
- San Bernardino County General Plan and General Plan EIR, February 2007
- San Bernardino Countywide Plan Program EIR, approved on October 27, 2020

Websites

- <https://sitecheck.opr.ca.gov/>
- <https://databasin.org/datasets/2e85241791144ded9bba064b7d196f7b/>
- <http://www.sbcounty.gov/Uploads/lus/Airports/BigBear.pdf>
- <https://www.bbldwp.com/ArchiveCenter/ViewFile/Item/249>
- <https://www.bbarwa.org/bear-valley-basin-groundwater-sustainability-agency/>
- <https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management>
- <http://www.sbcounty.gov/Uploads/lus/Airports/BigBear.pdf>
- <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1882?siteID=2664>
- <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1906?siteID=2688>
- <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1870?siteID=2652>
- <https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates>

FIGURES

Big Bear High School Football and Track Stadium Project
Regional Location

Legend

- BBHS Football and Track Stadium Site
- Feature 1



FIGURE 1

Big Bear High School Football and Track Stadium Project

Site Location

Legend

- BBHS Football and Track Stadium Site
- Big Bear High School Football and Track Stadium Project

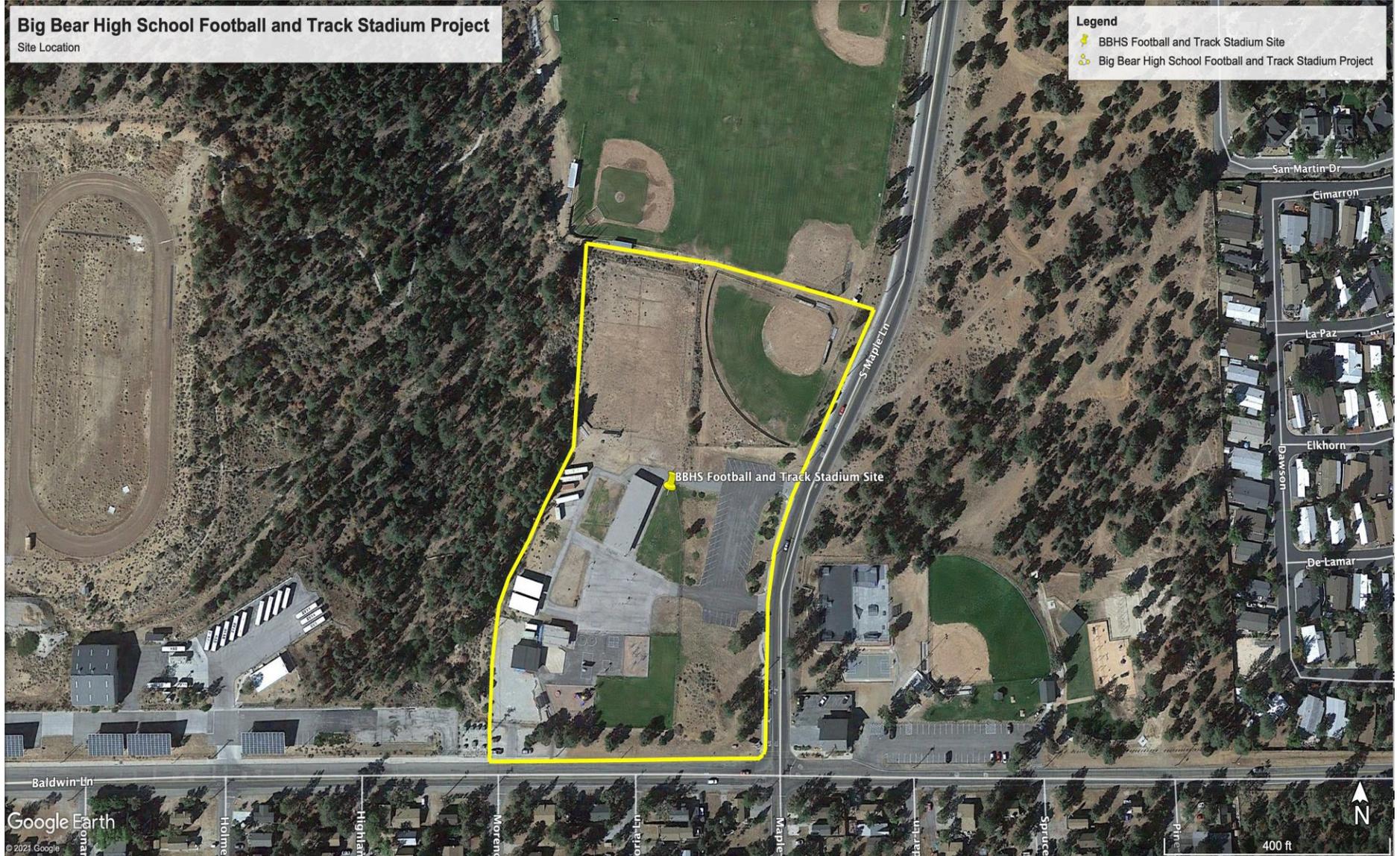
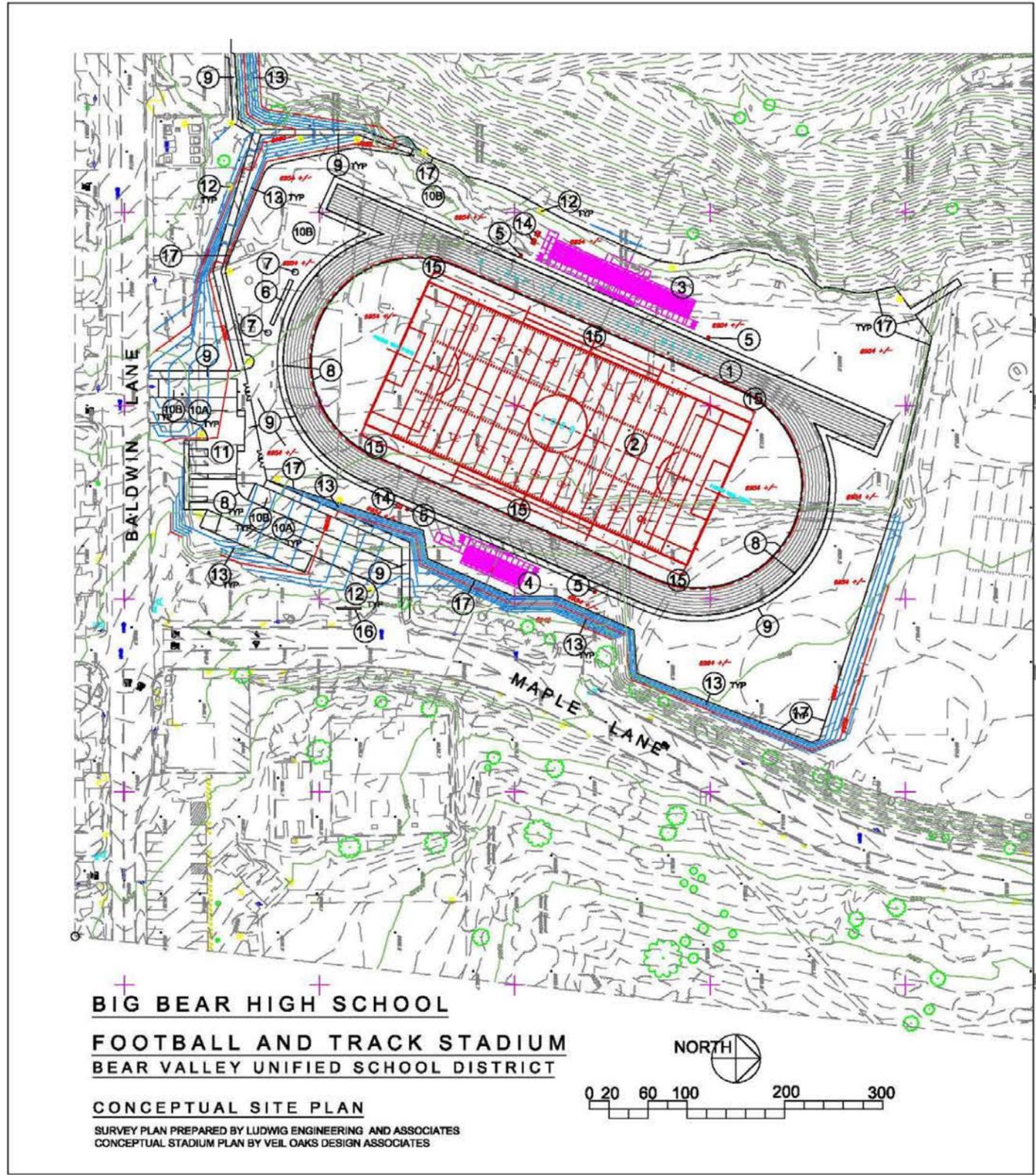


FIGURE 2



GENERAL NOTES

1. DIVISION OF THE STATE ARCHITECT APPROVAL SHALL BE REQUIRED FOR ALL ADA ACCESS ELEMENTS, EQUIPMENT AND ALL CONSTRUCTION. ALL CONSTRUCTION SHALL REQUIRE A FULL TIME DSA INSPECTOR.
2. THIS DRAWING DEPICTS 'CONCEPTUAL' ASPECTS OF TOPOGRAPHY (ROUGH GRADES), BLEACHER CONFIGURATIONS, NUMBERS OF REQUIRED ADA SEATING, ADA PARKING, DRINKING FOUNTAINS, LIGHT POLES, ETC.
3. DSA SIGNAGE IS NOT SPECIFICALLY DESIGNATED ON THIS PLAN BUT DSA SIGNAGE WILL BE REQUIRED FOR ACCESS DESIGNATION, PARKING RESTRICTIONS, ETC. AND SHOULD BE CONSIDERED AS THE RESPONSIBILITY OF THE DESIGN-BUILD CONTRACTOR TO PROVIDE SAID SIGNAGE ELEMENTS.

CONCEPTUAL CONSTRUCTION NOTES (XX)

1. TRACK - 400 METER W/ 8 1.22 METER LANES
TRACK SURFACE: 'HELLAS CONSTRUCTION, INC.'
(800) 233-5714
epiQ TRACKS - Q3000 SYSTEM (1. STANDARD COLOR TOP COAT EPDM GRANULES; 2. FULL POUR POLYURETHANE; 3. BLACK SBR RUBBER; 4. FULL POUR POLYURETHANE; OVER COMPACTED GRADE)
2. TURF AREA - "HELLAS CONSTRUCTION, INC."
(800) 233-5714
TURF SURFACE: matrxTurf - REFER TO SPECIFICATIONS 32 18 16 'ELASTIC LAYER SHOCK PAD' AND 32 18 23 'INFILLED SYNTHETIC TURF'
3. HOME TEAM GRANDSTAND: 750 +/- CAPACITY W/ PRESSBOX AS MANUFACTURED BY THE 'SOUTHERN BLEACHER COMPANY' (800) 433-0912
REFER TO SPECIFICATION 13 34 16
4. VISITING TEAM GRANDSTAND: 250 +/- CAPACITY AS MANUFACTURED BY THE 'SOUTHERN BLEACHER COMPANY' (800) 433-0912
REFER TO SPECIFICATION 13 34 16
5. FIELD LIGHTING (50 FOOTCANDLES) AND POLES: BY 'MUSCO SPORTS LIGHTING, LLC'
(800) 659-0117 x6121 MIKE HIGGINS
FOR THE FOOTBALL STADIUM - LIGHT-STRUCTURE GREEN SYSTEM
REFER TO SPECIFICATIN 16505
6. SCOREBOARD: 'DAKTRONICS' (800) 325-8766
MODEL FB-2020
REFER TO SPECIFICATION 13 34 18
7. 25' HIGH FLAG POLES - 25' HIGH - LIGHTED
8. CONCRETE CURBS - 3,000 psi
9. CONCRETE WALKS - 3,000 psi
10. ASPHALT PAVING:
A. TRAFFIC AISLES: 5"AC OVER 8" AB OVER COMPACTED GRADE
B. PARKING AND WALK AREAS: 3"AC OVER 3"AB OVER COMPACTED GRADE
11. ADA PARKING AND DROP-OFF ZONE
12. 12' HIGH LED LIGHT POLES AS NEEDED FOR MIN. 1 FC/SQ. FT.
13. RIP-RAP SLOPE STABILIZATION (4" TO 8" DIA)
14. DUAL DRINKING FOUNTAIN - ADA ACCESSIBLE / DSA APPROVED WATER SOV
15. CONCEALED HOSE BIBBS
16. STADIUM P.I.P. CONCRETE SIGN - 5' H. x 25' L. x 8" T.
'BIG BEAR HIGH SCHOOL STADIUM'
'ADDRESS'
'BEAR VALLEY UNIFIED SCHOOL DISTRICT'
17. 8' H. CHAINLINK SECURITY FENCING AND GATES PER DISTRICT STANDARDS

FIGURE 3



FIGURE 4



FIGURE I-1

Tom Dodson & Associates
Environmental Consultants

**Photos depicting ground level views of project site
along Baldwin Lane and Maple Lane**



FIGURE I-2

Tom Dodson & Associates
Environmental Consultants

**Photos depicting ground level views of project site
along Baldwin Lane and Maple Lane**



FIGURE I-3

Tom Dodson & Associates
Environmental Consultants

**Photos depicting ground level views of project site
along Baldwin Lane and Maple Lane**



FIGURE I-4

Tom Dodson & Associates
Environmental Consultants

**Photos depicting ground level views of project site
along Baldwin Lane and Maple Lane**



FIGURE I-5

Tom Dodson & Associates
Environmental Consultants

**Photos depicting ground level views of project site
along Baldwin Lane and Maple Lane**

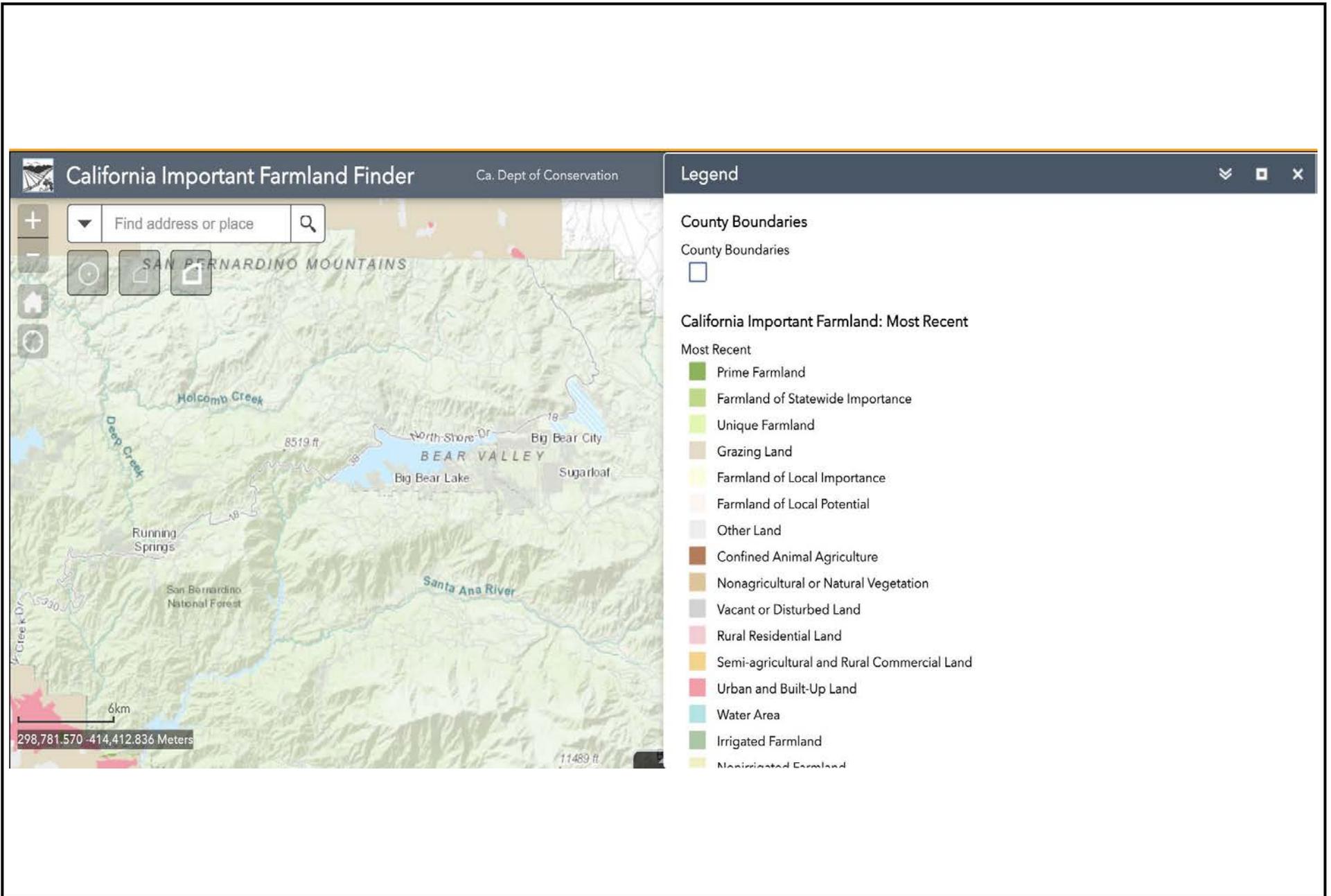


FIGURE II-1

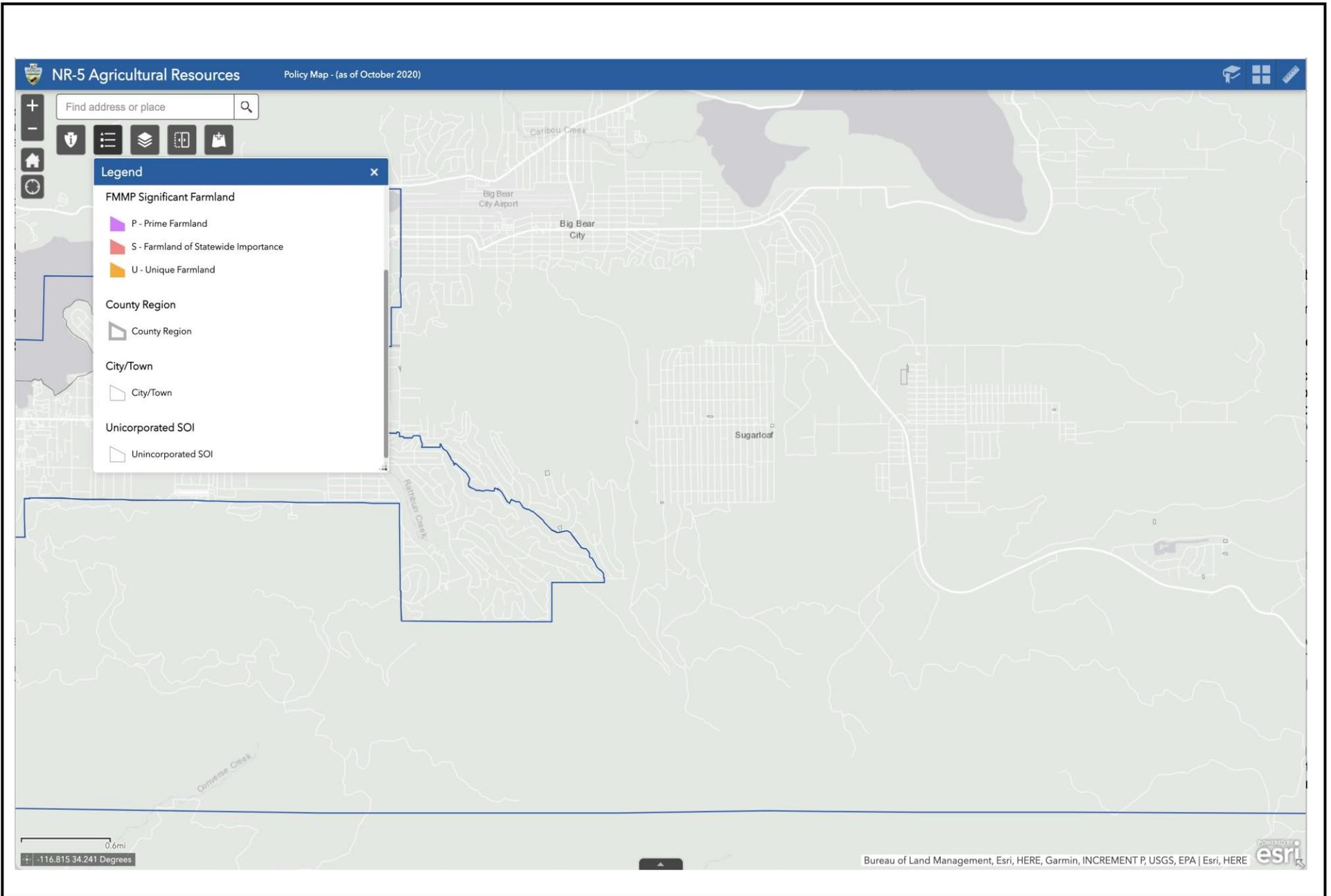


FIGURE II-2



SOURCE: Google Earth

SOURCE: Jacobs, Biological Resources Assessment

FIGURE IV-1

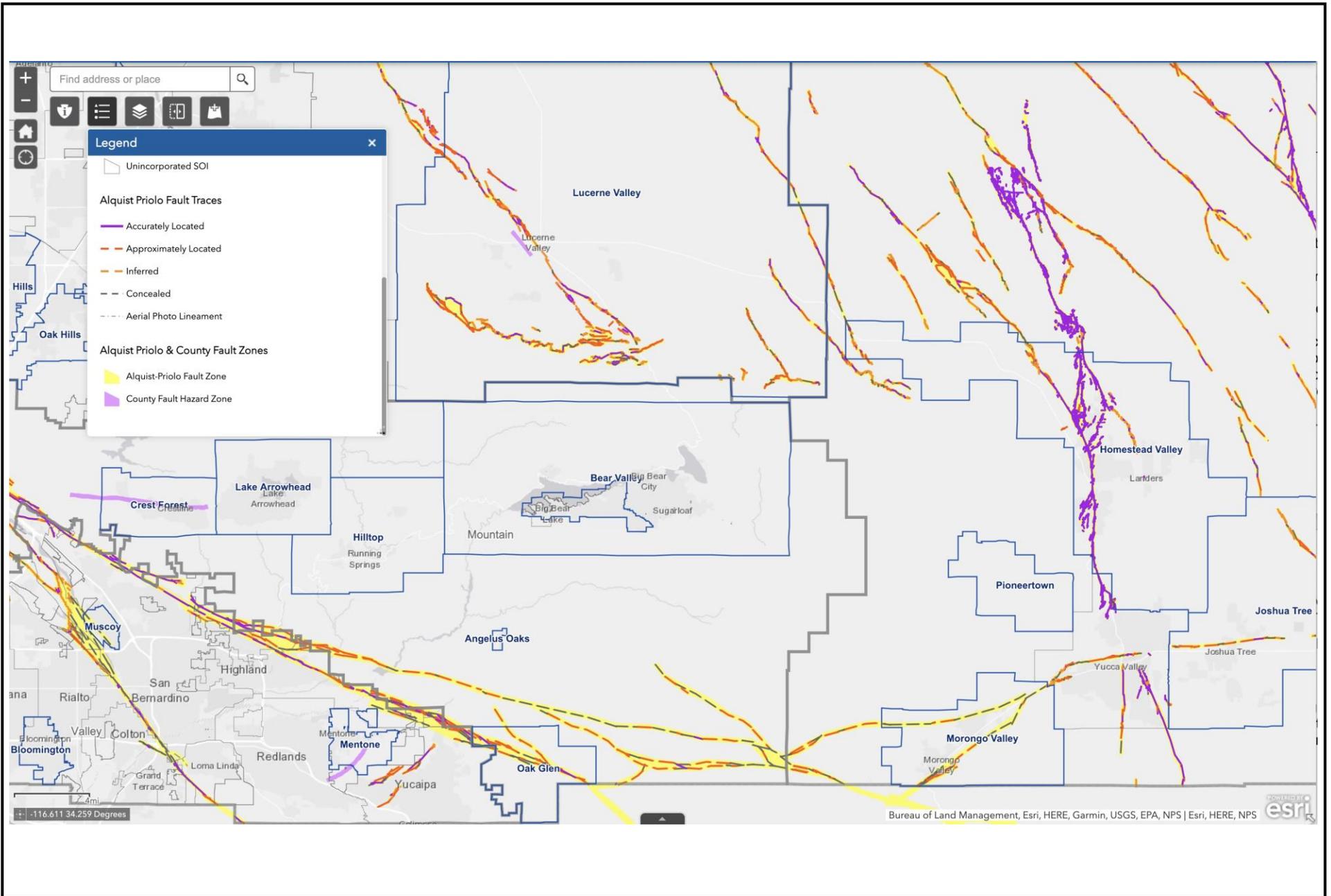


FIGURE VII-1

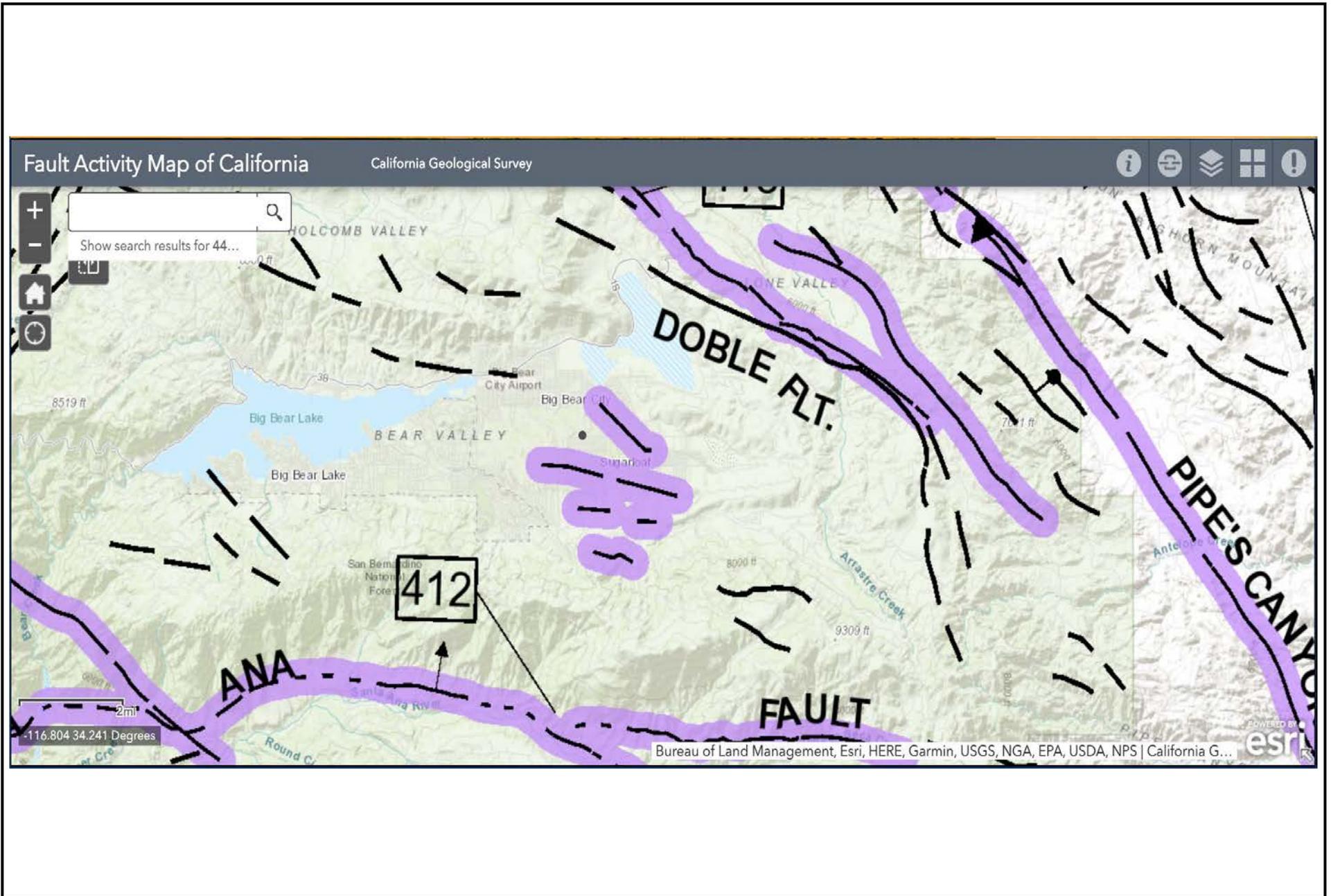


FIGURE VII-2

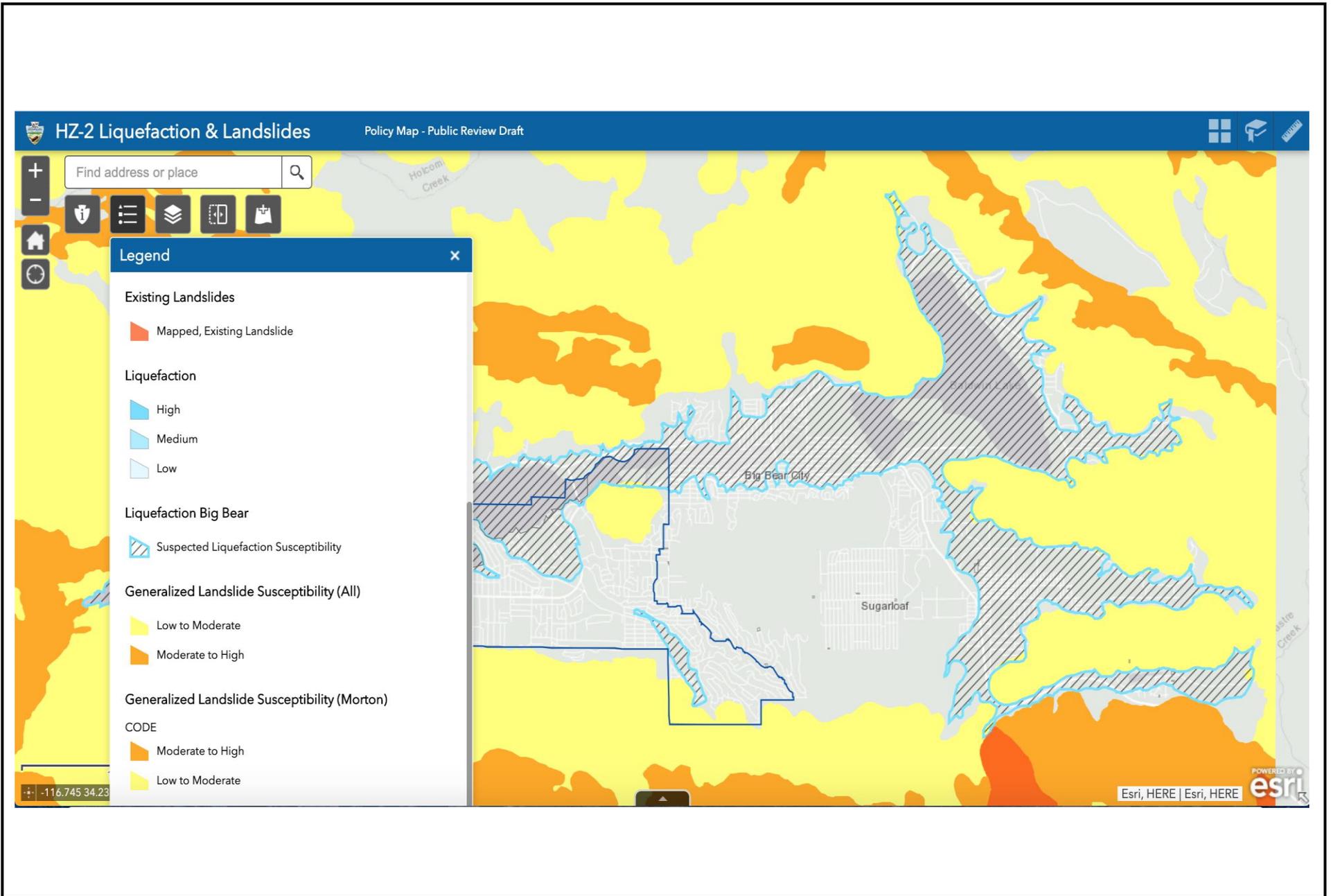
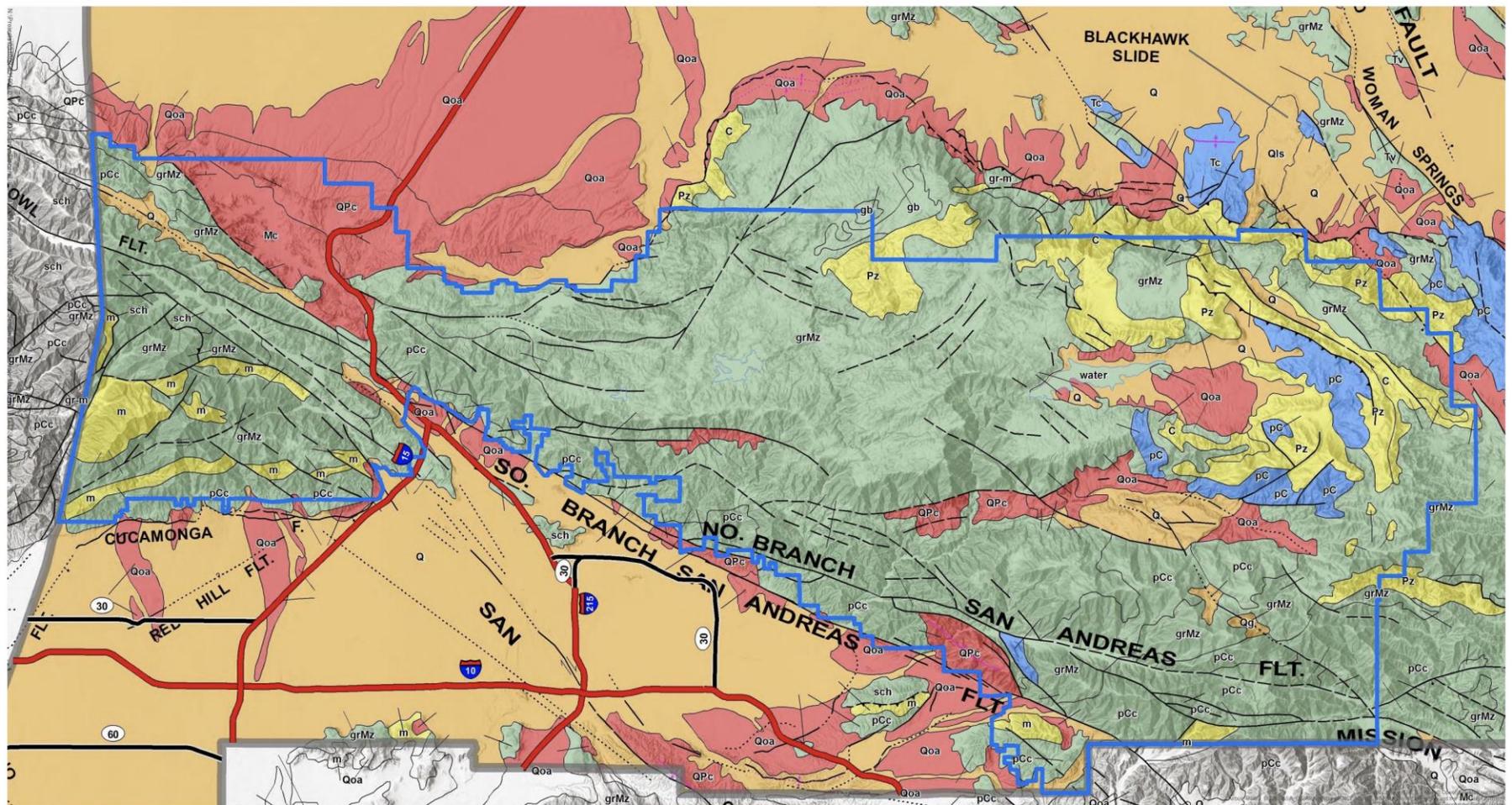


FIGURE VII-3



Legend	bedding	scratch boundary	—+— normal fault, certain
Geologic Sensitivity	— contact, certain	— water boundary	- - - normal fault, approx. located
Varies	— fault, approx. located	— thrust fault, certain	- · - · normal fault, concealed
None	— fault, certain	— fault, approx. located	— fault
High	— fault, certain	— dextral fault, certain	— sinistral fault, approx. located
Low-to-High	· · · · fault, concealed	— thrust fault, approx. located	— thrust fault, certain (2)
Low	- · - · fault, concealed, queried		



0 1 2 3 4 Miles
 Date: 10/24/2018 Created by PlaceWorks | Source: SWCA Environmental Consultants, 2018

5 Environmental Analysis
 Fig. 5.5-2 Paleontological Sensitivity - Mountain Region

DRAFT **SAN BERNARDINO COUNTY** | **COUNTYWIDE PLAN**
 Environmental Impact Report

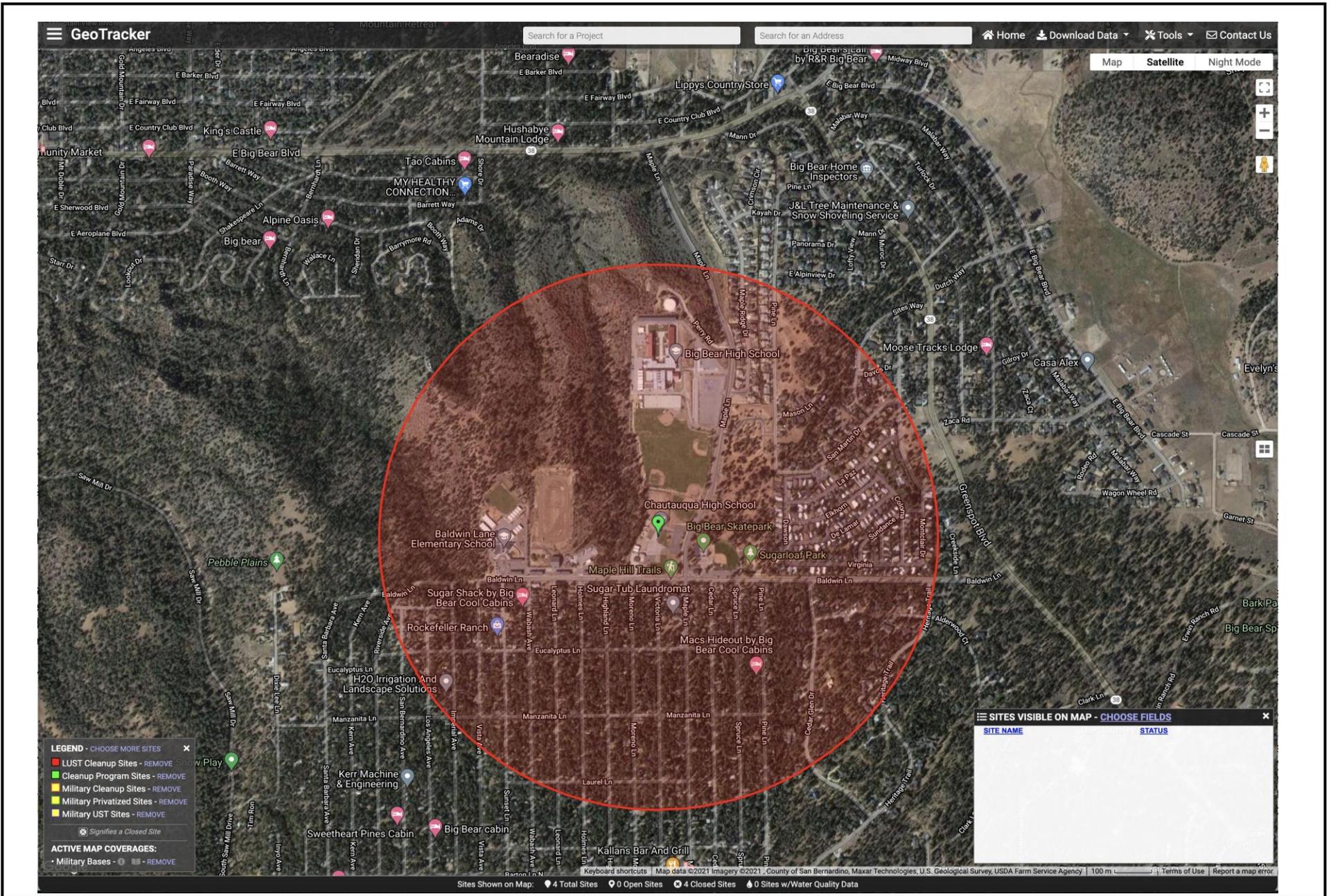
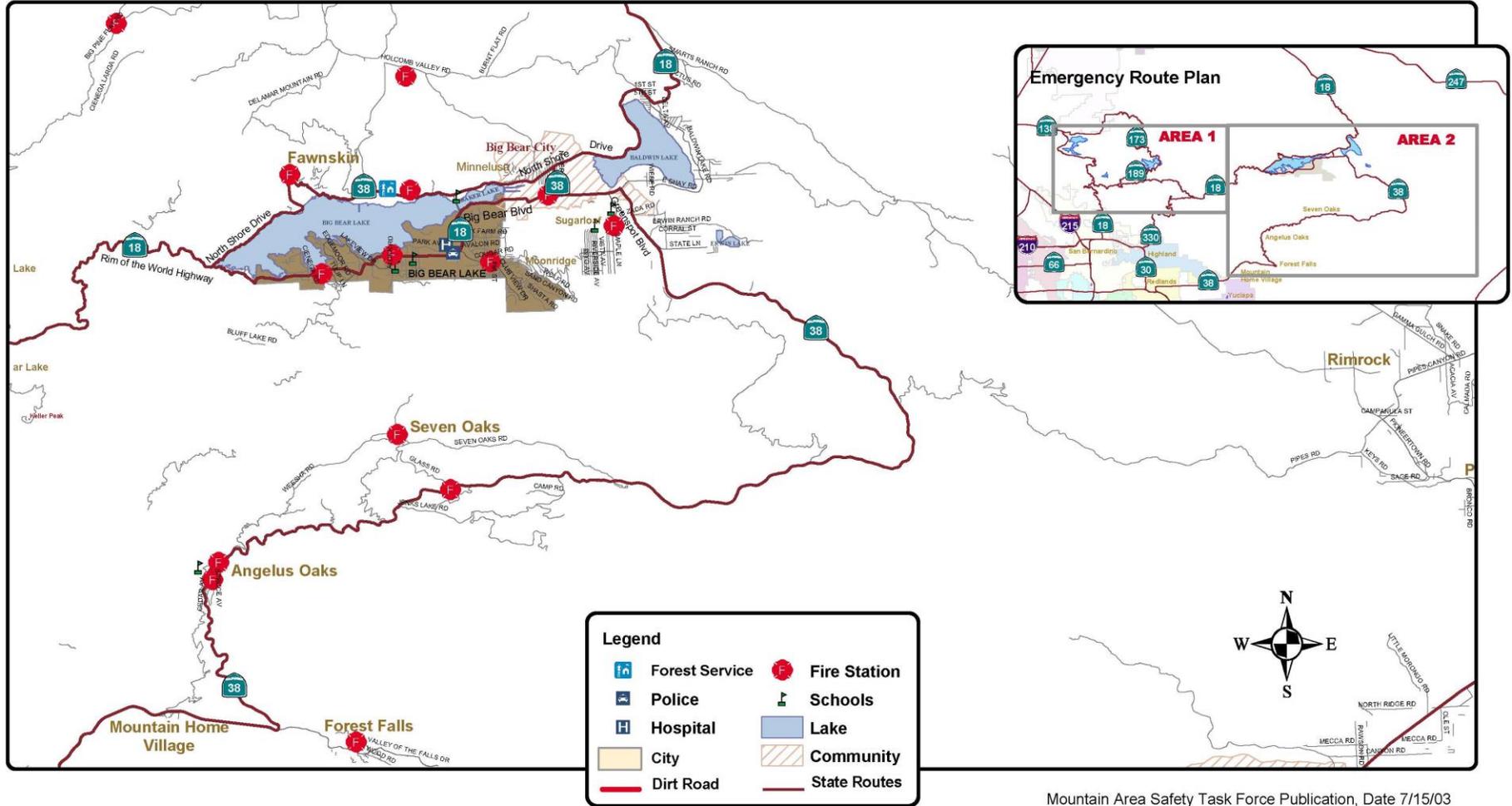


FIGURE IX-1



MOUNTAIN AREA EMERGENCY ROUTES

AREA 2



Mountain Area Safety Task Force Publication, Date 7/15/03

FIGURE IX-2

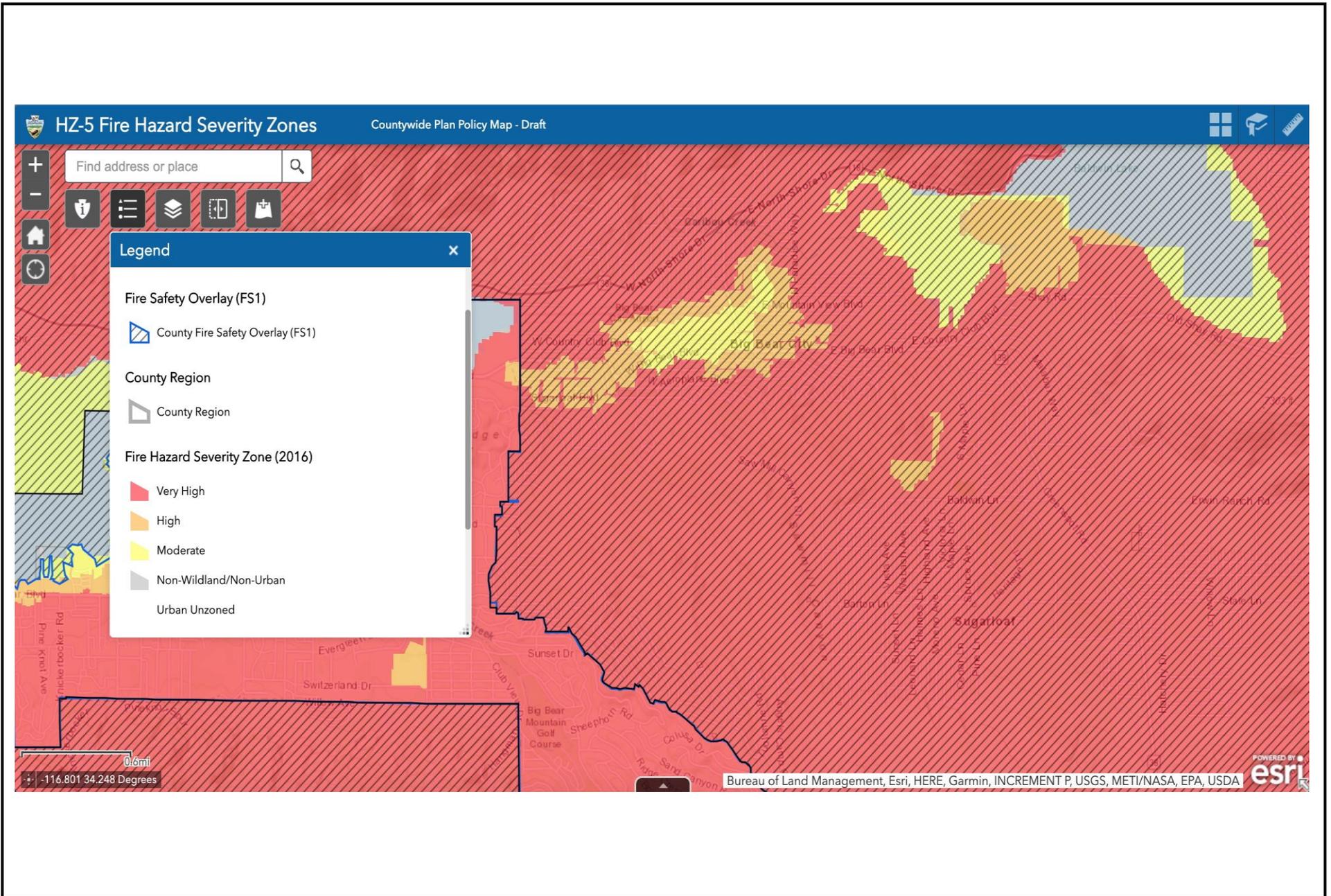


FIGURE IX-3

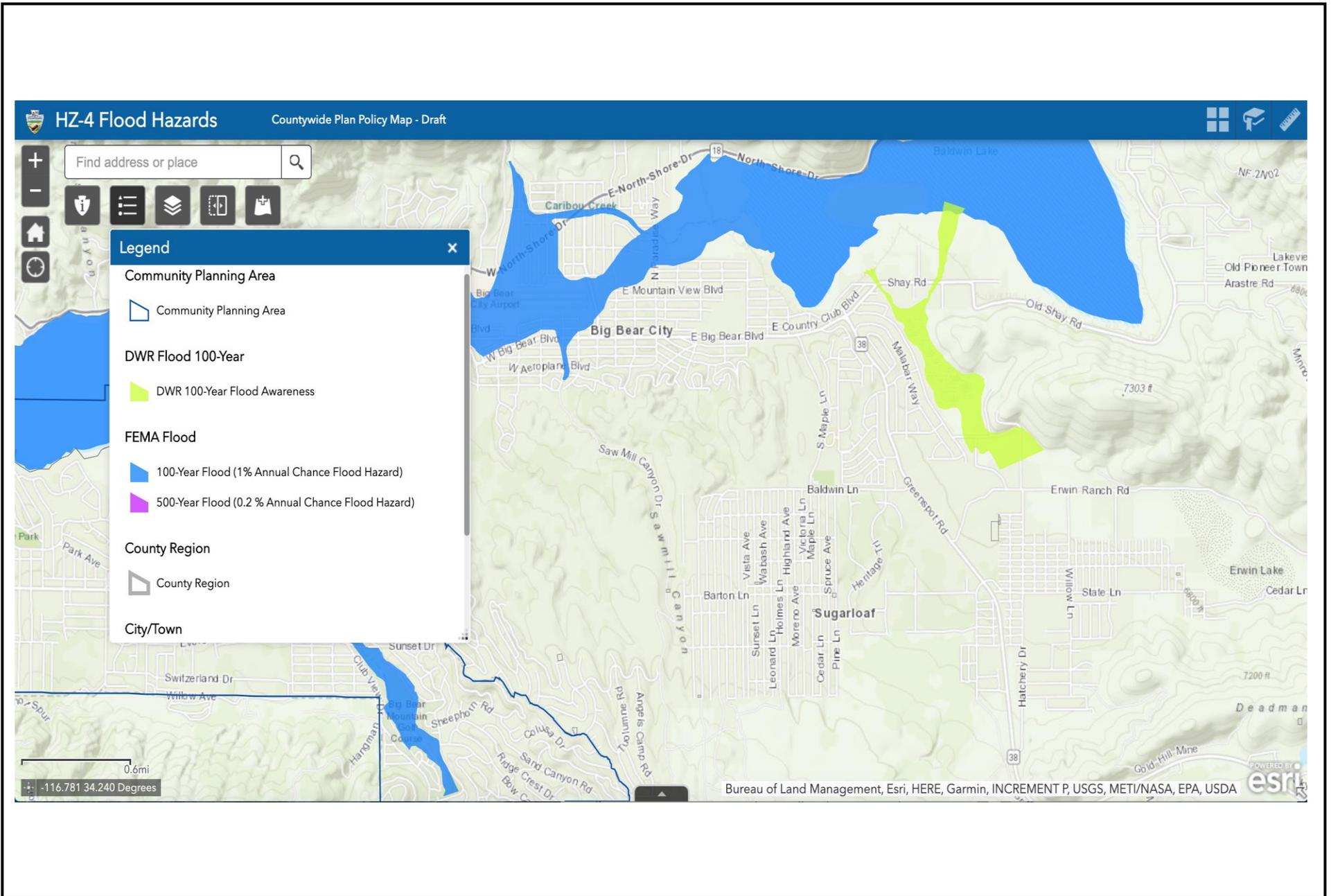


FIGURE X-2

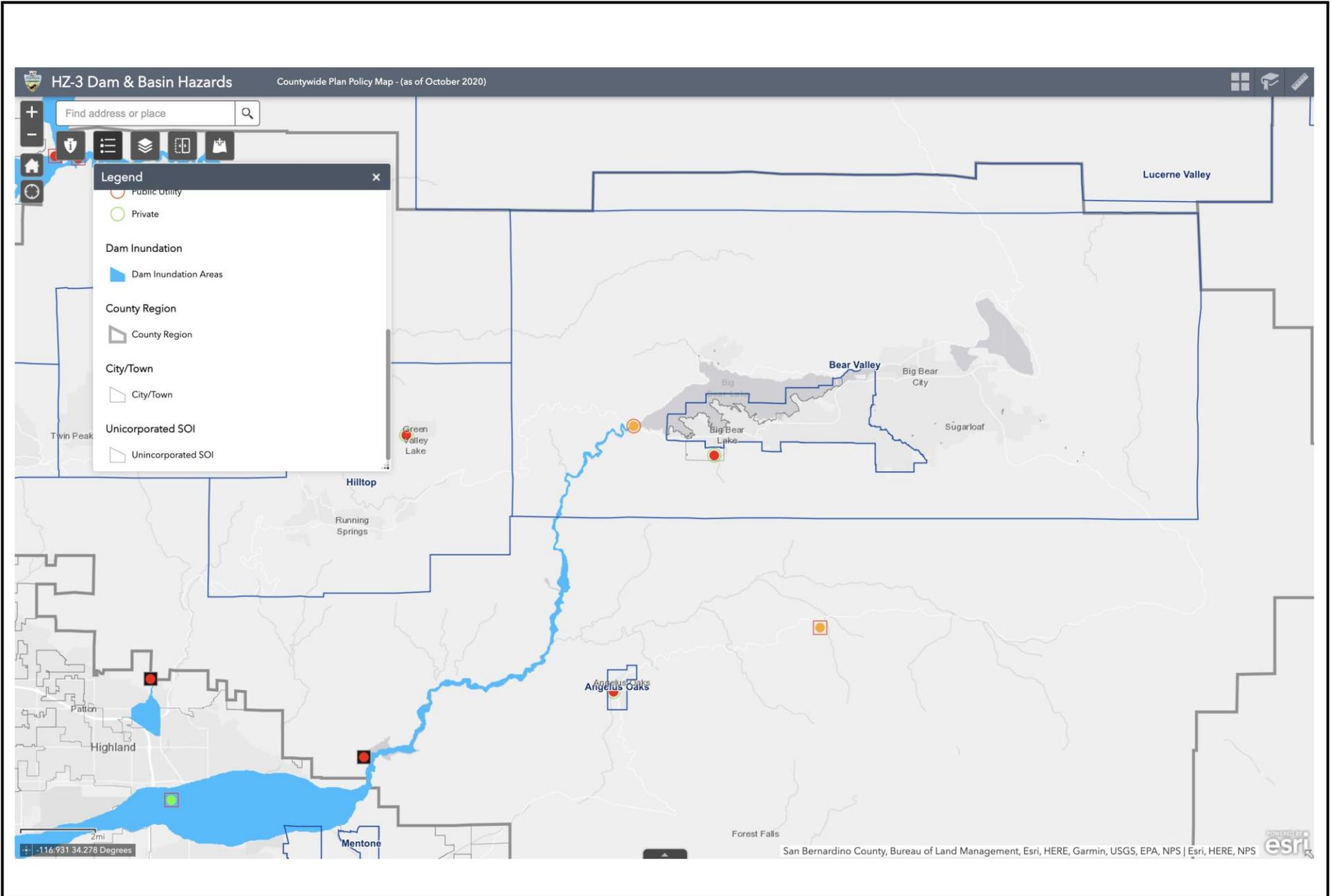


FIGURE X-3

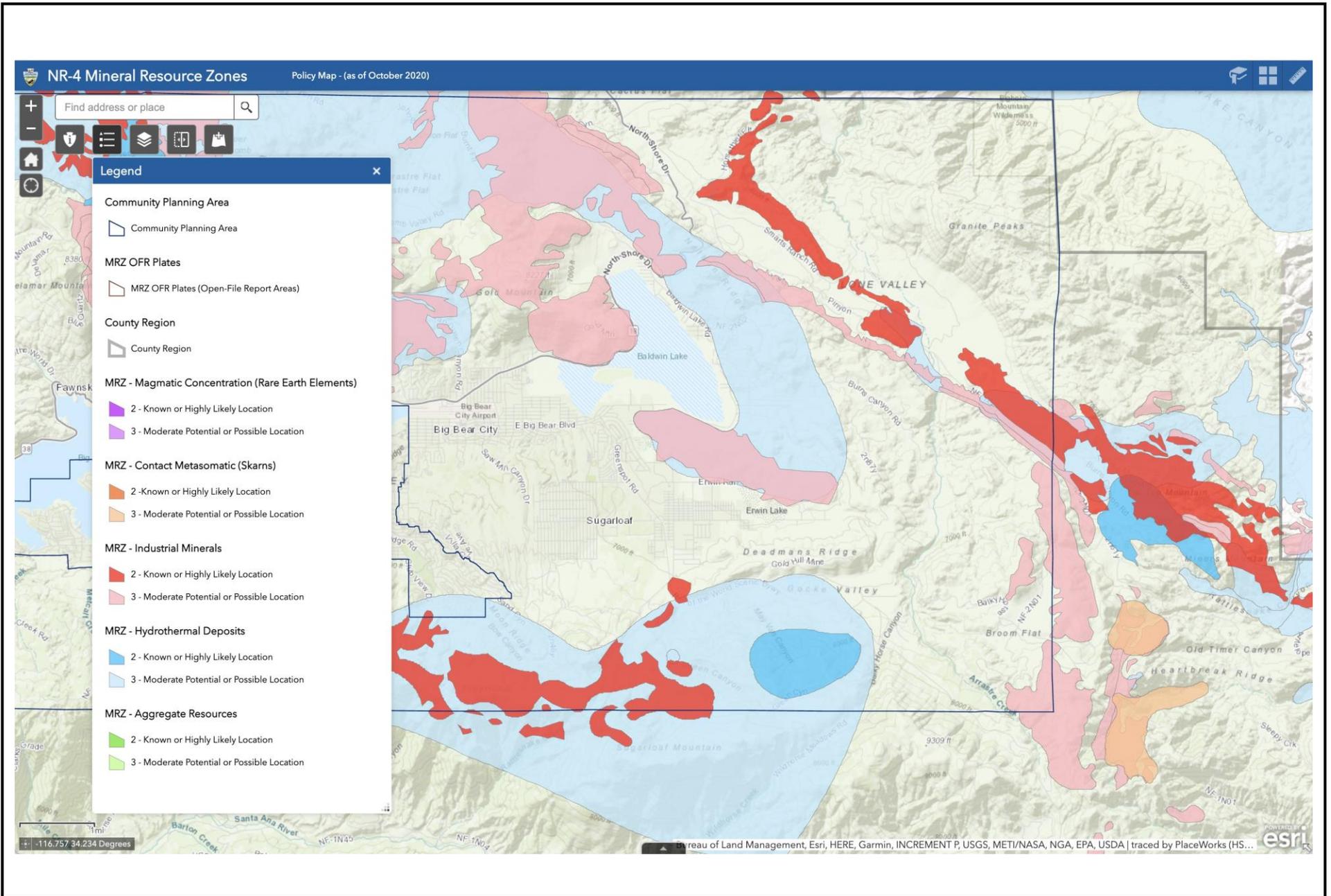


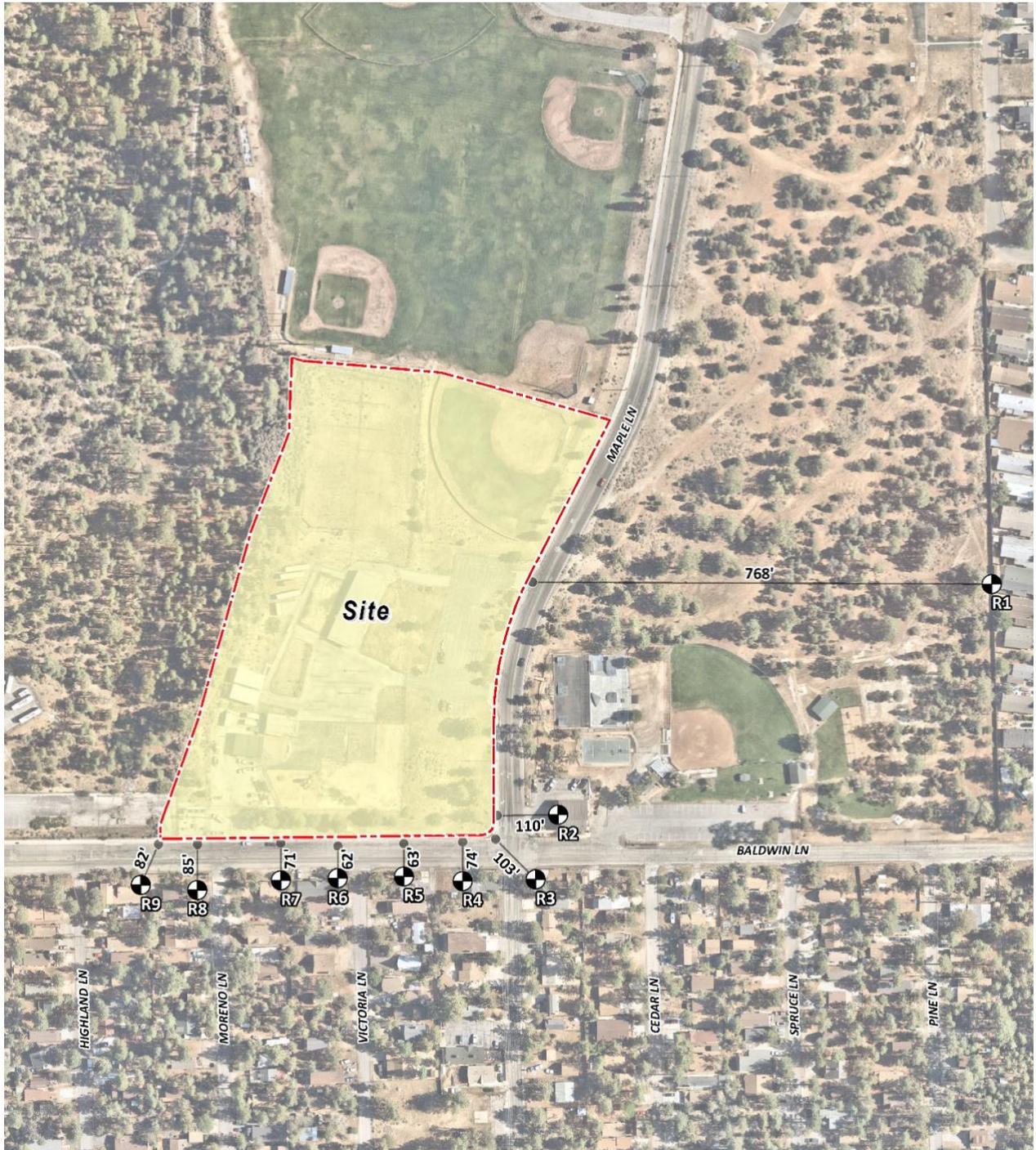
FIGURE XII-1



LEGEND:

- Site Boundary
- ▲ Measurement Locations

FIGURE XIII-1



LEGEND:

- Site Boundary
- Receiver Locations
- Distance from receiver to Project site boundary (in feet)

FIGURE XIII-2

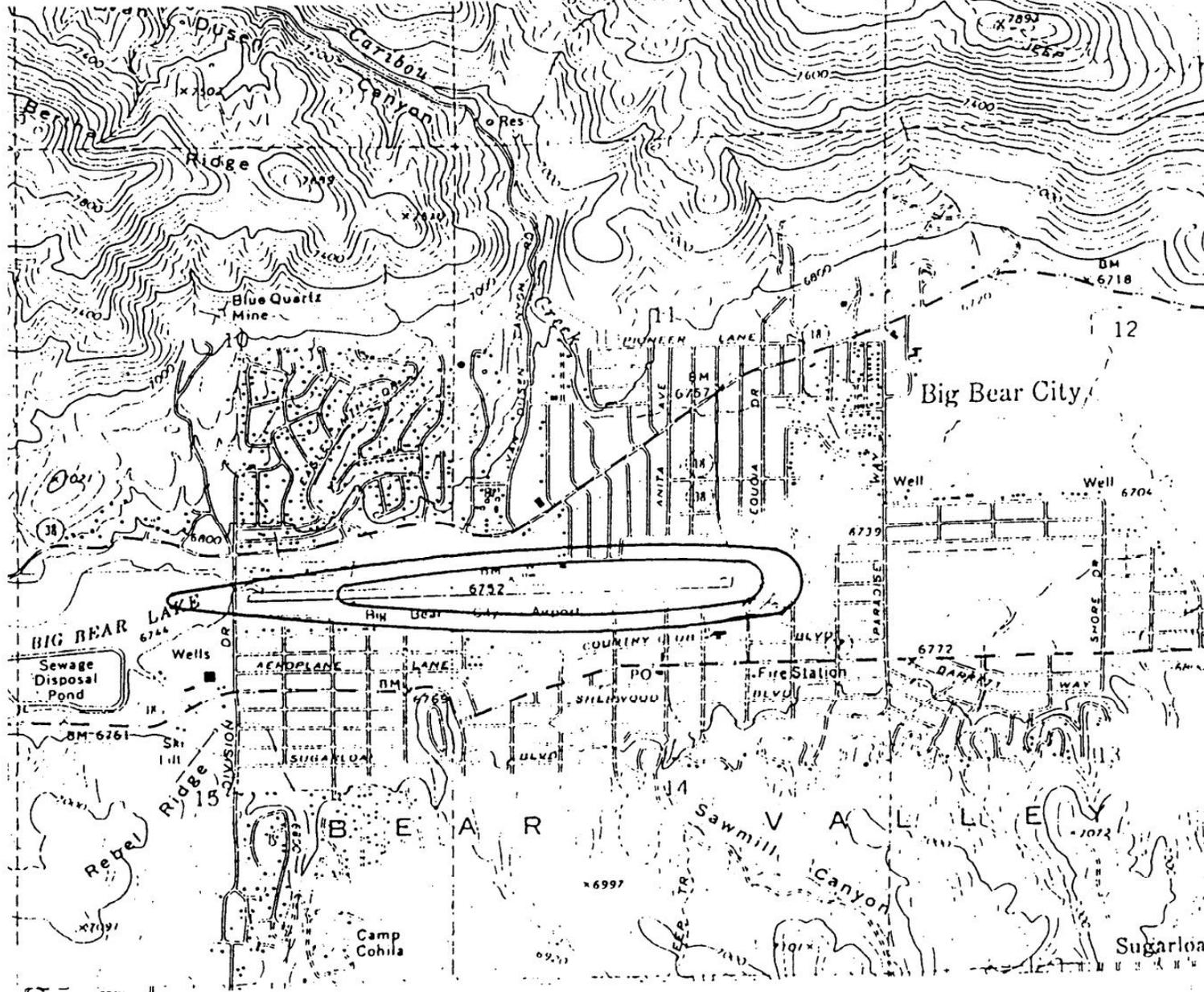


FIGURE XIII-3

APPENDIX 1

AIR QUALITY and GHG IMPACT ANALYSES
BV-191
BEAR VALLEY UNIFIED SCHOOL DISTRICT
BIG BEAR HIGH SCHOOL FOOTBALL AND TRACK STADIUM PROJECT
BIG BEAR (SAN BERNARDINO), CALIFORNIA

Prepared by:

Giroux & Associates
5319 University Drive, #26
Irvine, CA. 92612

Prepared for:

Tom Dodson & Associates
Attn: Kaitlyn Dodson
PO Box 2307
San Bernardino, CA 92406-2307

Date:

October 19, 2021

Project No.: P21-035 AQ

ATMOSPHERIC SETTING

The project area is in the San Bernardino Mountains. The area is characterized by an alpine climate, with substantial winter precipitation in the form of winter snow because of its high elevation. Snowfall, as measured at lake level, averages 61.8 inches each year (although upwards of 100 inches can accumulate on the forested ridges bordering the lake, above 8,000 feet). Snow has fallen in every month except July and August. There are normally 16.5 days each year with measurable snow (0.1 inch or more).

On average, the Bear Valley area receives approximately 24 inches of precipitation per year, with a sharp transition between the western edge of the Valley at the dam and the eastern edge at Baldwin Lake. Historical precipitation consists of both rainfall and snowfall. Within the Big Bear watershed, the precipitation varies with location. The west end of the lake, at the Big Bear dam, receives 14 inches per year.

Daily temperatures in the summer are from 60°F to 70°F. Temperatures in the winter average approximately 35 °F to 40 °F. According to the National Weather Service, the warmest month at Big Bear is July, when the average high is 80.7 °F and the average low is 47.1 °F. The coolest month is January, with an average high of 47.1 °F and an average low of 20.7 °F. There is an average of 1.2 days each year with highs of 90 °F or higher. The highest temperature recorded at Big Bear was 94 °F last recorded on July 15, 1998. The record lowest temperature was -25 °F on January 29, 1979.

AMBIENT AIR QUALITY STANDARDS (AAQS)

In order to gauge the significance of the air quality impacts of the proposed project, those impacts, together with existing background air quality levels, must be compared to the applicable ambient air quality standards. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those people most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise, called "sensitive receptors." Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research has shown, however, that chronic exposure to ozone (the primary ingredient in photochemical smog) may lead to adverse respiratory health even at concentrations close to the ambient standard.

National AAQS were established in 1971 for six pollution species with states retaining the option to add other pollutants, require more stringent compliance, or to include different exposure periods. The initial attainment deadline of 1977 was extended several times in air quality problem areas like Southern California. In 2003, the Environmental Protection Agency (EPA) adopted a rule, which extended and established a new attainment deadline for ozone for the year 2021. Because the State of California had established AAQS several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in Table 1. Sources and health effects of various pollutants are shown in Table 2.

The Federal Clean Air Act Amendments (CAAA) of 1990 required that the U.S. Environmental Protection Agency (EPA) review all national AAQS in light of currently known health effects. EPA was charged with modifying existing standards or promulgating new ones where appropriate. EPA subsequently developed standards for chronic ozone exposure (8+ hours per day) and for very small diameter particulate matter (called "PM-2.5"). New national AAQS were adopted in 1997 for these pollutants.

Planning and enforcement of the federal standards for PM-2.5 and for ozone (8-hour) were challenged by trucking and manufacturing organizations. In a unanimous decision, the U.S. Supreme Court ruled that EPA did not require specific congressional authorization to adopt national clean air standards. The Court also ruled that health-based standards did not require preparation of a cost-benefit analysis. The Court did find, however, that there was some inconsistency between existing and "new" standards in their required attainment schedules. Such attainment-planning schedule inconsistencies centered mainly on the 8-hour ozone standard. EPA subsequently agreed to downgrade the attainment designation for a large number of communities to "non-attainment" for the 8-hour ozone standard.

Table 1

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (PM ₁₀) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		—		
Fine Particulate Matter (PM _{2.5}) ⁹	24 Hour	—	—	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³	15 µg/m ³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—	—	
Nitrogen Dioxide (NO ₂) ¹⁰	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		0.053 ppm (100 µg/m ³)	Same as Primary Standard	
Sulfur Dioxide (SO ₂) ¹¹	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ¹¹	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) ¹¹	—	
Lead ^{12,13}	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m ³ (for certain areas) ¹²	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m ³		
Visibility Reducing Particles ¹⁴	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

See footnotes on next page ...

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Table 1 (continued)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at $35 \mu\text{g}/\text{m}^3$, as was the annual secondary standard of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM10 standards (primary and secondary) of $150 \mu\text{g}/\text{m}^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ($1.5 \mu\text{g}/\text{m}^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

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Table 2
Health Effects of Major Criteria Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> • Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions. 	<ul style="list-style-type: none"> • Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil. 	<ul style="list-style-type: none"> • Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Respirable Particulate Matter (PM-10)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions. 	<ul style="list-style-type: none"> • Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM-2.5)	<ul style="list-style-type: none"> • Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics. 	<ul style="list-style-type: none"> • Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes. 	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002.

Evaluation of the most current data on the health effects of inhalation of fine particulate matter prompted the California Air Resources Board (ARB) to recommend adoption of the statewide PM-2.5 standard that is more stringent than the federal standard. This standard was adopted in 2002. The State PM-2.5 standard is more of a goal in that it does not have specific attainment planning requirements like a federal clean air standard, but only requires continued progress towards attainment.

Similarly, the ARB extensively evaluated health effects of ozone exposure. A new state standard for an 8-hour ozone exposure was adopted in 2005, which aligned with the exposure period for the federal 8-hour standard. The California 8-hour ozone standard of 0.07 ppm is more stringent than the federal 8-hour standard of 0.075 ppm. The state standard, however, does not have a specific attainment deadline. California air quality jurisdictions are required to make steady progress towards attaining state standards, but there are no hard deadlines or any consequences of non-attainment. During the same re-evaluation process, the ARB adopted an annual state standard for nitrogen dioxide (NO₂) that is more stringent than the corresponding federal standard, and strengthened the state one-hour NO₂ standard.

As part of EPA's 2002 consent decree on clean air standards, a further review of airborne particulate matter (PM) and human health was initiated. A substantial modification of federal clean air standards for PM was promulgated in 2006. Standards for PM-2.5 were strengthened, a new class of PM in the 2.5 to 10 micron size was created, some PM-10 standards were revoked, and a distinction between rural and urban air quality was adopted. In December, 2012, the federal annual standard for PM-2.5 was reduced from 15 µg/m³ to 12 µg/m³ which matches the California AAQS. The severity of the basin's non-attainment status for PM-2.5 may be increased by this action and thus require accelerated planning for future PM-2.5 attainment.

In response to continuing evidence that ozone exposure at levels just meeting federal clean air standards is demonstrably unhealthful, EPA had proposed a further strengthening of the 8-hour standard. A new 8-hour ozone standard was adopted in 2015 after extensive analysis and public input. The adopted national 8-hour ozone standard is 0.07 ppm which matches the current California standard. It will require three years of ambient data collection, then 2 years of non-attainment findings and planning protocol adoption, then several years of plan development and approval. Final air quality plans for the new standard are likely to be adopted around 2022. Ultimate attainment of the new standard in ozone problem areas such as Southern California might be after 2025.

In 2010 a new federal one-hour primary standard for nitrogen dioxide (NO₂) was adopted. This standard is more stringent than the existing state standard. Based upon air quality monitoring data in the South Coast Air Basin, the California Air Resources Board has requested the EPA to designate the basin as being in attainment for this standard. The federal standard for sulfur dioxide (SO₂) was also recently revised. However, with minimal combustion of coal and mandatory use of low sulfur fuels in California, SO₂ is typically not a problem pollutant.

BASELINE AIR QUALITY

Existing and probable future levels of air quality in the project area can be best inferred from ambient air quality measurements conducted by the SCAQMD. The data resource in closest proximity to the project site is the Big Bear City Monitoring Station. However, this station only monitors small particulates (PM-2.5). The closest available data for ozone and large particulates (PM-10) is the Crestline Monitoring Station. Data for carbon monoxide and nitrogen oxide were obtained from the San Bernardino 4th Street Monitoring Station. Summary data compiled from these resources is provided in Table 3. Findings are summarized below:

Photochemical smog (ozone) levels frequently exceed standards at Crestline. The 8-hour state ozone standard has been exceeded an average of 30 percent of all days in the past four years near the project site while the 1-hour state standard has been violated an average of 17 percent of all days. While ozone levels are still high, they are much lower than 10 to 20 years ago.

Measurements of carbon monoxide have shown very low baseline levels in comparison to the most stringent one- and eight-hour standards.

Respirable dust (PM-10) levels very rarely exceed the state or federal standard PM-10 standard. There have only been four violations in the last four years of measurement days for state PM-10 and no violations of the federal standard. PM-2.5 on any measurement day.

A substantial fraction of PM-10 is comprised of small diameter particulates capable of being inhaled into deep lung tissue (PM-2.5). However, PM-2.5 readings rarely exceed the federal 24-hour PM-2.5 ambient standard and there have had no violations within the previous four years.

Although complete attainment of every clean air standard is not yet imminent, extrapolation of the steady improvement trend suggests that such attainment could occur within the reasonably near future.

Table 3
Air Quality Monitoring Summary (2017-2020)
(Number of Days Standards Were Exceeded, and
Maximum Levels During Such Violations)
(Entries shown as ratios = samples exceeding standard/samples taken)

Pollutant/Standard	2017	2018	2019	2020
Ozone				
1-Hour > 0.09 ppm (S)	76	57	53	69
8-Hour > 0.07 ppm (S)	110	113	99	118
8- Hour > 0.075 ppm (F)	90	91	79	97
Max. 1-Hour Conc. (ppm)	0.146	0.142	0.129	0.159
Max. 8-Hour Conc. (ppm)	0.121	0.125	0.112	0.139
Carbon Monoxide				
8- Hour > 9. ppm (S,F)	0	0	0	0
Max 8-hour Conc. (ppm)	1.7	2.0	1.2	1.4
Nitrogen Dioxide				
1-Hour > 0.18 ppm (S)	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.063	0.055	0.056	0.054
Respirable Particulates (PM-10)				
24-hour > 50 µg/m ³ (S)	2/55	1/59	0/54	1/40
24-hour > 150 µg/m ³ (F)	0/55	0/59	0/54	0/40
Max. 24-Hr. Conc. (µg/m ³)	56.	78.	38.	51.
Fine Particulates (PM-2.5)				
24-Hour > 35 µg/m ³ (F)	0/49	0/54	0/46	0/58
Max. 24-Hr. Conc. (µg/m ³)	23.5	17.3	31.0	24.3

Source: South Coast Air Quality Management District;
Crestline Monitoring Station for Ozone and PM-10.
San Bernardino 4th Street Monitoring Station for CO and NO₂.
Big Bear City Monitoring Station for PM-2.5.

data: WWW.ARB.CA.GOV/ADAM/

AIR QUALITY PLANNING

The Federal Clean Air Act (1977 Amendments) required that designated agencies in any area of the nation not meeting national clean air standards must prepare a plan demonstrating the steps that would bring the area into compliance with all national standards. The SCAB could not meet the deadlines for ozone, nitrogen dioxide, carbon monoxide, or PM-10. In the SCAB, the agencies designated by the governor to develop regional air quality plans are the SCAQMD and the Southern California Association of Governments (SCAG). The two agencies first adopted an Air Quality Management Plan (AQMP) in 1979 and revised it several times as earlier attainment forecasts were shown to be overly optimistic.

The 1990 Federal Clean Air Act Amendment (CAAA) required that all states with air-sheds with “serious” or worse ozone problems submit a revision to the State Implementation Plan (SIP). Amendments to the SIP have been proposed, revised and approved over the past decade. The most current regional attainment emissions forecast for ozone precursors (ROG and NO_x) and for carbon monoxide (CO) and for particulate matter are shown in Table 4. Substantial reductions in emissions of ROG, NO_x and CO are forecast to continue throughout the next several decades. Unless new particulate control programs are implemented, PM-10 and PM-2.5 are forecast to slightly increase.

The Air Quality Management District (AQMD) adopted an updated clean air “blueprint” in August 2003. The 2003 Air Quality Management Plan (AQMP) was approved by the EPA in 2004. The AQMP outlined the air pollution measures needed to meet federal health-based standards for ozone by 2010 and for particulates (PM-10) by 2006. The 2003 AQMP was based upon the federal one-hour ozone standard which was revoked late in 2005 and replaced by an 8-hour federal standard. Because of the revocation of the hourly standard, a new air quality planning cycle was initiated.

With re-designation of the air basin as non-attainment for the 8-hour ozone standard, a new attainment plan was developed. This plan shifted most of the one-hour ozone standard attainment strategies to the 8-hour standard. As previously noted, the attainment date was to “slip” from 2010 to 2021. The updated attainment plan also includes strategies for ultimately meeting the federal PM-2.5 standard.

Because Projected attainment by 2021 required control technologies that did not exist yet, the SCAQMD requested a voluntary “bump-up” from a “severe non-attainment” area to an “extreme non-attainment” designation for ozone. The extreme designation was to allow a longer time period for these technologies to develop. If attainment cannot be demonstrated within the specified deadline without relying on “black-box” measures, EPA would have been required to impose sanctions on the region had the bump-up request not been approved. In April 2010, the EPA approved the change in the non-attainment designation from “severe-17” to “extreme.” This reclassification set a later attainment deadline (2024), but also required the air basin to adopt even more stringent emissions controls.

Table 4
South Coast Air Basin Emissions Forecasts (Emissions in tons/day)

Pollutant	2015^a	2025^b	2030^b
NOx	357	266	257
VOC	400	393	391
PM-10	161	170	172
PM-2.5	67	70	71

^a2015 Base Year.

^bWith current emissions reduction programs and adopted growth forecasts.

Source: California Air Resources Board, 2013 Almanac of Air Quality

In other air quality attainment plan reviews, EPA had disapproved part of the SCAB PM-2.5 attainment plan included in the AQMP. EPA stated that the current attainment plan relied on PM-2.5 control regulations that had not yet been approved or implemented. It was expected that a number of rules that were pending approval would remove the identified deficiencies. If these issues were not resolved within the next several years, federal funding sanctions for transportation Projects could result. The 2012 AQMP included in the current California State Implementation Plan (SIP) was expected to remedy identified PM-2.5 planning deficiencies.

The federal Clean Air Act requires that non-attainment air basins have EPA approved attainment plans in place. This requirement includes the federal one-hour ozone standard even though that standard was revoked almost ten years ago. There was no approved attainment plan for the one-hour federal standard at the time of revocation. Through a legal quirk, the SCAQMD is now required to develop an AQMP for the long since revoked one-hour federal ozone standard. Because the current SIP for the basin contains a number of control measures for the 8-hour ozone standard that are equally effective for one-hour levels, the 2012 AQMP was believed to satisfy hourly attainment planning requirements.

AQMPs are required to be updated every three years. The 2012 AQMP was adopted in early 2013. An updated AQMP was required for completion in 2016. The 2016 AQMP was adopted by the SCAQMD Board in March 2017 and has been submitted the California Air Resources Board for forwarding to the EPA. The 2016 AQMP acknowledges that motor vehicle emissions have been effectively controlled and that reductions in NOx, the continuing ozone problem pollutant, may need to come from major stationary sources (power plants, refineries, landfill flares, etc.) . The current attainment deadlines for all federal non-attainment pollutants are now as follows:

8-hour ozone (70 ppb)	2032
Annual PM-2.5 (12 µg/m ³)	2025
8-hour ozone (75 ppb)	2024 (old standard)
1-hour ozone (120 ppb)	2023 (rescinded standard)

24-hour PM-2.5 (35 µg/m³) 2019

The key challenge is that NO_x emission levels, as a critical ozone precursor pollutant, are forecast to continue to exceed the levels that would allow the above deadlines to be met. Unless additional stringent NO_x control measures are adopted and implemented, ozone attainment goals may not be met.

The proposed project does not directly relate to the AQMP in that there are no specific air quality programs or regulations governing recreational projects. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which impact significance of planned growth is determined. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less-than-significant just because the proposed recreational use is consistent with regional growth projections. Air quality impact significance for the proposed project has therefore been analyzed on a project-specific basis.

AIR QUALITY IMPACT

STANDARDS OF SIGNIFICANCE

Air quality impacts are considered “significant” if they cause clean air standards to be violated where they are currently met, or if they “substantially” contribute to an existing violation of standards. Any substantial emissions of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, would also be considered a significant impact.

Appendix G of the California CEQA Guidelines offers the following four tests of air quality impact significance. A Project would have a potentially significant impact if it:

- a) Conflicts with or obstructs implementation of the applicable air quality plan.
- b) Results in a cumulatively considerable net increase of any criteria pollutants for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.
- c) Exposes sensitive receptors to substantial pollutant concentrations.
- d) Creates objectionable odors affecting a substantial number of people.

Primary Pollutants

Air quality impacts generally occur on two scales of motion. Near an individual source of emissions or a collection of sources such as a crowded intersection or parking lot, levels of those pollutants that are emitted in their already unhealthful form will be highest. Carbon monoxide (CO) is an example of such a pollutant. Primary pollutant impacts can generally be evaluated directly in comparison to appropriate clean air standards. Violations of these standards where they are currently met, or a measurable worsening of an existing or future violation, would be considered a significant impact. Many particulates, especially fugitive dust emissions, are also primary pollutants. Because of the non-attainment status of the South Coast Air Basin (SCAB) for PM-10, an aggressive dust control program is required to control fugitive dust during project construction.

Secondary Pollutants

Many pollutants, however, require time to transform from a more benign form to a more unhealthful contaminant. Their impact occurs regionally far from the source. Their incremental regional impact is minute on an individual basis and cannot be quantified except through complex photochemical computer models. Analysis of significance of such emissions is based upon a specified number of emissions (pounds, tons, etc.) even though there is no way to translate those emissions directly into a corresponding ambient air quality impact.

Because of the chemical complexity of primary versus secondary pollutants, the SCAQMD has designated significant emissions levels as surrogates for evaluating regional air quality impact significance independent of chemical transformation processes. Projects with daily emissions that

exceed any of the following emission thresholds are recommended by the SCAQMD to be considered significant under CEQA guidelines.

**Table 5
Daily Emissions Thresholds**

Pollutant	Construction	Operations
ROG	75	55
NOx	100	55
CO	550	550
PM-10	150	150
PM-2.5	55	55
SOx	150	150
Lead	3	3

Source: SCAQMD CEQA Air Quality Handbook, November, 1993 Rev.

Additional Indicators

Some of the structures to be demolished have been surveyed and are assumed to contain asbestos. The SCAQMD CEQA Handbook identifies various secondary significance criteria related to toxic, hazardous or odorous air contaminants. Such pollutants may be associated with demolition of existing structures if they contain asbestos, lead-based paint, or other hazardous building materials. Prior to demolition detailed surveys will be conducted to ascertain the possible presence of asbestos, lead-based paint, etc. If any such materials are present, they will be remediated using mandatory procedures specified by Rule 1403-Asbestos Emissions from Demolition and Renovation Activities SCAQMD and state air toxics agencies.

CONSTRUCTION ACTIVITY IMPACTS

CalEEMod was developed by the SCAQMD to provide a model by which to calculate both construction emissions and operational emissions from a variety of land use projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions.

The approximately 7-acre site contains the previously occupied Chautauqua High School and contains five large structures. The project proposes to demolish the existing structures and develop the site as a continuation of the Big Bear High School athletic fields with a new football and track fields and stadiums to serve the High School and District athletics.

The field will be of standard size and accommodate soccer games, as well as football games. Around the football field, there is a planned 400 meter track. On the western edge of the site, centered with the football and track field, the project proposes to install a home team grandstand with a 750± seating capacity. One the eastern edge of the site, centered with the football and track

field, the project proposes to install a visiting team grandstand with a 250 ± seating capacity. The style of grandstands will be bleachers. At the southern end of the site toward Baldwin Lane, the project proposes to install a north facing scoreboard.

Construction of the proposed Big Bear High School Football and Track Stadium Project is anticipated to require approximately 6-12 months, with the anticipated start date of construction in May 2022 and the completion date no later than January 2023. The project is anticipated to require minimal cut and fill with any cut being reused to balance of the site through grading, which will minimize import/export of material. Construction was modeled in CalEEMod2020.4.0 using the following construction equipment and schedule shown in Table 6.

**Table 6
Construction Activity Equipment Fleet**

Phase Name and Duration	Equipment
Demolition (20 days)	1 Concrete Saw
	3 Excavators
	2 Dozers
Site Prep (10 days)	3 Dozers
	4 Tractors
	4 Loader/Backhoes
Grading (20 days)	1 Grader
	1 Excavator
	1 Dozer
	3 Loader/Backhoes
Construction (130 days)	3 Forklifts
	1 Crane
	3 Loader/Backhoes
	1 Welder
	1 Generator Set
Paving (20 days)	2 Pavers
	2 Paving Equipment
	2 Rollers

Utilizing this indicated equipment fleet and durations shown in Table 6 the following worst-case daily construction emissions are calculated by CalEEMod and are listed in Table 7.

Table 7
Construction Activity Emissions
Maximum Daily Emissions (pounds/day)

Maximal Construction Emissions	ROG	NO_x	CO	SO₂	PM-10	PM-2.5
2022	4.7	51.2	27.8	0.1	10.8	6.2
2023	2.1	16.4	21.8	0.0	2.4	1.1
SCAQMD Thresholds	75	100	550	150	150	55

*assumes SCAQMD Rule 403 Fugitive Dust applied.

SCAQMD Rules 402 and 403 (prohibition of nuisances, watering of inactive and perimeter areas, track out requirements, etc.), are applicable to the project and were applied in CalEEMod to minimize fugitive dust emissions. With this measure, peak daily construction activity emissions are estimated to be below SCAQMD CEQA thresholds without the need for added mitigation.

Construction equipment exhaust contains carcinogenic compounds within the diesel exhaust particulates. The toxicity of diesel exhaust is evaluated relative to a 24-hour per day, 365 days per year, 70-year lifetime exposure. The SCAQMD does not generally require the analysis of construction-related diesel emissions relative to health risk due to the short period for which the majority of diesel exhaust would occur. Health risk analyses are typically assessed over a 9-, 30-, or 70-year timeframe and not over a relatively brief construction period due to the lack of health risk associated with such a brief exposure.

LOCALIZED SIGNIFICANCE THRESHOLDS

The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Localized Significance Thresholds (LSTs). LSTs were developed in response to Governing Board's Environmental Justice Enhancement Initiative 1-4 and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005.

Use of an LST analysis for a project is optional. For the proposed project, the primary source of possible LST impact would be during construction. LSTs are applicable for a sensitive receptor where it is possible that an individual could remain for 24 hours such as a residence, hospital or convalescent facility.

LSTs are only applicable to the following criteria pollutants: oxides of nitrogen (NO_x), carbon monoxide (CO), and particulate matter (PM-10 and PM-2.5). LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

LST screening tables are available for 25, 50, 100, 200- and 500-meter source-receptor distances. For this project, there are adjacent residential uses to the south across Baldwin Lane uses such that the most conservative 25 meter distance was modeled.

The SCAQMD has issued guidance on applying CalEEMod to LSTs. LST pollutant screening level concentration data is currently published for 1, 2- and 5-acre sites for varying distances. According to guidelines provided by SCAQMD, based on grading equipment, data for a 3.5-acre site was used (derived via interpolating between a 2-and 5-acre site).

The following thresholds and emissions in Table 8 are therefore determined (pounds per day):

**Table 8
LST and Project Emissions (pounds/day)**

3.5acre/25 meters East San Bernardino Mtns	CO	NOx	PM-10	PM-2.5
LST Threshold	1,625	220	11	7
Max On-Site Emissions				
2022	28	51	11	6
2023	22	16	2	1

LSTs were compared to the maximum daily construction activities. As seen in Table 8, with active dust suppression, emissions meet the LST for construction thresholds. LST impacts are less-than-significant.

OPERATIONAL IMPACTS

The new Big Bear High School Football and Track Stadium Project will require 2 additional employees to operate the project site. Practice for various athletic teams during after-school hours will occur 2:30 PM to 5:30 PM for an anticipated 5 days per week with limited use during the summer.

The new stadium is anticipated to host 16 games per year. Other field uses include middle school promotion, high school graduation, and possibly use by the high school band for practice. The existing football games were found to generate an average of 460 trips per day.

It is anticipated that the stadium could host a maximum of about 1,000 persons. For this analysis, it is assumed that a worst-case day would include 1,000 persons attending an event such as a graduation with a conservative estimate of 2 persons per vehicle. Therefore, there would be 1000 in and out trips on that day.

In addition to vehicular trips, the athletic facility requires water for irrigation, generates a small amount of solid waste from bathrooms and requires a small amount of electricity for lighting. Operational emissions were calculated using CalEEMod2020.4.0 for an assumed operational year of 2023. The operational impacts are shown in Table 9. The assumptions modeled were that every

weekday could generate 460 trips and every weekend could generate 1,000 trips although this would not occur with such regularity. As shown, operational emissions will not exceed applicable the SCAQMD operational CEQA thresholds of significance.

**Table 9
Proposed Uses Daily Operational Impacts (2023)**

Source	Operational Emissions (lbs/day)					
	ROG	NO_x	CO	SO₂	PM-10	PM-2.5
Area	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Energy	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mobile	3.2	3.9	29.4	0.1	6.1	1.7
Total	3.2	3.9	29.4	0.1	6.1	1.7
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod Output in Appendix

CONSTRUCTION EMISSIONS MINIMIZATION

Construction activities are not anticipated to cause dust emissions to exceed SCAQMD CEQA thresholds with active dust suppression. Recommended measures include:

Fugitive Dust Control

- Apply soil stabilizers or moisten inactive areas.
- Water exposed surfaces as needed to avoid visible dust leaving the construction site (typically 2-3 times/day).
- Cover all stock piles with tarps at the end of each day or as needed.
- Provide water spray during loading and unloading of earthen materials.
- Minimize in-out traffic from construction zone
- Cover all trucks hauling dirt, sand, or loose material and require all trucks to maintain at least two feet of freeboard
- Sweep streets daily if visible soil material is carried out from the construction site

Similarly, ozone precursor emissions (ROG and NO_x) are calculated to be below SCAQMD CEQA thresholds. However, because of the regional non-attainment for photochemical smog, the use of reasonably available control measures for diesel exhaust is recommended. Combustion emissions control options include:

Exhaust Emissions Control

- Utilize well-tuned off-road construction equipment.
- Establish a preference for contractors using Tier 3 or better rated heavy equipment.
- Enforce 5-minute idling limits for both on-road trucks and off-road equipment.

GREENHOUSE GAS EMISSIONS

“Greenhouse gases” (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as “global warming.” These greenhouse gases contribute to an increase in the temperature of the earth’s atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. For purposes of planning and regulation, Section 15364.5 of the California Code of Regulations defines GHGs to include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. GHG statues and executive orders (EO) include AB 32, SB 1368, EO S-03-05, EO S-20-06 and EO S-01-07.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California’s reputation as a “national and international leader on energy conservation and environmental stewardship.” It will have wide-ranging effects on California businesses and lifestyles as well as far reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions are the short time frames within which it must be implemented. Major components of the AB 32 include:

- Require the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate “early action” control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California’s GHG emissions be reduced to 1990 levels.
- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual, to be achieved by 2020.
- Must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Maximum GHG reductions are expected to derive from increased vehicle fuel efficiency, from greater use of renewable energy and from increased structural energy efficiency. Additionally, through the California Climate Action Registry (CCAR now called the Climate Action Reserve), general and industry-specific protocols for assessing and reporting GHG emissions have been

developed. GHG sources are categorized into direct sources (i.e. company owned) and indirect sources (i.e. not company owned). Direct sources include combustion emissions from on-and off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

THRESHOLDS OF SIGNIFICANCE

In response to the requirements of SB97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March, 2010. The CEQA Appendix G guidelines were modified to include GHG as a required analysis element. A project would have a potentially significant impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or,
- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

Section 15064.4 of the Code specifies how significance of GHG emissions is to be evaluated. The process is broken down into quantification of project-related GHG emissions, making a determination of significance, and specification of any appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility.

Emissions identification may be quantitative, qualitative, or based on performance standards. CEQA guidelines allow the lead agency to “select the model or methodology it considers most appropriate.” The most common practice for transportation/combustion GHG emissions quantification is to use a computer model such as CalEEMod, as was used in the ensuing analysis.

The significance of those emissions then must be evaluated; the selection of a threshold of significance must take into consideration what level of GHG emissions would be cumulatively considerable. The guidelines are clear that they do not support a zero net emissions threshold. If the lead agency does not have sufficient expertise in evaluating GHG impacts, it may rely on thresholds adopted by an agency with greater expertise.

On December 5, 2008 the SCAQMD Governing Board adopted an Interim quantitative GHG Significance Threshold for industrial projects where the SCAQMD is the lead agency (e.g., stationary source permit projects, rules, plans, etc.) of 10,000 Metric Tons (MT) CO₂ equivalent/year. In September 2010, the SCAQMD CEQA Significance Thresholds GHG Working Group released revisions which recommended a threshold of 3,000 MT CO₂e for all land use projects. This 3,000 MT/year recommendation has been used as a guideline for this analysis. In the absence of an adopted numerical threshold of significance, project related GHG emissions in excess of the guideline level are presumed to trigger a requirement for enhanced GHG reduction at the project level.

PROJECT RELATED GHG EMISSIONS GENERATION

Construction Activity GHG Emissions

The project is assumed to occur over a two-calendar year period. During project construction, the CalEEMod2020.4.0 computer model predicts that the construction activities will generate the annual CO₂e emissions identified in Table 10.

Table 10
Construction Emissions (Metric Tons CO₂e)

	CO₂e
Year 2022	367.2
Year 2023	32.3
Total	399.5
Amortized	13.3

CalEEMod Output provided in appendix

SCAQMD GHG emissions policy from construction activities is to amortize emissions over a 30-year lifetime. The amortized level is also provided. GHG impacts from construction are considered individually less-than-significant.

Project Operational GHG Emissions

The input assumptions for operational GHG emissions calculations, and the GHG conversion from consumption to annual regional CO₂e emissions are summarized in the CalEEMod2020.4.0 output files found in the appendix of this report.

As discussed, as a worst case, it was assumed that every weekday could generate the anticipated 460 game day trips and that every Saturday could generate an event such as graduation where all stadium seats were full and there would be 1,000 trips. Even with these overstated assumptions, as shown below in Table 11, the total operational and annualized construction emissions are considered less-than-significant.

Table 11
Operational Emissions
(Metric Tons CO₂e)

Consumption Source	
Area Sources	<0.1
Energy Utilization	<0.1
Mobile Source	446.2
Solid Waste Generation	0.3
Water Consumption	16.5
Construction	13.3
Total	476.0
Guideline Threshold	3,000

CONSISTENCY WITH GHG PLANS, PROGRAMS AND POLICIES

In March 2014, the San Bernardino Associated Governments and Participating San Bernardino County Cities Partnership (Partnership) created a final draft of the San Bernardino County Regional Greenhouse Gas Reduction Plan (Reduction Plan) for each of the 25 jurisdictional Partner Cities in the County. The plan was recently updated in March of 2021. The Reduction Plan was created in accordance with AB 32, which established a greenhouse gas limit for the state of California. The Reduction Plan seeks to create an inventory of GHG gases and develop jurisdiction specific GHG reduction measures and baseline information that could be used by the Partnership Cities of San Bernardino County, including the County itself.

Projects that demonstrate consistency with the strategies, actions, and emission reduction targets contained in the Reduction Plan would have a less than significant impact on climate change. The project will generate little GHG emissions as shown in Table 11. The only reduction measures applicable to this project are presented below. Therefore, consistency with the Reduction Plan would result in a less than significant impact with respect to GHG emissions.

- Encourage water-efficient landscaping practices.
- Establish a goal that a certain percentage of all water used for non-potable sources (such as landscaping irrigation) be recycled wastewater.
- Exceed the waste diversion goal recommended by Assembly Bill 939 and CalGreen.
- Adopt an ordinance that reduces gasoline-powered landscaping equipment use and/or reduce the number and operating time of such equipment.
- Continue to specify and install water conserving plumbing fixtures and fittings in public facilities such as parks, community centers and government buildings in accordance with Title 24 of the California Code of Regulations.

CALEEMOD2020.4.0 COMPUTER MODEL OUTPUT

- **DAILY EMISISONS**
- **ANNUAL EMISSIONS**

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Summer

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

**Big Bear Football and Track Stadium
San Bernardino-South Coast County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	7.00	Acre	7.00	304,920.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	390.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Demo: 20 days, Grading: 10 days, Prep: 10 days, Construction: 130 days, Paving: 20 days

Vehicle Trips - weekdays, 480 trips weekend 1000 trips

Construction Off-road Equipment Mitigation - water 3 times per day

Water Mitigation -

Off-road Equipment - Prep: 3 dozers, 4 loader/backhoes, 4 tractors

Off-road Equipment - Grading: 1 Excavator, 1 Grader, 1 Dozer, 3 Loader/Backhoes

Off-road Equipment - Construction: 1 Crane, 3 Forklifts, 1 Gen Set, 3 Loader/Backhoes, 1 Welder

Off-road Equipment -

Grading -

On-road Fugitive Dust - reduce speed unpaved roads

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Summer

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	130.00
tblConstructionPhase	PhaseEndDate	5/26/2023	1/6/2023
tblConstructionPhase	PhaseEndDate	6/23/2023	2/3/2023
tblConstructionPhase	PhaseStartDate	5/27/2023	1/7/2023
tblGrading	AcresOfGrading	30.00	28.13
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOnRoadDust	MeanVehicleSpeed	40.00	15.00
tblVehicleTrips	ST_TR	1.96	142.86
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	WD_TR	0.78	60.00

2.0 Emissions Summary

Big Bear Football and Track Stadium - San Bernardino-South Coast County, 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	4.7645	51.1822	27.7941	0.0644	21.3624	2.2944	23.6568	10.3358	2.1108	12.4466	0.0000	6,255.1479	6,255.1479	1.9363	0.1815	6,305.7335
2023	2.1315	16.4405	21.7939	0.0487	1.7511	0.7200	2.4710	0.4717	0.6775	1.1492	0.0000	4,806.3352	4,806.3352	0.7176	0.1725	4,874.3314
Maximum	4.7645	51.1822	27.7941	0.0644	21.3624	2.2944	23.6568	10.3358	2.1108	12.4466	0.0000	6,255.1479	6,255.1479	1.9363	0.1815	6,305.7335

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	4.7645	51.1822	27.7941	0.0644	8.5059	2.2944	10.8003	4.0776	2.1108	6.1884	0.0000	6,255.1479	6,255.1479	1.9363	0.1815	6,305.7335
2023	2.1315	16.4405	21.7939	0.0487	1.6628	0.7200	2.3827	0.4500	0.6775	1.1275	0.0000	4,806.3352	4,806.3352	0.7176	0.1725	4,874.3313
Maximum	4.7645	51.1822	27.7941	0.0644	8.5059	2.2944	10.8003	4.0776	2.1108	6.1884	0.0000	6,255.1479	6,255.1479	1.9363	0.1815	6,305.7335

Big Bear Football and Track Stadium - San Bernardino-South Coast County, 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
Percent Reduction	0.00	0.00	0.00	0.00	56.01	0.00	49.54	58.11	0.00	46.19	0.00	0.00	0.00	0.00	0.00	0.00

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Summer

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	0.0158	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5300e-003	1.5300e-003	0.0000		1.6300e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	3.2284	3.9318	29.4319	0.0626	6.0765	0.0480	6.1245	1.6207	0.0449	1.6656		6,376.750 2	6,376.750 2	0.3537	0.3031	6,475.919 7
Total	3.2442	3.9318	29.4326	0.0626	6.0765	0.0480	6.1245	1.6207	0.0449	1.6656		6,376.751 7	6,376.751 7	0.3537	0.3031	6,475.921 4

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0158	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5300e-003	1.5300e-003	0.0000		1.6300e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	3.2284	3.9318	29.4319	0.0626	6.0765	0.0480	6.1245	1.6207	0.0449	1.6656		6,376.750 2	6,376.750 2	0.3537	0.3031	6,475.919 7
Total	3.2442	3.9318	29.4326	0.0626	6.0765	0.0480	6.1245	1.6207	0.0449	1.6656		6,376.751 7	6,376.751 7	0.3537	0.3031	6,475.921 4

Big Bear Football and Track Stadium - San Bernardino-South Coast County, 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
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	5/1/2022	5/27/2022	5	20	
2	Site Preparation	Site Preparation	5/28/2022	6/10/2022	5	10	
3	Grading	Grading	6/11/2022	7/8/2022	5	20	
4	Building Construction	Building Construction	7/9/2022	1/6/2023	5	130	
5	Paving	Paving	1/7/2023	2/3/2023	5	20	

Acres of Grading (Site Preparation Phase): 28.13

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	4	6.00	212	0.43
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Summer

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

Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
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
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	11	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	128.00	50.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

Big Bear Football and Track Stadium - San Bernardino-South Coast County, 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					
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		1.2427	1.2427		1.1553	1.1553		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	0.0000	0.0000	0.0000	0.0000	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	0.0635	0.0402	0.6171	1.5500e-003	0.1677	8.8000e-004	0.1685	0.0445	8.1000e-004	0.0453		156.4227	156.4227	4.0900e-003	3.9200e-003	157.6925
Total	0.0635	0.0402	0.6171	1.5500e-003	0.1677	8.8000e-004	0.1685	0.0445	8.1000e-004	0.0453		156.4227	156.4227	4.0900e-003	3.9200e-003	157.6925

Big Bear Football and Track Stadium - San Bernardino-South Coast County, 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					
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		1.2427	1.2427		1.1553	1.1553	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	0.0000	0.0000	0.0000	0.0000	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	0.0635	0.0402	0.6171	1.5500e-003	0.1589	8.8000e-004	0.1598	0.0423	8.1000e-004	0.0431		156.4227	156.4227	4.0900e-003	3.9200e-003	157.6925
Total	0.0635	0.0402	0.6171	1.5500e-003	0.1589	8.8000e-004	0.1598	0.0423	8.1000e-004	0.0431		156.4227	156.4227	4.0900e-003	3.9200e-003	157.6925

Big Bear Football and Track Stadium - San Bernardino-South Coast County, 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					21.0495	0.0000	21.0495	10.2528	0.0000	10.2528			0.0000			0.0000
Off-Road	4.6459	51.1071	26.6422	0.0616		2.2927	2.2927		2.1093	2.1093		5,963.1589	5,963.1589	1.9286		6,011.3741
Total	4.6459	51.1071	26.6422	0.0616	21.0495	2.2927	23.3422	10.2528	2.1093	12.3621		5,963.1589	5,963.1589	1.9286		6,011.3741

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	0.1186	0.0751	1.1519	2.8900e-003	0.3130	1.6400e-003	0.3146	0.0830	1.5100e-003	0.0845		291.9890	291.9890	7.6400e-003	7.3100e-003	294.3594
Total	0.1186	0.0751	1.1519	2.8900e-003	0.3130	1.6400e-003	0.3146	0.0830	1.5100e-003	0.0845		291.9890	291.9890	7.6400e-003	7.3100e-003	294.3594

Big Bear Football and Track Stadium - San Bernardino-South Coast County, 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					8.2093	0.0000	8.2093	3.9986	0.0000	3.9986			0.0000			0.0000
Off-Road	4.6459	51.1071	26.6422	0.0616		2.2927	2.2927		2.1093	2.1093	0.0000	5,963.1589	5,963.1589	1.9286		6,011.3741
Total	4.6459	51.1071	26.6422	0.0616	8.2093	2.2927	10.5020	3.9986	2.1093	6.1079	0.0000	5,963.1589	5,963.1589	1.9286		6,011.3741

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	0.1186	0.0751	1.1519	2.8900e-003	0.2967	1.6400e-003	0.2983	0.0790	1.5100e-003	0.0805		291.9890	291.9890	7.6400e-003	7.3100e-003	294.3594
Total	0.1186	0.0751	1.1519	2.8900e-003	0.2967	1.6400e-003	0.2983	0.0790	1.5100e-003	0.0805		291.9890	291.9890	7.6400e-003	7.3100e-003	294.3594

Big Bear Football and Track Stadium - San Bernardino-South Coast County, 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					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.046 4	2,872.046 4	0.9289		2,895.268 4
Total	1.9486	20.8551	15.2727	0.0297	7.0826	0.9409	8.0234	3.4247	0.8656	4.2903		2,872.046 4	2,872.046 4	0.9289		2,895.268 4

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	0.0635	0.0402	0.6171	1.5500e-003	0.1677	8.8000e-004	0.1685	0.0445	8.1000e-004	0.0453		156.4227	156.4227	4.0900e-003	3.9200e-003	157.6925
Total	0.0635	0.0402	0.6171	1.5500e-003	0.1677	8.8000e-004	0.1685	0.0445	8.1000e-004	0.0453		156.4227	156.4227	4.0900e-003	3.9200e-003	157.6925

Big Bear Football and Track Stadium - San Bernardino-South Coast County, 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					2.7622	0.0000	2.7622	1.3357	0.0000	1.3357			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.046 4	2,872.046 4	0.9289		2,895.268 4
Total	1.9486	20.8551	15.2727	0.0297	2.7622	0.9409	3.7031	1.3357	0.8656	2.2012	0.0000	2,872.046 4	2,872.046 4	0.9289		2,895.268 4

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	0.0635	0.0402	0.6171	1.5500e-003	0.1589	8.8000e-004	0.1598	0.0423	8.1000e-004	0.0431		156.4227	156.4227	4.0900e-003	3.9200e-003	157.6925
Total	0.0635	0.0402	0.6171	1.5500e-003	0.1589	8.8000e-004	0.1598	0.0423	8.1000e-004	0.0431		156.4227	156.4227	4.0900e-003	3.9200e-003	157.6925

Big Bear Football and Track Stadium - San Bernardino-South Coast County, 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	0.0871	2.1895	0.8035	9.3300e-003	0.3203	0.0261	0.3464	0.0922	0.0249	0.1172		1,000.3442	1,000.3442	0.0270	0.1480	1,045.1343
Worker	0.5419	0.3432	5.2657	0.0132	1.4307	7.5000e-003	1.4382	0.3794	6.9000e-003	0.3863		1,334.8069	1,334.8069	0.0349	0.0334	1,345.6430
Total	0.6291	2.5327	6.0693	0.0225	1.7511	0.0336	1.7846	0.4717	0.0318	0.5035		2,335.1511	2,335.1511	0.0620	0.1815	2,390.7772

Big Bear Football and Track Stadium - San Bernardino-South Coast County, 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

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	0.0871	2.1895	0.8035	9.3300e-003	0.3067	0.0261	0.3327	0.0889	0.0249	0.1138		1,000.3442	1,000.3442	0.0270	0.1480	1,045.1343
Worker	0.5419	0.3432	5.2657	0.0132	1.3561	7.5000e-003	1.3636	0.3611	6.9000e-003	0.3680		1,334.8069	1,334.8069	0.0349	0.0334	1,345.6430
Total	0.6291	2.5327	6.0693	0.0225	1.6628	0.0336	1.6963	0.4500	0.0318	0.4818		2,335.1511	2,335.1511	0.0620	0.1815	2,390.7772

Big Bear Football and Track Stadium - San Bernardino-South Coast County, 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	0.0585	1.7538	0.7359	8.9500e-003	0.3203	0.0132	0.3335	0.0922	0.0126	0.1049		959.5909	959.5909	0.0251	0.1417	1,002.4461
Worker	0.5002	0.3018	4.8140	0.0128	1.4307	7.0500e-003	1.4378	0.3794	6.4900e-003	0.3859		1,291.5344	1,291.5344	0.0312	0.0308	1,301.4792
Total	0.5587	2.0556	5.5499	0.0217	1.7511	0.0202	1.7713	0.4717	0.0191	0.4908		2,251.1253	2,251.1253	0.0563	0.1725	2,303.9253

Big Bear Football and Track Stadium - San Bernardino-South Coast County, 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	0.0585	1.7538	0.7359	8.9500e-003	0.3067	0.0132	0.3198	0.0889	0.0126	0.1015		959.5909	959.5909	0.0251	0.1417	1,002.4461
Worker	0.5002	0.3018	4.8140	0.0128	1.3561	7.0500e-003	1.3632	0.3611	6.4900e-003	0.3676		1,291.5344	1,291.5344	0.0312	0.0308	1,301.4792
Total	0.5587	2.0556	5.5499	0.0217	1.6628	0.0202	1.6830	0.4500	0.0191	0.4691		2,251.1253	2,251.1253	0.0563	0.1725	2,303.9253

Big Bear Football and Track Stadium - San Bernardino-South Coast County, 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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	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

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	0.0586	0.0354	0.5641	1.5000e-003	0.1677	8.3000e-004	0.1685	0.0445	7.6000e-004	0.0452		151.3517	151.3517	3.6600e-003	3.6000e-003	152.5171
Total	0.0586	0.0354	0.5641	1.5000e-003	0.1677	8.3000e-004	0.1685	0.0445	7.6000e-004	0.0452		151.3517	151.3517	3.6600e-003	3.6000e-003	152.5171

Big Bear Football and Track Stadium - San Bernardino-South Coast County, 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	2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.584 1	2,207.584 1	0.7140		2,225.433 6

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	0.0586	0.0354	0.5641	1.5000e-003	0.1589	8.3000e-004	0.1597	0.0423	7.6000e-004	0.0431		151.3517	151.3517	3.6600e-003	3.6000e-003	152.5171
Total	0.0586	0.0354	0.5641	1.5000e-003	0.1589	8.3000e-004	0.1597	0.0423	7.6000e-004	0.0431		151.3517	151.3517	3.6600e-003	3.6000e-003	152.5171

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Summer

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	3.2284	3.9318	29.4319	0.0626	6.0765	0.0480	6.1245	1.6207	0.0449	1.6656		6,376.750 2	6,376.750 2	0.3537	0.3031	6,475.919 7
Unmitigated	3.2284	3.9318	29.4319	0.0626	6.0765	0.0480	6.1245	1.6207	0.0449	1.6656		6,376.750 2	6,376.750 2	0.3537	0.3031	6,475.919 7

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	420.00	1,000.02	0.00	1,274,347	1,274,347
Total	420.00	1,000.02	0.00	1,274,347	1,274,347

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Summer

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

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Big Bear Football and Track Stadium - San Bernardino-South Coast County, 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

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
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0158	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5300e-003	1.5300e-003	0.0000		1.6300e-003
Unmitigated	0.0158	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5300e-003	1.5300e-003	0.0000		1.6300e-003

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Summer

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

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.0000e-005	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5300e-003	1.5300e-003	0.0000		1.6300e-003
Total	0.0158	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5300e-003	1.5300e-003	0.0000		1.6300e-003

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Summer

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.0000e-005	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5300e-003	1.5300e-003	0.0000		1.6300e-003
Total	0.0158	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5300e-003	1.5300e-003	0.0000		1.6300e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Toilet

Use Water Efficient Irrigation System

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Summer

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
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

Equipment Type	Number
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11.0 Vegetation

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

Big Bear Football and Track Stadium

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	7.00	Acre	7.00	304,920.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	390.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Demo: 20 days, Grading: 10 days, Prep: 10 days, Construction: 130 days, Paving: 20 days

Vehicle Trips - weekdays, 480 trips weekend 1000 trips

Construction Off-road Equipment Mitigation - water 3 times per day

Water Mitigation -

Off-road Equipment - Prep: 3 dozers, 4 loader/backhoes, 4 tractors

Off-road Equipment - Grading: 1 Excavator, 1 Grader, 1 Dozer, 3 Loader/Backhoes

Off-road Equipment - Construction: 1 Crane, 3 Forklifts, 1 Gen Set, 3 Loader/Backhoes, 1 Welder

Off-road Equipment -

Grading -

On-road Fugitive Dust - reduce speed unpaved roads

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	6
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	130.00
tblConstructionPhase	PhaseEndDate	5/26/2023	1/6/2023
tblConstructionPhase	PhaseEndDate	6/23/2023	2/3/2023
tblConstructionPhase	PhaseStartDate	5/27/2023	1/7/2023
tblGrading	AcresOfGrading	30.00	28.13
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOnRoadDust	MeanVehicleSpeed	40.00	15.00
tblVehicleTrips	ST_TR	1.96	142.86
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	WD_TR	0.78	60.00

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	0.2129	1.8662	1.8647	4.0600e-003	0.2883	0.0860	0.3743	0.1158	0.0803	0.1961	0.0000	362.4217	362.4217	0.0651	0.0105	367.1883
2023	0.0160	0.1437	0.2036	3.6000e-004	5.9400e-003	6.9100e-003	0.0129	1.6000e-003	6.4000e-003	7.9900e-003	0.0000	31.9756	31.9756	8.0200e-003	4.3000e-004	32.3045
Maximum	0.2129	1.8662	1.8647	4.0600e-003	0.2883	0.0860	0.3743	0.1158	0.0803	0.1961	0.0000	362.4217	362.4217	0.0651	0.0105	367.1883

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	0.2129	1.8662	1.8647	4.0600e-003	0.1753	0.0860	0.2613	0.0622	0.0803	0.1426	0.0000	362.4214	362.4214	0.0651	0.0105	367.1880
2023	0.0160	0.1437	0.2036	3.6000e-004	5.6400e-003	6.9100e-003	0.0126	1.5200e-003	6.4000e-003	7.9200e-003	0.0000	31.9755	31.9755	8.0200e-003	4.3000e-004	32.3045
Maximum	0.2129	1.8662	1.8647	4.0600e-003	0.1753	0.0860	0.2613	0.0622	0.0803	0.1426	0.0000	362.4214	362.4214	0.0651	0.0105	367.1880

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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	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	38.52	0.00	29.28	45.69	0.00	26.27	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2022	7-31-2022	0.9515	0.9515
2	8-1-2022	10-31-2022	0.6742	0.6742
3	11-1-2022	1-31-2023	0.5895	0.5895
4	2-1-2023	4-30-2023	0.0121	0.0121
		Highest	0.9515	0.9515

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	2.8800e-003	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.9000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.2227	0.3432	2.2178	4.7400e-003	0.4805	3.8600e-003	0.4844	0.1284	3.6200e-003	0.1320	0.0000	438.6777	438.6777	0.0269	0.0230	446.2181
Waste						0.0000	0.0000		0.0000	0.0000	0.1218	0.0000	0.1218	7.2000e-003	0.0000	0.3017
Water						0.0000	0.0000		0.0000	0.0000	0.0000	16.4331	16.4331	1.3900e-003	1.7000e-004	16.5179
Total	0.2256	0.3432	2.2179	4.7400e-003	0.4805	3.8600e-003	0.4844	0.1284	3.6200e-003	0.1320	0.1218	455.1110	455.2328	0.0355	0.0232	463.0379

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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	2.8800e-003	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.9000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.2227	0.3432	2.2178	4.7400e-003	0.4805	3.8600e-003	0.4844	0.1284	3.6200e-003	0.1320	0.0000	438.6777	438.6777	0.0269	0.0230	446.2181
Waste						0.0000	0.0000		0.0000	0.0000	0.1218	0.0000	0.1218	7.2000e-003	0.0000	0.3017
Water						0.0000	0.0000		0.0000	0.0000	0.0000	15.4307	15.4307	1.3000e-003	1.6000e-004	15.5103
Total	0.2256	0.3432	2.2179	4.7400e-003	0.4805	3.8600e-003	0.4844	0.1284	3.6200e-003	0.1320	0.1218	454.1086	454.2304	0.0354	0.0232	462.0303

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.22	0.25	0.04	0.22

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	5/1/2022	5/27/2022	5	20	
2	Site Preparation	Site Preparation	5/28/2022	6/10/2022	5	10	
3	Grading	Grading	6/11/2022	7/8/2022	5	20	

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

4	Building Construction	Building Construction	7/9/2022	1/6/2023	5	130
5	Paving	Paving	1/7/2023	2/3/2023	5	20

Acres of Grading (Site Preparation Phase): 28.13

Acres of Grading (Grading Phase): 20

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	4	6.00	212	0.43
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
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
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

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

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	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	11	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	128.00	50.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

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					
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		0.0124	0.0124		0.0116	0.0116	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	4.4000e-004	5.3200e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.4000e-004	0.0000	1.3108	1.3108	4.0000e-005	4.0000e-005	1.3231
Total	5.7000e-004	4.4000e-004	5.3200e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.4000e-004	0.0000	1.3108	1.3108	4.0000e-005	4.0000e-005	1.3231

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	0.0264	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		0.0124	0.0124		0.0116	0.0116	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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	4.4000e-004	5.3200e-003	1.0000e-005	1.5600e-003	1.0000e-005	1.5700e-003	4.2000e-004	1.0000e-005	4.2000e-004	0.0000	1.3108	1.3108	4.0000e-005	4.0000e-005	1.3231
Total	5.7000e-004	4.4000e-004	5.3200e-003	1.0000e-005	1.5600e-003	1.0000e-005	1.5700e-003	4.2000e-004	1.0000e-005	4.2000e-004	0.0000	1.3108	1.3108	4.0000e-005	4.0000e-005	1.3231

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					0.1053	0.0000	0.1053	0.0513	0.0000	0.0513	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0232	0.2555	0.1332	3.1000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	27.0484	27.0484	8.7500e-003	0.0000	27.2671
Total	0.0232	0.2555	0.1332	3.1000e-004	0.1053	0.0115	0.1167	0.0513	0.0106	0.0618	0.0000	27.0484	27.0484	8.7500e-003	0.0000	27.2671

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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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	4.1000e-004	4.9600e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5400e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.2234	1.2234	4.0000e-005	4.0000e-005	1.2349
Total	5.3000e-004	4.1000e-004	4.9600e-003	1.0000e-005	1.5400e-003	1.0000e-005	1.5400e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.2234	1.2234	4.0000e-005	4.0000e-005	1.2349

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					0.0411	0.0000	0.0411	0.0200	0.0000	0.0200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0232	0.2555	0.1332	3.1000e-004		0.0115	0.0115		0.0106	0.0106	0.0000	27.0484	27.0484	8.7500e-003	0.0000	27.2671
Total	0.0232	0.2555	0.1332	3.1000e-004	0.0411	0.0115	0.0525	0.0200	0.0106	0.0305	0.0000	27.0484	27.0484	8.7500e-003	0.0000	27.2671

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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	5.3000e-004	4.1000e-004	4.9600e-003	1.0000e-005	1.4600e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.2234	1.2234	4.0000e-005	4.0000e-005	1.2349
Total	5.3000e-004	4.1000e-004	4.9600e-003	1.0000e-005	1.4600e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.2234	1.2234	4.0000e-005	4.0000e-005	1.2349

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					0.0708	0.0000	0.0708	0.0343	0.0000	0.0343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0195	0.2086	0.1527	3.0000e-004		9.4100e-003	9.4100e-003		8.6600e-003	8.6600e-003	0.0000	26.0548	26.0548	8.4300e-003	0.0000	26.2654
Total	0.0195	0.2086	0.1527	3.0000e-004	0.0708	9.4100e-003	0.0802	0.0343	8.6600e-003	0.0429	0.0000	26.0548	26.0548	8.4300e-003	0.0000	26.2654

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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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	4.4000e-004	5.3200e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.4000e-004	0.0000	1.3108	1.3108	4.0000e-005	4.0000e-005	1.3231
Total	5.7000e-004	4.4000e-004	5.3200e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.4000e-004	0.0000	1.3108	1.3108	4.0000e-005	4.0000e-005	1.3231

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					0.0276	0.0000	0.0276	0.0134	0.0000	0.0134	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0195	0.2086	0.1527	3.0000e-004		9.4100e-003	9.4100e-003		8.6600e-003	8.6600e-003	0.0000	26.0547	26.0547	8.4300e-003	0.0000	26.2654
Total	0.0195	0.2086	0.1527	3.0000e-004	0.0276	9.4100e-003	0.0370	0.0134	8.6600e-003	0.0220	0.0000	26.0547	26.0547	8.4300e-003	0.0000	26.2654

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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	5.7000e-004	4.4000e-004	5.3200e-003	1.0000e-005	1.5600e-003	1.0000e-005	1.5700e-003	4.2000e-004	1.0000e-005	4.2000e-004	0.0000	1.3108	1.3108	4.0000e-005	4.0000e-005	1.3231
Total	5.7000e-004	4.4000e-004	5.3200e-003	1.0000e-005	1.5600e-003	1.0000e-005	1.5700e-003	4.2000e-004	1.0000e-005	4.2000e-004	0.0000	1.3108	1.3108	4.0000e-005	4.0000e-005	1.3231

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	0.1066	0.9760	1.0227	1.6800e-003		0.0506	0.0506		0.0476	0.0476	0.0000	144.8283	144.8283	0.0347	0.0000	145.6957
Total	0.1066	0.9760	1.0227	1.6800e-003		0.0506	0.0506		0.0476	0.0476	0.0000	144.8283	144.8283	0.0347	0.0000	145.6957

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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	5.3300e-003	0.1439	0.0510	5.8000e-004	0.0197	1.6300e-003	0.0213	5.6900e-003	1.5600e-003	7.2500e-003	0.0000	56.7450	56.7450	1.5300e-003	8.4000e-003	59.2875
Worker	0.0302	0.0237	0.2835	7.6000e-004	0.0877	4.7000e-004	0.0882	0.0233	4.3000e-004	0.0237	0.0000	69.9100	69.9100	2.0000e-003	2.0200e-003	70.5627
Total	0.0355	0.1676	0.3345	1.3400e-003	0.1074	2.1000e-003	0.1095	0.0290	1.9900e-003	0.0310	0.0000	126.6549	126.6549	3.5300e-003	0.0104	129.8501

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	0.1066	0.9760	1.0227	1.6800e-003		0.0506	0.0506		0.0476	0.0476	0.0000	144.8281	144.8281	0.0347	0.0000	145.6955
Total	0.1066	0.9760	1.0227	1.6800e-003		0.0506	0.0506		0.0476	0.0476	0.0000	144.8281	144.8281	0.0347	0.0000	145.6955

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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	5.3300e-003	0.1439	0.0510	5.8000e-004	0.0189	1.6300e-003	0.0205	5.4800e-003	1.5600e-003	7.0400e-003	0.0000	56.7450	56.7450	1.5300e-003	8.4000e-003	59.2875
Worker	0.0302	0.0237	0.2835	7.6000e-004	0.0832	4.7000e-004	0.0836	0.0222	4.3000e-004	0.0226	0.0000	69.9100	69.9100	2.0000e-003	2.0200e-003	70.5627
Total	0.0355	0.1676	0.3345	1.3400e-003	0.1020	2.1000e-003	0.1041	0.0277	1.9900e-003	0.0297	0.0000	126.6549	126.6549	3.5300e-003	0.0104	129.8501

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	3.9300e-003	0.0360	0.0406	7.0000e-005		1.7500e-003	1.7500e-003		1.6500e-003	1.6500e-003	0.0000	5.7951	5.7951	1.3800e-003	0.0000	5.8296
Total	3.9300e-003	0.0360	0.0406	7.0000e-005		1.7500e-003	1.7500e-003		1.6500e-003	1.6500e-003	0.0000	5.7951	5.7951	1.3800e-003	0.0000	5.8296

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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	1.4000e-004	4.6100e-003	1.8700e-003	2.0000e-005	7.9000e-004	3.0000e-005	8.2000e-004	2.3000e-004	3.0000e-005	2.6000e-004	0.0000	2.1785	2.1785	6.0000e-005	3.2000e-004	2.2759
Worker	1.1100e-003	8.3000e-004	0.0104	3.0000e-005	3.5100e-003	2.0000e-005	3.5300e-003	9.3000e-004	2.0000e-005	9.5000e-004	0.0000	2.7064	2.7064	7.0000e-005	7.0000e-005	2.7304
Total	1.2500e-003	5.4400e-003	0.0123	5.0000e-005	4.3000e-003	5.0000e-005	4.3500e-003	1.1600e-003	5.0000e-005	1.2100e-003	0.0000	4.8850	4.8850	1.3000e-004	3.9000e-004	5.0063

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.9300e-003	0.0360	0.0406	7.0000e-005		1.7500e-003	1.7500e-003		1.6500e-003	1.6500e-003	0.0000	5.7951	5.7951	1.3800e-003	0.0000	5.8296
Total	3.9300e-003	0.0360	0.0406	7.0000e-005		1.7500e-003	1.7500e-003		1.6500e-003	1.6500e-003	0.0000	5.7951	5.7951	1.3800e-003	0.0000	5.8296

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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	1.4000e-004	4.6100e-003	1.8700e-003	2.0000e-005	7.5000e-004	3.0000e-005	7.9000e-004	2.2000e-004	3.0000e-005	2.5000e-004	0.0000	2.1785	2.1785	6.0000e-005	3.2000e-004	2.2759
Worker	1.1100e-003	8.3000e-004	0.0104	3.0000e-005	3.3300e-003	2.0000e-005	3.3400e-003	8.9000e-004	2.0000e-005	9.0000e-004	0.0000	2.7064	2.7064	7.0000e-005	7.0000e-005	2.7304
Total	1.2500e-003	5.4400e-003	0.0123	5.0000e-005	4.0800e-003	5.0000e-005	4.1300e-003	1.1100e-003	5.0000e-005	1.1500e-003	0.0000	4.8850	4.8850	1.3000e-004	3.9000e-004	5.0063

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	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

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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	5.2000e-004	3.9000e-004	4.8700e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.4000e-004	0.0000	1.2686	1.2686	3.0000e-005	3.0000e-005	1.2799
Total	5.2000e-004	3.9000e-004	4.8700e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.4000e-004	0.0000	1.2686	1.2686	3.0000e-005	3.0000e-005	1.2799

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	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

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Annual

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	5.2000e-004	3.9000e-004	4.8700e-003	1.0000e-005	1.5600e-003	1.0000e-005	1.5700e-003	4.2000e-004	1.0000e-005	4.2000e-004	0.0000	1.2686	1.2686	3.0000e-005	3.0000e-005	1.2799
Total	5.2000e-004	3.9000e-004	4.8700e-003	1.0000e-005	1.5600e-003	1.0000e-005	1.5700e-003	4.2000e-004	1.0000e-005	4.2000e-004	0.0000	1.2686	1.2686	3.0000e-005	3.0000e-005	1.2799

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Annual

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	tons/yr										MT/yr					
Mitigated	0.2227	0.3432	2.2178	4.7400e-003	0.4805	3.8600e-003	0.4844	0.1284	3.6200e-003	0.1320	0.0000	438.6777	438.6777	0.0269	0.0230	446.2181
Unmitigated	0.2227	0.3432	2.2178	4.7400e-003	0.4805	3.8600e-003	0.4844	0.1284	3.6200e-003	0.1320	0.0000	438.6777	438.6777	0.0269	0.0230	446.2181

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	420.00	1,000.02	0.00	1,274,347	1,274,347
Total	420.00	1,000.02	0.00	1,274,347	1,274,347

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Annual

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

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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Annual

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
Total		0.0000	0.0000	0.0000	0.0000

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
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Annual

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	2.8800e-003	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.9000e-004
Unmitigated	2.8800e-003	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.9000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.8700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.9000e-004
Total	2.8800e-003	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.9000e-004

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Annual

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.8700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.9000e-004
Total	2.8800e-003	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.9000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Toilet

Use Water Efficient Irrigation System

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Annual

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	15.4307	1.3000e-003	1.6000e-004	15.5103
Unmitigated	16.4331	1.3900e-003	1.7000e-004	16.5179

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 8.34037	16.4331	1.3900e-003	1.7000e-004	16.5179
Total		16.4331	1.3900e-003	1.7000e-004	16.5179

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Annual

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 / 7.83161	15.4307	1.3000e-003	1.6000e-004	15.5103
Total		15.4307	1.3000e-003	1.6000e-004	15.5103

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.1218	7.2000e-003	0.0000	0.3017
Unmitigated	0.1218	7.2000e-003	0.0000	0.3017

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Annual

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

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.6	0.1218	7.2000e-003	0.0000	0.3017
Total		0.1218	7.2000e-003	0.0000	0.3017

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.6	0.1218	7.2000e-003	0.0000	0.3017
Total		0.1218	7.2000e-003	0.0000	0.3017

9.0 Operational Offroad

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

Big Bear Football and Track Stadium - San Bernardino-South Coast County, Annual

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

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 2

Biological Resources Assessment & Jurisdictional Delineation Report



Jacobs



**Bear Valley Unified School District
Big Bear High School Sports Field Project**

**Biological Resources Assessment And
Jurisdictional Delineation Report**

December 2021

Tom Dodson & Associates

Document history and status

Revision	Date	Description	Author	Checked	Reviewed	Approved
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BVUSD Big Bear High School Sports Field Project

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Appendix A. CNDDDB Species and Habitats Documented Within the *Big Bear Lake, Big Bear City, Fawnskin and Moonridge* USGS 7.5-Minute Quadrangles

Appendix B. Site Photos

Appendix C. Plant List

Appendix D. Regulatory Framework

1. Introduction

The Bear Valley Unified School District (BVUSD) serves the community of Bear Valley area, including the City of Big Bear, as well as the surrounding unincorporated communities. BVUSD is proposing to repurpose an existing developed site that recently served as the Chautauqua High School to provide a new football and track stadium (Project) to serve Big Bear High School (BBHS), as well as the Chautauqua High School, which currently operates at the same site as BBHS. The approximately 7-acre Project site has been previously engineered, as it contains the previously occupied Chautauqua High School, which is a continuation school serving BVUSD students, the operations for which have since been relocated to BBHS.

On behalf of Tom Dodson and Associates (TDA), Jacobs Engineering Group, Inc. (Jacobs) has prepared this Biological Resources Assessment (BRA) report for the proposed Project. The BRA fieldwork was conducted by Jacobs biologist Daniel Smith in October 2021. The purpose of the BRA survey was to address potential effects of the Project on designated Critical Habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and/or the California Endangered Species Act (CESA), as well as any species otherwise designated as sensitive by the California Department of Fish and Wildlife (CDFW [formerly California Department of Fish and Game]) and/or the California Native Plant Society (CNPS).

The Project Area was assessed for sensitive species known to occur locally. Attention was focused on those state and/or federally listed as threatened or endangered species and California Fully Protected species that have been documented in the vicinity of the Project Area, whose habitat requirements are present within or adjacent to the Project Area. Results of the habitat assessment are intended to provide sufficient baseline information to the Project Proponent (BVUSD) and, if required, to City, County or other local government planning officials and federal and state regulatory agencies, including the U.S. Fish and Wildlife Service (USFWS) and CDFW, respectively, to determine if the Project is likely to result in any adverse effects on sensitive biological resources and to identify mitigation measures to offset those effects.

In addition to the BRA survey, Jacobs biologists assessed the Project Area for the presence of state and/or federal jurisdictional waters potentially subject to regulation by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and Porter Cologne Water Quality Control Act, and CDFW under Section 1600 of the California Fish and Game Code (FGC), respectively.

1.1 Project Description

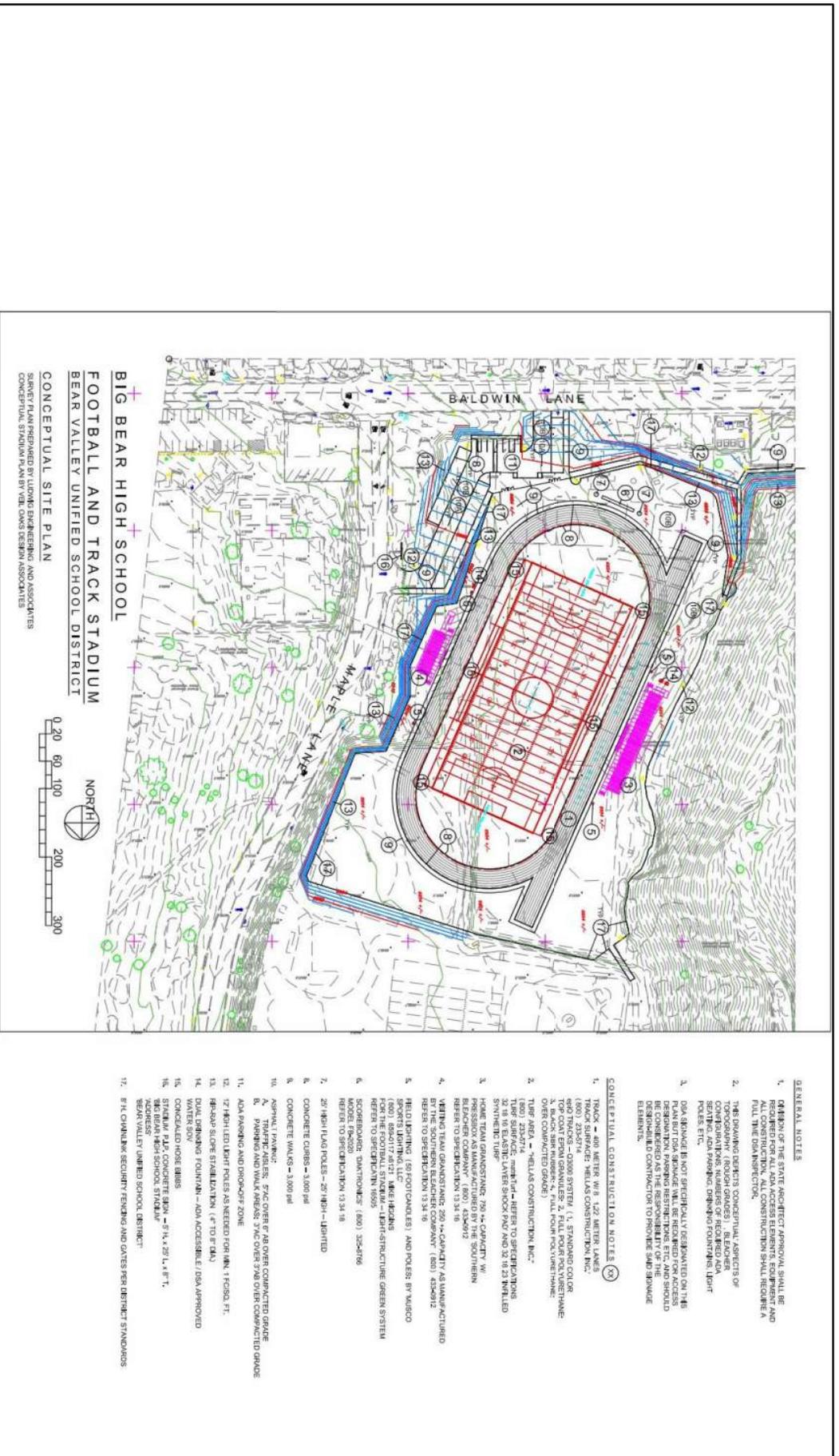
The proposed Project consists of development within an existing developed ~7-acre site designated for Institutional use by the County of San Bernardino General Plan on the northwest corner of Maple Lane and Baldwin Lane in the Unincorporated Community of Sugarloaf (Figure 1). The Project proposes to demolish the existing structures on site and develop the site as a continuation of the BBHS athletic fields with a new football and track stadium to serve the High School and BVUSD athletics. On the western edge of the site, centered with the football and track field, the project proposes to install a home team grandstand with a 750± seating capacity. On the eastern edge of the site, centered with the football and track field, the project proposes to install a visiting team grandstand with a 250 ± seating capacity. The style of grandstands will be bleachers. The Project proposes to install field lighting illuminating to 50 foot-candles on either side of the home and visiting team grandstands, with lighting directed towards the fields, shielded to the greatest extent possible from the nearby residential community to the south of the Project site.

At the southern end of the site toward Baldwin Lane, the Project proposes to install a north facing scoreboard that will be approximately 8-feet high by 25-feet wide in size and will be about 23-feet in height. On either side of the scoreboard, two flag poles will be installed. The proposed Project will be accessible via new driveways at

Baldwin Lane and Maple Lane, which connect to a parking lot that provides exit at either access point. The parking provided at the site will be limited to handicapped (ADA) parking, and a designated drop-off zone. Approximately 5-7 ADA parking spaces will be installed. At the entryway to the site along Maple Lane, a new concrete sign will be installed for the BBHS Stadium, stating the site address, as well as notating the BVUSD.

At several locations throughout the site, night lighting will be provided through 12' high LED light poles that will be installed as needed for a minimum of 1 foot-candle per square-foot (SF). Additionally, concrete walkways and curbing will be installed at various locations throughout the site to provide pedestrian movement and access throughout the site. Several drinking fountains will be installed throughout the site and portable restrooms will be used.

Along the outskirts of the Project boundary, slope stabilization is required, and rip-rap slope stabilization will be installed to ensure slope stability. The site boundary will be fenced with an 8' high chain link security fencing and gates pursuant to BVUSD Standards. Additionally, the Project includes landscaping around the boundary of the site, within the parking lots. The landscape coverage of the site will equal about 15-20% of the total site area.



SOURCE: BVUSD

FIGURE 1



Conceptual Site Plan
 BBHS Sports Field Project

1.1.1 Construction Scenario

Construction of the proposed Project is anticipated to require approximately 6-12 months, with the anticipated start date of construction in May 2022 and the completion date by January 2023. The Project will require demolition of the existing buildings, as well as the existing concrete and pavement within the site. The project is anticipated to require minimal cut and fill with any cut being reused to balance of the site through grading, which will minimize import/export of material. Any on-site trees within the cut and fill areas and the roadway will be removed. It is anticipated that a maximum number of 25 employees will be required to support the construction of the project each day. Grading will be by traditional mechanized grading and compaction equipment including, but not limited to the following: front end loader, excavator, loader backhoe, dump truck, forklift, skid steer, mobile crane, bulldozer, grader, roller, water wagon, asphalt compactors, telehandlers, cement trucks, various hand tools traditional to grading operations, etc. For the areas that require paving, such as the new parking area, the asphalt or concrete will be delivered to the site and applied to these areas in a routine manner. It is the intent of the BVUSD to attenuate and minimize noise, traffic, and dust during the course of construction.

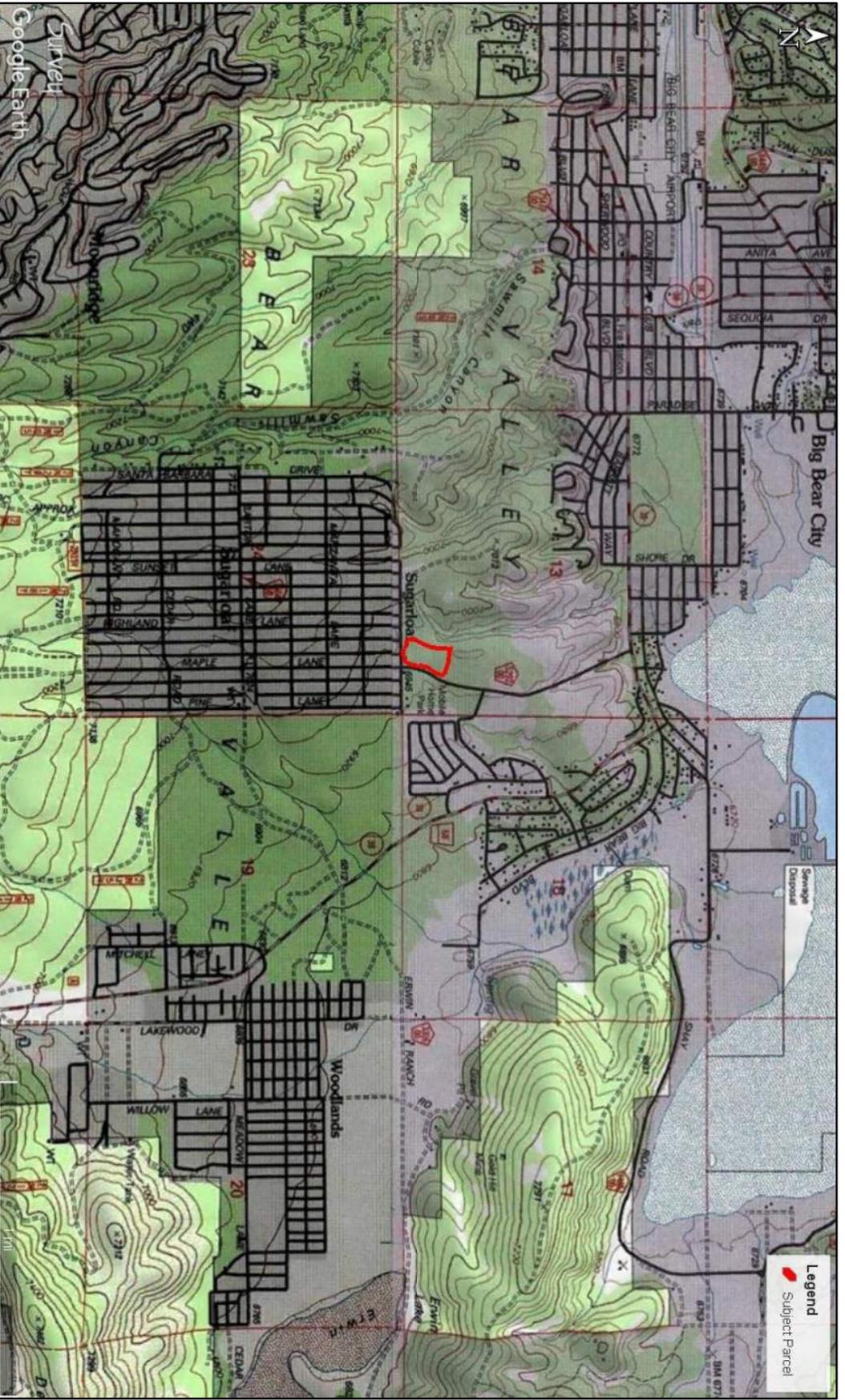
1.2 Location

The Project site is on Assessor Parcel Numbers (APNs): 0312-311-20 and 141-291-07. The Project Area is generally located east of Big Bear Lake in Section 13, Township 2 North, Range 1 East, San Bernardino Base Meridian (SBBM), just east/southeast of the City of Big Bear Lake, San Bernardino County, California (Figures 2&3). The Project Area is depicted on the *Big Bear City* U. S. Geological Survey's (USGS) 7.5-Minute Series Quadrangle map. Specifically, the Project site is located on the northwest corner of Baldwin Lane and Maple Lane in the unincorporated community of Sugarloaf, approximately 0.6 miles south of E Big Bear Boulevard and 0.5 miles west of Greenspot Boulevard, within the site of the existing BBHS (Figures 2&3).



SOURCE: Google Earth

FIGURE 2



SOURCE: Google Earth

FIGURE 3

Jacobs

Topographic Map of Project Location
BBHS Sports Field Project



SOURCE: Google Earth

FIGURE 4

Jacobs

Aerial Photograph of Project Area
BBHS Sports Field Project

1.3 Environmental Setting

The Project Area is within the Sugarloaf area of unincorporated San Bernardino County, which is east/southeast of Big Bear Lake and situated near the western end of Big Bear Valley in the San Bernardino Mountains. The Big Bear Valley area is subject to both seasonal and annual variations in temperature and precipitation. Average annual maximum temperatures peak at 80.8 degrees Fahrenheit (° F) in July and fall to an average annual minimum temperature of 20.3° F in January. Average annual precipitation is greatest from November through April and reaches a peak in January (4.49 inches). Precipitation is lowest in the month of June (0.14 inches). Annual total precipitation averages 21.84 inches and annual total snowfall averages 62.6 inches.

The Project site is situated within a flat to gently sloped, mostly graded area. The elevation of the Project site is approximately 6,965 feet above mean sea level (ams!).

Hydrologically, the Project Area is situated within the Baldwin Hydrologic Sub-Area (HSA 801.73). The Baldwin HSA comprises a 22,789-acre drainage area, within the larger Santa Ana Watershed (HUC 18070203). The Santa Ana River is the major hydrogeomorphic feature within the Santa Ana Watershed. One of several tributaries to the Santa Ana River is Bear Creek, which outflows from Big Bear Lake from the Bear Valley Dam located at the westernmost (downstream) end of Big Bear Lake. Big Bear Lake is one of the head waters of the Santa Ana River Watershed.

Soils within the Project Area are comprised mostly (>90%) of Garloaf-Urban land complex, 4 to 9 percent slopes, with some Garloaf-Cariboucreek complex, 15 to 30 percent slopes along the undisturbed western edge of the Project site. Garloaf family soils consist of very cobbly loam to very cobbly clay loam that is comprised of alluvium derived from granitoid. This soil type is well drained and does not have a hydric soil rating. Cariboucreek family soils consist of clay loam that is comprised of mixed alluvium. This soil type is well drained and does not have a hydric soil rating.

Sugarloaf is a mountain community situated east/southeast of Big Bear Lake that consists mostly of residential development surrounded by undeveloped montane conifer forest (Figures 3&4). The proposed Project site has been previously engineered, as it contains the previously occupied Chautauqua High School, which is a continuation school serving BVUSD students, the operations for which have since been relocated to BBHS. The site contains five large structures, two deteriorating baseball fields (one dirt, one containing some grass), as well as several areas that have been paved with concrete or asphalt. Vegetation within most of the site is minimal, though several trees are located along the Baldwin Lane frontage, which continue north along the site frontage at Maple Lane for about 200 feet. The site is bordered by BBHS on the north, Baldwin Lane on the south, Maple Lane on the east, and vacant (forested) land on the west. Existing land use surrounding the Project Area consists of BBHS to the north, residential neighborhood to the south, Big Bear Skate Park, other park facilities and vacant land to the east, and Baldwin Lane Elementary School and vacant land to the west.

2. Assessment Methodology

2.1 Biological Resources Assessment

Data regarding biological resources in the Project Area were obtained through literature review and field investigation. Prior to performing the survey, available databases, and documentation relevant to the Project Area were reviewed for documented occurrences of sensitive species in the Project vicinity (approximately 3 miles). The USFWS threatened and endangered species occurrence data overlay and the most recent versions of the California Natural Diversity Database (CNDDDB) and California Native Plant Society Electronic Inventory (CNPSEI) databases were searched for sensitive species data in the *Big Bear Lake*, *Big Bear City*, *Fawnskin* and *Moonridge* USGS 7.5-Minute Series Quadrangles. These databases contain records of reported occurrences of state and federally listed species or otherwise sensitive species and habitats that may occur within the vicinity of the Project site (approximately 3 miles). Other available technical information on the biological resources of the area was also reviewed including previous surveys and recent findings.

2.1.1 Biological Resources Assessment Field Survey

Jacobs biologist Daniel Smith conducted a biological resources assessment of the Project Area on October 1, 2021. The reconnaissance-level field survey consisted of a pedestrian survey that encompassed all accessible areas of the Project site. The undeveloped land adjacent the west side of the Project site could not be accessed at the time of survey; however, this area was observed from the former Chautauqua High School site and assessed for habitat type and its potential to support species status species. Wildlife species were detected during field surveys by sight, calls, tracks, scat, and/or other sign. In addition to species observed, expected wildlife usage of the site was determined based on known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. The focus of the faunal species survey was to identify potential habitat for special status wildlife that may occur within the Project vicinity.

2.2 Jurisdictional Delineation

On October 1, 2021, Mr. Smith also evaluated the Project Area for the presence of riverine/riparian/wetland habitat and jurisdictional waters, i.e. Waters of the U.S. (WOTUS), as regulated by the USACE and RWQCB, and/or jurisdictional streambed and associated riparian habitat as regulated by the CDFW. Prior to the field visit, aerial photographs of the Project Area were viewed and compared with the surrounding USGS 7.5-Minute Topographic Quadrangle maps to identify drainage features within the survey area as indicated from topographic changes, blue-line features, or visible drainage patterns. The USFWS National Wetland Inventory and Environmental Protection Agency (EPA) Water Program "My Waters" Google Earth Pro data layer were also reviewed to determine whether any hydrologic features and wetland areas had been documented within the vicinity of the site. Similarly, the United States Department of Agriculture (USDA) – Natural Resources Conservation Service (NRCS) Web Soil Survey was reviewed for soil types found within the Project Area to identify the soil series in the area and to check these soils to determine whether they are regionally identified as hydric soils. Upstream and downstream connectivity of waterways (if present) were reviewed on Google Earth Pro aerial photographs and topographic maps to determine jurisdictional status. The lateral extent of potential USACE jurisdiction was measured at the Ordinary High Watermark (OHWM) in accordance with regulations set forth in 33CFR part 328 and the USACE guidance documents listed below:

- *USACE Wetlands Research Program Technical Report Y-87-1 (on-line edition), Wetlands Delineation Manual, Environmental Laboratory, 1987 (Wetland Delineation Manual).*
- *USACE Minimum Standards for Acceptance of Preliminary Wetlands Delineations, November 30, 2001 (Minimum Standards).*
- *USACE Jurisdictional Determination Form Instructional Guidebook, May 30, 2007 (JD Form Guidebook).*

- *USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), May 2010.*
- *USACE A Guide to Ordinary High-Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States, August 2014 (Delineation Manual).*
- *The Environmental Protection Agency (EPA) and the Department of the Army's "Navigable Waters Protection Rule: Definition of "Waters of the United States,"" April 21, 2020 (effective June 22, 2020) (85 FR 22250).*

To be considered a *jurisdictional wetland* under the federal CWA, Section 404, an area must possess three (3) wetland characteristics: *hydrophytic vegetation*, *hydric soils*, and *wetland hydrology*.

- ▶ **Hydrophytic vegetation:** Hydrophytic vegetation is plant life that grows, and is typically adapted for life, in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, and herb layers) is considered hydrophytic. Hydrophytic species are those included on the 2018 National Wetland Plant Lists for the Arid West Region (USACE 2018). Each species on the lists is rated with a wetland indicator category, as shown in Table 1. To be considered hydrophytic, the species must have *wetland indicator status*, i.e., be rated as OBL, FACW or FAC.

Table 1. Wetland Indicator Vegetation Categories

Category	Probability
Obligate Wetland (OBL)	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland (FACW)	Usually occur in wetlands (estimated probability 67 to 99%)
Facultative (FAC)	Equally likely to occur in wetlands and non-wetlands (estimated probability 34 to 66%)
Facultative Upland (FACU)	Usually occur in non-wetlands (estimated probability 67 to 99%)
Obligate Upland (UPL)	Almost always occur in non-wetlands (estimated probability >99%)

- ▶ **Hydric Soil:** Soil maps from the USDA-NRCS Web Soil Survey (USDA 2021) were reviewed for soil types found within the Project Area. Hydric soils are saturated or inundated long enough during the growing season to develop anaerobic conditions that favor growth and regeneration of hydrophytic vegetation. There are several indirect indicators that may signify the presence of hydric soils including hydrogen sulfide generation, the presence of iron and manganese concretions, certain soil colors, gleying, and the presence of mottling. Generally, hydric soils are dark in color or may be gleyed (bluish, greenish, or grayish), resulting from soil development under anoxic (without oxygen) conditions. Bright mottles within an otherwise dark soil matrix indicate periodic saturation with intervening periods of soil aeration. Hydric indicators are particularly difficult to observe in sandy soils, which are often recently deposited soils of flood plains (entisols) and usually lack sufficient fines (clay and silt) and organic material to allow use of soil color as a reliable indicator of hydric conditions. Hydric soil indicators in sandy soils include accumulations of organic matter in the surface horizon, vertical streaking of subsurface horizons by organic matter, and organic pans.

The hydric soil criterion is satisfied at a location if soils in the area can be inferred or observed to have a high groundwater table, if there is evidence of prolonged soil saturation, or if there are any indicators suggesting a long-term reducing environment in the upper part of the soil profile. Reducing conditions are most easily assessed using soil color. Soil colors were evaluated using the Munsell Soil Color Charts

(Munsell 2000). Soil pits are dug (when necessary) to an approximate depth of 16-20 inches to evaluate soil profiles for indications of anaerobic and redoximorphic (hydric) conditions in the subsurface.

- ▶ Wetland Hydrology. The wetland hydrology criterion is satisfied at a location based upon conclusions inferred from field observations that indicate an area has a high probability of being inundated or saturated (flooded, ponded, or tidally influenced) long enough during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone (USACE 1987 and USACE 2008).

Evaluation of CDFW jurisdiction followed guidance in the FGC. Specifically, CDFW jurisdiction would occur where a stream has a definite course showing evidence of where waters rise to their highest level and to the extent of associated riparian vegetation.

3. Results

3.1 Existing Biological and Physical Conditions

The Project Area consists of an approximately 7-acre site that consists entirely of existing developed land comprised of the previously occupied Chautauqua High School. Disturbances on site include five large structures, two deteriorating baseball fields (one dirt, one containing some grass), as well as several areas that have been paved with concrete or asphalt.

3.1.1 Habitat

Habitat adjacent the westernmost edge of the Project site consists of mixed *Juniperus grandis* Woodland Alliance (mountain juniper woodland), *Pinus jeffreyi* Forest and Woodland Alliance (Jeffrey pine forest and woodland), and *Artemisia tridentata* Shrubland Alliance (big sagebrush) plant communities. This habitat is dominated by Sierra juniper (*Juniperus grandis*) and Jeffrey pine (*Pinus jeffreyi*) in the tree layer. Other trees/large shrub species conspicuous within this adjacent habitat includes curl leaved mountain mahogany (*Cercocarpus ledifolius* var. *intermontanus*) and California fremontia (*Fremontodendron californicum*). The shrub layer within and adjacent the site is dominated by big sagebrush (*Artemisia tridentata*) and rubber rabbitbrush (*Ericameria nauseosa*). A complete list of plant species identified within the Project Area during the reconnaissance level field survey is included in Appendix C.

3.1.2 Wildlife

The Project Area is within and adjacent a high school and residential community, and due to the historic and existing disturbances on site and adjacent, only those wildlife species at least partially adapted to urban environments are expected to occur. The only wildlife species observed or otherwise detected within the Project Area during the reconnaissance-level field survey were California scrub jay (*Aphelocoma californica*), common raven (*Corvus corax*), Steller's jay (*Cyanocitta stelleri*), dark-eyed junco (*Junco hyemalis*), mountain chickadee (*Poecile gambeli*), and pygmy nuthatch (*Sitta pygmaea*). Additionally, evidence of domestic dogs was observed in the Project Area. No focused faunal surveys were conducted, and no small mammal trapping was performed.

3.2 Special Status Species and Habitats

According to the CNDDDB, 101 sensitive species (72 plant species, 29 animal species) and two sensitive habitats have been documented in the *Big Bear Lake*, *Big Bear City*, *Fawnskin* and *Moonridge* USGS 7.5-Minute Series Quadrangles. This list of sensitive species and habitats includes any state and/or federally listed threatened or endangered species, California Fully Protected species, CDFW designated Species of Special Concern (SSC), and otherwise Special Animals. "Special Animals" is a general term that refers to all the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special status species." The CDFW considers the taxa on this list to be those of greatest conservation need.

Of the 20 state and/or federally listed species documented within the *Big Bear Lake*, *Big Bear City*, *Fawnskin* and *Moonridge* quads, the following 13 state and/or federally listed species have been documented in the Project vicinity (within approximately 3 miles):

- ash-gray paintbrush (*Castilleja cinerea*)
- southern rubber boa (*Charina umbratica*)
- Big Bear Valley sandwort (*Eremogone ursina*)
- southern mountain buckwheat (*Eriogonum kennedyi* var. *austromontanum*)
- Cushenbury buckwheat (*Eriogonum ovalifolium* var. *vineum*)
- unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*)

- bald eagle (*Haliaeetus leucocephalus*)
- San Bernardino Mountains bladderpod (*Physaria kingii* ssp. *bernardina*)
- San Bernardino blue grass (*Poa atropurpurea*)
- southern mountain yellow-legged frog (*Rana muscosa*)
- bird-foot checkerbloom (*Sidalcea pedata*)
- California dandelion (*Taraxacum californicum*)
- slender-petaled thelypodium (*Thelypodium stenopetalum*)

However, the aquatic habitats required by unarmored threespine stickleback and southern mountain yellow-legged frog are absent from the Project Area. Additionally, the mesic meadow habitats associated with San Bernardino blue grass, bird-foot checkerbloom, California dandelion and slender-petaled thelypodium are absent from the Project Area and immediate vicinity. Therefore, no further discussion of these species is warranted.

Although not a state or federally listed species, the California spotted owl (*Strix occidentalis occidentalis*) and San Bernardino flying squirrel (*Glaucomys sabrinus californicus*) are both CDFW SSC and are considered particularly sensitive species within the region. Furthermore, these species have been documented in the Project vicinity (within approximately 3 miles). Therefore, California spotted owl (SPOW) and flying squirrel will be included in the discussion below.

An analysis of the likelihood for occurrence of all CNDDDB sensitive species documented in the *Big Bear Lake, Big Bear City, Fawnskin* and *Moonridge* quad is provided in Table 2. This analysis considers species' range as well as documentation within the vicinity of the Project Area and includes the habitat requirements for each species and the potential for their occurrence on site, based on required habitat elements and range relative to the current site conditions

3.2.1 Special Status Species

One federally listed endangered plant species (San Bernardino Mountains bladderpod) has been documented in the immediate Project vicinity. No other state or federally listed threatened or endangered species have been documented in the Project Area and due to the environmental conditions within the Project Area, the potential for any to occur on site is low.

Ash-gray Paintbrush – Threatened (Federal)

The federally listed as threatened ash-gray paintbrush is a hemiparasitic, perennial herb in the broomrape family (Orobanchaceae), with several ascending to decumbent (trailing) grayish stems sprouting from the root crown. The stems are 1 to 2 decimeters (4 to 8 inches) tall (Munz 1974, p. 795). Ash-gray paintbrush is distinguished from other species of *Castilleja* within its range by its perennial nature, ashy-puberulent (covered with short hairs) stems and leaves, yellowish or reddish flowers, with calyx lobes of equal length (Wetherwax et al. 2012, p. 957). Host plants include *Eriogonum kennedyi* var. *austromontanum*, *Eriogonum kennedyi* var. *kennedyi*, *Eriogonum wrightii* var. *subscaposum*, *Artemisia tridentata* ssp. *tridentata*, *Artemisia nova*, and other *Artemisia* taxa (USFWS 2013). However, because this species also possesses photosynthetic green leaves that can produce sugars, it is termed hemiparasitic and does not require a host plant species for its survival (USFWS 2013). This species typically occupies the meadow/forest ecotone (transitional area of vegetation between two different plant communities) of the San Bernardino Mountains at elevations between 1,800 and 3,300 meters (5,905 to 10,827 feet.) and has been recorded in the following ecological communities: pebble plains, dry and wet forest meadows, mixed conifer forests, open pine forests, and pinyon-juniper woodlands (USFWS 2013). However, the primary habitat for this species is pebble plains, supporting one or more of the host plant species for ash-gray paintbrush (USFWS 2013). This species typically blooms from June through August (Calflora 2021).

Findings: According to the CNDDDB, ash-gray paintbrush has been documented in the Project vicinity. These occurrences are associated with the Sawmill Pebble Plain complex. There is no pebble plain, pebble plain-like habitat, or other habitat associated with ash-gray paintbrush within the Project site. Furthermore, the Project site consists of existing graded/developed land that is not suitable to support this species. Therefore, ash-gray paintbrush is not likely to occur within the Project site and the Project is not likely to adversely affect this species.

Bear Valley Sandwort – Threatened (Federal)

The federally listed as threatened Bear Valley sandwort is a low, tufted perennial herb in the pink family (Caryophyllaceae). Individual plants are green, with stems from 10 to 18 centimeters (3.9 to 7.1 inches) long. The leaves are opposite and 0.5 to 1 centimeter (0.2 to 0.39 inches) long. The flowers are white, five-petaled, and arranged in open cymes (clusters). The petals are 0.2 to 0.45 centimeters (0.1 to 0.18 inches) long (USFWS 2015). This species is typically found in pebble plain habitat in the northeastern San Bernardino Mountains of southwest San Bernardino County at elevations between 1,950 and 2,100 meters (6,393 to 6,885 feet.) (USFWS 2015). Pebble plains are a rare plant community that occur in treeless, open patches within pine forests and pinyon-juniper woodlands that are comprised of clay soil mixed with quartzite pebbles and gravel that are continually pushed to the surface through frost action (USFS 2002, pp. 12, 15). Bear Valley sandwort is typically found within pebble plain habitat and is one of three indicator plant species, along with *Eriogonum kennedyi* var. *austromontanum*, and *Ivesia argyrocoma* var. *argyrocoma* defining a pebble plain (USFWS 2015). This species typically blooms from May through August (Calflora 2021).

Findings: According to the CNDDDB, Bear Valley sandwort has been documented in the Project vicinity, within the Sawmill Pebble Plain complex. However, there is no pebble plain or pebble plain-like habitat suitable for this species within the Project Area. Furthermore, the Project site consist of existing graded/developed land that is not suitable to support this species. Therefore, Bear Valley sandwort is not likely to occur within the Project site and the Project is not likely to adversely affect this species.

Southern Mountain Buckwheat – Threatened (Federal)

The federally listed as threatened southern mountain buckwheat is a woody-based, cushion-like, perennial plant in the buckwheat family (Polygonaceae). Individual plants are 8 to 15 centimeters (3.1 to 5.9 inches) tall, with stems forming loose, leafy mats, 14 to 36 centimeters (5.5 to 14.1 inches) wide. The leaves are oblanceolate (broadest above the middle and tapering toward the base) and 0.5 to 1 centimeter (0.2 to 0.4 inches) long, with dense white hair. The inflorescences (flower clusters) are 8 to 15 centimeters (3.2 to 5.9 inches) high, bearing head-like inflorescences. The perianth is white to rose and composed of inner and outer lobes that are similar in appearance (USFWS 2015). This species is typically found in pebble plain habitat in the northeastern San Bernardino Mountains of southwest San Bernardino County at elevations between 2,000 and 2,200 meters (6,557 to 7,213 feet.) (USFWS 2015). Southern mountain buckwheat is typically found within pebble plain habitat and is one of three indicator plant species, along with *Eremogone ursina*, and *Ivesia argyrocoma* var. *argyrocoma* defining a pebble plain (USFWS 2015). This species typically blooms from June through September (Calflora 2021).

Findings: According to the CNDDDB, southern mountain buckwheat has been documented in the Project vicinity, within the Sawmill Pebble Plain complex. However, there is no pebble plain or pebble plain-like habitat suitable for this species within the Project Area. Furthermore, the Project site consist of existing graded/developed land that is not suitable to support this species. Therefore, southern mountain buckwheat is not likely to occur within the Project site and the Project is not likely to adversely affect this species.

Cushenbury Buckwheat – Endangered (Federal)

The federally listed as endangered Cushenbury buckwheat is a low, densely-matted perennial in the buckwheat family (Polygonaceae) that reaches approximately 10 centimeters (4 inches) in height and forms a mat up to 51 centimeters (20 inches) in diameter (USFWS 2009b). This species is typically found within pinyon woodland, pinyon-juniper woodland, Joshua tree woodland, and blackbush scrub habitats on limestone or other carbonate soils at elevations between 1,400 and 2,400 meters (4,600 and 7,900 feet) in the San Bernardino Mountains (USFWS 2009b). This species typically blooms from May to August (Calflora 2021).

Findings: According to the CNDDDB, the nearest documented Cushenbury buckwheat occurrence (2012) is approximately 2.5 miles northwest of the Project site, northeast of Big Bear Lake on limestone marble and dolomitic limestone soils (CNDDDB 2021).

The USFWS lists the primary constituent elements (PCEs) for Cushenbury buckwheat designated Critical Habitat as:

1. Soils derived primarily from the upper and middle members of the Bird Spring Formation and Bonanza King Formation parent materials that occur on hillsides at elevations between 4,600 to 7,900 feet (1,400 to 2,400 meters);
2. Soils with intact, natural surfaces that have not been substantially altered by land use activities (e.g., graded, excavated, re-contoured, or otherwise altered by ground-disturbing equipment); and
3. Associated plant communities that have areas with an open canopy cover (generally less than 15 percent cover) and little accumulation of organic material (e.g., leaf litter) on the surface of the soil (USFWS 1994).

The Project site consists of existing graded/developed land and the PCEs identified for Cushenbury buckwheat Critical Habitat are absent from the Project Area. Furthermore, the carbonate soils Cushenbury buckwheat requires do not occur within the Project Area. Therefore, Cushenbury buckwheat is not likely to occur within the Project site and the Project is not likely to adversely affect this species.

San Bernardino Mountains bladderpod – Endangered (Federal)

The federally listed as endangered San Bernardino Mountains bladderpod is a silvery, short-lived perennial in the mustard family (Brassicaceae), that reaches approximately 5 to 15 centimeters (2 to 6 inches) in height (USFWS 2009a). The outer basal leaves are diamond-shaped to round, and the inner leaves are elliptic with petioles 2 to 5 centimeters (0.8 to 2 inches) long. The flower petals are yellow, and the fruits are spherical, pubescent, two-chambered, and contain 2 to 4 seeds per chamber (USFWS 2009a). This species is typically found within single leaf pinyon-mountain juniper and white fir forest on limestone and dolomite soils and gentle to moderate slopes at elevations between 2,098 and 2,700 meters (6,883 and 8,800 feet) in the San Bernardino Mountains (USFWS 2009a). This species typically blooms from May to June (Calflora 2021).

Findings: According to the CNDDDB, the nearest documented San Bernardino Mountains bladderpod occurrence is a 1996 collection mapped north of Sugarloaf and immediately west of Maple Lane, in the SE ¼ of Section 13 (CNDDDB 2021). The description of the location likely puts this occurrence somewhere in the immediate vicinity of the Project Area. The next nearest documented San Bernardino Mountains bladderpod occurrence to the Project Area is approximately 2.5 miles northwest of the Project site, northeast of Big Bear Lake on substrate described as “carbonate hills” (CNDDDB 2021).

The USFWS lists the primary constituent elements (PCEs) for San Bernardino Mountains bladderpod designated Critical Habitat as:

1. Soils derived primarily from Bonanza King Formation and Undivided Cambrian parent materials that occur on hillsides or on large rock outcrops at elevations between 6,883 and 8,800 feet (2,098 and 2,700 meters);
2. Soils with intact, natural surfaces that have not been substantially altered by land use activities (e.g., graded, excavated, re-contoured, or otherwise altered by ground-disturbing equipment); and
3. Associated plant communities that have areas with an open canopy cover and little accumulation of organic material (e.g., leaf litter) on the surface of the soil (USFWS 1994).

The Project site consists of existing graded/developed land and the PCEs identified for San Bernardino Mountains bladderpod Critical Habitat are absent from the Project Area. Furthermore, the carbonate soils San Bernardino Mountains bladderpod requires do not occur within the Project Area. Therefore, San Bernardino Mountains bladderpod is not likely to occur within the Project site and the Project is not likely to adversely affect this species.

Southern Rubber Boa – Threatened (State)

The state listed as threatened southern rubber boa (rubber boa) is a small, rather stout-bodied snake with smooth scales and a blunt head and tail (Stewart et al. 2005). Adults grow to about 49.5-55.9 centimeters (19.5-22 inches) in length. Adult rubber boas are light brown or tan in dorsal color with an unmarked yellow venter; juveniles are pale without a distinct margin between dorsal and ventral coloration (Stewart et al. 2005). Rubber boas are primarily fossorial and are rarely encountered on the surface, except on days and nights of high humidity and overcast sky. During warm months, this snake is typically active at night and on overcast days. Rubber boas hibernate during the winter, usually in crevices in rocky outcrops. Other potential hibernacula for this species may include rotting stumps.

Typical southern rubber boa habitat is mixed conifer-oak forest or woodland dominated by two or more of the following species: Jeffrey pine (*Pinus jeffreyi*), yellow pine (*P. ponderosa*), sugar pine (*P. lambertiana*), incense cedar (*Calocedrus decurrens*), white fir (*Abies concolor*), and black oak (*Quercus kelloggii*) (Stewart et al., 2005). Rubber boas are usually found near streams or wet meadows or within or under surface objects with good moisture retaining properties such as rotting logs (CDFW 2014). Much of the literature suggests that the rubber boa prefers moist conifer-oak forests and woodlands between 5,000 and 8,000 feet in elevation, especially in canyons and on cool, north facing slopes (CDFW 1987). However, the factors of overriding importance seem to be access to hibernation sites below the frost line and access to damp soil (Keasler 1982). In all habitat types, rock outcrops and surface materials (i.e. rocks, logs, and a well-developed duff layer) are important habitat components because they provide cover and maintain soil moisture (Loe 1985, as cited in Stewart et al. 2005).

Findings: According to the CNDDDB, the nearest documented southern rubber boa occurrence (2013) is approximately 1.5 miles north of the Project Area, north of Big Bear City and State Route 18 (SR 18) (CDFW pers. comm.). Southern rubber boa have not been documented in the Project Area and the conditions within the existing graded/developed site are not suitable to support this species. The Project Area is devoid of rock outcrops and there is little to no ground cover (i.e. rotting stumps/logs, duff layer) that could provide sufficient soil moisture or potential rubber hibernacula and refugia. The site is very open and dry, with compacted soils and impervious surfaces that do not provide the mesic conditions and friable substrates for burrowing that rubber boa require. Furthermore, the moist conifer-oak forest and woodland habitats this species is typically associated with are absent from the Project Area.

Therefore, southern rubber boa are not likely to occur within the Project Area and the Project is not likely to adversely affect this species.

Bald Eagle – Delisted (Federal)/Endangered (State)

The bald eagle (BAEA) was a federally listed species until 2007 when it was delisted because of the increase in population. However, it remains a state listed endangered species and is covered under the federal Migratory Bird Treaty Act (MBTA) of 1918, as well as the Bald and Golden Eagle Protection Act of 1940, as amended in 1962. BAEA are distinguished by a white head and white tail feathers, are powerful, brown birds that may weigh 14 pounds and have a wingspan of 8 feet. Male eagles are smaller, weighing as much as 10 pounds and have a wingspan of 6 feet. Sometimes confused with Golden Eagles, BAEA are mostly dark brown until they are four to five years old and acquire their characteristic coloring. They live near rivers, lakes, and marshes where they can find fish, their staple food. BAEA will also feed on waterfowl, turtles, rabbits, snakes, and other small animals and carrion. BAEA require a good food base, perching areas, and nesting sites. Their habitat includes estuaries, large lakes, reservoirs, rivers, and some seacoasts (CDFW 2016). In winter, the birds congregate near open water in tall trees for spotting prey and night roosts for sheltering (CDFW 1999). They mate for life, choosing the tops of large trees to build nests, which they typically use and enlarge each year. In most of California, the breeding season lasts from about January through July or August (CDFW 2016). Nests may reach 10 feet across and weigh a half ton. They may also have one or more alternate nests within their breeding territory (CDFW 2016). The young eagles are flying within three months and are on their own about a month later.

Perches in the immediate vicinity of lakeshores form an essential habitat requirement for BAEA in the Big Bear Valley and the major threat to the continued existence of wintering BAEA in this area comes from development and modification of habitat near the shoreline (Walter and Garrett 1981).

Findings: The U.S. Forest Service (USFS) conducts annual surveys for BAEA in the San Bernardino Mountains. Migrating BAEA have long been documented to overwinter at Big Bear Lake. During a two-year study of the wintering BAEA population in the Big Bear Valley, it was estimated that about 30 individuals wintered in the Big Bear Valley. The wintering period for migrating BAEA in the Big Bear Valley area is generally December through March, with the first eagles arriving in mid-November and the last eagles leaving in early April (Walter and Garrett 1981). The highest numbers of wintering eagles in the area is in January and early February (Walter and Garrett 1981).

Since 2012, at least one resident pair has been documented in the Big Bear Valley, which first nested successfully in 2012 and 2015. These eagles typically nest to the west of Grout Bay in the Fawnskin area, approximately 7 miles northwest of the Project Area.

Although BAEA do nest in the Fawnskin area and Big Bear and Baldwin lakes support overwintering migratory BAEA, the Project Area does not provide habitat suitable to support nesting or foraging BAEA. Given the existing human disturbance within the Project Area, consisting mostly of residential development, BAEA are not likely to nest within the Project Area. Furthermore, there is no lake shoreline perching/foraging habitat for this species within the Project Area, which is situated approximately 0.6 mile away from the Baldwin Lake shoreline. Therefore, the Project is not likely to adversely affect BAEA and no further investigation relative to this species is warranted or recommended.

California Spotted Owl – SSC

The California spotted owl (SPOW) is considered an SSC by the CDFW and is listed as a Sensitive Species by the U.S. Forest Service. The SPOW breeds and roosts in forests and woodlands with large old trees and snags, high basal areas of trees and snags, dense canopies ($\geq 70\%$ canopy closure), multiple canopy layers, and downed woody debris (Verner et al. 1992a, as cited in Davis and Gould 2008). Large, old trees are the key component;

they provide nest sites and cover from inclement weather and add structure to the forest canopy and woody debris to the forest floor. These characteristics typify old-growth or late-seral-stage habitats (Davis and Gould 2008). Because the SPOW selects stands that have higher structural diversity and significantly more large trees than those generally available, it is considered a habitat specialist (Moen and Gutiérrez 1997, as cited in Davis and Gould 2008). In southern California, SPOW principally occupy montane hardwood and montane hardwood-conifer forests, especially those with canyon live oak (*Quercus chrysolepis*) and bigcone Douglas-fir (*Pseudotsuga macrocarpa*), at mid to high elevations (Davis and Gould 2008).

SPOW prey on small mammals, particularly dusky-footed woodrats (*Neotoma fuscipes*) at lower elevations (oak woodlands and riparian forests) and throughout southern California (Verner et al. 1992a, as cited in Davis and Gould 2008). The SPOW breeding season occurs from early spring to late summer or fall. Breeding spotted owls begin pre-laying behaviors, such as preening and roosting together, in February or March and juvenile owl dispersal likely occurs in September and October (Meyer 2007). The SPOW does not build its own nest but depends on finding suitable, naturally occurring sites in tree cavities or on broken-topped trees or snags, on abandoned raptor or common raven (*Corvus corax*) nests, squirrel nests, dwarf mistletoe (*Arceuthobium* spp.) brooms, or debris accumulations in trees (Davis and Gould 2008). In the San Bernardino Mountains, platform nests predominate (59%) and were in trees with an average diameter at breast height (dbh) of 75 cm, whereas cavity nest trees and broken-top nest trees were significantly larger (mean dbh of 108.3 cm and 122.3 cm, respectively) (LaHaye et al. 1997, as cited in Davis and Gould 2008).

According to LaHaye and Gutierrez (2005), urbanization in the form of primary and vacation homes has degraded or consumed some forest in most mountain ranges. The results of spotted owl surveys conducted between 1987 and 1998 in the San Bernardino Mountains indicated that a large area of potentially-suitable spotted owl habitat, enough to support 10-15 pairs, existed between Running Springs and Crestline (LaHaye and others 1999, as cited in LaHaye and Gutierrez 2005). However, only four pairs have been found in this area, and owls were found only in undeveloped sites. Thus, residential development within montane forests may preclude spotted owl occupancy, even when closed-canopy forest remains on developed sites (LaHaye and Gutierrez 2005).

Findings: According to the CNDDDB Spotted Owl Observations Database (2021), the nearest documented SPOW observation is a nesting site located approximately 2.3 mile southeast of the Project Area. The Project Area is within an urban area consisting primarily of residential development and is subject to adjacent human disturbances. Additionally, the Project Area does not support the montane hardwood and montane hardwood-conifer forests that SPOW typically occupy in the region. Therefore, SPOW are not likely to occur within the Project Area and the Project is not likely to adversely affect this species.

San Bernardino Flying Squirrel – SSC

The San Bernardino flying squirrel (flying squirrel) is considered an SSC by the CDFW and is listed as a Sensitive Species by the U.S. Forest Service. The flying squirrel is a nocturnally active, arboreal squirrel that is distinguished by the furred membranes extending from wrist to ankle that allow squirrels to glide through the air between trees at distances up to 91 meters (300 feet) (Wolf 2010). The San Bernardino flying squirrel is the most southerly distributed subspecies of northern flying squirrel (*Glaucmys sabrinus*) and is paler in color and smaller than most other northern flying squirrel subspecies. It inhabits high-elevation mixed conifer forests comprised of white fir, Jeffrey pine, and black oak between ~4,000 to 8,500 feet. It has specific habitat requirements that include associations with mature forests, large trees and snags, closed canopy, downed woody debris, and riparian areas, and it is sensitive to habitat fragmentation. It specializes in eating truffles (e.g. hypogeous mycorrhizal sporocarps) buried in the forest floor as well as arboreal lichens in winter when truffles are covered with snow and unavailable (Wolf 2010). This flying squirrel historically occurred as three isolated populations in the San Gabriel, San Bernardino, and San Jacinto mountain forests.

Flying squirrel populations are adversely affected by habitat fragmentation. Rosenberg and Raphael (1984) found that in northwestern California, the abundance of squirrels increased with stand size, they were generally absent in stands smaller than 20 hectares (ha), and approximately 75% of stands over 100 ha had flying squirrels. An additional problem with fragmented habitats is the constraints that open spaces pose to the movements of individuals and the colonization of unoccupied habitat patches. Mowrey and Zasada (1982) reported an average gliding distance of about 20 meters in *sabrinus*, with a maximum of 48 meters, and concluded that movements are unimpeded in areas with average openings of 20 meters and occasional openings of 30 to 40 meters (Bolster 1998).

Findings: The Flying Squirrels of Southern California is a project of the San Diego Natural History Museum (SDNHM), in collaboration with the U.S. Forest Service and the USFWS, to try to determine the distribution and habitat use of the flying squirrel in southern California. According to the SDNHM database, the nearest documented flying squirrel occurrences (2015) is approximately 1 mile southeast of the Project Site. However, the Project Area is within an urban area consisting primarily of residential development and is subject to adjacent human disturbances. Additionally, the Project Area does not support the mixed conifer forests comprised of white fir, Jeffrey pine, and black oak this species typically inhabits. Therefore, flying squirrel are not likely to occur within the Project Area and the Project is not likely to adversely affect flying squirrel.

3.2.2 Special Status Habitats

The Project Area does not contain any sensitive habitats, including any USFWS designated Critical Habitat for any federally listed species. The nearest Critical Habitat unit is approximately 0.5 mile west of the Project site. This Critical Habitat unit is part of the Sawmill Pebble Plain Complex and consists of USFWS designated Critical Habitat for the federally listed as threatened ash-gray paintbrush, Bear Valley sandwort and southern mountain buckwheat. However, no portion of the Project Area is within or adjacent this Critical Habitat unit, or any other sensitive habitats. Therefore, the Project will not result in any loss or adverse modification of USFWS designated Critical Habitat, or any other special status habitats.

3.3 Jurisdictional Delineation

The Project Area is within the Baldwin Hydrologic Sub-Area (HSA 801.73). The Baldwin HSA comprises a 22,789-acre drainage area, within the larger Santa Ana Watershed (HUC 18070203). This watershed is primarily within San Bernardino County and includes Riverside and Orange Counties with a small portion of Los Angeles Counties. The Santa Ana Watershed is bound on the north by the Mojave and Southern Mojave Watersheds, on the southeast by the Whitewash and San Jacinto Watersheds, and on the west by the San Gabriel, Seal Beach, Newport Bay, and Aliso-San Onofre Watersheds. The Santa Ana Watershed encompasses a portion of the San Gabriel and San Bernardino Mountains in the south and is approximately 3,000 square miles in area. The Santa Ana River is the major hydrogeomorphic feature within the Santa Ana Watershed. One of several tributaries to the Santa Ana River is Bear Creek, which outflows from Big Bear Lake from the Bear Valley Dam located at the westernmost (downstream) end of Big Bear Lake. Big Bear Lake is one of the head waters of the Santa Ana River Watershed.

Waters of the U.S.

The USACE has authority to permit the discharge of dredged or fill material in WOTUS under Section 404 of the CWA. WOTUS are defined as:

"All waters used in interstate or foreign commerce; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; or wetlands adjacent to these waters" (Section 404 of the CWA; 33 CFR 328.3 (a)).

Therefore, CWA jurisdiction exists over the following:

1. All traditional navigable waters (TNWs);
2. All wetlands adjacent to TNWs;
3. Non-navigable tributaries of TNWs that are relatively permanent waters (RPWs) i.e., tributaries that typically flow year-round or have continuous flow at least seasonally; and
4. Every water body determined to have a significant nexus with TNWs.

Additionally, areas meeting all three wetland parameters would be designated as USACE wetlands, if they are adjacent to jurisdictional WOTUS, or otherwise determined to have a significant nexus to a TNW.

There are no wetland or non-wetland WOTUS within the Project Area. There is an unnamed ephemeral drainage feature that flows generally south to north near the southwestern corner of the Project site (Figure 5). This drainage feature outlets from an existing pipe located adjacent (to the west of) the southwest corner of the Project site and terminates approximately 0.8 mile north of the outlet pipe at E Country Club Boulevard. The unnamed ephemeral drainage feature adjacent the southwest corner of the Project site is not a TNW or a RPW tributary and does not have a significant nexus with a TNW. Therefore, this drainage feature does not meet the definition of a WOTUS, and the Project will not result in any impacts (temporary or permanent) to jurisdictional waters subject to regulation by the USACE or RWQCB under Sections 404/401 of the CWA.

State Lake/Streambed

The unnamed ephemeral drainage feature adjacent the southwest corner of the Project site is subject to regulation by the CDFW under Section 1602 of the FGC, as well as by the RWQCB under the Porter Cologne Water Quality Control Act. This feature has an identifiable bed and bank, which defines the maximal extent of this feature, as well as associated riparian vegetation. Therefore, this drainage feature would fall under the jurisdiction of the CDFW and the RWQCB and any Project-related impacts to this ephemeral drainage feature would likely require permits/authorizations from both the CDFW and the RWQCB, respectively.



SOURCE: Google Earth

Jacobs

Jurisdictional Features (“Waters of the State”)
BBHS Sports Field Project

FIGURE 5

4. Conclusions and Recommendations

4.1 Sensitive Biological Resources

A BRA survey was conducted by Jacobs in October 2021 to identify potential habitat for special status wildlife within the Project Area. No special status wildlife species, including state and/or federally listed threatened or endangered species, were observed within the Project Area during the reconnaissance-level assessment survey and due to the environmental conditions on site and the surrounding disturbances, none are expected to occur. The Project site consists of existing graded/developed land that is not suitable to support any special status species. Additionally, the Project Area does not contain any sensitive habitats, including any USFWS designated Critical Habitat for any federally listed species, and the Project will not result in any loss or adverse modification of Critical Habitat.

Special Status Plant Species

There is no pebble plain or pebble plain-like habitat within the Project site suitable for Bear Valley sandwort or southern mountain buckwheat. Furthermore, the Project site consists of existing graded/developed land that is no longer suitable to support Cushenbury buckwheat, San Bernardino Mountains bladderpod, or ash-gray paintbrush. No other state or federally listed plant species are likely to occur within the Project site and the Project is not likely to adversely affect special status plant species. However, the habitat conditions adjacent the west side of the Project site may be suitable for several special status plant species, including ash-gray paintbrush. Therefore, the following precautionary avoidance measure is recommended to ensure the Project does not result in any impacts to ash-gray paintbrush or other sensitive plant species:

To ensure that no special status plant species potentially occurring in the undeveloped habitat adjacent the west side of the Project site are impacted by Project-related activities, it is recommended that orange construction fence be installed around the perimeter of the existing graded/developed Project site. All Project-related activities, personnel and equipment should be restricted to existing disturbed areas.

Southern Rubber Boa

The potential for rubber boa to occur within the Project Area is low due to site conditions and surrounding human disturbances. However, the reconnaissance level field survey was conducted during the dry season, outside the time of year this species is typically most active (i.e. spring/early summer), and there is some potential for this species to occur within the undeveloped habitat adjacent the west side of the Project site. Therefore, the following precautionary avoidance measure is recommended to ensure the Project does not result in any impacts to southern rubber boa:

To ensure the Project does not adversely affect southern rubber boa, it is recommended that rubber boa exclusion fence (e.g., silt fence) be installed around the perimeter of the existing graded/developed Project site, prior to commencement of any Project related ground disturbing activities.

San Bernardino Flying Squirrel

Given that the Project Area does not support the mixed conifer forests comprised of white fir, Jeffrey pine, or black oak habitats that San Bernardino flying squirrel typically inhabit, and is within an urban environment consisting primarily of residential development that is subject to on site and adjacent human disturbances, flying squirrel are not likely to occur within the Project Area. However, this species has been documented within approximately 1 mile of the Project site. Therefore, the following precautionary avoidance measure is recommended to ensure the Project does not result in any impacts to San Bernardino flying squirrel:

To ensure the Project does not adversely affect San Bernardino flying squirrel, it is recommended that a pre-construction survey be conducted to identify potentially suitable cavity nesting sites and foraging habitat, prior to the removal of any trees or downed woody debris.

If suitable San Bernardino flying squirrel cavity nesting sites are detected within the Project site, then coordination with the CDFW would be necessary to determine appropriate minimization and mitigation measures to offset Project related impacts to this species.

SPOW and Other Nesting Birds

Although SPOW are not likely to occur within the Project Area due to the habitat conditions and existing on site and adjacent disturbances, the Project Area is suitable to support several other nesting bird species including open ground nesting species such as killdeer (*Charadrius vociferus*). Most native bird species are protected from unlawful take by the MBTA (Appendix D). In December 2017, the Department of the Interior (DOI) issued a memorandum concluding that the MBTA's prohibitions on take apply "[...] only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" (DOI 2017). Then in April 2018, the USFWS issued a guidance memorandum that further clarified that the take of migratory birds or their active nests (i.e., with eggs or young) that is incidental to, and not the purpose of, an otherwise lawful activity does not constitute a violation of the MBTA (USFWS 2018).

However, the State of California provides additional protection for native bird species and their nests in the FGC (Appendix D). Bird nesting protections in the FGC include the following (Sections 3503, 3503.5, 3511, 3513 and 3800):

- Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.
- Section 3503.5 prohibits the take, possession, or needless destruction of any nests, eggs, or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys, and falcons, among others), and Strigiformes (owls).
- Section 3511 prohibits the take or possession of Fully Protected birds.
- Section 3513 prohibits the take or possession of any migratory nongame bird or part thereof, as designated in the MBTA. To avoid violation of the take provisions, it is generally required that Project-related disturbance at active nesting territories be reduced or eliminated during the nesting cycle.
- Section 3800 prohibits the take of any any non-game bird (i.e., bird that is naturally occurring in California that is not a gamebird, migratory game bird, or fully protected bird).

In general, impacts to all bird species (common and special status) can be avoided by conducting work outside of the nesting season, which is generally February 1st through August 31st. However, if all work cannot be conducted outside of nesting season, the following is recommended:

To avoid impacts to nesting birds (common and special status) during the nesting season, a qualified Avian Biologist should conduct pre-construction nesting bird surveys prior to Project-related disturbance to suitable nesting areas to identify any active nests. The nesting bird surveys should consist of a minimum of five (5) consecutive survey days and should include an additional three (3) consecutive nights of survey for SPOW and other nocturnal species. Nocturnal spotted owl surveys should be conducted between the hours of 9:00 pm. and midnight, during appropriate weather conditions (e.g., no rain or winds), and should include a spot calling survey component that would utilize California spotted owl call playback at predetermined fixed calling points.

If no active nests are found, no further action would be required. If an active nest is found, the biologist should set appropriate no-work buffers around the nest which would be based upon the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity, and duration of disturbance. The nest(s) and buffer zones should be field checked weekly by a qualified biological monitor. The approved no-work buffer zone should be clearly marked in the field, within which no disturbance activity should commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.

Lighting Impacts

To avoid potential impacts to nocturnal species including SPOW, San Bernardino flying squirrel, and other nocturnal species due to light pollution, Project related night lighting (both temporary and permanent) should be directed away from adjacent undeveloped areas to protect nocturnal species from direct night lighting. Shielding should be incorporated in Project designs to ensure ambient lighting in adjacent habitat is not increased.

4.2 Jurisdictional Waters

In addition to the BRA field survey, Jacobs also assessed the Project site for the presence of any state and/or federal jurisdictional waters. The result of the jurisdictional waters assessment is that there are no wetland or non-wetland WOTUS potentially subject to regulation by the USACE or RWQCB under Sections 404/401 of the CWA. However, there is an unnamed ephemeral drainage feature adjacent the southwest corner of the Project site that is subject to regulation by the CDFW under Section 1602 of the FGC, as well as by the RWQCB under the Porter Cologne Water Quality Control Act, respectively (Figure 5). Any Project-related impacts (permanent or temporary) to this drainage feature would likely require a "Lake or Streambed Alteration Agreement" from the CDFW, as well as a permit from the RWQCB for "Discharges of Dredged or Fill Material to Waters of the State". Therefore, it is recommended that the proposed Project be designed to completely avoid impacting this drainage feature, including an approximate 25-foot set-back from the edge of the top-of-bank of the drainage feature, to avoid the need for any "Waters of the State" permitting.

FGC Section 1602 Lake or Streambed Alteration Agreement

A FGC Section 1602 Lake or Streambed Alteration (LSA) Agreement is required for all activities that alter streams (including ephemeral streams) and lakes and their associated riparian habitat. In addition to the formal application materials and fee (based on cost of the Project), a copy of the appropriate CEQA documentation must be included with the application. If the Project design cannot completely avoid impacting the unnamed ephemeral drainage feature adjacent the southwest corner of the Project site, then the Project would require a Section 1602 LSA Agreement.

Regional Water Quality Control Board Permitting

The Project Area is within the jurisdiction of the Santa Ana RWQCB (Regional Board 8). The RWQCB regulates impacts to Waters of the State of California under the Porter Cologne Water Quality Control Act through issuance of a Construction General Permit, State General Waste Discharge Order, or Waste Discharge Requirements, depending upon the level of impact and the waterway. Unavoidable Project-related impacts to the unnamed ephemeral drainage feature adjacent the southwest corner of the Project site would require a RWQCB permit and the Project Proponent would be required to submit an application for Discharges of Dredged or Fill Material to Waters of the State to the Lahontan RWQCB prior to commencement of any Project-related activities that may impact this drainage feature. In addition to the formal application materials and fee (based on area of impact), a copy of the appropriate California Environmental Quality Act (CEQA) documentation must be included with the application.

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**Appendix A. CNDDDB Species and Habitats Documented Within the
Big Bear Lake, Big Bear City, Fawnskin and Moonridge
USGS 7.5-Minute Quadrangles**

Special Status Species Occurrence Potential Analysis

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Acanthoscyphus parishii</i> var. <i>cienegensis</i>	Cienega Seca oxytheca	None/ None	G47T2; S2; CNPS: 1B.3	Upper montane coniferous forest, pinyon and juniper woodland, Joshua tree woodland. Dry gravelly banks and granitic sand. 1920-2560 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Acanthoscyphus parishii</i> var. <i>goodmaniana</i>	Cushenbury oxytheca	Endangered/ None	G47T1; S1; CNPS: 1B.1	Pinyon and juniper woodland. On limestone talus and rocky slopes. 1400-2350 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the nearest documented occurrence for this species is approx. 5.3 miles N of the Project site and the site consists of graded/developed land. Occurrence potential is low.
<i>Accipiter cooperii</i>	Cooper's hawk	None/ None	G5; S4; CDFW: WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river floodplains; also, live oaks.	No suitable nesting habitat for this species exists within the Project Area. Occurrence potential is low.
<i>Anniella stebbinsi</i>	Southern California legless lizard	None/ None	G3; S3; CDFW: SSC	Generally, south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally, in moist, loose soil. They prefer soils with a high moisture content.	The Project Area is open and dry, and there is very little cover on site that could retain moisture. Occurrence potential is low.

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Antennaria marginata</i>	white-margined everlasting	None/ None	G4G5; S1; CNPS: 2B.3	Lower montane coniferous forest, upper montane coniferous forest. Dry woods. 2070-3355 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Aquila chrysaetos</i>	golden eagle	None/ None	G5; S3; CDFW: FP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	The nearest documented occurrence for this species is approx. 6.1 miles N of the Subject Parcel, north slopes of the San Bernardino Mountains. This species has not been documented nesting in the Big Bear Valley area. Occurrence potential is low.
<i>Arenaria lanuginosa</i> var. <i>saxosa</i>	rock sandwort	None/ None	G5T5; S2; CNPS: 2B.3	Subalpine coniferous forest, upper montane coniferous forest. Mesic, sandy sites. 1920-2935 m.	The microhabitat this species is associated with (i.e. mesic, sandy sites) is absent from the Project Area. Occurrence potential is low.
<i>Astragalus albens</i>	Cushenbury milk-vetch	Endangered/ None	G1; S1; CNPS: 1B.1	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Sandy or stony flats, rocky hillsides, canyon washes, and fans, on carbonate or mixed granitic-calcareous debris. 1185-1950 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the nearest documented occurrence for this species is approx. 4.2 miles NE of the Project site and the site consists of graded/developed land. Occurrence potential is low.
<i>Astragalus bernardinus</i>	San Bernardino milk-vetch	None/ None	G3; S3; CNPS: 1B.2	Joshua tree woodland, pinyon and juniper woodland. Granitic or carbonate substrates. 290-2290 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Astragalus lentiginosus</i> var. <i>sierrae</i>	Big Bear Valley milk- vetch	None/ None	G5T2; S2; CNPS: 1B.2	Mojavean desert scrub, meadows and seeps, pinyon and juniper woodland, upper montane coniferous forest. Stony meadows and open pinewoods; sandy and gravelly soils in a variety of habitats. 1710-3230 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Astragalus leucolobus</i>	Big Bear Valley woollypod	None/ None	G2; S2; CNPS: 1B.2	Lower montane coniferous forest, pebble plain, pinyon and juniper woodland, upper montane coniferous forest. Dry pine woods, gravelly knolls among sagebrush, or stony/lake shores in the pine belt. 1460-2895 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Astragalus tidiestromii</i>	Tidiestrom's milk-vetch	None/ None	G4; S2; CNPS: 2B.2	Mojavean desert scrub. Washes, in sandy or gravelly soil. On limestone. 765-1575 m.	The Project Area is outside the known elevation range for this species and the habitats this species is associated with are absent from the Project Area. Therefore, this species is considered absent from the Subject Parcel.
<i>Atriplex parishii</i>	Parish's brittle-scale	None/ None	G1G2; S1; CNPS: 1B.1	Vernal pools, chenopod scrub, playas. Usually on drying alkali flats with fine soils. 4-1420 m.	The Project Area is outside the known elevation range for this species and the habitats this species is associated with are absent from the Project Area. Therefore, this species is considered absent from the Subject Parcel.
<i>Berberis fremontii</i>	Fremont barberry	None/ None	G5; S3; CNPS: 2B.3	Pinyon and juniper woodland, Joshua tree woodland. Rocky, sometimes granitic. 1140-1770 m.	The Project Area is outside the known elevation range for this species. Occurrence potential is low.

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Boechera dispar</i>	pinyon rockcress	None/ None	G3; S3; CNPS: 2B.3	Joshua tree woodland, pinyon and juniper woodland, Mojavean desert scrub. Granitic, gravelly slopes and mesas. Often under desert shrubs which support it as it grows. 1005-2805 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Boechera lincolnensis</i>	Lincoln rockcress	None/ None	G4G5; S3; CNPS: 2B.3	Chenopod scrub, Mojavean desert scrub. On limestone. 880-2410 m.	The habitats this species is associated with are absent from the Project Area. Occurrence potential is low.
<i>Boechera parishii</i>	Parish's rockcress	None/ None	G2; S2; CNPS: 1B.2	Pebble plain, pinyon and juniper woodland, upper montane coniferous forest. Generally found on pebble plains on clay soil with quartzite cobbles; sometimes on limestone. 1825-2805 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Boechera shockleyi</i>	Shockley's rockcress	None/ None	G3; S2; CNPS: 2B.2	Pinyon and juniper woodland. On ridges, rocky outcrops and openings on limestone or quartzite. 875-2515 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Bombus caliginosus</i>	obscure bumble bee	None/ None	G4?; S1S2	Coastal areas from Santa Barbara county to north to Washington state. Food plant genera include <i>Baccharis</i> , <i>Cirsium</i> , <i>Lupinus</i> , <i>Lotus</i> , <i>Grindelia</i> and <i>Phacelia</i> .	The Project Area is outside the current known range for this species and the only documented occurrence for this species in the 4-quad CNDDB query (1933) is approx. 8 miles SW of the Project Area. Occurrence potential is low.
<i>Bombus crotchii</i>	Crotch bumble bee	None/ Candidate Endangered	G3G4; S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	Few food plants for this species are present within the Project Area and the nearest documented occurrence for this species (1999) is approx. 4.3 miles NW of the Project Area. Occurrence potential is low.

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Bombus morrisoni</i>	Morrison bumble bee	None/ None	G4G5; S1S2	From the Sierra-Cascade ranges eastward across the intermountain west. Food plant genera include <i>Cirsium</i> , <i>Cleome</i> , <i>Helianthus</i> , <i>Lupinus</i> , <i>Chrysothamnus</i> , and <i>Mellilotus</i> .	Few food plants for this species are present within the Subject Parcel and the only documented occurrence for this species in the 4-quad CNDDB query (1999) is approx. 6 miles NW of the Project Area. Occurrence potential is low.
<i>Botrychium crenulatum</i>	scalloped moonwort	None/ None	G4; S3; CNPS: 2B.2	Bogs and fens, meadows and seeps, upper montane coniferous forest, lower montane coniferous forest, marshes and swamps. Moist meadows, freshwater marsh, and near creeks. 1185-3110 m.	The microhabitats this species is associated with (i.e. moist meadows, freshwater marsh, and creeks) are absent from the Project Area. Occurrence potential is low.
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa-lily	None/ None	G3T2; S2; CNPS: 1B.2	Meadows and seeps, chaparral, lower montane coniferous forest. Vernally moist places in yellow-pine forest, chaparral. 195-2530 m.	The habitats this species is associated with (i.e. vernal moist places in yellow-pine forest, chaparral) are absent from the Project Area. Occurrence potential is low.
<i>Calochortus plummerae</i>	Plummer's mariposa-lily	None/ None	G4; S4; CNPS: 4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60-2500 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Calochortus striatus</i>	alkali mariposa-lily	None/ None	G3?; S2S3; CNPS: 1B.2	Chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps. Alkaline meadows and ephemeral washes. 70-1600m.	The Project Area is outside the known elevation range for this species and the habitats this species is associated with are absent from the Project Area. Therefore, this species is considered absent from the Project Area.

Scientific Name	Common Name	Listing Status Federal / State	Other Status	Habitat	Occurrence Potential
<i>Calyptridium pygmaeum</i>	pygmy pussypaws	None / None	G1G2; S1S2; CNPS: 1B.2	Upper montane coniferous forest, subalpine coniferous forest. Sandy or gravelly sites. 2145-3415 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Carex occidentalis</i>	western sedge	None / None	G4; S3; CNPS: 2B.3	Lower montane coniferous forest, meadows and seeps. 1645-2320 m.	The microhabitats this species is associated with (i.e. meadows and seeps) are absent from the Project Area. Occurrence potential is low.
<i>Castilleja cinerea</i>	ash-gray paintbrush	Threatened / None	G1G2; S1S2; CNPS: 1B.2	Pebble plains, upper montane coniferous forest, Mojavean desert scrub, meadows and seeps, pinyon and juniper woodland. Endemic to the San Bernardino Mountains, in clay openings; often in meadow edges. 725-2860 m.	There is some suitable habitat for this species adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Castilleja lasiorhyncha</i>	San Bernardino Mountains owl's-clover	None / None	G2?; S2?; CNPS: 1B.2	Meadows and seeps, pebble plain, upper montane coniferous forest, chaparral, riparian woodland. Mesic to drying soils in open areas of stream and meadow margins or in vernal wet areas. 1140-2320 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Chaetodipus fallax pallidus</i>	pallid San Diego pocket mouse	None / None	G5T34; S3S4; CDFW: SSC	Desert border areas in eastern San Diego County in desert wash, desert scrub, desert succulent scrub, pinyon-juniper, etc. Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	No suitable habitat for this species exists within the Project Area. Occurrence potential is low.

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Charina umbratica</i>	southern rubber boa	None/ Threatened	G2G3; S2S3	Known from the San Bernardino and San Jacinto mtns; found in a variety of montane forest habitats. Snakes resembling <i>C. umbratica</i> reported from Mt. Pinos and Tehachapi mtns group with <i>C. botzæ</i> based on mtDNA. Further research needed. Found in vicinity of streams or wet meadows; requires loose, moist soil for burrowing; seeks cover in rotting logs, rock outcrops, and under surface litter.	The Project Area is mostly open and dry, and there is very little cover on site that could retain moisture. The habitat within and adjacent the Project Area is likely not suitable to support this species and the nearest documented occurrence for this species (2013) is approx. 1.5 miles N of the Project Area. Occurrence potential is low.
<i>Claytonia peirsonii</i> ssp. <i>bernardinus</i>	San Bernardino spring beauty	None/ None	G2G3T1 ; S1; CNPS: 1B.1	Pinyon and juniper woodland, upper montane coniferous forest. Rocky, talus slopes, carbonate, usually openings. 2360-2465 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Claytonia peirsonii</i> ssp. <i>californacis</i>	Furnace spring beauty	None/ None	G2G3T1 ; S1; CNPS: 1B.1	Pinyon and juniper woodland, upper montane coniferous forest. Rocky, talus slopes, carbonate, usually openings. 2300 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None/ None	G3G4; S2; CDFW: SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	There is a high -level of human disturbance within the Project vicinity and there are no suitable roost sites within the Project site. Occurrence potential is low.
<i>Cymopterus multinervatus</i>	purple-nerve cymopterus	None/ None	G4G5; S2; CNPS: 2B.2	Mojavean desert scrub, pinyon and juniper woodland. Sandy or gravelly places. 765-2195 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Drymocallis cuneifolia</i> var. <i>cuneifolia</i>	wedgetleaf woodbeauty	None/ None	G2T1; S1; CNPS: 1B.1	Upper montane coniferous forest, riparian scrub. Sometimes on carbonate. 1520-2220 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Dryopteris filix-mas</i>	male fern	None/ None	G5; S2; CNPS: 2B.3	Upper montane coniferous forest. In granite crevices. 1855-3075 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Dudleya abramsii</i> ssp. <i>afinis</i>	San Bernardino Mountains dudleya	None/ None	G4T2; S2; CNPS: 1B.2	Pebble (pavement) plain, upper montane coniferous forest, pinyon and juniper woodland. Outcrops, granite or quartzite, rarely limestone. 1200-2425 m.	There is suitable habitat for this species adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Empidonax traillii</i> <i>extimus</i>	southwestern willow flycatcher	Endangered/ Endangered	G5T2; S1	Riparian woodlands in Southern California.	No suitable habitat for this species exists within the Project Area. Occurrence potential is low.
<i>Ensatina eschscholtzii</i> <i>klauberi</i>	large-blotched salamander	None/ None	G5T2?; S3; CDFW: WL	Found in conifer and woodland associations. Found in leaf litter, decaying logs and shrubs in heavily forested areas.	The Project Area is open and dry, and there is very little cover on site that could retain moisture. The habitat within and adjacent the Project Area is likely not suitable to support this species. Occurrence potential is low.
<i>Eremogone ursina</i>	Big Bear Valley sandwort	Threatened/ None	G1; S1; CNPS: 1B.2	Pebble plain, pinyon and juniper woodland, meadows and seeps. Mesic, rocky sites. 1795-2895 m.	There is suitable habitat for this species adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Erigeron parishii</i>	Parish's daisy	Threatened/ None	G2; S2; CNPS: 1B.1	Mojavean desert scrub, pinyon and juniper woodland. Often on carbonate; limestone mountain slopes; often associated with drainages. Sometimes on granite. 1050-2245 m.	There is suitable habitat for this species adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.

Scientific Name	Common Name	Listing Status Federal / State	Other Status	Habitat	Occurrence Potential
<i>Eriogonum evanidum</i>	vanishing wild buckwheat	None / None	G2; S1; CNPS: 1B.1	Chaparral, cismontane woodland, lower montane coniferous forest, pinyon and juniper woodland. Sandy sites. 975-2240 m.	There is suitable habitat for this species adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Eriogonum kennedyi</i> var. <i>albigenum</i>	southern alpine buckwheat	None / None	G4T3; S3; CNPS: 1B.3	Alpine boulder and rock fields, subalpine coniferous forest. Dry granitic gravel. 2500-3415 m.	The Project Area is outside the known elevation range for this species and the habitats this species is associated with are absent from the Project Area. Therefore, this species is considered absent from the Subject Parcel.
<i>Eriogonum kennedyi</i> var. <i>austrorontanum</i>	southern mountain buckwheat	Threatened / None	G4T2; S2; CNPS: 1B.2	Pebble (pavement) plain, lower montane coniferous forest. Usually found in pebble plain habitats. 1765-3020 m.	There is suitable habitat for this species adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Eriogonum microthecum</i> var. <i>johnstoni</i>	Johnston's buckwheat	None / None	G5T2; S2; CNPS: 1B.3	Subalpine coniferous forest, upper montane coniferous forest. Slopes and ridges on granite or limestone. 1795-2865 m	There is suitable habitat for this species adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Eriogonum microthecum</i> var. <i>lacus-ursi</i>	Bear Lake buckwheat	None / None	G5T1; S1; CNPS: 1B.1	Lower montane coniferous forest, Great Basin scrub. Clay outcrops. 2000-2100 m.	There is suitable habitat for this species adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Cushenbury buckwheat	Endangered / None	G5T1; S1; CNPS: 1B.1	Mojavean desert scrub, pinyon and juniper woodland, Joshua tree woodland. Limestone mountain slopes. Dry, usually rocky places. 1430-2440 m.	The carbonate soils this species requires are absent from the Project Area and the site consists of graded/developed land. Occurrence potential is low.

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Erythranthe exigua</i>	San Bernardino Mountains monkeyflower	None/ None	G2; S2; CNPS: 1B.2	Meadows and seeps, pebble plains, upper montane coniferous forest. Seeps and sandy sometimes disturbed soil in moist drainages of annual streams; clay soils. 2060-2630 m.	The microhabitats this species is associated with (i.e. seeps and moist drainages) are absent from the Project Area. Occurrence potential is low.
<i>Erythranthe purpurea</i>	little purple monkeyflower	None/ None	G2; S2; CNPS: 1B.2	Meadows and seeps, pebble plain, upper montane coniferous forest. Dry clay or gravelly soils under Jeffrey pines, along annual streams or vernal springs and seeps. 2045-2290 m.	The microhabitats this species is associated with (i.e. annual streams or vernal springs and seeps) are absent from the Project Area. Occurrence potential is low.
<i>Euchloe hyantis andrewsi</i>	Andrew's marble butterfly	None/ None	G3G4T1; S1	Inhabits yellow pine forest near Lake Arrowhead and Big Bear Lake, San Bernardino Mtns, San Bernardino Co. 5,000-6,000 ft. Hostplants are <i>Streptanthus bernardinus</i> and <i>Arabis holboellii</i> var. <i>pinetorum</i> ; larval foodplant is <i>Descurainia richardsonii</i> .	The host and food plant species for this species are absent from the Project Area. Occurrence potential is low.
<i>Euphydryas editha quino</i>	quino checkerspot butterfly	Endangered/ None	G5T1T2; S1S2	Sunny openings within chaparral and coastal sage shrublands in parts of Riverside and San Diego counties. Hills and mesas near the coast. Need high densities of food plants <i>Plantago erecta</i> , <i>P. insularis</i> , and <i>Orthocarpus purpureascens</i> .	The Project Area is outside the current known range of this species and there is no suitable habitat for this species within the Project Area. Occurrence potential is low.
<i>Gasterosteus aculeatus williamsoni</i>	unarmored threespine stickleback	Endangered/ Endangered	G5T1; S1; CDFW: FP	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small Southern California streams. Cool (<24 C), clear water with abundant vegetation.	The aquatic habitats required by this species are absent from the Project Area. Therefore, this species is considered absent from the Project Area.

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Gentiana fremontii</i>	Fremont's gentian	None/ None	G4; S2; CNP.S: 2B.3	Meadows and seeps, upper montane coniferous forest. Wet mountain meadows. 2400-2700 m.	The Project Area is outside the known elevation range for this species and the microhabitats this species is associated with (i.e. wet meadows) are absent from the Project Area. Therefore, this species is considered absent from the Project Area.
<i>Gilia leptantha</i> ssp. <i>leptantha</i>	San Bernardino gilia	None/ None	G4T2; S2; CNP.S: 1B.3	Lower montane coniferous forest. Sandy or gravelly sites. 1520-2595 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Glaucomyis oregonensis californicus</i>	San Bernardino flying squirrel	None/ None	G5T1T2; S1S2; CDFW: SSC	Known from black oak or white fir dominated woodlands between 5,200 – 8,500 ft in the San Bernardino and San Jacinto ranges. May be extirpated from San Jacinto range. Needs cavities in trees/snags for nests and cover. Needs nearby water.	The nearest documented occurrence for this species (2015) is approx. 1 mile SE of the Project Area. However, the Project Area is subject to adjacent human disturbances and does not support the mixed conifer forests comprised of white fir, Jeffrey pine, and black oak this species typically inhabits and the closed canopy, downed woody debris, and riparian areas typically associated with suitable habitat for this species are absent from the Project Area. Occurrence potential is low.

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Haliaeetus leucocephalus</i>	bald eagle	Delisted/ Endangered	G5; S3; CDFW: FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	There is no shoreline habitat suitable to support wintering BAEA within the Project Area. Although this species has been documented nesting in the Fawnskin area, approx. 7 miles NW of the Project site on the west side of Grout Bay, the Project site is in a residential area subject to a significant level of existing human disturbance. Therefore, the Project Area is not likely to support nesting BAEA and occurrence potential is low.
<i>Heuchera parishii</i>	Parish's alumroot	None/ None	G3; S3; CNPS: 1B.3	Lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest, alpine boulder and rock field. Rocky places. Sometimes on carbonate. 1340-3505 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Horkelia wilderae</i>	Barton Flats horkelia	None/ None	G1; S1; CNPS: 1B.1	Lower montane coniferous forest, upper montane coniferous forest, chaparral. On rocky, north aspects in openings that hold persistent snowdrifts. 1980-2895 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, this species has not been documented in the Big Bear Valley and the site consists of graded/developed land. Occurrence potential is low.
<i>Hulsea vestita</i> ssp. <i>pygmaea</i>	pygmy hulsea	None/ None	G5T1; S1; CNPS: 1B.3	Alpine boulder and rock field, subalpine coniferous forest. Gravelly sites: on granite: 2860-3502 m.	The Project Area is outside the known elevation range for this species and the habitats this species is associated with are absent from the Project Area. Therefore, this species is considered absent from the Project Area.

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Hydroporus simplex</i>	simple hydroporus diving beetle	None/ None	G1?, S1?	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	The aquatic habitats required by this species are absent from the Project Area. Therefore, this species is considered absent from the Project Area.
<i>Icteria virens</i>	yellow-breasted chat	None/ None	G5; S3; CDFW: SSC	Meadows and seeps, pebble plains, upper montane coniferous forest. In pebble plains and meadows with other rare plants. 1490-2960 m.	No suitable habitat for this species exists within the Project Area. Occurrence potential is low.
<i>Ivesia argyrocoma</i> var. <i>argyrocoma</i>	silver-haired ivesia	None/ None	G2T2; S2; CNPS: 1B.2	Lower montane coniferous forest, meadows and seeps. Dry to moist meadows in rich loam. 1400-2290 m.	The microhabitats this species is associated with (i.e. dry to moist meadows) are absent from the Project Area. Occurrence potential is low.
<i>Lewisia brachycalyx</i>	short-sepaled lewisia	None/ None	G4; S2; CNPS: 2B.2	Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest. Wet, mountainous terrain; generally, in forested areas; on shady edges of streams, in open boggy meadows and seeps. 625-2930 m.	The microhabitats this species is associated with (i.e. wet, mountainous terrain; in forested areas; on shady edges of streams, in open boggy meadows and seeps) are absent from the Project Area. Occurrence potential is low.
<i>Lilium parryi</i>	lemon lily	None/ None	G3; S3; CNPS: 1B.2	Alkaline meadows, pebble plain, pinyon and juniper woodland, Joshua tree woodland. Usually on pebble plains with other rare species. 1645-2645 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Linanthus killipii</i>	Baldwin Lake linanthus	None/ None	G1; S1; CNPS: 1B.2		Occurrence potential is low.

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Malaxis monophyllos</i> var. <i>brachypoda</i>	white bog adder's-mouth	None/ None	G4/T4; S1; CNPS: 2B.1	Meadows and seeps, bogs and fens, upper montane coniferous forest. Hillside bogs and mesic meadows. 2375-2560 m.	The microhabitats this species is associated with (i.e. hillside bogs and mesic meadows) are absent from the Project Area. Occurrence potential is low.
<i>Myotis evotis</i>	long-eared myotis	None/ None	G5; S3	Found in all brush, woodland and forest habitats from sea level to about 9,000 ft. Prefers coniferous woodlands and forests. Nursery colonies in buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts.	Some suitable habitat for this species exists adjacent the Project Area. However, the nearest documented occurrence for this species (1998) is approx. 5.1 miles NW of the Project Area. Occurrence potential is moderate.
<i>Myotis thysanodes</i>	fringed myotis	None/ None	G4; S3	In a wide variety of habitats, optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer. Uses caves, mines, buildings or crevices for maternity colonies and roosts.	Some suitable habitat for this species exists adjacent the Project Area. However, the only documented occurrence for this species in the 4-quad CNDDB query (1998) is approx. 5.1 miles NW of the Project Area. Occurrence potential is moderate.
<i>Myotis volans</i>	long-legged myotis	None/ None	G5; S3	Most common in woodland and forest habitats above 4,000 ft. Trees are important day roosts; caves and mines are night roosts. Nursery colonies usually under bark or in hollow trees, but occasionally in crevices or buildings.	Some suitable habitat for this species exists adjacent the Project Area. The only documented occurrence for this species in the 4-quad CNDDB query (1998) is approx. 11.2 miles NW of the Project Area. Occurrence potential is low.
<i>Myotis yumanensis</i>	Yuma myotis	None/ None	G5; S4	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	There are no water bodies present within the Project Area and the only documented occurrence for this species in the 4-quad CNDDB query (1998) is approx. 5.1 miles NE of the Project Area. Occurrence potential is low.

Scientific Name	Common Name	Listing Status Federal / State	Other Status	Habitat	Occurrence Potential
<i>Navarretia peninsularis</i>	Baja navarretia	None / None	G3; S2; CNPS: 1B.2	Summits of isolated Plute, San Bernardino, and San Jacinto mountains. Usually found in open-canopy forests. Habitat is usually lodgepole pine forests in the San Bernardino Mts and chinquapin slopes in the San Jacinto Mts.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Neotamias speciosus</i>	lodgepole chipmunk	None / None	G4T2T3; S2S3	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	The aquatic habitats required by this species are absent from the Project Area. Therefore, this species is considered absent from the Project Area.
<i>Oncorhynchus mykiss irideus</i> pop. 10	Steelhead – southern California DPS	Endangered / None	G5T1 Q; S1	Subalpine coniferous forest, upper montane coniferous forest, lower montane coniferous forest. High ridges: on scree, talus, or gravel. 800-3370 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Oreonana vestita</i>	woolly mountain-parsley	None / None	G3; S3; CNPS: 1B.3	Alpine boulder and rock field, subalpine coniferous forest. Gravely or rocky sites. 2615-3505 m.	The Project Area is outside the known elevation range for this species. Occurrence potential is low.
<i>Oxytropis oreophila</i> var. <i>oreophila</i>	rock-loving oxytrope	None / None	G5T4T5; S2; CNPS: 2B.3		

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Packera bernardina</i>	San Bernardino ragwort	None/ None	G2; S2; CNPS: 1B.2	Meadows and seeps, pebble plains, upper montane coniferous forest. Mesic, sometimes alkaline meadows, and dry rocky slopes. 1615-2470 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
	Pebble Plains	None/ None	G1; S1.1		There is no pebble plain or pebble plain-like habitat within the Project Area and pebble plain indicator species are absent from the Project site.
<i>Perideridia parishii</i> ssp. <i>parishii</i>	Parish's yampah	None/ None	G4T3T4; S2; CNPS: 2B.2	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest. Damp meadows or along streambeds- prefers an open pine canopy. 1470-2530 m.	The microhabitats this species is associated with (i.e. damp meadows or streambeds) are absent from the Project Area. Occurrence potential is low.
<i>Phlox dolichantha</i>	Big Bear Valley phlox	None/ None	G2; S2; CNPS: 1B.2	Pebble plains, upper montane coniferous forest. Sloping hillsides, in shade under pines and <i>Quercus kelloggii</i> , with heavy pine litter; also, in openings. 1980-2805 m.	This species is present within the Project Area.
<i>Phrynosoma blainvillii</i>	coast horned lizard	None/ None	G3G4; S3S4; CDFW-SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	This species has not been documented in the Big Bear Valley and the Project Area is likely outside the current range of this species. Occurrence potential is low.

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Physaria kingii</i> ssp. <i>bernardina</i>	San Bernardino Mountains bladderpod	Endangered/ None	G5T1; S1; CNPS: 1B.1	Summer resident of desert riparian along lower Colorado River, and locally elsewhere in California deserts. Requires cottonwood-willow riparian for nesting and foraging; prefers older, dense stands along streams.	The carbonate soils this species requires are absent from the Project Area and the site consists of graded/developed land. Therefore, occurrence potential is low.
<i>Piranga rubra</i>	summer tanager	None/ None	G5; S1; CDFW: SSC	Meadows and seeps. Mesic meadows of open pine forests and grassy slopes. loamy alluvial to sandy loam soil. 1255-2655 m.	No suitable habitat for this species exists within the Project Area. Occurrence potential is low.
<i>Poa atropurpurea</i>	San Bernardino blue grass	Endangered/ None	G2; S2; CNPS: 1B.2	Lower montane coniferous forest. In boggy soil. 1600-1700 m.	The microhabitat this species is associated with (i.e. boggy soil) is absent from the Project Area. Occurrence potential is low.
<i>Pollomintha incana</i>	frosted mint	None/ None	G5; SH; CNPS: 2A	Occurs in very arid environments in the vicinity of the San Bernardino Mtns. Known to occur on chamise (<i>Adenostoma fasciculatum</i>).	No suitable habitat for this species exists within the Project Area. Occurrence potential is low.
<i>Psychomastax deserticola</i>	desert monkey grasshopper	None/ None	G1G2; S1S2	Pebble plain, meadows and seeps. Meadows, meadow edges, and along streams in or near pebble plain habitat. 2040-2280 m.	The microhabitats this species is associated with (i.e. meadow edges, seeps, and streams) are absent from the Project Area. Occurrence potential is low.
<i>Pyrrocomma uniflora</i> var. <i>gossypina</i>	Bear Valley pyrrocomma	None/ None	G5T1; S1; CNPS: 1B.2		

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Rana muscosa</i>	southern mountain yellow-legged frog	Endangered/ Endangered	G1; S1; CDFW: WL	Federal listing refers to populations in the San Gabriel, San Jacinto and San Bernardino mountains (southern DPS). Northern DPS was determined to warrant listing as endangered, Apr 2014, effective Jun 30, 2014. Always encountered within a few feet of water. Tadpoles may require 2 - 4 yrs. to complete their aquatic development.	The aquatic habitats required by this species are absent from the Project Area. Therefore, this species is considered absent from the Project Area.
<i>Rosa woodsii</i> var. <i>glabrata</i>	Cushenbury rose	None/ None	G5T1; S1; CNPS: 1B.1	Mojavean desert scrub. Springs. 1095-1220 m.	The Project Area is outside the known elevation range for this species and the habitats this species is associated with are absent from the Project Area. Therefore, this species is considered absent from the Subject Parcel.
<i>Salpiglossa latimeri</i>	Latimer's woodland-gilia	None/ None	G3; S3; CNPS: 1B.2	Chaparral, Mojavean desert scrub, pinyon and juniper woodland. Rocky or sandy substrate; sometimes in washes, sometimes limestone. 120-2200 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	Parish's checkerbloom	None/ Rare	G3T1; S1; CNPS: 1B.2	Chaparral, cismontane woodland, lower montane coniferous forest. Disturbed burned or cleared areas on dry, rocky slopes, in fuel breaks and fire roads along the mountain summits. 1095-2135 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Sidalcea malviflora</i> ssp. <i>dolosa</i>	Bear Valley checkerbloom	None/ None	G5T2; S2; CNPS: 1B.2	Meadows and seeps, riparian woodland, lower montane coniferous forest, upper montane coniferous forest. Known from wet areas within forested habitats. Affected by hydrological changes. 1575-2590 m.	The habitats this species is associated with (i.e. wet areas) are absent from the Project Area and the site consists of graded/developed land. Occurrence potential is low.
<i>Sidalcea pedata</i>	bird-foot checkerbloom	Endangered/ Endangered	G1; S1; CNPS: 1B.1	Meadows and seeps, pebble plains. Vernally mesic sites in meadows or pebble plains. 1840-2305 m.	The habitats this species is associated with (i.e. vernally mesic sites in meadows or pebble plains) are absent from the Project Area and the site consists of graded/developed land. Occurrence potential is low.
<i>Sisyrinchium longipes</i>	timberland blue-eyed grass	None/ None	G3G4; S1; CNPS: 2B.2	Meadows and seeps. Mesic areas in meadows; seeps. 2060 m.	The microhabitats this species is associated with (i.e. mesic areas in meadows; seeps) are absent from the Project Area. Occurrence potential is low.
	Southern California Threespine Stickleback Stream	None/ None	GNR; SNR		This aquatic habitat is absent from the Project Area.
<i>Sphenopholis obtusata</i>	prairie wedge grass	None/ None	G5; S2; CNPS: 2B.2	Cismontane woodland, meadows and seeps. Open moist sites, along rivers and springs, alkaline desert seeps. 15-2625 m.	The microhabitats this species is associated with (i.e. moist sites, along rivers and springs, alkaline desert seeps) are absent from the Project Area. Occurrence potential is low.
<i>Streptanthus berrardinus</i>	Laguna Mountains jewelflower	None/ None	G3G4; S3S4; CNPS: 4.3	Chaparral, lower montane coniferous forest. Clay or decomposed granite soils; sometimes in disturbed areas such as stream sides or roadcuts. 1440-2500 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Streptanthus campestris</i>	southern jewelflower	None/ None	G3; S3; CNPS: 1B.3	Chaparral, lower montane coniferous forest, pinyon and juniper woodland. Open, rocky areas. 605-2590 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Symphytichium defoliatum</i>	San Bernardino aster	None/ None	G2; S2; CNPS: 1B.2	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. 3-2045 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.
<i>Taraxacum californicum</i>	California dandelion	Endangered/ None	G1 G2; S1 S2; CNPS: 1B.1	Meadows and seeps. Mesic meadows, usually free of taller vegetation. 1620-2590 m.	The microhabitats this species is associated with (i.e. mesic meadows) are absent from the Project Area and the site consists of graded/developed land. Occurrence potential is low.
<i>Thamnophis hammondi</i>	two-striped garter snake	None/ None	G4; S3 S4; CDFW: SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	The aquatic habitats required by this species are absent from the Project Area. Therefore, this species is considered absent from the Project Area.
<i>Thelypodium stenopetalum</i>	slender-petaled thelypodium	Endangered/ Endangered	G1; S1; CNPS: 1B.1	Meadows and seeps. Seasonally moist alkaline clay soils; associated with seeps and springs in the pebble plains. 2045-2240 m.	The microhabitats this species is associated with (i.e. seeps and springs in pebble plains) are absent from the Project Area and the site consists of graded/developed land. Occurrence potential is low.

Scientific Name	Common Name	Listing Status Federal/ State	Other Status	Habitat	Occurrence Potential
<i>Viola pinetorum</i> ssp. <i>grisea</i>	grey-leaved violet	None/ None	G4G5T3; S3; CNPS: 1B.2	Subalpine coniferous forest, upper montane coniferous forest, meadows, and seeps. Dry mountain peaks and slopes. 1580-3700 m.	Some of the habitat this species is associated with is present adjacent the Project Area. However, the site consists of graded/developed land. Occurrence potential is low.

Coding and Terms

E = Endangered T = Threatened C = Candidate FP = Fully Protected SSC = Species of Special Concern R = Rare

State Species of Special Concern: An administrative designation given to vertebrate species that appear to be vulnerable to extinction because of declining populations, limited acreages, and/or continuing threats. Raptor and owls are protected under section 3502.5 of the California Fish and Game code: "It is unlawful to take, possess or destroy any birds in the orders Falconiformes or Strigiformes or to take, possess or destroy the nest or eggs of any such bird."

State Fully Protected: The classification of Fully Protected was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians and reptiles. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Global Rankings (Species or Natural Community Level):

- G1 = Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- G2 = Imperiled – At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- G3 = Vulnerable – At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
- G4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5 = Secure – Common, widespread and abundant.

Subspecies Level: Taxa which are subspecies or varieties receive a taxon rank (T-rank) attached to their G-rank. Where the G-rank reflects the condition of the entire species, the T-rank reflects the global situation of just the subspecies. For example: the Point Reyes mountain beaver, *Aplodontia rufa* ssp. *phaea* is ranked G5T2. The G-rank refers to the whole species range i.e., *Aplodontia rufa*. The T-rank refers only to the global condition of ssp. *phaea*.

State Rankin g:

- S1 = Critically Imperiled – Critically imperiled in the State because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the State.
- S2 = Imperiled – Imperiled in the State because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the State.
- S3 = Vulnerable – Vulnerable in the State due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the State.
- S4 = Apparently Secure – Uncommon but not rare in the State; some cause for long-term concern due to declines or other factors.
- S5 = Secure – Common, widespread, and abundant in the State.

California Rare Plant Rankings (GNPS List):

- 1A = Plants presumed extirpated in California and either rare or extinct elsewhere.
- 1B = Plants rare, threatened, or endangered in California and elsewhere.
- 2A = Plants presumed extirpated in California, but common elsewhere.
- 2B = Plants rare, threatened, or endangered in California, but more common elsewhere.
- 3 = Plants about which more information is needed; a review list.
- 4 = Plants of limited distribution; a watch list.

Threat Ranks:

- 1 = Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- 2 = Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- 3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Appendix B. Site Photos



Photo 1. Southwest corner of Subject Parcel, looking northeast. Clinton Keith Road on the far left.



Photo 2. Southern boundary of Subject Parcel, looking east. Baldwin Lane on the far right.



Photo 3. Proposed walkway area near northwest corner of the Subject Parcel, looking north.



Photo 4. Northwest corner of Subject Parcel, looking south. Location of old baseball diamond.



Photo 5. Northwest corner of Subject Parcel, looking east. Location of old baseball diamond.



Photo 6. Northern border of Subject Parcel, looking east.



Photo 7. Northern portion of Subject Parcel, looking south.



Photo 8. Northeastern portion of Subject Parcel, looking south along eastern boundary.



Photo 9.
Northeastern
corner of Subject
Parcel, looking west
along northern
boundary.



Photo 10.
Northeastern
corner of Subject
Parcel, looking
south along eastern
boundary.



Photo 11.
Southeastern
portion of Subject
Parcel, looking
northwest.



Photo 11.
Southeastern
portion of Subject
Parcel, looking
southwest.

Appendix C. Plant List

List of Plant Species Observed within the Project Area

Scientific Name	Common Name	Life Form
Amaranthaceae	Amaranth Family	
<i>Amaranthus hybridus*</i>	slender pigweed*	annual herb
Asteraceae	Aster Family	
<i>Achillea millefolium</i>	common yarrow	perennial herb
<i>Artemisia ludoviciana</i>	mugwort	perennial herb
<i>Artemisia tridentata</i>	common sagebrush	shrub
<i>Ericameria nauseosa</i>	rubber rabbitbrush	shrub
<i>Dieteria canescens</i>	hoary aster	perennial herb
<i>Madia elegans</i>	common madia	annual herb
<i>Symphyotrichum ascendens</i>	western aster	perennial herb
Cupressaceae	Cypress Family	
<i>Juniperus grandis</i>	Sierra juniper	tree
Fabaceae	Pea Family	
<i>Lupinus breweri</i>	Brewer's lupine	perennial herb
<i>Medicago sativa*</i>	alfalfa*	perennial herb
Malvaceae	Mallow Family	
<i>Fremontodendron californicum</i>	California flannelbush	shrub
<i>Malva neglecta*</i>	common mallow*	annual, perennial herb
<i>Sphaeralcea ambigua</i>	apricot mallow	perennial herb
Pinaceae	Pine Family	
<i>Pinus jeffreyi</i>	Jeffrey pine	tree
Plantaginaceae	Plantain Family	
<i>Plantago lanceolata**</i>	English plantain**	perennial herb
Poaceae	Grass Family	
<i>Bromus</i> spp.**	brome grasses**	annual grasses
Polygonaceae	Buckwheat Family	
<i>Eriogonum umbellatum</i> var. <i>munzii</i>	Munz's buckwheat	perennial herb
<i>Eriogonum wrightii</i> var. <i>subscaposum</i>	Wright's buckwheat	perennial herb, shrub
Rosaceae	Rose Family	
<i>Amelanchier utahensis</i>	pale leaved serviceberry	shrub

Scientific Name	Common Name	Life Form
<i>Cercocarpus ledifolius</i> var. <i>intermontanus</i>	curl leaf mountain mahogany	tree or shrub

*non-native

**invasive species

Appendix D. Regulatory Framework

Federal Regulations

Clean Water Act

The purpose of the Clean Water Act (CWA) of 1977 is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA prohibits the discharge of dredged or fill material into “waters of the United States” (WOTUS) without a permit from the United States Army Corps of Engineers (USACE). The definition of waters of the United States includes rivers, streams, estuaries, territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas “that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 Code of Federal Regulations [CFR] 328.3 7b). The U.S. Environmental Protection Agency (EPA) also has authority over wetlands and may override a USACE permit. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; in California this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

Federal Endangered Species Act (ESA)

The federal Endangered Species Act (ESA) of 1973 protects plants and wildlife that are listed by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) as endangered or threatened. Section 9 of the ESA (USA) prohibits the taking of endangered wildlife, where taking is defined as any effort to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50 CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 United States Code [USC] 1538). Under Section 7 of the ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect an endangered species (including plants) or its Critical Habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity, provided the action will not jeopardize the continued existence of the species. The ESA specifies that the USFWS designate habitat for a species at the time of its listing in which are found the physical or biological features “essential to the conservation of the species,” or which may require “special Management consideration or protection...” (16 USC § 1533[a][3].2; 16 USC § 1532[a]). This designated Critical Habitat is then afforded the same protection under the ESA as individuals of the species itself, requiring issuance of an Incidental Take Permit prior to any activity that results in “the destruction or adverse modification of habitat determined to be critical” (16 USC § 1536[a][2]).

Interagency Consultation and Biological Assessments

Section 7 of ESA provides a means for authorizing the “take” of threatened or endangered species by federal agencies, and applies to actions that are conducted, permitted, or funded by a federal agency. The statute requires federal agencies to consult with the USFWS or National Marine Fisheries Service (NMFS), as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of Critical Habitat for these species. If a Proposed Project “may affect” a listed species or destroy or modify Critical Habitat, the lead agency is required to prepare a biological assessment evaluating the nature and severity of the potential effect.

Habitat Conservation Plans

Section 10 of the federal ESA requires the acquisition of an Incidental Take Permit (ITP) from the USFWS by non-federal landowners for activities that might incidentally harm (or “take”) endangered or threatened wildlife on

their land. To obtain a permit, an applicant must develop a Habitat Conservation Plan that is designed to offset any harmful impacts the proposed activity might have on the species.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 U.S.C. Sections 661 to 667e et seq.) applies to any federal Project where any body of water is impounded, diverted, deepened, or otherwise modified. Project proponents are required to consult with the USFWS and the appropriate state wildlife agency.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (The Eagle Act) (1940), amended in 1962, was originally implemented for the protection of bald eagles (*Haliaeetus leucocephalus*). In 1962, Congress amended the Eagle Act to cover golden eagles (*Aquila chrysaetos*), a move that was partially an attempt to strengthen protection of bald eagles, since the latter were often killed by people mistaking them for golden eagles. This act makes it illegal to import, export, take (molest or disturb), sell, purchase, or barter any bald eagle or golden eagle or part thereof. The golden eagle, however, is accorded somewhat lighter protection under the Eagle Act than that of the bald eagle.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 implements international treaties between the United States and other nations created to protect migratory birds, any of their parts, eggs, and nests from activities, such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code (CFGC).

However, on December 22, 2017 the U.S. Department of the Interior (DOI) issued a memorandum concluding that MBTA's prohibitions on take apply "[...] only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" (DOI 2017). Therefore, take of migratory birds or their active nests (i.e., with eggs or young) that is incidental to, and not the purpose of, an otherwise lawful activity does not constitute a violation of the MBTA. Then, on April 11, 2018, the USFWS issued a guidance memorandum that provided further clarification on their interpretation:

"We interpret the M-Opinion to mean that the MBTA's prohibitions on take apply when the purpose of an action is to take migratory birds, their eggs, or their nests. Conversely, the take of birds, eggs or nests occurring as the result of an activity, the purpose of which is not to take birds, eggs or nests, is not prohibited by the MBTA" (USFWS 2018).

Therefore, the MBTA is currently interpreted to prohibit the take of birds, nests or eggs when the *purpose or intent* of the action is to take birds, eggs or nests, not when the take of birds, eggs or nests is incidental to but not the intended purpose of an otherwise lawful action.

Executive Orders (EO)

Invasive Species – EO 13112 (1999): Issued on February 3, 1999, promotes the prevention and introduction of invasive species and provides for their control and minimizes the economic, ecological, and human health impacts that invasive species cause through the creation of the Invasive Species Council

and Invasive Species Management Plan.

Migratory Bird – EO 13186 (2001): Issued on January 10, 2001, promotes the conservation of migratory birds and their habitats and directs federal agencies to implement the Migratory Bird Treaty Act. Protection and Enhancement of Environmental Quality—EO 11514 (1970a), issued on March 5, 1970, supports the purpose and policies of the National Environmental Policy Act (NEPA) and directs federal agencies to take measures to meet national environmental goals.

Migratory Bird Treaty Reform Act

The Migratory Bird Treaty Reform Act (Division E, Title I, Section 143 of the Consolidated Appropriations Act, 2005, PL 108–447) amends the Migratory Bird Treaty Act (16 U.S.C. Sections 703 to 712) such that nonnative birds or birds that have been introduced by humans to the United States or its territories are excluded from protection under the Act. It defines a native migratory bird as a species present in the United States and its territories as a result of natural biological or ecological processes. This list excluded two additional species commonly observed in the United States, the rock pigeon (*Columba livia*) and domestic goose (*Anser domesticus*).

Birds of Conservation Concern

Birds of Conservation Concern (BCC) is a USFWS list of bird species identified to have the highest conservation priority, and with the potential for becoming candidates for listing as federally threatened or endangered. The chief legal authority for BCC is the Fish and Wildlife Conservation Act of 1980 (FWCA). Other authorities include the FESA, the Fish and Wildlife Act of 1956, and the Department of the Interior U.S Code (16 U.S.C. § 701). The 1988 amendment to the FWCA (Public Law 100-653, Title VIII) requires the Secretary of the Interior, through the USFWS, to “identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973” (USFWS, 2008a).

State Regulations

California Fish and Game Code Sections 1600 through 1606 of the CFGC

This section requires that a Streambed Alteration Application be submitted to the CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” The CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the Department and the applicant is the Streambed Alteration Agreement. Often, Projects that require a Streambed Alteration Agreement also require a permit from the USACE under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the Streambed Alteration Agreement may overlap.

California Endangered Species Act

The California Endangered Species Act (CESA) (Sections 2050 to 2085) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats by protecting “all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation.” Animal species are listed by the CDFW as threatened or endangered, and plants are listed as rare, threatened, or endangered. However, only those plant species listed as threatened or endangered receive protection under the California ESA.

CESA mandates that state agencies do not approve a Project that would jeopardize the continued existence of these species if reasonable and prudent alternatives are available that would avoid a jeopardy finding. There are no state agency consultation procedures under the California ESA. For Projects that would affect a species that is federally and State listed, compliance with ESA satisfies the California ESA if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is consistent with the California ESA under Section 2080.1. For Projects that would result in take of a species that is state listed only, the Project sponsor must apply for a take permit, in accordance with Section 2081(b).

Fully Protected Species

Four sections of the California Fish and Game Code (CFG) list 37 fully protected species (CFG Sections 3511, 4700, 5050, and 5515). These sections prohibit take or possession "at any time" of the species listed, with few exceptions, and state that "no provision of this code or any other law will be construed to authorize the issuance of permits or licenses to 'take' the species," and that no previously issued permits or licenses for take of the species "shall have any force or effect" for authorizing take or possession.

Bird Nesting Protections

Bird nesting protections (Sections 3503, 3503.5, 3511, 3513 and 3800) in the CFG include the following:

- Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.
- Section 3503.5 prohibits the take, possession, or needless destruction of any nests, eggs, or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys, and falcons, among others), and Strigiformes (owls).
- Section 3511 prohibits the take or possession of Fully protected birds.
- Section 3513 prohibits the take or possession of any migratory nongame bird or part thereof, as designated in the MBTA. To avoid violation of the take provisions, it is generally required that Project-related disturbance at active nesting territories be reduced or eliminated during the nesting cycle.

Section 3800 prohibits the take of any non-game bird (i.e., bird that is naturally occurring in California that is not a gamebird, migratory game bird, or fully protected bird).

Native Plant Protection Act

The Native Plant Protect Act (NPPA) (1977) (CFG Sections 1900-1913) was created with the intent to "preserve, protect, and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Game Commission has the authority to designate native plants as endangered or rare and to protect endangered and rare plants from take. CESA (CFG 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the Fish and Game Code.

APPENDIX 3

HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT

**BIG BEAR HIGH SCHOOL
FOOTBALL AND TRACK STADIUM PROJECT**

**525 Maple Lane, Sugarloaf Area
San Bernardino County, California**

For Submittal to:

Bear Valley Unified School District
42271 Moonridge Road
Big Bear Lake, CA 92315

Prepared for:

Tom Dodson & Associates
2150 North Arrowhead Avenue
San Bernardino, CA 92405

Prepared by:

CRM TECH
1016 East Cooley Drive, Suite A/B
Colton, CA 92324

Bai “Tom” Tang, Principal Investigator
Michael Hogan, Principal Investigator

December 15, 2021
CRM TECH Contract No. 3799

Title: Historical/Archaeological Resources Survey Report: Big Bear High School Football and Track Stadium Project, 525 Maple Lane, Sugarloaf Area, San Bernardino County, California

Author(s): Bai “Tom” Tang, Principal Investigator/Historian
Terri Jacquemain, Historian/Report Writer
Hunter O’Donnell, Archaeologist

Consulting Firm: CRM TECH
1016 East Cooley Drive, Suite A/B
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Date: December 15, 2021

For Submittal to: Bear Valley Unified School District
42271 Moonridge Road
Big Bear Lake, CA 92315
(909) 866-4631

Prepared for: Kaitlyn Dodson-Hamilton, Vice President
Tom Dodson & Associates
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Project Size: Approximately eight acres

USGS Quadrangle: Big Bear City, Calif., 7.5’ quadrangle (Section 13, T2N R1E, San Bernardino Baseline and Meridian)

Keywords: Big Bear Valley, San Bernardino Mountains; Phase I cultural resources survey; Assessor’s Parcel No. 0312-311-20 (southern portion); no “historical resources” under CEQA

MANAGEMENT SUMMARY

Between September and December 2021, at the request of Tom Dodson & Associates, CRM TECH performed a cultural resources survey on the former campus of Chautauqua High School at 525 Maple Lane in the unincorporated Sugarloaf area of San Bernardino County, California. The subject property of the study, approximately eight acres in size, comprises the southern portion of Assessor's Parcel No. 0312-311-20, located adjacent to the Big Bear High School campus at 351 Maple Lane, which occupies the northern portion of the 15-acre parcel. The project location is at the northwestern corner of Maple Lane and Baldwin Lane, in the southeast quarter of Section 13, T2N R1E, San Bernardino Baseline and Meridian.

The study is part of the environmental review process for the proposed Big Bear High School Football and Track Stadium Project, which entails primarily the construction of an approximately 1,000-person-capacity stadium and associated facilities. The project will require removal of the vacant buildings left by the now-relocated Chautauqua High School. The Bear Valley Unified School District (BVUSD), as the lead agency for the project, requires the study in compliance with the California Environmental Quality Act (CEQA).

The purpose of the study is to provide the BVUSD with the necessary information and analysis to determine whether the proposed project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area. In order to identify such resources, CRM TECH initiated a historical/archaeological resources records search and a Native American Sacred Lands File search, pursued historical background research, and carried out a systematic field survey.

Throughout these research procedures, no "historical resources" were encountered within or adjacent to the project area. However, the Sacred Lands File indicates the presence of unspecified Native American cultural resource(s) in the general vicinity of the project area. The State of California Native American Heritage Commission referred further inquiries on such resource(s) to the San Manuel Band of Mission Indians and other local tribes. During ensuing correspondence, the San Manuel Band identified cultural resources near but not in the immediate vicinity of the project area. The tribe did not provide further information on such resources and expressed the desire to address their concerns in future government-to-government consultation with the BVUSD under provisions of AB 52.

Based on these findings, CRM TECH recommends to the BVUSD a preliminary determination of *No Impact* regarding cultural resources, pending the completion of further consultations with local Native American groups by the district. No other cultural resources investigations will be necessary for the project unless construction plans undergo such changes as to include areas not covered by this study. However, if buried cultural materials are discovered during earth-moving operations associated with the project, all work at that location should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

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INTRODUCTION

Between September and December 2021, at the request of Tom Dodson & Associates, CRM TECH performed a cultural resources survey on the former campus of Chautauqua High School at 525 Maple Lane in the unincorporated Sugarloaf area of San Bernardino County, California (Fig. 1). The subject property of the study, approximately eight acres in size, comprises the southern portion of Assessor's Parcel No. 0312-311-20, located adjacent to the Big Bear High School campus at 351 Maple Lane, which occupies the northern portion of the 15-acre parcel. The project location is at the northwestern corner of Maple Lane and Baldwin Lane, in the southeast quarter of Section 13, T2N R1E, San Bernardino Baseline and Meridian (Figs. 2, 3).

The study is part of the environmental review process for the proposed Big Bear High School Football and Track Stadium Project, which entails primarily the construction of an approximately 1,000-person-capacity stadium and associated facilities. The project will require removal of the vacant buildings left by the now-relocated Chautauqua High School. The Bear Valley Unified School District (BVUSD), as the lead agency for the project, requires the study in compliance with the California Environmental Quality Act (CEQA; PRC §21000, et seq.).

The purpose of the study is to provide the BVUSD with the necessary information and analysis to determine whether the proposed project would cause substantial adverse changes to any "historical resources," as defined by CEQA, that may exist in or around the project area. In order to identify such resources, CRM TECH initiated a historical/archaeological resources records search and a Native American Sacred Lands File search, pursued historical background research, and carried out a systematic field survey. The following report is a complete account of the methods, results, and final conclusion of the study. Qualifications of personnel who participated in the study are provided in Appendix 1.

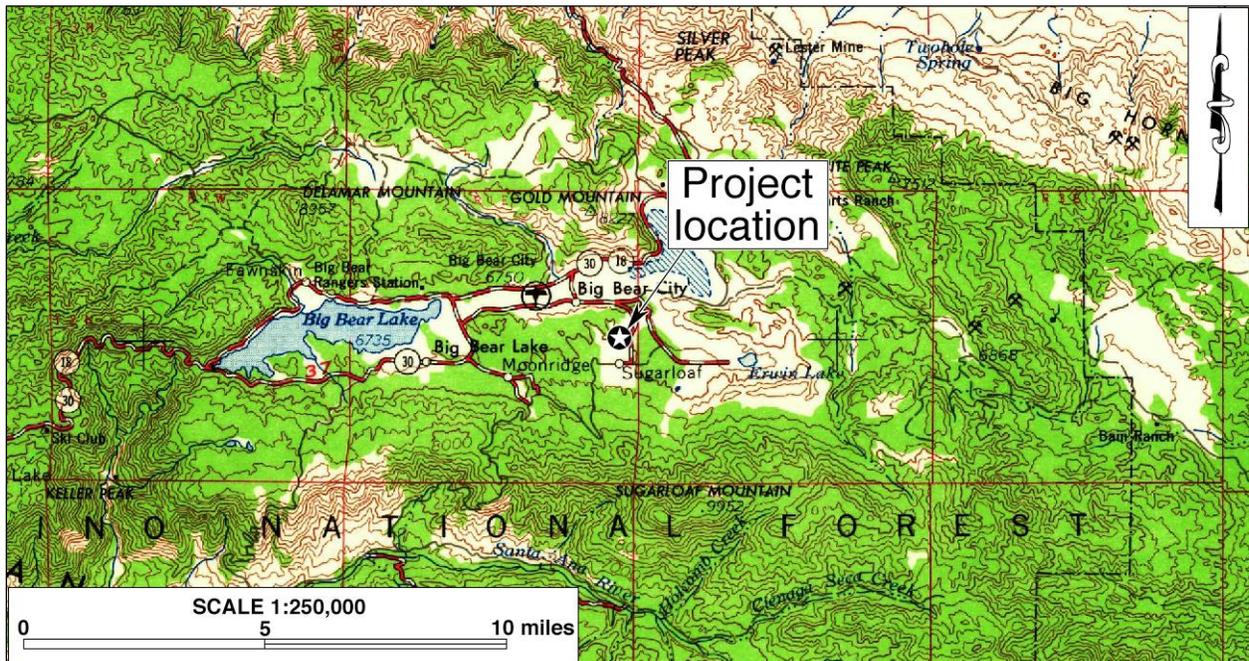


Figure 1. Project vicinity. (Based on USGS San Bernardino, Calif., 120'x60' quadrangle [USGS 1969])

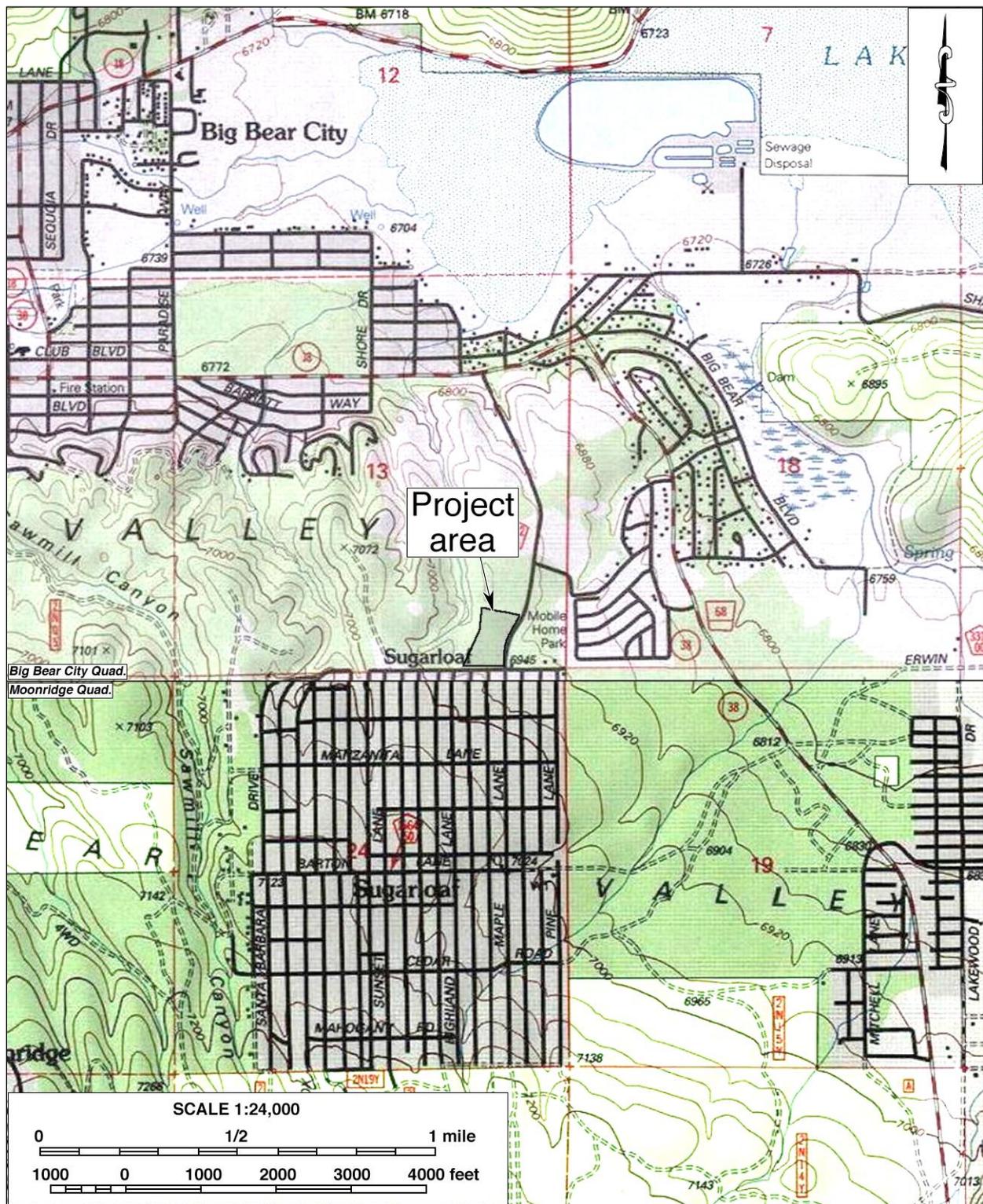


Figure 2. Project area. (Based on USGS Big Bear City and Moonridge, Calif., 7.5' quadrangles [1996a; 1996b])



Figure 3. Aerial image of the project area.

SETTING

CURRENT NATURAL SETTING

Situated in the central portion of Big Bear Valley and deep in the San Bernardino Mountains, the Sugarloaf area features an alpine climate and a forest-dominated environment in sharp contrast to the Mediterranean climate and desert environment in most of southern California. Seasonal temperatures in Big Bear Valley range from an average low of nine degrees Fahrenheit in January to an average high of 89 degrees in July, much closer to the national average than to that of the nearby San Bernardino-Riverside region (NOAA n.d.). The average annual precipitation reaches more than 18 inches of rainfall and 35 inches of snowfall (*ibid.*).

As mentioned above, the project area encompasses the former campus of Chautauqua High School, a BVUSD continuation school that has been relocated to the adjacent Big Bear High School campus. Five portable classroom buildings, four shipping containers, three baseball fields, and a playground are currently present on the property, along with paved driveways and parking lots. The ground surface in the project area has been extensively disturbed due to past construction and appears worn by foot traffic and other school-related activities.

The baseball field in the northeast portion of the project area is slightly sunken, while a low knoll in the southeast portion rises approximately five feet above the surrounding land. The terrain elsewhere is generally level. Elevations range between approximately 6,950 and 6,980 feet above mean sea level, with a slight incline to the south and west. Vegetation observed on the property includes lodgepole and Jeffrey pines, wild buckwheat, sagebrush, flannel bush, and other small grasses and shrubs.

CULTURAL SETTING

Archaeological Context

The earliest evidence of human occupation in inland southern California was discovered below the surface of an alluvial fan in the northern portion of the Lakeview Mountains, overlooking the San



Figure 4. Typical landscapes in the project area. (Photographs taken on December 10, 2021)

Jacinto Valley, with radiocarbon dates clustering around 9,500 before present (B.P.; Horne and McDougall 2008). Another site found near the shoreline of Lake Elsinore, close to the confluence of Temescal Wash and the San Jacinto River, yielded radiocarbon dates between 8,000 and 9,000 B.P. (Grenda 1997). Additional sites with isolated Archaic dart points, bifaces, and other associated lithic artifacts from the same age range have been found in the Cajon Pass area of the San Bernardino Mountains, typically on top of knolls with good viewsheds (Basgall and True 1985; Goodman and McDonald 2001; Goodman 2002; Milburn et al. 2008).

The cultural history of southern California has been summarized into numerous chronologies, including those developed by Chartkoff and Chartkoff (1984), Warren (1984), and others. Specifically, the prehistory of the inland region has been addressed by O'Connell et al. (1974), McDonald et al. (1987), Keller and McCarthy (1989), Grenda (1993), Goldberg (2001), and Horne and McDougall (2008). Although the beginning and ending dates of the recognized cultural horizons vary among different parts of the region, the general framework for the prehistory can be broken into three primary periods:

- Paleoindian Period (ca. 18,000-9,000 B.P.): Native peoples of this period created fluted spearhead bases designed to be hafted to wooden shafts. The distinctive method of thinning bifaces and spearhead preforms by removing long, linear flakes leaves diagnostic Paleoindian markers at tool-making sites. Other artifacts associated with the Paleoindian toolkit include choppers, cutting tools, retouched flakes, and perforators. Sites from this period are very sparse across the landscape and most are deeply buried.
- Archaic Period (ca. 9,000-1,500 B.P.): Archaic sites are characterized by abundant lithic scatters of considerable size with many biface thinning flakes, bifacial preforms broken during manufacture, and well-made groundstone bowls and basin metates. As a consequence of making dart points, many biface thinning waste flakes were generated at individual production stations, which is a diagnostic feature of Archaic sites.
- Late Prehistoric Period (ca. 1,500 B.P.-contact): Sites from this period typically contain small lithic scatters from the manufacture of small arrow points, expedient groundstone tools such as tabular metates and unshaped manos, wooden mortars with stone pestles, acorn or mesquite bean granaries, ceramic vessels, shell beads suggestive of extensive trading networks, and steatite implements such as pipes and arrow shaft straighteners.

Ethnohistorical Context

Big Bear Valley lies in the heart of the homeland of the Serrano people, which is centered in the San Bernardino Mountains. Together with that of the Vanyume people, linguistically a subgroup, the traditional territory of the Serrano also includes part of the San Gabriel Mountains, much of the San Bernardino Valley, and the Mojave River valley in the southern portion of the Mojave Desert, reaching as far east as the Cady, Bullion, Sheep Hole, and Coxcomb Mountains. The name "Serrano" was derived from a Spanish term meaning "mountaineer" or "highlander." The basic written sources on Serrano culture are Kroeber (1925), Strong (1929), and Bean and Smith (1978). The following ethnographic discussion of the Serrano people is based mainly on these sources.

Prior to European contact, Serrano subsistence was defined by the surrounding landscape and primarily based on the gathering of wild and cultivated foods and hunting, exploiting nearly all of

the resources available. They settled mostly on elevated terraces, hills, and finger ridges near where flowing water emerged from the mountains. Loosely organized into exogamous clans led by hereditary heads, the clans were in turn affiliated with one of two exogamous moieties, the Wildcat (*Tukutam*) or the Coyote (*Wahiiam*). The core of the unit was the patrilineage, although women retained their own lineage names after marriage.

In Serrano oral tradition, the Big Bear Valley area is known as Yuhaaviat, or “Pine Place,” and is remembered as the point of origin for the nearby San Manuel Band of Mission Indians (Ramos 2009). It is well-documented in ethnographic literature that Big Bear Valley figures prominently in the Serrano creation story. As Kroeber (1925:619) notes:

Kukitat [younger brother of Pakrokitat, creator of Man], feeling death approach, gave instructions for his cremation; but the suspected coyote, although sent away on a pretended errand, returned in time to squeeze through badger’s legs in the circle of the mourners and make away with Kukitat’s heart. This happened at *Hatauva* (compare Luiseño Tova, where Wiyot died) in Bear Valley.

In a newspaper article, James Ramos, former Chairman of the San Manuel Band of Mission Indians, generally corroborates Kroeber’s account and provides the accurate spelling of the deities’ names in the Serrano language, Kruktat and Pakruktat (Ramos 2009). In addition, he identifies the location of Hatauva as being in the general vicinity of a white quartz dome known to tribal members as Aapahunane’t, or Eye of God, to the east of Baldwin Lake (*ibid.*).

At least two Serrano clans lived in or near Big Bear Valley during prehistoric and protohistoric times, according to Strong (1929:11). The Yuhavetum (or Yuhaaviatam, as spelled by the San Manuel Band of Mission Indians) clan’s territory stretched from Big Bear Valley to the present-day Highland area in the San Bernardino Valley. The Pervetum clan’s territory extended from the vicinity of Big Bear Valley to the headwaters of the Santa Ana River, across Sugarloaf Mountain. The two clans often intermarried.

The Serrano had a variety of technological skills that they used to acquire food, shelter, and clothing as well as to create ornaments and decorations. Common tools included manos and metates, mortars and pestles, hammerstones, fire drills, awls, arrow straighteners, and stone knives and scrapers. These lithic tools were made from locally sourced material as well as materials procured through trade or travel. They also used wood, horn, and bone spoons and stirrers; baskets for winnowing, leaching, grinding, transporting, parching, storing, and cooking; and pottery vessels for carrying water, storage, cooking, and serving food and drink. Much of this material cultural, elaborately decorated, does not survive in the archaeological record. As usual, the main items found archaeologically relate to subsistence activities.

Although contact with Europeans may have occurred as early as 1771 or 1772, Spanish influence on Serrano lifeways was minimal until the 1810s, when a mission *asistencia* was established on the southern edge of Serrano territory. Between then and the end of the mission era in 1834, most of the Serrano in the western portion of their traditional territory were removed to the nearby missions. In the eastern portion, a series of punitive expeditions in 1866-1870 resulted in the death or displacement of almost all remaining Serrano population in the San Bernardino Mountains. Today,

most Serrano descendants are affiliated with the San Manuel Band of Mission Indians, the Morongo Band of Mission Indians, or the Serrano Nation of Indians.

Historical Context

In 1772, a small force of Spanish soldiers under the command of Pedro Fages, military *comandante* of Alta California, became the first Europeans to set foot in the San Bernardino Mountains, followed shortly afterwards by the famed explorer Francisco Garcés in 1776 (Beck and Haase 1974:15). During the next 70 years, however, the Spanish and Mexican colonization activities in Alta California, concentrated predominantly in the coastal regions, left little physical impact on the San Bernardinos. Aside from occasional explorations and punitive expeditions against livestock raiders, the mountainous hinterland of California remained largely beyond the attention of the missionaries, the *rancheros*, and the provincial authorities. The name “San Bernardino” was bestowed on the region in the 1810s, when the mission *asistencia* and an associated rancho were established under that name in present-day Loma Linda (Lerch and Haenszel 1981).

For the Bear Valley area, the historic period began in 1845, when Benjamin “Benito” Wilson, a prominent early settler in southern California, and a group of young *Californios* “discovered” the valley while avenging an Indian raid and named it aptly for the large number of grizzly bears they observed (Drake 1949:12). After the U.S. annexation of Alta California in 1848, the rich resources offered by the San Bernardino Mountains brought about drastic changes, spurred by the influxes of settlers from the eastern United States. Beginning in the early 1850s, the dense forest covering the mountainside became the scene—and victim—of a booming lumber industry, which brought the first wagon roads and industrial establishments into the San Bernardinos. However, the lumber industry was concentrated on the western end of the mountain range, with less impact to the area east of Running Springs and Green Valley (Robinson 1989:23). In Bear Valley, lumbering was largely limited to a number of small sawmills in support of local construction (*ibid.*:44-45).

Mining in Bear Valley dates back to at least 1855, when gold was discovered near Baldwin Lake (Robinson 1989:47). Then in 1860, William F. Holcomb hit “pay dirt” on a hillside above Bear Valley, and later again in the valley now bearing his name, triggering a gold rush that brought 1,000 prospectors to the San Bernardino Mountains by that fall (Holcomb 1900:273-276; Robinson 1989:48-50). Mining boom towns replete with saloons, dance halls, gambling dens, and bagnios as well as stores, hotels, restaurants, and even a brewery soon sprang up in the mountain valleys (Robinson 1989:48-51). By the late 19th century, mining was big business, with Elias J. “Lucky” Baldwin’s Gold Mountain Mining Company usurping individual prospectors as the dominant force in the industry (Drake 1949:19; Robinson 1989:57-71). Still, the much-anticipated “mother lode” was never found, and by the late 1940s mining was no longer the leading industry in the valley (Core 1980:11-12; Robinson 1989:57, 61-62, 70-71).

Around the same time as the Bear-Holcomb Valley gold rush, the San Bernardino Mountains’ reputation as a premium summer grazing ground for sheep and cattle also grew, with Bear Valley at the epicenter (Robinson 1989:85). Some of the most prominent figures in early local history, including Augustus “Gus” Knight, Sr., James W. Smart, John R. Metcalf, and the Talmadge brothers, were also among those at the forefront of the cattle industry (*ibid.*:85-86). Beef sales from the valley peaked in 1921 before going into decline afterwards, as increasing resort and residential

development drove up real estate value and shrank the availability of pastureland (Drake 1949:25; Robinson 1989:88, 93-94).

Along with its colorful history in lumber, gold, and cattle, Bear Valley owes much of its growth over the past century to the creation of Big Bear Lake, a reservoir built for the purpose of irrigating the vast citrus groves in the eastern San Bernardino Valley. Frank E. Brown and Edward G. Judson, founders of the Redlands colony, organized the Bear Valley Land and Water Company in 1883 and completed construction of the Bear Valley dam in 1884 (Robinson 1989:170). The reservoir was filled during the following winter (Hall 1888:188; Hinckley 1974:41). The project's much-celebrated success was cut short over the next five years as the company's successors attempted to expand the irrigation scheme into Riverside County and became overextended (Robinson 1989:173).

A financial panic in 1893 was later compounded in the late 1890s by drought so severe that Big Bear Lake completely dried up in the summers of 1898, 1899, and 1900 (Hinckley 1983:1). As a remedy, in 1903 citrus growers in the Redlands-Highland area incorporated as the Bear Valley Mutual Water Company and took over the Bear Valley system (*ibid.*:1-2; Robinson 1989:173). Between 1910 and 1912, the new water company constructed the second Big Bear dam that is still in use today (Hinckley 1974:43; 1983:11). The new dam, although only 20 feet higher than the first, substantially increased the size of the reservoir and nearly tripled its capacity (Robinson 1989:174).

By the 1890s, excessive logging and sheep grazing in the San Bernardino Mountains had given rise to a forest conservation movement among residents of the San Bernardino Valley to protect the watershed. In 1893, the movement succeeded in persuading the U.S. government to create the San Bernardino Forest Reserve, later renamed the San Bernardino National Forest, and over the next few decades effectively brought an end to logging and sheep grazing in the San Bernardino Mountains (Robinson 1989:96-99; Robinson and Risher 1990:9).

Meanwhile, Big Bear Lake proved a powerful lure for vacationers and sportsmen, who would commandeer the log cabins left by construction crews (Atchley 1980:21-22). In 1887, the state authorities stocked the lake with thousands of Lake Tahoe trout, signaling the beginning of its development as a recreational property (*ibid.*:22). Three decades later, in 1916, the Bear Valley Mutual Water Company officially dedicated the lake surface to the free use by the public for hunting, fishing, and boating (Hinckley 1983:43, 79), thereby guaranteeing Bear Valley's future as one of the most popular mountain resorts in southern California.

The first commercial resort established on the lakeshore was Gus Knight, Jr., and John Metcalf's Bear Valley Hotel, which opened for business in 1888 (Atchley 1980:22-23). After the Redlands-based Pine Knot Resort Company purchased the hotel in 1906 and renamed it the Pine Knot Lodge, a small community bearing the same name began to form around the lodge (Robinson 1989:181-182). Knight would later develop the Wild Rose Park and Knight's Camp near Baldwin Lake (*ibid.*), and in the meantime became a tireless promoter for the construction of new and better roads between the San Bernardino Valley and his resorts. His efforts helped bring about the roads through City Creek Canyon (1892), Mill Creek Canyon (1888), and Santa Ana Canyon (1899), and culminated with the completion of Rim of the World Drive in 1915 (Atchley 1980:23-26; Robinson 1989:179-183).

The completion of Rim of the World Drive brought about an exponential rise in the number of resorts in Bear Valley from two in 1913 to 52 in 1921 (Drake 1949:26; Robinson 1989:183-185). Winter snow in the mountains held its own attraction and brought a new set of residents and visitors as the Bear Valley area became a year-round getaway. A popular but rudimentary ski jump built in 1932 to the south of Pine Knot spurred the formation of the Big Bear Lake Park District two years later, which in turn brought about the first ski lift in Bear Valley in 1949 (Robinson 1989:193-194). Since then, winter sports have become one of Bear Valley's leading attractions.

Adding to the allure, in the early 20th century Hollywood moviemakers found Bear Valley to be a suitable scenic backdrop for films such as *Paint Your Wagon*, *The Parent Trap*, *Bonanza*, *Kissin' Cousins*, and *Dr. Dolittle* (Atchley 1980:24-25). In 1916, the Bear Valley Mutual Water Company started a land boom in Bear Valley when it created a subsidiary, the Bear Valley Development Company, to subdivide, sell, and lease the company's land holdings around the reservoir (Hinckley 1983:42). Other landowners in the valley, such as the Knights and the Talmadges, soon joined in to take advantage of the increasing popularity of Big Bear Lake (Robinson 1989:187).

The boom continued into the 1920s, with summer homes springing up at the rate of 50 to 100 per year (Robinson 1989:189). In 1938, Pine Knot and its surrounding area came to be known as the community of Big Bear Lake, while a smaller cluster of homes and hostleries between Big Bear and Baldwin Lakes became Big Bear City (*ibid.*:193). Closer to the project location, the residential community of Sugarloaf was laid out prior to 1938, but development in the area evidently began in earnest after the end of World War II (NETR Online 1938-1969; USGS 1954). In 1980, Big Bear Lake became the first incorporated city in the San Bernardino Mountains, while less urbanized communities in the eastern portion of the valley, including Sugarloaf, have remained unincorporated to the present time.

RESEARCH METHODS

RECORDS SEARCH

The historical/archaeological resources records search for this study was conducted by the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System on December 8, 2021. Located on the campus of California State University, Fullerton, SCCIC is the State of California's official cultural resource records repository for the County of San Bernardino. During the records search, SCCIC staff examined the center's digital maps, records, and databases for previously identified cultural resources and existing cultural resources reports within a half-mile radius of the project area. Due to facility closure during the COVID-19 pandemic, records not fully digitized were unavailable, and the results of recently submitted studies have not been processed. Therefore, the SCCIC cautions that the records search results may be incomplete.

SACRED LANDS FILE SEARCH

On September 13, 2021, CRM TECH submitted a written request to the State of California Native American Heritage Commission (NAHC) for a records search in the commission's Sacred Lands File. Following the NAHC's recommendations, CRM TECH subsequently contacted the San

Manuel Band of Mission Indians, the Native American group with closest historical ties with Big Bear Valley, in writing on October 21 for additional input. The correspondence between CRM TECH and the Native American representatives is summarized below and attached to this report in Appendix 2.

HISTORICAL BACKGROUND RESEARCH

Historical background research for this study was conducted by CRM TECH historians Bai “Tom” Tang and Terri Jacquemain. Sources consulted during the research included published literature in local history, historic maps of the Big Bear Valley area, and aerial photographs of the project vicinity. Among the maps consulted for this study were U.S. General Land Office (GLO) land survey plat maps dated 1858 and U.S. Geological Survey (USGS) topographic maps dated 1902-1996, which are accessible at the websites of the USGS and the U.S. Bureau of Land Management. The aerial photographs, taken in 1938-2020, are available at the Nationwide Environmental Title Research (NETR) Online website and through the Google Earth software.

FIELD SURVEY

On December 10, 2021, CRM TECH archaeologist Hunter O’Donnell carried out the field survey of the project area. The survey was completed at an intensive level by walking a series of parallel east-west transects spaced 15 meters (approximately 50 feet) apart where such transects were practicable. Areas near buildings and pavement were inspected opportunistically wherever the ground was visible. In this way, the entire project area was systematically and carefully examined for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years ago or older). A light covering of snow resulted in mostly poor ground visibility. In light of the extent of past ground disturbance in the project area, however, the ground visibility was not considered a significant hindrance to the survey effort.

RESULTS AND FINDINGS

RECORDS SEARCH

According to SCCIC records, the project area had not been surveyed systematically for cultural resources prior to this study, and no historical/archaeological resources had been identified within or adjacent to the project boundaries. Within the half-mile scope of the records search, 25 previous studies have been reported to the SCCIC. As a result of these and other similar studies in the vicinity, three historical/archaeological sites and two isolates—i.e., localities with fewer than three artifacts each—have been recorded within the records search scope, as listed in Table 1.

As Table 1 demonstrates, three of these known cultural resources dated to the historic period, and the other two are of prehistoric—i.e., Native American—origin. Located closest to the project area was Site 36-019868, which was recorded in 2007 as a collection of 1930s residential refuse, a dirt road, and “former” utility pole located along Maple Lane and some 1,500 feet north of the project location. Since none of the five known cultural resources were found less than a quarter-mile from the project area, none of them require further consideration in this study.

Primary Number	Trinomial	Resource Type	Age	Date Recorded	Description
36-013245	N/A	Site	Historical	2006	Campfire pit and 1950s refuse
36-019868	CA-SBR-013206H	Site	Historical	2007	Domestic refuse etc.
36-026803	N/A	Site	Historical	2013	Domestic refuse deposit
36-060172	N/A	Isolate	Prehistoric	1974	Quartzite metate
36-060173	N/A	Isolate	Prehistoric	1974	Quartzite chopping tool

SACRED LANDS FILE SEARCH

In response to CRM TECH’s request, the NAHC states in a letter dated October 13, 2021, that the Sacred Lands File identified unspecified Native American cultural resource(s) in the general vicinity of the project area and referred further inquiry to the San Manuel Band of Mission Indians (see App. 2). The San Manuel Band was contacted in writing on October 21, as mentioned above (see App. 2). In reply, Ryan Nordness of the tribe’s Cultural Resources Management Department states in an e-mail dated October 28 that the project location lies within a mile of two known archaeological sites in an area of “great concern” to the tribe, who wish to engage in further consultation regarding this project in the AB 52-compliance process (see App. 2). No further information was provided on the Native American cultural resource(s) identified in the Sacred Lands File, however.

In addition to the San Manuel Band of Mission Indians, the NAHC recommended that other local Native American groups be consulted as well and provided a referral list of eight individuals affiliated with four other Native American groups who may have knowledge of cultural resources in the project vicinity. The NAHC’s reply is presented in its entirety in Appendix 2 for reference by the BVUSD in future government-to-government consultations with the pertinent Native American tribal organizations under AB 52 provisions.

HISTORICAL BACKGROUND RESEARCH

Historical sources consulted for this study suggest that the project area is low in sensitivity for cultural resources from the historic period. Throughout the 1850s-1960s era, the entire project area remained undeveloped forest land (Figs. 5-7; NETR Online 1938-1969). In the 1850s, when the U.S. government conducted the first systematic land surveys in Big Bear Valley, the project area was noted as part of a grassy area, and an Indian trail observed roughly three-quarters of a mile to the west was the only human-made feature known to be present in the vicinity (Fig. 5).

By the end of the 19th century, the nearest human-made feature to the project location was a road traversing along the south side of Big Bear and Baldwin Lakes, about a half-mile to the north (Fig. 6). As mentioned above, the small residential community of Sugarloaf was laid out sometime before 1938. As of that year, however, the area featured a grid of dirt roads with little evidence of further development (NETR Online 1938). Growth after the end of World War II was demonstrated by an increasing number of homes along these roads, among which Maple Lane had become the primary connection from Sugarloaf to Big Bear City and the main highway across this portion of Big Bear Valley (now State Route 38; NETR Online 1953-1969; Fig. 7).

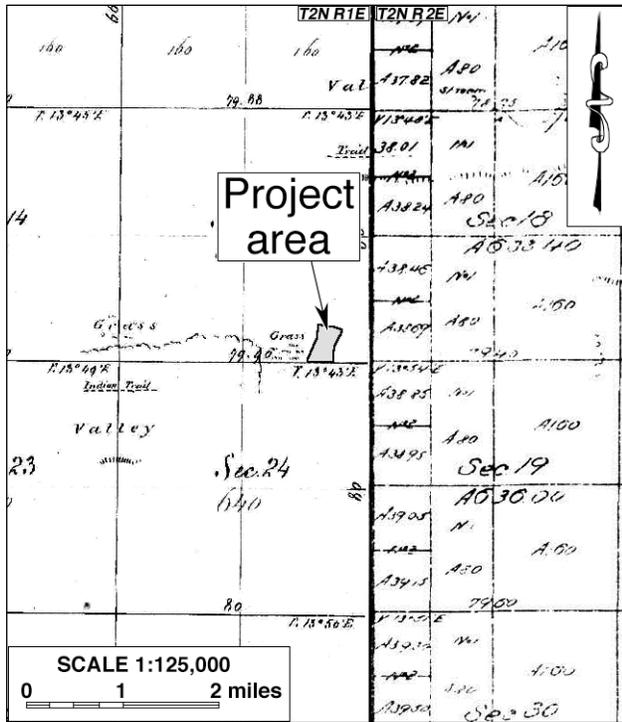


Figure 5. Project area and vicinity in 1857-1858. (Source: GLO 1858a; 1858b)

By 1969, Sugarloaf had become much more densely populated, but Baldwin Lane remained the northern boundary of all development until Maple Hill Elementary School was built sometime between 1980 and 1983 as a temporary campus to relieve overcrowding elsewhere in the district (NETR Online 1969; 1983; BVUSD 2019:38). It was located in the southern portion of the project area and was later reconstituted as Chautauqua High School, presumably after the permanent Baldwin Lane Elementary School was completed nearby in 1995 (BVUSD 2019:18, 38; NETR Online 1983; 1995). To the north of the project area, Big Bear High School was built in 1985 (BVUSD 2019:35). In 2019, the Chautauqua High School campus consisted of seven portable buildings (BVUSD 2019:12). Two of them were later moved to other locations, and the others had been determined to be obsolete by that time because they no longer met seismic code requirements for schools (*ibid.*).

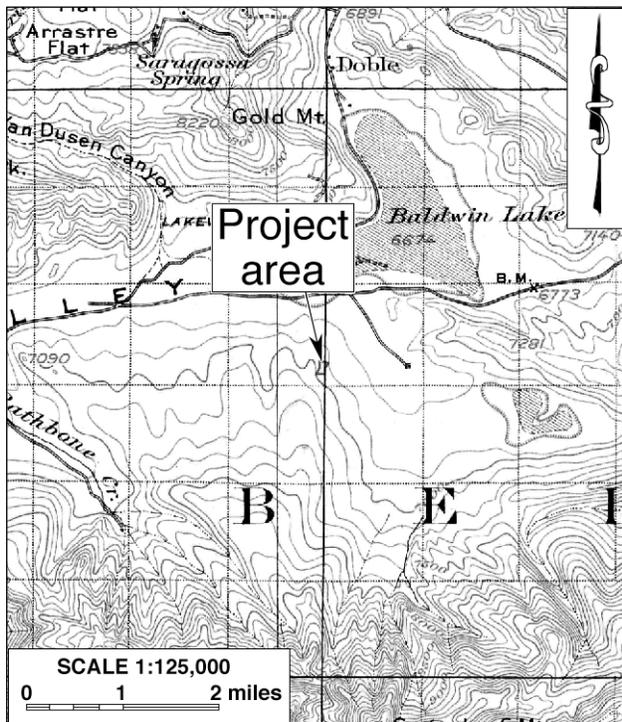


Figure 6. Project area and vicinity in 1899. (Source: USGS 1902)

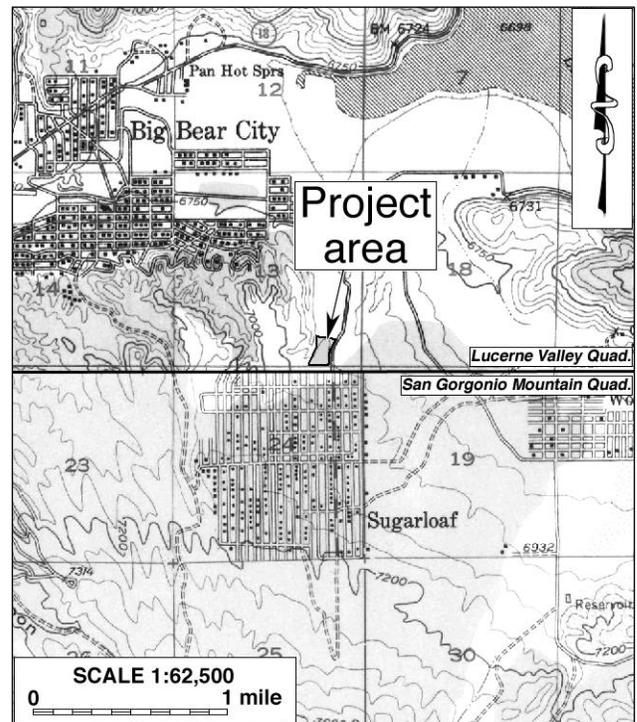


Figure 7. Project area and vicinity in 1945-1954. (Source: USGS 1947; 1954)



Figure 8. Portable buildings and other features of the former Chautauqua High School campus. (Photographs taken on December 10, 2021)

FIELD SURVEY

The field survey produced completely negative results for potential “historical resources,” and no buildings, structures, objects, sites, features, or artifact deposits of prehistoric or historical origin were encountered. As demonstrated by the historical research results, the former Chautauqua High School campus was constructed in the early 1980s, well below the general age threshold to be considered potentially historic, and none of the remaining portable buildings or other facilities exhibit any outstanding qualities in architecture, construction, engineering, or aesthetics (Fig. 8). Therefore, the campus and its components are not considered a potential “historical resource” and do not require any further study under CEQA provisions on cultural resources. Snow covered much of the ground at the time of the survey but was light enough for field observations to confirm the extensive disturbance resulting from construction activities and daily use over the past four decades.

DISCUSSION

The purpose of this study is to identify any cultural resources within or adjacent to the project area and to assist the BVUSD in determining whether such resources meet the official definition of “historical resources” as provided in the California Public Resources Code, in particular CEQA. According to PRC §5020.1(j), “‘historical resource’ includes, but is not limited to, any object,

building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.”

More specifically, CEQA guidelines state that the term “historical resources” applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources, included in a local register of historical resources, or determined to be historically significant by the lead agency (Title 14 CCR §15064.5(a)(1)-(3)). Regarding the proper criteria for the evaluation of historical significance, CEQA guidelines mandate that “generally a resource shall be considered by the lead agency to be ‘historically significant’ if the resource meets the criteria for listing on the California Register of Historical Resources” (Title 14 CCR §15064.5(a)(3)). A resource may be listed in the California Register if it meets any of the following criteria:

- (1) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
- (2) Is associated with the lives of persons important in our past.
- (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- (4) Has yielded, or may be likely to yield, information important in prehistory or history.
(PRC §5024.1(c))

In summary of the research results presented above, no potential “historical resources” were previously recorded within or adjacent to the project area, and none were found during the present survey. In addition, no notable cultural features are known to have been present in the project area throughout the historic period. While the NAHC reported the presence of unspecified Native American cultural resource(s) in the general vicinity, no specific sites of apparent Native American cultural value were identified within the project boundaries. Based on the results of past studies in Big Bear Valley, the positive finding reported by the NAHC is most likely due to the presence of the white quartz dome known as Eye of God to the east of Baldwin Lake (see “Ethnohistorical Context” above).

In light of these findings and the criteria listed above, the present study concludes that no “historical resources” exist within or adjacent to the project area. However, the final clearance of the project under cultural resources provisions of CEQA will require the completion of government-to-government consultations by the BVUSD with the San Manuel Band of Mission Indians and other local tribes in order to address the potential “tribal cultural resource(s),” as defined by PRC §21074, that was reported by the NAHC to be present in the project vicinity.

CONCLUSION AND RECOMMENDATIONS

CEQA establishes that “a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment” (PRC §21084.1). “Substantial adverse change,” according to PRC §5020.1(q), “means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be

impaired.” As stated above, no “historical resources,” as defined by CEQA and associated regulations, have been identified within or adjacent to the project area, but the NAHC reported the presence of unspecified Native American cultural resource(s) in the general vicinity. Therefore, CRM TECH presents the following recommendations to the BVUSD:

- A preliminary determination of *No Impact* on cultural resources appears to be appropriate for the proposed project, pending the completion of government-to-government consultations with local Native American groups by the BVUSD under AB 52 provisions to address the potential “tribal cultural resource(s).”
- No other cultural resources investigations will be necessary for the project unless construction plans undergo such changes as to include areas not covered by this study.
- If buried cultural materials are discovered during earth-moving operations associated with the project, all work at that location should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

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 2001 Archaeological Survey of the Southern California Trials Association Event Area, Little Pine Flats, Mountaintop Ranger District, San Bernardino National Forest, California. San Bernardino National Forest Technical Report 05-12-BB-106. San Bernardino.
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**APPENDIX 1:
PERSONNEL QUALIFICATIONS**

**PRINCIPAL INVESTIGATOR, HISTORY
Bai “Tom” Tang, M.A.**

Education

- 1988-1993 Graduate Program in Public History/Historic Preservation, University of California, Riverside.
- 1987 M.A., American History, Yale University, New Haven, Connecticut.
- 1982 B.A., History, Northwestern University, Xi’an, China.
- 2000 “Introduction to Section 106 Review,” presented by the Advisory Council on Historic Preservation and the University of Nevada, Reno.
- 1994 “Assessing the Significance of Historic Archaeological Sites,” presented by the Historic Preservation Program, University of Nevada, Reno.

Professional Experience

- 2002- Principal Investigator, CRM TECH, Riverside/Colton, California.
- 1993-2002 Project Historian/Architectural Historian, CRM TECH, Riverside, California.
- 1993-1997 Project Historian, Greenwood and Associates, Pacific Palisades, California.
- 1991-1993 Project Historian, Archaeological Research Unit, University of California, Riverside.
- 1990 Intern Researcher, California State Office of Historic Preservation, Sacramento.
- 1990-1992 Teaching Assistant, History of Modern World, University of California, Riverside.
- 1988-1993 Research Assistant, American Social History, University of California, Riverside.
- 1985-1988 Research Assistant, Modern Chinese History, Yale University.
- 1985-1986 Teaching Assistant, Modern Chinese History, Yale University.
- 1982-1985 Lecturer, History, Xi’an Foreign Languages Institute, Xi’an, China.

Cultural Resources Management Reports

Preliminary Analyses and Recommendations Regarding California’s Cultural Resources Inventory System (with Special Reference to Condition 14 of NPS 1990 Program Review Report). California State Office of Historic Preservation working paper, Sacramento, September 1990.

Numerous cultural resources management reports with the Archaeological Research Unit, Greenwood and Associates, and CRM TECH, since October 1991.

PRINCIPAL INVESTIGATOR, ARCHAEOLOGY
Michael Hogan, Ph.D., RPA (Registered Professional Archaeologist)

Education

- 1991 Ph.D., Anthropology, University of California, Riverside.
1981 B.S., Anthropology, University of California, Riverside; with honors.
1980-1981 Education Abroad Program, Lima, Peru.
- 2002 “Section 106—National Historic Preservation Act: Federal Law at the Local Level,”
UCLA Extension Course #888.
2002 “Recognizing Historic Artifacts,” workshop presented by Richard Norwood,
Historical Archaeologist.
2002 “Wending Your Way through the Regulatory Maze,” symposium presented by the
Association of Environmental Professionals.
1992 “Southern California Ceramics Workshop,” presented by Jerry Schaefer.
1992 “Historic Artifact Workshop,” presented by Anne Duffield-Stoll.

Professional Experience

- 2002- Principal Investigator, CRM TECH, Riverside/Colton, California.
1999-2002 Project Archaeologist/Field Director, CRM TECH, Riverside, California.
1996-1998 Project Director and Ethnographer, Statistical Research, Inc., Redlands, California.
1992-1998 Assistant Research Anthropologist, University of California, Riverside.
1992-1995 Project Director, Archaeological Research Unit, U.C. Riverside.
1993-1994 Adjunct Professor, Riverside Community College, Mt. San Jacinto College, U.C.
Riverside, Chapman University, and San Bernardino Valley College.
1991-1992 Crew Chief, Archaeological Research Unit, U.C. Riverside.
1984-1998 Project Director, Field Director, Crew Chief, and Archaeological Technician for
various southern California cultural resources management firms.

Research Interests

Cultural Resource Management, Southern Californian Archaeology, Settlement and Exchange
Patterns, Specialization and Stratification, Culture Change, Native American Culture, Cultural
Diversity.

Cultural Resources Management Reports

Principal investigator for, author or co-author of, and contributor to numerous cultural resources
management study reports since 1986.

Memberships

Society for American Archaeology; Society for California Archaeology; Pacific Coast
Archaeological Society; Coachella Valley Archaeological Society.

PROJECT HISTORIAN/ REPORT WRITER
Terri Jacquemain, M.A.

Education

- 2004 M.A., Public History and Historic Resource Management, University of California, Riverside.
- 2002 B.S., Anthropology, University of California, Riverside.
- 2001 Archaeological Field School, University of California, Riverside.
- 1991 A.A., Riverside Community College, Norco Campus.

Professional Experience

- 2003- Historian/Architectural Historian/Report Writer, CRM TECH, Riverside/ Colton, California.
- 2002-2003 Teaching Assistant, Religious Studies Department, University of California, Riverside.
- 2002 Interim Public Information Officer, Cabazon Band of Mission Indians.
- 2000 Administrative Assistant, Native American Student Programs, University of California, Riverside.
- 1997-2000 Reporter, *Inland Valley Daily Bulletin*, Ontario, California.
- 1991-1997 Reporter, *The Press-Enterprise*, Riverside, California.

Membership

California Preservation Foundation.

PROJECT ARCHAEOLOGIST
Hunter C. O'Donnell, B.A.

Education

- 2016- M.A. Program, Applied Archaeology, California State University, San Bernardino.
2015 B.A. (*cum laude*), Anthropology, California State University, San Bernardino.
2012 A.A., Social and Behavioral Sciences, Mt. San Antonio College, Walnut, California.
2011 A.A., Natural Sciences and Mathematics, Mt. San Antonio College, Walnut, California.

Professional Experience

- 2017- Project Archaeologist, CRM TECH, Colton, California.
2016-2018 Graduate Research Assistant, Applied Archaeology, California State University, San Bernardino.
2016-2017 Cultural Intern, Cultural Department, Pechanga Band of Luiseño Indians, Temecula, California.
2015 Archaeological Intern, U.S. Bureau of Land Management, Barstow, California.
2015 Peer Research Consultant: African Archaeology, California State University, San Bernardino.

APPENDIX 2

**CORRESPONDENCE WITH
NATIVE AMERICAN REPRESENTATIVES**

SACRED LANDS FILE & NATIVE AMERICAN CONTACTS LIST REQUEST

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
(916)373-3710
(916)373-5471 (Fax)
nahc@nahc.ca.gov

Project: Big Bear High School Football and Track Stadium (CRM TECH No. 3779)

County: San Bernardino

USGS Quadrangle Name: Big Bear City and Moonridge, Calif.

Township 2 North **Range** 1 East **SB BM; Section(s)** 13

Company/Firm/Agency: CRM TECH

Contact Person: Nina Gallardo

Street Address: 1016 E. Cooley Drive, Suite A/B

City: Colton, CA **Zip:** 92324

Phone: (909) 824-6400 **Fax:** (909) 824-6405

Email: ngallardo@crmtech.us

Project Description: The primary component of the project is to construct a new football and track stadium on approximately 8.2 acres of land located at the northwest corner of the intersection of Maple Lane and Baldwin Lane in the unincorporated community of Sugarloaf, San Bernardino County, California.

September 13, 2021

NATIVE AMERICAN HERITAGE COMMISSION

October 13, 2021

Nina Gallardo
CRM TECHVia Email to: ngallardo@crmtech.us

Re: Proposed Big Bear High School Football and Track Stadium Project, San Bernardino County

Dear Ms. Gallardo:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information submitted for the above referenced project. The results were positive. Please contact the San Manuel Band of Mission Indians on the attached list for information. Please note that tribes do not always record their sacred sites in the SLF, nor are they required to do so. A SLF search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with a project's geographic area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites, such as the appropriate regional California Historical Research Information System (CHRIS) archaeological Information Center for the presence of recorded archaeological sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. Please contact all of those listed; if they cannot supply information, they may recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information.

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

Sincerely,

Andrew Green
Cultural Resources Analyst

Attachment

CHAIRPERSON
Laura Miranda
LuiseñoVICE CHAIRPERSON
Reginald Pagaling
ChumashSECRETARY
Merri Lopez-Keifer
LuiseñoPARLIAMENTARIAN
Russell Attebery
KarukCOMMISSIONER
William Mungary
Paiute/White Mountain
ApacheCOMMISSIONER
Julie Tumamait-
Stenslie
ChumashCOMMISSIONER
[Vacant]COMMISSIONER
[Vacant]COMMISSIONER
[Vacant]EXECUTIVE SECRETARY
Christina Snider
PomoNAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

**Native American Heritage Commission
Native American Contact List
San Bernardino County
10/13/2021**

**Agua Caliente Band of Cahuilla
Indians**

Patricia Garcia-Plotkin, Director
5401 Dinah Shore Drive Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6907
Fax: (760) 699-6924
ACBCI-THPO@aguacaliente.net

**Agua Caliente Band of Cahuilla
Indians**

Jeff Grubbe, Chairperson
5401 Dinah Shore Drive Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919

**Morongo Band of Mission
Indians**

Ann Brierty, THPO
12700 Pumarra Road Cahuilla
Banning, CA, 92220 Serrano
Phone: (951) 755 - 5259
Fax: (951) 572-6004
abrierty@morongo-nsn.gov

**Morongo Band of Mission
Indians**

Robert Martin, Chairperson
12700 Pumarra Road Cahuilla
Banning, CA, 92220 Serrano
Phone: (951) 755 - 5110
Fax: (951) 755-5177
abrierty@morongo-nsn.gov

**Quechan Tribe of the Fort Yuma
Reservation**

Manfred Scott, Acting Chairman
Kw'ts'an Cultural Committee
P.O. Box 1899 Quechan
Yuma, AZ, 85366
Phone: (928) 750 - 2516
scottmanfred@yahoo.com

**Quechan Tribe of the Fort Yuma
Reservation**

Jill McCormick, Historic
Preservation Officer
P.O. Box 1899 Quechan
Yuma, AZ, 85366
Phone: (760) 572 - 2423
historicpreservation@quechantribe.com

**San Manuel Band of Mission
Indians**

Jessica Mauck, Director of
Cultural Resources
26569 Community Center Drive Serrano
Highland, CA, 92346
Phone: (909) 864 - 8933
Jessica.Mauck@sanmanuel-nsn.gov

**Serrano Nation of Mission
Indians**

Wayne Walker, Co-Chairperson
P. O. Box 343 Serrano
Patton, CA, 92369
Phone: (253) 370 - 0167
serranonation1@gmail.com

**Serrano Nation of Mission
Indians**

Mark Cochrane, Co-Chairperson
P. O. Box 343 Serrano
Patton, CA, 92369
Phone: (909) 528 - 9032
serranonation1@gmail.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed Big Bear High School Football and Track Stadium Project, San Bernardino County.

October 21, 2021

Jessica Mauck, Director of Cultural Resources
San Manuel Band of Mission Indians
26569 Community Center Drive
Highland, CA 92346

RE: Proposed Big Bear High School Football and Track Stadium Project
8.2 Acres in the Sugarloaf Area
San Bernardino County, California
CRM TECH Contract #3779

Dear Ms. Mauck:

I am writing to bring your attention to an ongoing CEQA-compliance study for the proposed project referenced above. The project entails the improvements to the existing Big Bear High School Sports Complex on approximately 8.2 acres of land located at the northwest corner of the intersection of Maple Lane and Baldwin Lane in the unincorporated community of Sugarloaf, San Bernardino County, California. The accompanying map, based on USGS Big Bear City and Moonridge, Calif., 7.5' quadrangles, depicts the location of the project area within Section 13, T2N R1E, SBBM.

In a letter dated October 13, 2021, the Native American Heritage Commission reports that the results of the Sacred Lands File search for the project was positive and recommends contacting the San Manuel Band of Mission Indians for further information (see attached). Therefore, as part of the cultural resources study for this project, I am writing to request your input on potential Native American cultural resources in or near the project area.

Please respond at your earliest convenience if you have any specific knowledge of sacred/religious sites or other sites of Native American traditional cultural value in or near the project area, or any other information to consider during the cultural resources investigations. Any information or concerns may be forwarded to CRM TECH by telephone, e-mail, facsimile, or standard mail. Requests for documentation or information we cannot provide will be forwarded to our client and/or the lead agency, namely the Bear Valley Unified School District.

We would also like to clarify that, as the cultural resources consultant for the project, CRM TECH is not involved in the AB 52-compliance process or in government-to-government consultations. The purpose of this letter is to seek any information that you may have to help us determine if there are additional cultural resources in or near the project area that we should be aware of and to help us assess the sensitivity of the project area. Thank you for your time and effort in addressing this important matter.

Respectfully,

Nina Gallardo
Project Archaeologist/Native American liaison
CRM TECH
Email: ngallardo@crmtech.us

Encl.: NAHC response letter and project location map

From: Ryan Nordness <Ryan.Nordness@sanmanuel-nsn.gov>
Sent: Thursday, October 28, 2021 4:44 PM
To: ngallardo@crmtech.us; Jessica Mauck
Subject: RE: Information Request for the Proposed Big Bear High School Football and Track Stadium Project in the Unincorporated Community of Sugarloaf, San Bernardino County (CRM TECH #3779)

Hey Nina,

Thank you for reaching out to the San Manuel Band of Mission Indians concerning the proposed project area. SMBMI appreciates the opportunity to review the project documentation received by the Cultural Resources Management Department on October 21st. The proposed project is located within one mile of two known archaeological sites. The area is of great concern to SMBMI and are very interested to consult whenever this project moves into AB52/CEQA territory.

Thank you again for your correspondence, if you have any additional questions or comments please reach out to me at your earliest convenience.

Respectfully,
Ryan Nordness

APPENDIX 4

Soil Map—San Bernardino National Forest Area, California
(BV-191)



Map Scale: 1:1,580 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

8/26/2021
Page 1 of 3

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino National Forest Area, California
Survey Area Data: Version 12, May 27, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 26, 2019—Jul 8, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
301	Garloaf-Cariboucreek complex, 15 to 30 percent slopes	0.0	0.4%
303	Garloaf-Urban land complex, 4 to 9 percent slopes	7.9	99.6%
Totals for Area of Interest		8.0	100.0%

APPENDIX 5



Big Bear High School Football and Track Stadium Project

**NOISE IMPACT ANALYSIS
COUNTY OF SAN BERNARDINO**

PREPARED BY:

William Maddux
bmaddux@urbanxroads.com
(619) 778-1971

DECEMBER 20, 2021

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
L_{min}	Minimum level measured over the time interval
mph	Miles per hour
PPV	Peak Particle Velocity
Project	Big Bear High School Football and Track Stadium Project
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the noise exposure and the necessary noise mitigation measures for the proposed Big Bear High School Football and Track Stadium Project development (“Project”). The Project site is located on the northwest corner of Maple Lane and Baldwin Lane in the unincorporated community of Sugarloaf, in the County of San Bernardino. The Project is proposed to develop the site as a continuation of the Big Bear High School athletic fields with a new football and track stadium to serve Big Bear High School and District athletics. The football field will be large enough to host soccer games as well as football games. The football field will be surrounded by a 400 yard, eight lane, track. This study has been prepared consistent with applicable County of San Bernardino noise standards, and significance criteria based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1)

OFF-SITE TRAFFIC NOISE ANALYSIS

Traffic generated by the operation of the proposed Project has the potential to influence the traffic noise levels in surrounding off-site areas. Based on the significance criteria in outlined in Section 4, the Project-related noise level increases are considered *less than significant*.

OPERATIONAL NOISE ANALYSIS

Using reference noise levels to represent the expected noise sources from the Big Bear High School Football and Track Stadium Project site, this analysis estimates the Project-related stationary-source noise levels at nearby sensitive receiver locations. The normal activities associated with the proposed Big Bear High School Football and Track Stadium Project are anticipated to include football games, track events, and associated spectator activity. The operational noise analysis shows that the Project-related stationary-source noise levels at the nearby sensitive receiver locations will satisfy the County of San Bernardino daytime exterior noise level standards, with no planned nighttime activities. Therefore, the operational noise impacts are considered *less than significant* at all existing off-site receiver locations. Further, this analysis demonstrates that the Project will contribute a *less than significant* long-term unmitigated operational noise level increase to the existing daytime ambient noise environment at all existing off-site receiver locations.

CONSTRUCTION NOISE ANALYSIS

Construction-related noise impacts are expected to create temporary and intermittent high-level noise conditions at receivers surrounding the Project site. Using sample reference noise levels to represent the planned construction activities of the Big Bear High School Football and Track Stadium Project site, this analysis estimates the Project-related construction noise levels at nearby sensitive receiver locations. Since the County of San Bernardino General Plan and County Code do not identify specific construction noise level thresholds, a threshold is identified based on the Federal Transit Authority recommended daytime construction noise level limits for

residential land uses. The Project construction noise levels are expected to range from 63.7 to 74.5 dBA L_{eq} at the nearby receiver locations. The construction noise analysis shows that the nearby receiver locations will satisfy the 80 dBA L_{eq} significance threshold during Project construction activities. Therefore, the noise impacts due to Project construction noise is considered *less than significant* at all receiver locations.

CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. This analysis shows the highest construction vibration levels are expected to range from 0.000 to 0.009 in/sec PPV, which is below the vibration standard of 0.04 in/sec PPV at all receiver locations. Therefore, based on the results of this analysis, all nearby sensitive receiver locations will experience *less than significant* impacts due to Project construction noise levels.

SUMMARY OF CEQA SIGNIFICANCE FINDINGS

The results of this Big Bear High School Football and Track Stadium Project Noise Impact Analysis are summarized below based on the significance criteria in Section 4 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1). Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures described below.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Off-Site Traffic Noise	7	<i>Less Than Significant</i>	-
On-Site Traffic Noise	8	<i>Less Than Significant</i>	-
Operational Noise	10	<i>Less Than Significant</i>	-
Construction Noise	11	<i>Less Than Significant</i>	-
Construction Vibration		<i>Less Than Significant</i>	-

1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Big Bear High School Football and Track Stadium Project (“Project”). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, describes the local regulatory setting, provides the study methods and procedures for transportation noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term operational noise and short-term construction noise and vibration impacts.

1.1 SITE LOCATION

The Project site is located on the northwest corner of Maple Lane and Baldwin Lane in the unincorporated community of Sugarloaf within the County of San Bernardino, as shown on Exhibit 1-A.

1.2 PROJECT DESCRIPTION

It is our understanding that the Project proposes to demolish the existing structures on site and develop the site as a continuation of the Big Bear High School athletic fields with a new football and track stadium to serve Big Bear High School and District athletics. The football field will be large enough to host soccer games as well as football games. The football field will be surrounded by a 400 yard, eight lane, track.

Along the western edge of the football field the Project would install a home team grandstand with a capacity of approximately 750 seats and along the eastern edge of the football field the project would install a visitor’s grandstand with a capacity of approximately 250 seats. At the southern end of the site toward Baldwin Lane, the project proposes to install a north facing scoreboard that will be approximately 8-feet high by 25-feet wide in size and will be about 23-feet in height. On either side of the scoreboard, two flag poles will be installed. The proposed project will be accessible via new driveways at Baldwin Lane and Maple Lane, which connect to a parking lot that provides exit at either access point.

The field is anticipated to be utilized in the following ways:

- Practice for various athletic teams during after-school hours 2:30 PM to 5:30 PM for an anticipated 5 days per week with limited use during the summer.
- Use for home games, matches, and meets for the Football, Track, Soccer, athletic teams at the high school. The new Stadium is anticipated to host 16 games per year, typically between the hours of 2:30 PM to 9:30 PM on weekdays, or 10:00 AM to 4:00 PM on weekends.
- Other field uses include middle school promotion, high school graduation, and possibly use by the high school band for practice.

It is anticipated that the stadium could host a maximum of about 1,000 persons, excluding the staff and students participating in the athletic events, of which anywhere from 75 persons to 100 persons would attend each event, depending on the type of event the new stadium would be hosting.

EXHIBIT 1-A: LOCATION MAP

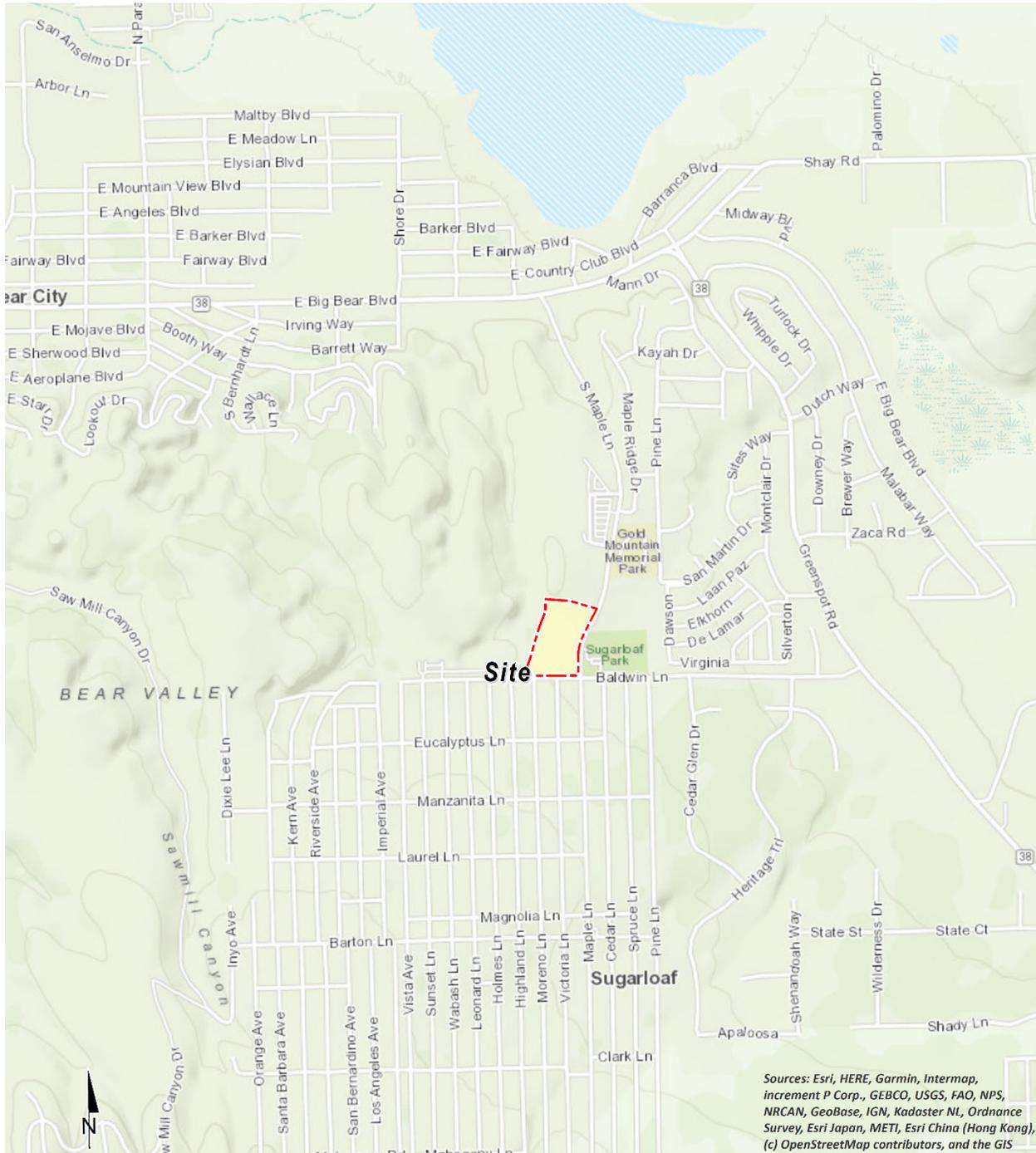


EXHIBIT 1-B: SITE PLAN

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2 FUNDAMENTALS

Noise is simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	SPEECH INTERFERENCE
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80	LOUD	
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70		
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60	MODERATE	SLEEP DISTURBANCE
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50		
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (2) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA at approximately 100 feet, which can cause serious discomfort. (3) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most commonly used figure is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the “average” noise levels within the environment.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time-of-day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The County of San Bernardino relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (2)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those

sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (4)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (2)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an “out of sight, out of mind” effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The FHWA does not consider the planting of vegetation to be a noise abatement measure. (4)

2.4 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

2.5 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by up to 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source. (4)

2.6 LAND USE COMPATIBILITY WITH NOISE

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or

livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area’s desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (5)

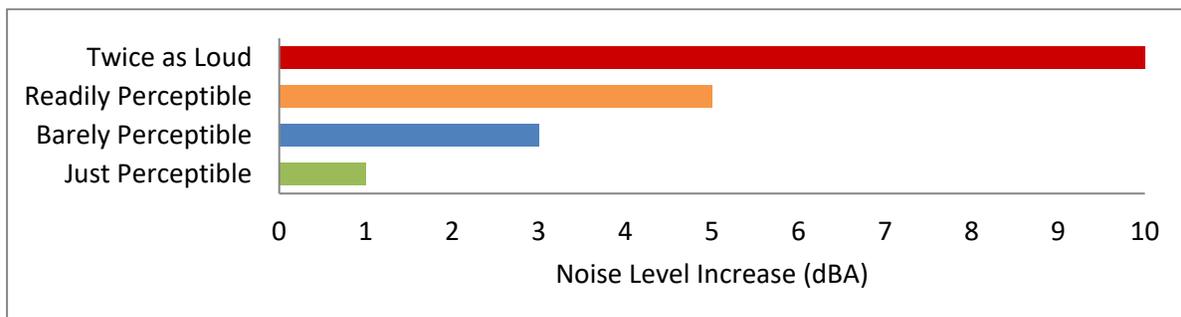
2.7 COMMUNITY RESPONSE TO NOISE

Community responses to noise may range from registering a complaint by telephone or letter, to initiating court action, depending upon everyone’s susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- Fear associated with noise producing activities;
- Socio-economic status and educational level;
- Perception that those affected are being unfairly treated;
- Attitudes regarding the usefulness of the noise-producing activity;
- Belief that the noise source can be controlled.

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Another twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (6) Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (6) Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. An increase or decrease of 1 dBA cannot be perceived except in carefully controlled laboratory experiments (7), a change of 3 dBA are considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (4)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION



2.8 EXPOSURE TO HIGH NOISE LEVELS

The Occupational Safety and Health Administration (OSHA) sets legal limits on noise exposure in the workplace. The permissible exposure limit (PEL) for a worker over an eight-hour day is 90 dBA. The OSHA standard uses a 5 dBA exchange rate. This means that when the noise level is increased by 5 dBA, the amount of time a person can be exposed to a certain noise level to receive the same dose is cut in half. The National Institute for Occupational Safety and Health (NIOSH) has recommended that all worker exposures to noise should be controlled below a level equivalent to 85 dBA for eight hours to minimize occupational noise induced hearing loss. NIOSH also recommends a 3 dBA exchange rate so that every increase by 3 dBA doubles the amount of the noise and halves the recommended amount of exposure time. (8)

OSHA has implemented requirements to protect all workers in general industry (e.g. the manufacturing and the service sectors) for employers to implement a Hearing Conservation Program where workers are exposed to a time weighted average noise level of 85 dBA or higher over an eight-hour work shift. Hearing Conservation Programs require employers to measure noise levels, provide free annual hearing exams and free hearing protection, provide training, and conduct evaluations of the adequacy of the hearing protectors in use unless changes to tools, equipment and schedules are made so that they are less noisy and worker exposure to noise is less than the 85 dBA. This noise study does not evaluate the noise exposure of workers within a project or construction site based on CEQA requirements, and instead, evaluates Project-related operational and construction noise levels at the nearby sensitive receiver locations in the Project study area.

2.9 VIBRATION

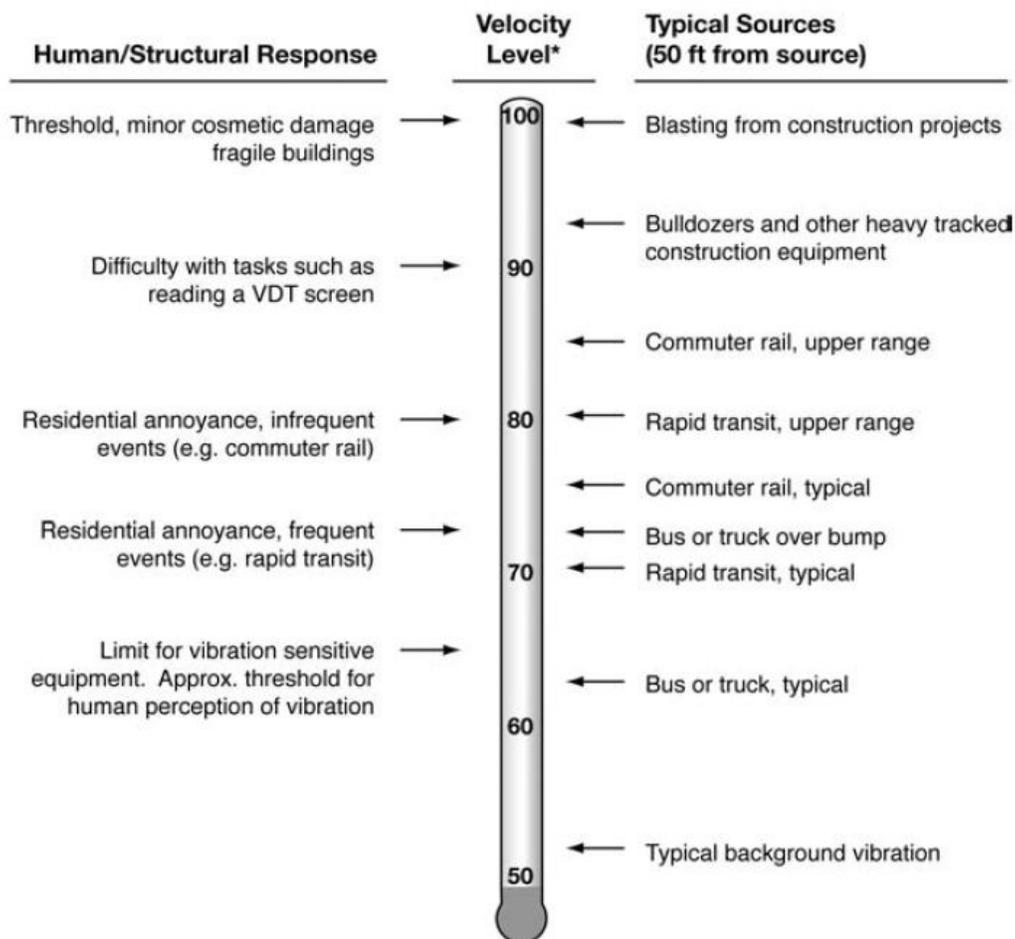
Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Assessment* (9), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with

distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), vibration-sensitive equipment and/or activities.

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration.

EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



* RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second

Source: Federal Transit Administration (FTA) Transit Noise Impact and Vibration Assessment.

3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research. (10) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 STATE OF CALIFORNIA BUILDING CODE

The State of California's noise insulation standards for dwelling and sleeping units are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Chapter 12, Section 1206 Sound Control. These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources within habitable rooms of dwelling and sleeping units. For new construction, the acceptable interior noise limit is 45 dBA CNEL in habitable rooms (11).

Interior noise level requirements for non-residential structures are controlled set by the California Code of Regulations, Title 24, California Green Building Standards Code, Chapter 5, Section 5.507.4 Acoustical Control. These noise standards are applied to new non-residential construction in California for controlling interior noise levels resulting from exterior noise sources within occupied spaces. It does not apply to buildings with few or no occupants or where occupants are not likely to be affected by exterior noise. For new construction, the acceptable interior noise limit is 50 dBA L_{eq} in occupied spaces (12).

3.2 COUNTY OF SAN BERNARDINO GENERAL PLAN NOISE ELEMENT

The County of San Bernardino has adopted a Noise Element of the General Plan to limit the exposure of the community to excessive noise levels. (13) The most common sources of environmental noise in San Bernardino County are associated with roads, airports, railroad

operations, and industrial activities. The facilities are used to transport residents, consumer products and provide basic infrastructure for the community. (13) To address these noise sources found in the County of San Bernardino, the following goals have been identified in the General Plan Noise Element:

- N 1 The County will abate and avoid excessive noise exposures through noise mitigation measures incorporated into the design of new noise-generating and new noise-sensitive land uses, while protecting areas within the County where the present noise environment is within acceptable limits.*
- N 1.5 Limit truck traffic in residential and commercial areas to designated truck routes; limit construction, delivery, and through-truck traffic to designated routes; and distribute maps of approved truck routes to County traffic officers.*
- N 2 The County will strive to preserve and maintain the quiet environment of mountain, desert and other rural areas.*

3.3 COUNTY OF SAN BERNARDINO DEVELOPMENT CODE

While the County of San Bernardino General Plan Noise Element provides guidelines and criteria to assess transportation noise on sensitive land uses, the County Code, Title 8 Development Code contains the noise level limits for mobile, stationary, and construction-related noise sources. (14)

3.3.1 TRANSPORTATION NOISE STANDARDS

Section 83.01.080(d), Table 83-3, contains the County of San Bernardino’s mobile noise source-related standards, shown on Exhibit 3-A. Based on the County’s mobile noise source standards, there are no exterior noise level standards for the Project commercial land use. Exterior transportation (mobile) noise level standards for residential land uses in the Project study area are shown to be 60 dBA CNEL, while non-noise-sensitive land uses, such as office uses, require exterior noise levels of 65 dBA CNEL per the County’s Table 83-3 mobile noise source standards.

3.3.2 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Big Bear High School Football and Track Stadium Project, stationary-source (operational) noise such as the expected football games, track events, and associated spectator activity are typically evaluated against standards established under a jurisdiction’s Municipal Code. The County of San Bernardino County Code, Title 8 Development Code, Section 83.01.080(c) establishes the noise level standards for stationary noise sources. Since the Project’s land use will potentially impact adjacent noise-sensitive uses in the Project study area, this noise study relies on the more conservative residential noise level standards to describe potential operational noise impacts.

EXHIBIT 3-A: COUNTY OF SAN BERNARDINO MOBILE NOISE LEVEL STANDARDS

Noise Standards for Adjacent Mobile Noise Sources			
Land Use		Ldn (or CNEL) dB(A)	
Categories	Uses	Interior (1)	Exterior (2)
Residential	Single and multi-family, duplex, mobile homes	45	60(3)
Commercial	Hotel, motel, transient housing	45	60(3)
	Commercial retail, bank, restaurant	50	N/A
	Office building, research and development, professional offices	45	65
	Amphitheater, concert hall, auditorium, movie theater	45	N/A
Institutional/Public	Hospital, nursing home, school classroom, religious institution, library	45	65
Open Space	Park	N/A	65

Notes:

(1) The indoor environment shall exclude bathrooms, kitchens, toilets, closets and corridors.

(2) The outdoor environment shall be limited to:

- Hospital/office building patios
- Hotel and motel recreation areas
- Mobile home parks
- Multi-family private patios or balconies
- Park picnic areas
- Private yard of single-family dwellings
- School playgrounds

(3) An exterior noise level of up to 65 dB(A) (or CNEL) shall be allowed provided exterior noise levels have been substantially mitigated through a reasonable application of the best available noise reduction technology, and interior noise exposure does not exceed 45 dB(A) (or CNEL) with windows and doors closed. Requiring that windows and doors remain closed to achieve an acceptable interior noise level shall necessitate the use of air conditioning or mechanical ventilation.

CNEL = (Community Noise Equivalent Level). The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m.

Source: County of San Bernardino County Code, Title 8 Development Code, Table 83-3.

For residential properties, the exterior noise level shall not exceed 55 dBA L_{eq} during the daytime hours (7:00 a.m. to 10:00 p.m.) and 45 dBA L_{eq} during the nighttime hours (10:00 p.m. to 7:00 a.m.) for both the whole hour, and for not more than 30 minutes in any hour (14). The exterior noise level standards shall apply for a cumulative period of 30 minutes in any hour, as well as the standard plus 5 dBA cannot be exceeded for a cumulative period of more than 15 minutes in any hour, or the standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour, or the standard plus 15 dBA for a cumulative period of more than 1 minute in any hour, or the standard plus 20 dBA for any period of time. Further, Section 83.01.080(e) indicates that if the existing ambient noise level already exceeds any of the exterior noise level limit categories, then the standard shall be adjusted to reflect the ambient conditions. The County of San Bernardino operational noise level standards are shown on Table 3-1 and included in Appendix 3.1.

TABLE 3-1: OPERATIONAL NOISE LEVEL STANDARDS

Time Period	Exterior Noise Level Standards (dBA) ¹				
	L ₅₀ (30 mins)	L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (Anytime)
Daytime (7:00 a.m. to 10:00 p.m.)	55	60	65	70	75
Nighttime (10:00 p.m. to 7:00 a.m.)	45	50	55	60	65

¹ County of San Bernardino Development Code, Title 8, Section 83.01.080 (Appendix 3.1). The percent noise level is the level exceeded "n" percent of the time during the measurement period. L₅₀ is the noise level exceeded 50% of the time.

The percentile noise descriptors are provided to ensure that the duration of the noise source is fully considered. However, due to the relatively constant intensity of the Project operational activities, the L₅₀ or average L_{eq} noise level metrics best describe the football games, track events, and associated spectator activity. In addition, the L_{eq} noise level metric accounts for noise fluctuations over time by averaging the louder and quieter events and giving more weight to the louder events. In addition, due to the mathematical relationship between the median (L₅₀) and the mean (L_{eq}), the L_{eq} will always be larger than or equal to the L₅₀. The more variable the noise becomes, the larger the L_{eq} becomes in comparison to the L₅₀. Therefore, this noise study conservatively relies on the average L_{eq} sound level limits to describe the Project operational noise levels.

3.4 CONSTRUCTION NOISE STANDARDS

Section 83.01.080(g)(3) of the County of San Bernardino Development Code, provided in Appendix 3.1, indicates that construction activity is considered exempt from the noise level standards between the hours of 7:00 a.m. to 7:00 p.m. except on Sundays and Federal holidays. (14) However, neither the County of San Bernardino General Plan or County Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers, which would allow for a quantified determination of what CEQA constitutes a *substantial temporary or periodic noise increase*. Therefore, a numerical construction threshold based on Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* is used for analysis of daytime construction impacts, as discussed below.

According to the FTA, local noise ordinances are typically not very useful in evaluating construction noise. They usually relate to nuisance and hours of allowed activity, and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the impact of a construction project. Project construction noise criteria should account for the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land use. Due to the lack of standardized construction noise thresholds, the FTA provides guidelines that can be considered reasonable criteria for construction noise assessment. The FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} as a reasonable threshold for noise residential and other sensitive land uses, 85 dBA L_{eq} for commercial land uses, and 90 dBA L_{eq} for industrial land uses (15 p. 179).

3.5 CONSTRUCTION VIBRATION STANDARDS

The County of San Bernardino Development Code, Section 83.01.090(a) states that vibration shall be no *greater than or equal to two-tenths inches per second measured at or beyond the lot line*. Section 83.01.090(a)(2) also states, temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays (14).

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4 SIGNIFICANCE CRITERIA

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (16) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

- A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- B. Generation of excessive ground-borne vibration or ground-borne noise levels?
- C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

While the County of San Bernardino General Plan Guidelines provide direction on noise compatibility and establish noise standards by land use type that are sufficient to assess the significance of noise impacts, they do not define the levels at which increases are considered substantial for use under Guideline A. CEQA Appendix G Guideline C applies to nearby public and private airports, if any, and the Project's land use compatibility.

4.1 CEQA GUIDELINES NOT FURTHER ANALYZED

The closest airport is the Big Bear City Airport located roughly 1.4 miles northwest of the Project site. Based on the Airport Land Use Compatibility Plan, the 60 CNEL contour is located approximately 700 feet from the runway centerline. As such, the Project site would not be exposed to excessive noise levels from airport operations in excess of County of San Bernardino noise standards. Therefore, impacts are considered *less than significant*, and no further noise analysis is conducted in relation to CEQA Appendix G Guideline C.

4.2 NOISE-SENSITIVE RECEIVERS

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes *that there is no single noise increase that renders the noise impact significant*. (17)

Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding human reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal

Interagency Committee on Noise (FICON) (18) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (L_{eq}).

As previously stated, the approach used in this noise study recognizes *that there is no single noise increase that renders the noise impact significant*, based on a 2008 California Court of Appeal ruling on Gray v. County of Madera. (17) For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur if the noise criteria may be exceeded. Therefore, for this analysis, FICON identifies a *readily perceptible* 5 dBA or greater project-related noise level increase is considered a significant impact when the noise criteria for a given land use is exceeded. Per the FICON, in areas where the without project noise levels range from 60 to 65 dBA, a 3 dBA *barely perceptible* noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance.

The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying without Project noise levels for noise-sensitive uses. These levels of increases and their perceived acceptance are consistent with guidance provided by both the Federal Highway Administration (19 p. 9) and Caltrans (20 p. 2_48).

4.3 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed Project. Table 4-1 shows the significance criteria summary matrix.

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
Off-Site	Noise-Sensitive ¹	if ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
		if ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase	
		if ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
Operational	Residential	Exterior Noise Level Limit ²	See Table 3-2	
	Noise-Sensitive ¹	if ambient is < 60 dBA L _{eq}	≥ 5 dBA L _{eq} Project increase	
		if ambient is 60 - 65 dBA L _{eq}	≥ 3 dBA L _{eq} Project increase	
		if ambient is > 65 dBA L _{eq}	≥ 1.5 dBA L _{eq} Project increase	
Construction	Noise-Sensitive	Permitted between 7:00 a.m. to 7:00 p.m.; except Sundays and Federal holidays. ³		
		Noise Level Threshold ⁴	80 dBA L _{eq}	n/a
		Vibration Level Threshold ⁵	0.2 PPV in/sec	n/a

¹ FICON, 1992.

² County of San Bernardino Development Code, Title 8, Section 83.01.080 (Appendix 3.1)

³ Section 83.01.080(g)(3) of the County of San Bernardino County Code.

⁴ Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.

⁵ Section 83.01.090(a) of the County of San Bernardino County Code.

"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m. "n/a" = construction activities are not planned during the nighttime hours; "PPV" = peak particle velocity.

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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at ten locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Wednesday October 2nd, 2021.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (21)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources.* (2) Further, FTA guidance states, *that it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community.* (9)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (9) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels

and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the average or equivalent sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Additional median noise levels (L_{50}) are provided on Table 5-1 consistent with the County of San Bernardino County Code exterior noise level standards. Appendix 5.2 provides a summary of the existing hourly ambient noise levels described below:

- Location L1 represents the noise located on Baldwin Lane west of the project between the Baldwin Lane Elementary School and the Project site. The noise levels at this location consist primarily of traffic noise from Baldwin Lane and background residential land use activities. The noise level measurements collected show an overall 24-hour exterior noise level of 59.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 56.9 dBA L_{eq} with an average nighttime noise level of 50.6 dBA L_{eq} .
- Location L2 represents the noise levels on Baldwin Lane 50 feet north of Baldwin Lane at the Project site. The noise levels at this location consist primarily of traffic noise from Baldwin Lane and background residential land use activities. The noise level measurements collected show an overall 24-hour exterior noise level of 60.5 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 60.0 dBA L_{eq} with an average nighttime noise level of 49.9 dBA L_{eq} .
- Location L3 represents the noise levels located 50 feet south of Baldwin Lane and 318 feet west of Maple Lane. The noise levels at this location consist primarily of traffic noise from Baldwin Lane and Maple Lane with background residential land use activities. The noise level measurements collected show an overall 24-hour exterior noise level of 61.4 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 61.1 dBA L_{eq} with an average nighttime noise level of 50.7 dBA L_{eq} .
- Location L4 represents the noise levels 50 feet east of Maple Lane. The noise level measurements collected show an overall 24-hour exterior noise level of 62.1 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 61.8 dBA L_{eq} with an average nighttime noise level of 51.1 dBA L_{eq} . The noise levels at this location consist primarily of traffic noise from Maple Lane.

Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L_1 , L_2 , L_5 , L_8 , L_{25} , L_{50} , L_{90} , L_{95} , and L_{99} percentile noise levels observed during the daytime and nighttime periods.

The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with the arterial roadway network. The 24-hour existing noise level measurements shown on Table 5-1 present the existing ambient noise conditions.

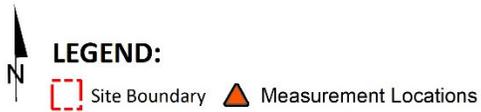
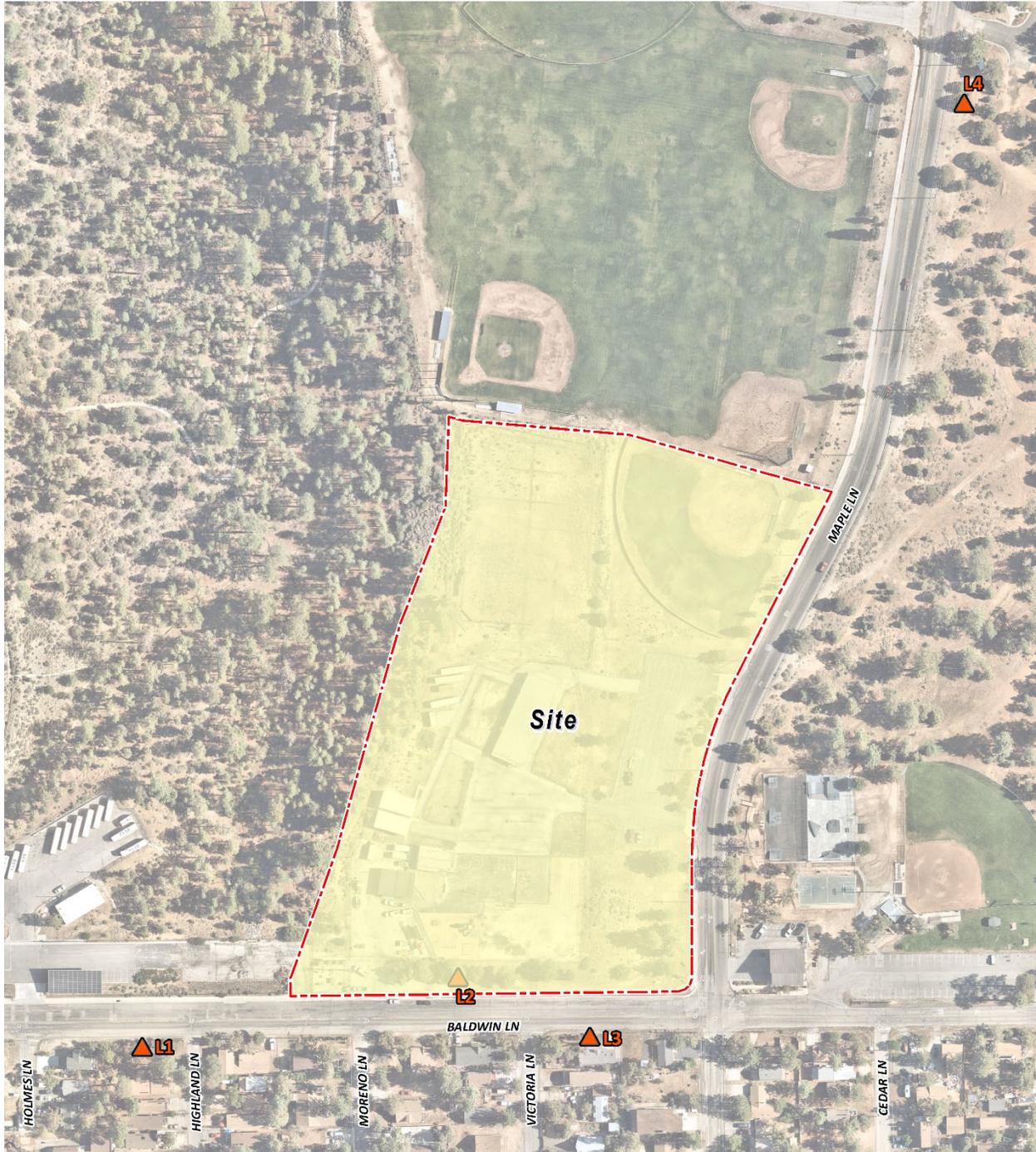
TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location ¹	Description	Energy Average Noise Level (dBA L _{eq}) ²		CNEL
		Daytime	Nighttime	
L1	Located at 114 Highland Lane 215 feet southwest of the project site	56.9	50.6	59.0
L2	Located at southern end of Project site 25 feet north of Baldwin Lane	60.0	49.9	60.5
L3	Located at 109 Victoria Lane 60 feet south of the Project site.	61.1	50.7	61.4
L4	Located east of the Project site at the Big Bear Cemetery across Maple Lane	61.8	51.1	62.1

¹ See Exhibit 5-A for the noise level measurement locations.

² Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



6 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to model and analyze the future noise environment.

6.1 TRAFFIC NOISE MODEL

The estimated roadway noise impacts from vehicular traffic were calculated using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM) (22). FHWA TNM arrives at a predicted noise level through a series of adjustments to the vehicle Reference Energy Mean Emission Level (REMEL). The FHWA model is based on reference noise emission factors for automobiles, medium trucks, heavy trucks, motorcycles, and buses with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and ground type. Off-site traffic noise level increases were calculated using accepted mathematical correlations between traffic volume changes and noise levels.

6.2 STATIONARY AND CONSTRUCTION NOISE

6.2.1 CADNA A NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels. This includes the additional noise attenuation provided by the existing intervening building structures located on-site and would block the line-of-sight between the Project noise sources and the nearest existing off-site receiver locations.

Using the ISO 9613 protocol, CadnaA calculates the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources. While sound pressure levels (e.g., L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment.

The noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor

of 0.5 was used in the noise analysis to account for mixed ground representing a combination of hard and soft surfaces.

6.2.2 STATIONARY REFERENCE NOISE LEVELS

The primary noise sources on-site would be the activity at the new stadium with the loudest events being competitive games with spectators in the stands. To assess the noise impacts associated with a typical high school football game, reference noise level measurements were taken by RKJK & Associates Inc. on October 8, 1999 at two different high schools football games. The levels recorded at both Irvine High School and Mission Viejo School were then averaged to provide an “energy average” for high school football game activities with spectators. It was determined that the average noise level was 70.5 dBA Leq at a distance of 300 feet from the respective football stadiums (23). This is equivalent to a continuous sound level of 86.1 dBA Leq at 50 feet, or a sound power level of 117.7 Lw.

6.2.3 CONSTRUCTION ACTIVITIES

The FTA *Transit Noise and Vibration Impact Assessment Manual* recognizes that construction projects are accomplished in several different stages. Each stage has a specific equipment mix, depending on the work to be completed during that stage. As a result of the equipment mix, each stage has its own noise characteristics; some stages have higher continuous noise levels than others, and some have higher impact noise levels than others. The Project construction activities are expected to occur in the following stages:

- Building Construction
- Paving
- Architectural Coating

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels.

6.2.4 CONSTRUCTION REFERENCE NOISE LEVELS

To describe peak construction noise activities, this construction noise analysis was prepared using reference noise level measurements published in the Update of Noise Database for Prediction of Noise on Construction and Open Sites by the Department for Environment, Food and Rural Affairs (DEFRA). (24). The DEFRA database provides the most recent and comprehensive source of reference construction noise levels. Table 6-4 provides a summary of the DEFRA construction reference noise level measurements expressed in hourly average dBA Leq using the estimated FHWA Roadway Construction Noise Model (RCNM) usage factors (25) to describe the typical construction activities for each stage of Project construction.

Consistent with FTA guidance for general construction noise assessment, Table 6-1 presents the combined noise level for all equipment, assuming they operate at the same time.

TABLE 6-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Highest Reference Noise Level (dBA L _{eq})
Demolition	Demolition Equipment	69	74
	Excavators	64	
	Rubber Tired Dozers	71	
Site Preparation	Crawler Tractors	77	79
	Hauling Trucks	71	
	Rubber Tired Dozers	71	
Grading	Graders	79	79
	Excavators	64	
	Compactors	67	
Building Construction	Cranes	67	74
	Tractors	72	
	Welders	65	
Paving	Pavers	70	74
	Paving Equipment	69	
	Rollers	69	
Architectural Coating	Cranes	67	72
	Air Compressors	67	
	Generator Sets	67	

¹ Update of noise database for prediction of noise on construction and open site expressed in hourly average L_{eq} based on estimated usage factor.

6.3 CONSTRUCTION REFERENCE VIBRATION LEVELS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Ground vibration levels associated with various types of construction equipment are summarized on Table 6-2. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential for human response (annoyance) and building damage using the following vibration assessment methods defined by the FTA. To describe the vibration impacts the FTA provides the following equation: $PPV_{\text{equip}} = PPV_{\text{ref}} \times (25/D)^{1.5}$

TABLE 6-2: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Loaded Trucks	0.076
Large bulldozer	0.089

Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

7 OFF-SITE TRANSPORTATION NOISE IMPACTS

The project would not result in an increase in regional or local traffic volumes as the project. Because sources are calculated on a logarithmic scale, a doubling of the energy is required to generate a noise level increase of 3 dBA. In the case of traffic, a doubling of the traffic volume, without changing the vehicle speeds or mix ratio, results in a noise increase of 3 dBA.

The project is anticipated to generate 460 trips during scheduled events. These trips are not new on the overall regional network but would be additional volume on Maple Lane and Baldwin Lane resulting in local increases in traffic noise levels adjacent to these roadways.

Maple Lane serves as a major roadway connecting Sugarloaf to the greater Big Bear Valley and has an average daily traffic (ADT) volume of 10,000. Baldwin Lane provides one access point to hundreds of residential properties within the Sugarloaf community. Several residences are located along Baldwin Lane along with the Baldwin Lane Elementary School. Baldwin Lane Elementary School has approximately 450 students. Based on standard trip generation for these land uses, traffic volumes on Baldwin Lane are estimated to be at least 2,500 ADT. Therefore, the Project is anticipated to result in a less than 1 dBA CNEL increase along Maple Lane and Baldwin Lane. Therefore, the Project would not increase traffic noise. Off-site traffic noise impacts would be less than significant under CEQA.

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8 SENSITIVE RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following sensitive receiver locations, as shown on Exhibit 8-A, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, outpatient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

Receivers are located in outdoor living areas (e.g., backyards) at 10 feet from any existing or proposed barriers or at the building façade, whichever is closer to the Project site, based on FHWA guidance, and consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2. Sensitive receiver locations in the Project study area include the nearby residential uses, as described below. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures.

- R1: Located approximately 768 feet east of the Project site, R1 represents existing residential homes within the Whispering Pines Estates, a mobile home park, located at 391 Montclair. The 24-hour noise measurement taken at location, L4, is used to describe the existing ambient noise environment in this area.
- R2: Location R2 represents the existing fire station located east of the Project site at roughly 110 feet, on the north side of Baldwin Lane. The 24-hour noise measurement taken at location, L4, is used to describe the existing ambient noise environment at this location.
- R3: Location R3 represents an existing residential home southeast of the intersection Baldwin Lane and Maple Lane at approximately 103 feet from the Project site. The 24-hour noise measurement at location, L3, is used to describe the existing ambient noise environment at this location.
- R4-R9: Locations R4 through R9 represent existing residences south of the Project. These residences are all south of Baldwin Lane, west of Maple Lane, and range from 62 feet to 82 feet from the Project site. The 24-hour noise measurement at location, L1 through L3, is used to describe the existing ambient noise environment.

EXHIBIT 8-A: RECEIVER LOCATIONS



LEGEND:

-  Site Boundary
-  Receiver Locations
-  Distance from receiver to Project site boundary (in feet)

9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearby receiver locations, identified in Section 8, resulting from operation of the proposed Project. Exhibit 8-A identifies the representative off-site receiver locations. The noise source location used to assess the operational noise levels is based on the center of the field. Appendix 9.1 includes the detailed calculations for the Project operational noise levels presented in this section.

9.1 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include football games, track events, and associated spectator activity, Urban Crossroads, Inc. calculated the off-site and on-site operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the receiver locations. Tables 9-1 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 50.0 to 58.2 dBA L_{eq} .

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the County of San Bernardino exterior noise level standards at the off-site receiver locations. Table 9-2 shows the operational noise levels associated with Big Bear High School Football and Track Stadium Project will satisfy the County of San Bernardino daytime exterior noise level standards with no planned nighttime operational noise source activity. Therefore, the operational noise impacts are considered *less than significant* at all receiver locations.

TABLE 9-1: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location ¹	Project Operational Noise Levels (dBA Leq) ²	Noise Level Standards (dBA Leq) ³	Noise Level Standards Exceeded? ⁴
R1	50.0	57	No
R2	57.5	62	No
R3	56.4	62	No
R4	57.5	60	No
R5	58.2	60	No
R6	58.4	60	No
R7	58.0	60	No
R8	56.6	57	No
R9	55.8	57	No

¹ See Exhibit 9-A for the receiver locations.

² Proposed Project operational noise source calculations are included in Appendix D.

³ Exterior noise level standards are based on Table 3-1, with increases for the existing ambient noise level.

⁴ Do the estimated Project operational noise source activities exceed the noise level standards?

9.2 PROJECT OPERATIONAL NOISE LEVEL INCREASE

To describe the Project operational noise level Increase, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (2) Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10\log_{10}[10^{SPL1/10} + 10^{SPL2/10} + \dots 10^{SPLn/10}]$$

Where “SPL1,” “SPL2,” etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level Increase to the existing ambient noise environment. As indicated on Tables 9-2 the Project will generate unmitigated daytime operational noise level increase ranging from 0.0 to 2.9 dBA Leq at nearby off-site receiver locations. This increase satisfies the incremental operational noise level criteria presented in Table 4-1. Therefore, the incremental Project operational noise level increase is considered *less than significant* at all receiver locations.

TABLE 9-2: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Increase Criteria ⁷	Increase Criteria Exceeded?
R1	50	L1	56.9	57.7	0.8	3	No
R2	57.5	L4	62.3	63.5	1.2	3	No
R3	56.4	L4	62.3	63.3	1.0	3	No
R4	57.5	L2	60.0	61.9	1.9	3	No
R5	58.2	L2	60.0	62.2	2.2	3	No
R6	58.4	L2	60.0	62.3	2.3	3	No
R7	58	L2	60.0	62.1	2.1	3	No
R8	56.6	L1	56.9	59.8	2.9	3	No
R9	55.8	L1	56.9	59.4	2.5	3	No

1 See Exhibit 8-A for the receiver locations.

2 Total Project daytime operational noise levels as shown on Table 9-2.

3 Reference noise level measurement locations as shown on Exhibit 5-A.

4 Observed daytime ambient noise levels as shown on Table 5-1.

5 Represents the combined ambient conditions plus the Project activities.

6 The noise level increase expected with the addition of the proposed Project activities.

7 Significance increase criteria as shown on Table 4-1.

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10 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction noise source locations in relation to the nearby sensitive receiver locations previously described in Section 8.

10.1 CONSTRUCTION NOISE LEVELS

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. The number and mix of construction equipment are expected to occur in the following stages:

- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to more than 80 dBA when measured at 50 feet. However, these noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver and would be further reduced to 68 dBA at 200 feet from the source to the receiver.

10.2 CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. To assess the worst-case construction noise levels, the Project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of primary construction activity (Project site boundary) to each receiver location.

As shown on Table 10-2, the Project construction noise levels are expected to range from 56.1 to 74.5 dBA L_{eq} at the nearby receiver locations. The Project construction noise levels are expected to range from 63.7 to 74.5 dBA L_{eq} as shown on Table 10-3. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.

EXHIBIT 10-1: CONSTRUCTION ACTIVITY



LEGEND:

- Receiver Locations
- Distance from receiver to Project site boundary (in feet)
- Construction Activity

TABLE 10-1: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location ¹	Construction Noise Levels (dBA L _{eq})						
	Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels ²
R1	57.9	63.1	63.7	58.1	58.4	56.1	63.7
R2	66.2	71.4	72.0	66.4	66.7	64.4	72.0
R3	65.2	70.4	71.0	65.4	65.7	63.4	71.0
R4	67.5	72.7	73.3	67.7	68.0	65.7	73.3
R5	68.6	73.8	74.4	68.8	69.1	66.8	74.4
R6	68.7	73.9	74.5	68.9	69.2	66.9	74.5
R7	68.5	73.7	74.3	68.7	69.0	66.7	74.3
R8	66.8	72.0	72.6	67.0	67.3	65.0	72.6
R9	65.3	70.5	71.1	65.5	65.8	63.5	71.1

¹ Construction noise source and receiver locations are shown on Exhibit 10-A.

² Construction noise level calculations based on distance from the project site boundaries (construction activity area) to nearby receiver locations. CadnaA construction noise model inputs are included in Appendix 10.1.

10.3 CONSTRUCTION NOISE LEVEL COMPLIANCE

The construction noise analysis shows that the highest construction noise levels will occur when construction activities take place at the closest point from primary Project construction activity to each of the nearby receiver locations. To evaluate whether the Project will generate potentially significant short-term noise levels at nearby receiver locations, a construction-related the FTA daytime noise level threshold for residential uses of 80 dBA L_{eq} is used as acceptable thresholds to assess construction noise level impacts. The construction noise analysis shows that the nearby receiver locations will satisfy the 80 dBA L_{eq} significance threshold during Project construction activities as shown on Table 10-1. Therefore, the noise impacts due to Project construction noise is considered *less than significant* at all receiver locations.

10.4 CONSTRUCTION VIBRATION IMPACTS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. The proposed Project's construction activities most likely to cause vibration impacts are:

- Heavy Construction Equipment: Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to buildings, the vibration is usually short-term and is not of sufficient magnitude to cause building damage.
- Trucks: Trucks hauling building materials to construction sites can be sources of vibration intrusion if the haul routes pass through residential neighborhoods on streets with bumps or potholes. Repairing the bumps and potholes generally eliminates the problem.

Ground-borne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration (FTA). Construction activities that would have the potential to generate low levels of ground-borne vibration within the Project site include grading. Using the vibration source level of construction equipment provided on Table 6-6 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table 10-4 presents the expected Project related vibration levels at the nearby receiver locations.

At distances ranging from 90 to 1,451 from Project construction activities, construction vibration velocity levels are estimated to range from 0.000 to 0.009 in/sec PPV and will remain below the threshold of 0.2 in/sec PPV at all receiver locations, as shown on Table 10-2. Therefore, the Project-related vibration impacts are considered *less than significant* during the construction activities at the Project site.

TABLE 10-2: CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Receiver Location ¹	Distance to Const. Activity (Feet) ²	Typical Construction Vibration Levels PPV (in/sec) ³					Thresholds PPV (in/sec) ⁴	Thresholds Exceeded? ⁵
		Small bulldozer	Jack-hammer	Loaded Trucks	Large Bulldozer	Highest Vibration Level		
R1	768'	0.000	0.000	0.000	0.001	0.001	0.2	No
R2	110'	0.000	0.004	0.008	0.010	0.010	0.2	No
R3	103'	0.000	0.004	0.009	0.011	0.011	0.2	No
R4	74'	0.001	0.007	0.015	0.017	0.017	0.2	No
R5	63'	0.001	0.009	0.019	0.022	0.022	0.2	No
R6	62'	0.001	0.009	0.019	0.023	0.023	0.2	No
R7	71'	0.001	0.007	0.016	0.019	0.019	0.2	No
R8	85'	0.000	0.006	0.012	0.014	0.014	0.2	No
R9	82'	0.001	0.006	0.013	0.015	0.015	0.2	No

¹ Receiver locations are shown on Exhibit D.

² Distance from receiver location to Project construction boundary.

³ Based on the Vibration Source Levels of Construction Equipment (Table 9).

⁴ Thresholds for transient sources associated with typical construction activities, Caltrans Transportation and Construction Vibration Manual, April 2020 p.38. (see Tables 3-1 & 3-2).

⁵ Does the peak vibration exceed the acceptable vibration thresholds?

"PPV" = Peak Particle Velocity

Moreover, the impacts at the site of the closest sensitive receivers are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

11 REFERENCES

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12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Big Bear High School Football and Track Stadium Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (619) 788-1971.

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PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
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PROFESSIONAL CERTIFICATIONS

Approved Acoustical Consultant • County of San Diego
FHWA Traffic Noise Model of Training • November 2004
CadnaA Basic and Advanced Training Certificate • October 2008.

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APPENDIX 3.1:

COUNTY OF SAN BERNARDINO CODE

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- San Bernardino County
 - Code of Ordinances
 - Title 8. DEVELOPMENT CODE
 - Division 3. COUNTYWIDE DEVELOPMENT STANDARDS
 - Chapter 83.01. GENERAL PERFORMANCE STANDARDS

§ 83.01.080. Noise.

Latest version.

This Section establishes standards concerning acceptable noise levels for both noise-sensitive land uses and for noise-generating land uses.

(a) *Noise Measurement.* Noise shall be measured:

- (1) At the property line of the nearest site that is occupied by, and/or zoned or designated to allow the development of noise-sensitive land uses;
- (2) With a sound level meter that meets the standards of the American National Standards Institute (ANSI § S14 1979, Type 1 or Type 2);
- (3) Using the “A” weighted sound pressure level scale in decibels (ref. pressure = 20 micronewtons per meter squared). The unit of measure shall be designated as dB(A).

(b) *Noise Impacted Areas.* Areas within the County shall be designated as “noise-impacted” if exposed to existing or projected future exterior noise levels from mobile or stationary sources exceeding the standards listed in Subdivision (d) (Noise Standards for Stationary Noise Sources) and Subdivision (e) (Noise Standards for Adjacent Mobile Noise Sources), below. New development of residential or other noise-sensitive land uses shall not be allowed in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to these standards. Noise-sensitive land uses shall include residential uses, schools, hospitals, nursing homes, religious institutions, libraries, and similar uses.

(c) *Noise Standards for Stationary Noise Sources.*

(1) *Noise Standards.* Table 83-2 (Noise Standards for Stationary Noise Sources) describes the noise standard for emanations from a stationary noise source, as it affects adjacent properties:

Table 83-2		
Noise Standards for Stationary Noise Sources		
Affected Land Uses (Receiving Noise)	7:00 a.m. - 10:00 p.m. Leq	10:00 p.m. - 7:00 a.m. Leq
Residential	55 dB(A)	45

Professional Services	55 dB(A)	55
Other Commercial	60 dB(A)	60
Industrial	70 dB(A)	70

Leq = (Equivalent Energy Level). The sound level corresponding to a steady-state sound level of the same total energy as a time-varying signal over a given sample period, typically one, eight or 24

dB(A) = (A-weighted Sound Pressure Level). The sound pressure level, in decibels, as measured by a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and high frequency components of the sound, placing greater emphasis on those frequencies within the range of the human ear.

Ldn = (Day-Night Noise Level). The average equivalent A-weighted sound level during a 24-hour period, calculated by adding 10 decibels to the hourly noise levels measured during the night (from 10:00 p.m. to 7:00 a.m.) in this way Ldn takes into account the lower tolerance of people for noise during nighttime periods.

(2) *Noise Limit Categories.* No person shall operate or cause to be operated a source of sound at a location or allow the creation of noise on property owned, leased, occupied, or otherwise controlled by the person, which causes the noise level, when measured on another property, either incorporated or unincorporated, to exceed any one of the following:

- (A) The noise standard for the receiving land use as specified in Subdivision (b) (Noise-Impacted Areas), above, for a cumulative period of more than 30 minutes in any hour.
- (B) The noise standard plus five dB(A) for a cumulative period of more than 15 minutes in any hour.
- (C) The noise standard plus ten dB(A) for a cumulative period of more than five minutes in any hour.
- (D) The noise standard plus 15 dB(A) for a cumulative period of more than one minute in any hour.
- (E) The noise standard plus 20 dB(A) for any period of time.

(d) *Noise Standards for Adjacent Mobile Noise Sources.* Noise from mobile sources may affect adjacent properties adversely. When it does, the noise shall be mitigated for any new development to a level that shall not exceed the standards described in the following Table 83-3 (Noise Standards for Adjacent Mobile Noise Sources).

Table 83-3			
Noise Standards for Adjacent Mobile Noise Sources			
Land Use		Ldn (or CNEL) dB(A)	
Categories	Uses	Interior (1)	Exterior
Residential	Single and multi-family, duplex, mobile homes		
Commercial	Hotel, motel, transient housing		
Commercial retail, bank, restaurant		50	
Office building, research and development,		45	

professional offices	
Amphitheater, concert hall, auditorium, movie theater	45
Institutional/Public	Hospital, nursing home, school classroom, religious institution, library
Open Space	Park

Notes:

(1) The indoor environment shall exclude bathrooms, kitchens, toilets, closets and corridors.

(2) The outdoor environment shall be limited to:

- Hospital/office building patios
- Hotel and motel recreation areas
- Mobile home parks
- Multi-family private patios or balconies
- Park picnic areas
- Private yard of single-family dwellings
- School playgrounds

(3) An exterior noise level of up to 65 dB(A) (or CNEL) shall be allowed provided exterior noise level has been substantially mitigated through a reasonable application of the best available noise reduction measures and interior noise exposure does not exceed 45 dB(A) (or CNEL) with windows and doors closed. If that windows and doors remain closed to achieve an acceptable interior noise level shall necessitate the use of air conditioning or mechanical ventilation.

CNEL = (Community Noise Equivalent Level). The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels during the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m.

(e) *Increases in Allowable Noise Levels.* If the measured ambient level exceeds any of the first four noise limit categories in Subdivision (d)(2), above, the allowable noise exposure standard shall be increased to reflect the ambient noise level. If the ambient noise level exceeds the fifth noise limit category in Subdivision (d)(2), above, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.

(f) *Reductions in Allowable Noise Levels.* If the alleged offense consists entirely of impact noise or simple tone noise, each of the noise levels in Table 83-2 (Noise Standards for Stationary Noise Sources) shall be reduced by five dB(A).

(g) *Exempt Noise.* The following sources of noise shall be exempt from the regulations of this Section:

- (1) Motor vehicles not under the control of the commercial or industrial use.
- (2) Emergency equipment, vehicles, and devices.

(3) Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays.

(h) *Noise Standards for Other Structures.* All other structures shall be sound attenuated against the combined input of all present and projected exterior noise to not exceed the criteria.

Table 83-4	
Noise Standards for Other Structures	
Typical Uses	12-Hour Equivalent Sound Level dBA Ldn
Educational, institutions, libraries, meeting facilities, etc.	45
General office, reception, etc.	50
Retail stores, restaurants, etc.	55
Other areas for manufacturing, assembly, testing, warehousing, etc.	65

In addition, the average of the maximum levels on the loudest of intrusive sounds occurring during a 24-hour period shall not exceed 65 dBA interior.

(Ord. 4011, passed - -2007; Am. Ord. 4245, passed - -2014)

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APPENDIX 5.1:
NOISE LEVEL MEASUREMENT WORKSHEETS

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24-Hour Noise Level Measurement Summary

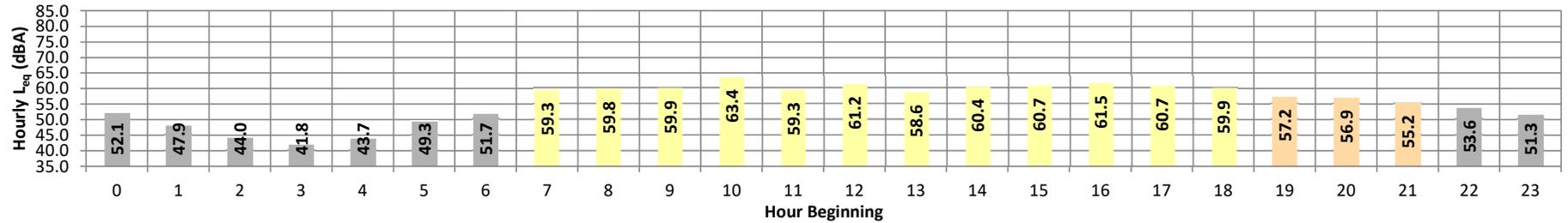
Date: Saturday, October 2, 2021
Project: Big Bear Highschool Field

Location: L1 -

Meter: Piccolo I
L

JN: 14378
Analyst: B. Maddux

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	52.1	77.3	35.4	66.0	38.0	46.0	35.0	37.0	35.0	35.0	35.0	35.0	52.1	10.0	62.1
	1	47.9	72.7	35.4	56.0	42.0	44.0	35.0	42.0	42.0	35.0	35.0	35.0	47.9	10.0	57.9
	2	44.0	72.7	35.4	48.0	35.0	39.0	35.0	35.0	35.0	35.0	35.0	35.0	44.0	10.0	54.0
	3	41.8	70.2	35.4	45.0	35.0	43.0	35.0	35.0	35.0	35.0	35.0	35.0	41.8	10.0	51.8
	4	43.7	70.8	35.4	46.0	42.0	43.0	35.0	42.0	41.0	35.0	35.0	35.0	43.7	10.0	53.7
	5	49.3	75.1	35.4	59.0	38.0	45.0	35.0	36.0	35.0	35.0	35.0	35.0	49.3	10.0	59.3
Day	6	51.7	75.5	35.4	65.0	43.0	51.0	38.0	41.0	39.0	35.0	35.0	35.0	51.7	10.0	61.7
	7	59.3	77.2	35.4	72.0	50.0	66.0	42.0	48.0	45.0	40.0	40.0	38.0	59.3	0.0	59.3
	8	59.8	77.2	35.6	72.0	53.0	67.0	42.0	50.0	46.0	41.0	40.0	38.0	59.8	0.0	59.8
	9	59.9	77.3	37.8	72.0	54.0	67.0	43.0	51.0	47.0	41.0	40.0	38.0	59.9	0.0	59.9
	10	63.4	89.4	38.4	73.0	57.0	69.0	44.0	53.0	49.0	41.0	40.0	39.0	63.4	0.0	63.4
	11	59.3	76.9	38.4	71.0	53.0	67.0	44.0	50.0	47.0	42.0	41.0	39.0	59.3	0.0	59.3
	12	61.2	84.6	38.2	72.0	57.0	68.0	44.0	53.0	48.0	42.0	41.0	39.0	61.2	0.0	61.2
	13	58.6	76.3	35.4	70.0	53.0	66.0	44.0	51.0	48.0	41.0	40.0	37.0	58.6	0.0	58.6
	14	60.4	78.9	38.1	72.0	56.0	68.0	43.0	53.0	48.0	40.0	39.0	38.0	60.4	0.0	60.4
	15	60.7	77.9	35.4	72.0	55.0	68.0	43.0	52.0	47.0	41.0	40.0	38.0	60.7	0.0	60.7
	16	61.5	83.4	35.4	72.0	56.0	68.0	43.0	52.0	47.0	41.0	40.0	39.0	61.5	0.0	61.5
	17	60.7	77.5	35.4	72.0	54.0	68.0	42.0	50.0	45.0	40.0	40.0	38.0	60.7	0.0	60.7
18	59.9	82.2	38.4	72.0	51.0	67.0	41.0	48.0	44.0	40.0	40.0	38.0	59.9	0.0	59.9	
Evening	19	57.2	77.6	35.4	69.0	48.0	65.0	40.0	45.0	43.0	38.0	38.0	38.0	57.2	5.0	62.2
	20	56.9	76.9	35.4	70.0	45.0	63.0	40.0	44.0	42.0	38.0	38.0	37.0	56.9	5.0	61.9
	21	55.2	78.8	35.4	69.0	44.0	59.0	40.0	43.0	41.0	38.0	38.0	35.0	55.2	5.0	60.2
Night	22	53.6	76.1	35.4	68.0	44.0	55.0	38.0	43.0	41.0	37.0	35.0	35.0	53.6	10.0	63.6
	23	51.3	76.2	35.4	65.0	40.0	48.0	35.0	39.0	38.0	35.0	35.0	35.0	51.3	10.0	61.3
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq} (dBA)		
Day	Min	58.6	76.3	35.4	70.0	50.0	66.0	41.0	48.0	44.0	40.0	39.0	37.0	24-Hour	Daytime	Nighttime
	Max	63.4	89.4	38.4	73.0	57.0	69.0	44.0	53.0	49.0	42.0	41.0	39.0			
Energy Average		60.6	Average:		71.8	54.1	67.4	42.9	50.9	46.8	40.8	40.1	38.3	58.2	60.0	49.9
Evening	Min	55.2	76.9	35.4	69.0	44.0	59.0	40.0	43.0	41.0	38.0	38.0	35.0			
	Max	57.2	78.8	35.4	70.0	48.0	65.0	40.0	45.0	43.0	38.0	38.0	38.0	24-Hour CNEL (dBA)		
Energy Average		56.5	Average:		69.3	45.7	62.3	40.0	44.0	42.0	38.0	38.0	36.7	60.5		
Night	Min	41.8	70.2	35.4	45.0	35.0	39.0	35.0	35.0	35.0	35.0	35.0	35.0			
	Max	53.6	77.3	35.4	68.0	44.0	55.0	38.0	43.0	42.0	37.0	35.0	35.0			
Energy Average		49.9	Average:		57.6	39.7	46.0	35.7	38.9	37.9	35.2	35.0	35.0			

24-Hour Noise Level Measurement Summary

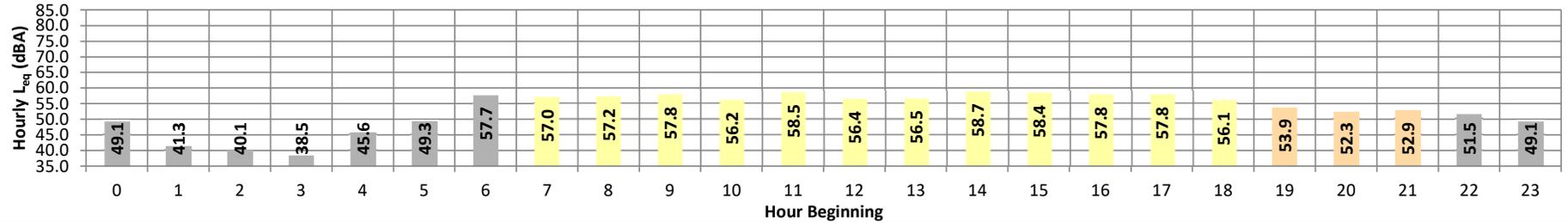
Date: Saturday, October 2, 2021
Project: Big Bear Highschool Field

Location: L1 -

Meter: Piccolo I
N

JN: 14378
Analyst: B. Maddux

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	49.1	75.5	34.4	62.0	40.0	48.0	35.0	39.0	36.0	35.0	35.0	35.0	49.1	10.0	59.1
	1	41.3	65.5	34.4	51.0	36.0	43.0	35.0	35.0	35.0	35.0	35.0	35.0	41.3	10.0	51.3
	2	40.1	64.7	34.4	47.0	37.0	42.0	35.0	37.0	35.0	35.0	35.0	35.0	40.1	10.0	50.1
	3	38.5	51.9	34.4	48.0	37.0	43.0	35.0	37.0	35.0	35.0	35.0	35.0	38.5	10.0	48.5
	4	45.6	67.8	34.4	57.0	40.0	48.0	35.0	39.0	37.0	35.0	35.0	35.0	45.6	10.0	55.6
	5	49.3	71.0	34.4	61.0	45.0	52.0	39.0	44.0	41.0	37.0	36.0	35.0	49.3	10.0	59.3
Day	6	57.7	84.9	37.4	67.0	52.0	62.0	45.0	51.0	49.0	42.0	40.0	38.0	57.7	10.0	67.7
	7	57.0	77.4	38.2	68.0	53.0	63.0	45.0	51.0	48.0	44.0	43.0	41.0	57.0	0.0	57.0
	8	57.2	81.1	39.0	67.0	53.0	63.0	45.0	51.0	48.0	44.0	43.0	40.0	57.2	0.0	57.2
	9	57.8	81.1	41.3	68.0	56.0	63.0	47.0	54.0	50.0	45.0	44.0	42.0	57.8	0.0	57.8
	10	56.2	75.4	38.6	66.0	54.0	63.0	45.0	51.0	49.0	44.0	43.0	40.0	56.2	0.0	56.2
	11	58.5	80.0	41.5	68.0	56.0	64.0	47.0	54.0	50.0	45.0	44.0	42.0	58.5	0.0	58.5
	12	56.4	73.7	40.3	66.0	54.0	63.0	47.0	52.0	50.0	44.0	43.0	41.0	56.4	0.0	56.4
	13	56.5	75.8	40.1	66.0	55.0	62.0	48.0	53.0	51.0	47.0	46.0	44.0	56.5	0.0	56.5
	14	58.7	79.6	42.2	68.0	56.0	65.0	48.0	54.0	51.0	47.0	46.0	44.0	58.7	0.0	58.7
	15	58.4	77.0	42.1	68.0	56.0	65.0	48.0	54.0	51.0	46.0	45.0	43.0	58.4	0.0	58.4
	16	57.8	79.1	39.1	67.0	55.0	63.0	47.0	53.0	50.0	45.0	43.0	41.0	57.8	0.0	57.8
	17	57.8	81.5	41.4	67.0	55.0	63.0	46.0	52.0	49.0	45.0	44.0	42.0	57.8	0.0	57.8
18	56.1	72.9	39.2	67.0	53.0	62.0	46.0	51.0	49.0	44.0	42.0	41.0	56.1	0.0	56.1	
Evening	19	53.9	76.3	37.2	65.0	49.0	60.0	43.0	47.0	45.0	41.0	40.0	38.0	53.9	5.0	58.9
	20	52.3	70.4	37.3	65.0	48.0	58.0	42.0	46.0	44.0	40.0	39.0	37.0	52.3	5.0	57.3
	21	52.9	70.9	34.4	65.0	49.0	59.0	43.0	48.0	45.0	41.0	39.0	36.0	52.9	5.0	57.9
Night	22	51.5	76.5	34.4	64.0	44.0	52.0	37.0	43.0	41.0	36.0	35.0	35.0	51.5	10.0	61.5
	23	49.1	76.9	34.4	61.0	41.0	47.0	37.0	40.0	38.0	35.0	35.0	35.0	49.1	10.0	59.1
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq} (dBA)		
Day	Min	56.1	72.9	38.2	66.0	53.0	62.0	45.0	51.0	48.0	44.0	42.0	40.0	24-Hour	Daytime	Nighttime
	Max	58.7	81.5	42.2	68.0	56.0	65.0	48.0	54.0	51.0	47.0	46.0	44.0			
Energy Average		57.5	Average:		67.2	54.7	63.3	46.6	52.5	49.7	45.0	43.8	41.8	55.4	56.9	50.6
Evening	Min	52.3	70.4	34.4	65.0	48.0	58.0	42.0	46.0	44.0	40.0	39.0	36.0			
	Max	53.9	76.3	37.3	65.0	49.0	60.0	43.0	48.0	45.0	41.0	40.0	38.0	24-Hour CNEL (dBA)		
Energy Average		53.1	Average:		65.0	48.7	59.0	42.7	47.0	44.7	40.7	39.3	37.0	59.0		
Night	Min	38.5	51.9	34.4	47.0	36.0	42.0	35.0	35.0	35.0	35.0	35.0	35.0			
	Max	57.7	84.9	37.4	67.0	52.0	62.0	45.0	51.0	49.0	42.0	40.0	38.0			
Energy Average		50.6	Average:		57.6	41.3	48.6	37.0	40.6	38.6	36.1	35.7	35.3			

24-Hour Noise Level Measurement Summary

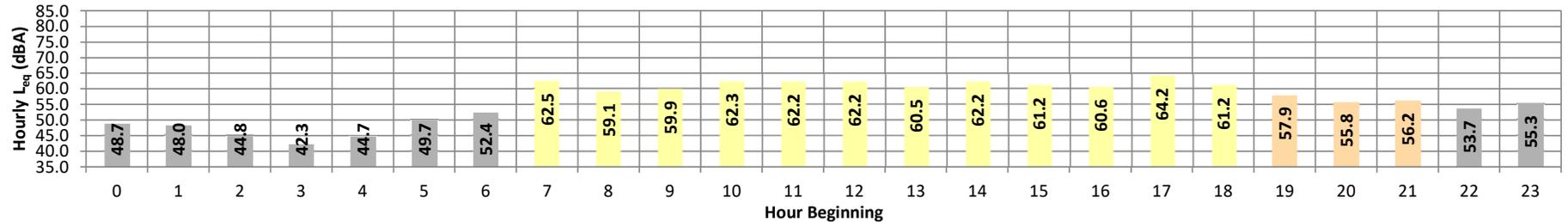
Date: Saturday, October 2, 2021
Project: Big Bear Highschool Field

Location: L1 -

Meter: Piccolo I
T

JN: 14378
Analyst: B. Maddux

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	48.7	73.3	34.7	61.0	43.0	51.0	35.0	41.0	37.0	35.0	35.0	35.0	48.7	10.0	58.7
	1	48.0	72.6	34.7	59.0	40.0	49.0	35.0	37.0	37.0	35.0	35.0	35.0	48.0	10.0	58.0
	2	44.8	67.3	34.7	55.0	37.0	48.0	35.0	37.0	35.0	35.0	35.0	35.0	44.8	10.0	54.8
	3	42.3	55.6	34.7	51.0	41.0	46.0	40.0	41.0	40.0	36.0	35.0	35.0	42.3	10.0	52.3
	4	44.7	65.9	40.6	54.0	41.0	50.0	40.0	40.0	40.0	40.0	40.0	40.0	44.7	10.0	54.7
	5	49.7	72.0	40.1	62.0	47.0	53.0	40.0	45.0	42.0	40.0	40.0	40.0	40.0	49.7	10.0
Day	6	52.4	71.4	36.6	64.0	50.0	56.0	41.0	49.0	45.0	39.0	38.0	37.0	52.4	10.0	62.4
	7	62.5	91.7	42.4	69.0	57.0	65.0	50.0	56.0	54.0	48.0	46.0	44.0	62.5	0.0	62.5
	8	59.1	80.4	39.3	69.0	57.0	65.0	50.0	56.0	53.0	47.0	46.0	43.0	59.1	0.0	59.1
	9	59.9	81.0	40.3	70.0	57.0	65.0	51.0	56.0	54.0	48.9	47.0	43.0	59.9	0.0	59.9
	10	62.3	86.1	40.6	72.0	59.0	66.0	52.0	57.0	54.0	49.0	48.0	42.0	62.3	0.0	62.3
	11	62.2	89.0	42.4	72.0	58.0	66.0	51.0	56.0	54.0	49.0	48.0	45.0	62.2	0.0	62.2
	12	62.2	87.3	42.5	72.0	59.0	67.0	51.0	57.0	54.0	49.0	48.0	46.0	62.2	0.0	62.2
	13	60.5	85.3	43.1	70.0	58.0	65.0	51.0	56.0	53.0	49.0	48.0	44.0	60.5	0.0	60.5
	14	62.2	87.9	39.3	72.0	58.0	67.0	50.0	56.0	53.0	48.0	46.0	43.0	62.2	0.0	62.2
	15	61.2	83.2	43.0	72.0	58.0	67.0	51.0	56.0	54.0	49.0	47.0	45.0	61.2	0.0	61.2
	16	60.6	79.3	44.2	70.0	60.0	66.0	52.0	58.0	55.0	50.0	48.0	46.0	60.6	0.0	60.6
	17	64.2	94.7	41.3	72.0	60.0	66.0	51.0	59.0	55.0	48.0	47.0	44.0	64.2	0.0	64.2
18	61.2	84.5	43.8	71.0	59.0	67.0	52.0	57.0	54.0	49.0	48.0	46.0	61.2	0.0	61.2	
Evening	19	57.9	79.0	39.4	68.0	55.0	63.0	48.0	53.0	51.0	45.0	44.0	41.0	57.9	5.0	62.9
	20	55.8	77.9	37.6	67.0	52.0	61.0	46.0	51.0	49.0	42.0	40.0	38.0	55.8	5.0	60.8
	21	56.2	77.7	38.5	67.0	53.0	62.0	46.0	51.0	49.0	43.0	42.0	39.0	56.2	5.0	61.2
Night	22	53.7	71.9	37.3	66.0	51.0	58.0	44.0	50.0	48.0	40.0	39.0	37.0	53.7	10.0	63.7
	23	55.3	79.6	34.7	67.0	48.0	56.0	37.0	46.0	42.0	37.0	36.0	35.0	55.3	10.0	65.3
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq} (dBA)		
Day	Min	59.1	79.3	39.3	69.0	57.0	65.0	50.0	56.0	53.0	47.0	46.0	42.0	24-Hour	Daytime	Nighttime
	Max	64.2	94.7	44.2	72.0	60.0	67.0	52.0	59.0	55.0	50.0	48.0	46.0			
Energy Average		61.7	Average:		70.9	58.3	66.0	51.0	56.7	53.9	48.7	47.3	44.3	59.3	61.1	50.7
Evening	Min	55.8	77.7	37.6	67.0	52.0	61.0	46.0	51.0	49.0	42.0	40.0	38.0			
	Max	57.9	79.0	39.4	68.0	55.0	63.0	48.0	53.0	51.0	45.0	44.0	41.0	24-Hour CNEL (dBA)		
Energy Average		56.7	Average:		67.3	53.3	62.0	46.7	51.7	49.7	43.3	42.0	39.3	61.4		
Night	Min	42.3	55.6	34.7	51.0	37.0	46.0	35.0	37.0	35.0	35.0	35.0	35.0			
	Max	55.3	79.6	40.6	67.0	51.0	58.0	44.0	50.0	48.0	40.0	40.0	40.0			
Energy Average		50.7	Average:		59.9	44.2	51.9	38.6	42.9	40.7	37.4	37.0	36.6			

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APPENDIX 9.1:
CADNAA OPERATIONAL NOISE MODEL INPUTS

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14378 - Big Bear High School Football and Track Stadium - Operation

CadnaA Noise Prediction Model: 14378-02_Operation.cna

Date: 16.11.21

Analyst: B. Maddux

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	
	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	1.00
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr				Limit. Value				Land Use			Height	Coordinates			
			Daytime	Evening	Nighttime	CNEL	Daytime	Evening	Nighttime	CNEL	Type	Auto	Noise Type		X	Y	Z	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)	(ft)	(ft)	(ft)	
RECEIVERS		R1	50.0	50.0	-80.2	49.5	60.0	0.0	0.0	0.0				5.00	a	6388600.02	2399571.29	5.00
RECEIVERS		R2	57.5	57.5	-80.2	57.0	60.0	0.0	0.0	0.0				5.00	a	6387877.32	2399201.68	5.00
RECEIVERS		R3	56.4	56.4	-80.2	55.9	60.0	0.0	0.0	0.0				5.00	a	6387838.16	2399095.64	5.00
RECEIVERS		R4	57.5	57.5	-80.2	57.0	60.0	0.0	0.0	0.0				5.00	a	6387717.46	2399095.11	5.00
RECEIVERS		R5	58.2	58.2	-80.2	57.8	60.0	0.0	0.0	0.0				5.00	a	6387620.38	2399104.43	5.00
RECEIVERS		R6	58.4	58.4	-80.2	57.9	60.0	0.0	0.0	0.0				5.00	a	6387511.28	2399103.18	5.00
RECEIVERS		R7	58.0	58.0	-80.2	57.5	60.0	0.0	0.0	0.0				5.00	a	6387417.12	2399101.16	5.00
RECEIVERS		R8	56.6	56.6	-80.2	56.1	60.0	0.0	0.0	0.0				5.00	a	6387279.04	2399087.78	5.00
RECEIVERS		R9	55.8	55.8	-80.2	55.4	60.0	0.0	0.0	0.0				5.00	a	6387186.04	2399097.63	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li		Operating Time			K0	Height	Coordinates			
			Day	Evening	Night	Type	Value	norm.	Day	Special			Night	X	Y	Z
			(dBA)	(dBA)	(dBA)		dB(A)	(min)	(min)	(min)	(dB)	(ft)	(ft)	(ft)	(ft)	
POINTSOURCE		Football/Track Stadium	117.5	117.5	117.5	Lw	117.5	720.00	180.00	0.00	0.0	8.00	a	6387540.97	2399542.62	8.00

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APPENDIX 10.1:
CADNAA CONSTRUCTION NOISE MODEL INPUTS

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14378 - Big Bear High School Football and Track Stadium - Construction

CadnaA Noise Prediction Model: 14378-02_Construction.cna

Date: 16.11.21

Analyst: B. Maddux

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius #(Unit,LEN)	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section #(Unit,LEN)	999.99
Min. Length of Section #(Unit,LEN)	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	
	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature #(Unit,TEMP)	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. #(Unit,SPEED)	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr				Limit. Value				Land Use			Height (ft)	Coordinates			
			Daytime (dBA)	Evening (dBA)	Nighttime (dBA)	CNEL (dBA)	Daytime (dBA)	Evening (dBA)	Nighttime (dBA)	CNEL (dBA)	Type	Auto	Noise Type		X (ft)	Y (ft)	Z (ft)	
RECEIVERS	R1		63.7	63.7	63.7	70.4	80.0	0.0	0.0	0.0				5.00	a	6388600.02	2399571.29	5.00
RECEIVERS	R2		72.0	72.0	72.0	78.7	80.0	0.0	0.0	0.0				5.00	a	6387877.32	2399201.68	5.00
RECEIVERS	R3		71.0	71.0	71.0	77.7	80.0	0.0	0.0	0.0				5.00	a	6387838.16	2399095.64	5.00
RECEIVERS	R4		73.3	73.3	73.3	79.9	80.0	0.0	0.0	0.0				5.00	a	6387717.46	2399095.11	5.00
RECEIVERS	R5		74.4	74.4	74.4	81.1	80.0	0.0	0.0	0.0				5.00	a	6387620.38	2399104.43	5.00
RECEIVERS	R6		74.5	74.5	74.5	81.2	80.0	0.0	0.0	0.0				5.00	a	6387511.28	2399103.18	5.00
RECEIVERS	R7		74.3	74.3	74.3	80.9	80.0	0.0	0.0	0.0				5.00	a	6387417.12	2399101.16	5.00
RECEIVERS	R8		72.6	72.6	72.6	79.3	80.0	0.0	0.0	0.0				5.00	a	6387279.04	2399087.78	5.00
RECEIVERS	R9		71.1	71.1	71.1	77.7	80.0	0.0	0.0	0.0				5.00	a	6387186.04	2399097.63	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li		Operating Time			Height (ft)
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value dB(A)	norm.	Day (min)	Special (min)	
SITEBOUNDARY		Construction01	125.6	125.6	125.6	80.1	80.1	80.1	Lw"	80.1				8

Name	Height		Coordinates			
	Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
SITEBOUNDARY	8.00	a	6387468.10	2399959.93	8.00	0.00
			6387696.55	2399936.46	8.00	0.00
			6387973.42	2399853.15	8.00	0.00

Name	Height		Coordinates			
	Begin (ft)	End (ft)	x (ft)	y (ft)	z (ft)	Ground (ft)
			6387836.55	2399598.95	8.00	0.00
			6387824.03	2399574.20	8.00	0.00
			6387812.81	2399548.83	8.00	0.00
			6387802.94	2399522.91	8.00	0.00
			6387791.92	2399487.62	8.00	0.00
			6387783.39	2399451.64	8.00	0.00
			6387778.64	2399424.32	8.00	0.00
			6387775.34	2399396.78	8.00	0.00
			6387773.12	2399356.78	8.00	0.00
			6387770.20	2399187.98	8.00	0.00
			6387767.26	2399179.24	8.00	0.00
			6387760.39	2399172.61	8.00	0.00
			6387750.17	2399169.97	8.00	0.00
			6387742.08	2399170.02	8.00	0.00
			6387219.57	2399172.84	8.00	0.00
			6387219.69	2399197.58	8.00	0.00
			6387284.68	2399368.73	8.00	0.00
			6387322.07	2399496.08	8.00	0.00
			6387378.40	2399681.45	8.00	0.00
			6387443.50	2399841.84	8.00	0.00
			6387450.11	2399965.11	8.00	0.00

APPENDIX 6a



November 1, 2021

Ms. Kaitlyn Dodson-Hamilton
Tom Dodson & Associates
PO Box 2307
San Bernardino, CA 92406-2307

SUBJECT: BIG BEAR HIGH SCHOOL FOOTBALL STADIUM TRIP GENERATION ASSESSMENT

Dear Ms. Kaitlyn Dodson-Hamilton:

This letter has been prepared to document the findings for the Trip Generation Assessment for the proposed Big Bear High School Football Stadium development (**Project**) located on the northwest corner of the intersection of Maple Lane and Baldwin Lane (south of Big Bear High School) in the County of San Bernardino. This trip generation assessment has been prepared in accordance with the County's Transportation Impact Study Guidelines (County Guidelines) (July 9, 2019).

PROPOSED PROJECT

The high school football games are currently being held at Big Bear Middle School (located at 41275 Big Bear Boulevard in Big Bear Lake). The football games are the only events that are affected (being relocated) by the new proposed stadium as graduations and other large events are currently already held at the high school. The existing seating capacity is currently 550 seats for the home team and approximately 100 seats for visitors. The seating for the visiting team is low in comparison to the home team due to the travel distance of the visiting teams which limits the attendees to immediate family only.

TRIP GENERATION ASSESSMENT

In order to determine the trip generation associated with the existing football games that would be relocated from Big Bear Middle School to Big Bear High School, the activities on September 25, 2021, and October 2, 2021, were observed and counted. Both of these dates included both Junior Varsity and Varsity games which anticipated a high turnout for these games. There are other weekday games that were scheduled, but they are relatively new and have fewer attendees and are usually Junior Varsity games only. Night games are also rare since there are currently no permanent lights for the evening games and portable lights need to be brought in. The one evening game planned is to occur on Friday, October 29, 2021, at 7 PM. As such, traffic counts collected on September 25 and October 2 were deemed to be the most conservative to survey.

Traffic counts were collected at the driveways and on-street parking (where applicable along Jeffries Road and Georgia Street) were surveyed at Big Bear Middle School on September 25, 2021, and October 2, 2021 (both Saturdays). A summary of the count data collected is provided in Attachment A. Table 1 summarizes the trip generation for the existing football games (accounting for all driveways). As shown on Table 1, the existing football games generate an average of 460 two-way trips per day (on Saturday), with 160 trips during the afternoon peak hour. The peak activity on both Saturdays occurred between 3:30 and 4:30 PM.

TABLE 1: EXISTING SURVEY DATA FOR BIG BEAR MIDDLE SCHOOL

Land Use	Saturday Peak Hour			Daily
	In	Out	Total	
Day 1: September 25, 2021				
Total Trips	18	125	143	352
Day 2: October 2, 2021				
Total Trips	27	150	177	565
2-Day Average Trip Generation:				
Total Trips	23	138	160	460

FINDINGS

According to the County Guidelines, operations analysis (traffic study) may not be required if the weekday AM or PM peak hour trip generation is less than 100 vehicle trips. The Project is anticipated to generate 160 Saturday afternoon peak hour trips, however, the weekday trips for Junior Varsity games occur during the mid-day outside of the typical peak commute hours. Lastly, it should be noted that these are not new trips as they are existing trips occurring at Big Bear Middle School that would be relocated to Big Bear High School (there is no increase in attendance anticipated with the new stadium). As such, additional traffic analysis beyond the trip generation assessment is not necessary. If you have any questions, please contact me directly at (949) 861-0177.

URBAN CROSSROADS, INC.



Charlene So, PE
Associate Principal

Attachments

ATTACHMENT A: DRIVEWAY COUNTS



City: Big Bear Lake
 Location: TOTAL
 Date: 9/25/2021
 Count Type: Entering/Exiting Counts

	Entering	Exiting	Total
9:00	0	0	0
9:15	0	0	0
9:30	0	0	0
9:45	0	0	0
10:00	2	0	2
10:15	1	0	1
10:30	8	0	8
10:45	2	0	2
11:00	9	3	12
11:15	11	2	13
11:30	8	2	10
11:45	16	2	18
12:00	8	1	9
12:15	7	2	9
12:30	17	1	18
12:45	14	1	15
13:00	18	4	22
13:15	16	5	21
13:30	5	1	6
13:45	6	1	7
14:00	5	3	8
14:15	1	2	3
14:30	7	5	12
14:45	0	2	2
15:00	0	4	4
15:15	0	2	2
15:30	2	14	16
15:45	6	48	54
16:00	7	42	49
16:15	3	21	24
16:30	0	1	1
16:45	0	1	1
17:00	0	3	3
17:15	0	0	0
17:30	0	0	0
17:45	0	0	0
TOTAL	179	173	352

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 Corona, CA 92878
 (951) 268-6268



City: Big Bear Lake
 Location: TOTAL
 Date: 10/2/2021
 Count Type: Entering/Exiting Counts

	Entering	Exiting	Total
9:00	13	3	16
9:15	6	2	8
9:30	10	2	12
9:45	9	4	13
10:00	9	1	10
10:15	15	3	18
10:30	12	0	12
10:45	15	0	15
11:00	5	4	9
11:15	13	1	14
11:30	2	0	2
11:45	6	3	9
12:00	12	8	20
12:15	7	2	9
12:30	8	2	10
12:45	29	13	42
13:00	17	14	31
13:15	19	9	28
13:30	9	10	19
13:45	10	6	16
14:00	10	5	15
14:15	7	6	13
14:30	3	3	6
14:45	2	7	9
15:00	4	12	16
15:15	2	9	11
15:30	3	31	34
15:45	10	40	50
16:00	10	57	67
16:15	4	22	26
16:30	0	2	2
16:45	0	1	1
17:00	0	1	1
17:15	0	0	0
17:30	0	0	0
17:45	0	1	1
TOTAL	281	284	565

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

APPENDIX 6b

September 27, 2021

Ms. Kaitlyn Dodson-Hamilton
Tom Dodson & Associates
PO Box 2307
San Bernardino, CA 92406-2307

SUBJECT: BIG BEAR HIGH SCHOOL FOOTBALL STADIUM VEHICLE MILES TRAVELED (VMT) SCREENING EVALUATION

Dear Ms. Kaitlyn Dodson-Hamilton:

The following Vehicle Miles Traveled (VMT) Screening Evaluation has been prepared for the proposed Big Bear High School Football Stadium development (**Project**), which is located northwest corner of the intersection at Maple Lane and Baldwin Lane in the Unincorporated County of San Bernardino.

PROJECT OVERVIEW

It is our understanding that the Project is to develop the Project proposes to demolish the existing structures on site and develop the site as a continuation of the Big Bear High School athletic fields with a new football and track stadium to serve Big Bear High School and District athletics.

BACKGROUND

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which requires all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the new measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (**Technical Advisory**). (1)

It is our understanding that the County of San Bernardino utilizes the San Bernardino County Transportation Authority (SBCTA) VMT Screening Tool (**Screening Tool**). The Screening Tool allows users to input an assessor's parcel number (APN) to determine if a project's location meets one or more of the screening thresholds for land use projects. Based on OPR's Technical Advisory, the County of San Bernardino has recently adopted their San Bernardino County Transportation Impact Study Guidelines (December of 2020) (**County Guidelines**) (2). The adopted County Guidelines have been utilized to prepare VMT analysis.

PROJECT SCREENING

The County Guidelines provides details on appropriate screening criteria that can be used to identify when a proposed land use project is anticipated to result in a less than significant impact without conducting a more detailed analysis. Screening thresholds are broken into the following three types:

- Local Community Screening
- Projects Generating Less Than 110 Daily Vehicle Trips
- Transit Priority Area (TPA) Screening
- Low VMT Area Screening

A land use project need only to meet one of the above screening thresholds to result in a less than significant impact.

LOCAL COMMUNITY SCREENING

The County Guidelines notes projects which serve the local community and have the potential to reduce VMT should not be required to complete a full VMT analysis. Projects such as local serving retail (less than 50,000 square feet in building area), K-12 schools, local parks, day care centers, local serving gas stations, local serving banks, student housing, and local serving community colleges are examples of local serving land uses that would tend to shorten vehicle trips. The Project intends to develop an athletic field as the continuation of Big Bear High School. Currently, games and events are held at nearby Big Bear Middle School. Upon Project completion games and events will be relocated from Big Bear Middle School into the newly developed facility. In other words, the Project would serve these existing attendees and guests; and not result in new vehicle trips coming to and from the local area.

Local Community screening criteria is met.

PROJECTS GENERATING LESS THAN 110 DAILY VEHICLE TRIPS

The County Guidelines indicate that projects generating fewer than 110 daily vehicle trips may be presumed to have a less than significant impact. Trips generated by the Project's proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, 2017. (3) The proposed Project is anticipated to generate a net total of vehicle trip-ends per day above 110.

Projects Generating Less Than 110 Daily Vehicle Trips screening criteria is not met.

TPA SCREENING

Consistent with guidance identified in the Technical Advisory, County Guidelines note that projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing “major transit stop”¹ or an existing stop along a “high-quality transit corridor”²) may be presumed to have a less than significant impact absent substantial evidence to the contrary. However, the presumption may not be appropriate if a project:

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

Based on the Screening Tool results presented in Attachment A, the Project site is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor.

TPA screening criteria is not met.

LOW VMT AREA SCREENING

As noted in the County Guidelines, “Projects located within a low VMT generating area as determined by the analyst (e.g., development in efficient areas of the County will reduce VMT per person/employee and is beneficial to the region).”³ The Screening Tool uses the sub-regional San Bernardino Transportation Analysis Model (SBTAM) to measure VMT performance within individual traffic analysis zones (TAZ’s) within the region. The Project’s physical location, based on parcel number, is input into the Screening Tool to determine project generated VMT. The parcel containing the proposed Project was selected and the Screening Tool was run for Production/Attraction (PA) VMT per employee and VMT per capita measure of VMT.

County Guidelines indicate that projects within TAZ’s that are found to generate VMT per employee 4% below the unincorporated County’s existing regional baseline VMT per employee are considered to have a less than significant impact. SBCTA has published VMT per employee values for the unincorporated County region, which is 19.49. Additionally, the VMT per capita values for unincorporated County region

¹ Pub. Resources Code, § 21064.3 (“‘Major transit stop’ means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.”).

² Pub. Resources Code, § 21155 (“For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.”).

³ County Guidelines; Page 19

Ms. Kaitlyn Dodson-Hamilton
Tom Dodson & Associates
September 27, 2021
Page 4 of 5

is 24.81. Based on the Screening Tool results (see Attachment A), the baseline VMT per employee is 5.9 or 69.73% below the County VMT per employee average and VMT per capita is 16.6 or 33.09% below the County VMT per capita average. Therefore, the Project resides within a TAZ that generates VMT per employee and VMT per capita that exceeds 4% below the unincorporated County existing VMT per employee and per capita threshold.

Low VMT Area screening criteria is met.

CONCLUSION

Based on our review of applicable VMT screening thresholds, the Project meets the Project Type and the Low VMT Area screening. Therefore, the Project is assumed to result in a less than significant VMT impact; no additional VMT analysis is required.

If you have any questions, please contact me directly at 949-660-1994.

Respectfully submitted,

URBAN CROSSROADS, INC.



Alexander So
Senior Analyst

REFERENCES

1. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.
2. **San Bernardino County.** *Transportation Impact Study Guidelines.* July 2019.
3. **Institute of Transportation Engineers.** *Trip Generation Manual.* 10th Edition. 2017.

**ATTACHMENT A:
SBCTA SCREENING TOOL**

SBCTA SCREENING TOOL VMT PER EMPLOYEE

Complete #1 - 4, Then Click 'Run'

#2. Select the VMT Metric. Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.*

PA VMT Per Worker

#3. Select the Baseline Year. The years available for analysis are from 2016 to 2040.*

2021

#4. Select the Threshold (% reduction from baseline year). Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.*

Below County Baseline (0%)

Project Area VMT (2 of 2)

Assessor Parcel Number (APN)	031231120
Traffic Analysis Zone (TAZ)	53876702
TAZ VMT	5.9
Jurisdiction VMT	17
% Difference	-65.35%
VMT Metric	PA VMT Per Worker
Threshold	17
Zoom to	***

Map Layers

- Project Area VMT
- Screening Results
- Low VMT Generating TAZs
- Parcels
- Jurisdiction Boundaries
- TAZ
- Transit Priority Areas

SBCTA SCREENING TOOL VMT PER CAPITA

The screenshot displays the SBCTA VMT Screening Tool interface. At the top, the title bar reads "SBCTA VMT Screening Tool" and "Powered by Fehr & Peers". A search bar at the top left contains the text "S Maple Ln & Baldwin Ln, Big Be X".

A configuration dialog box titled "Complete #1 - 4, Then Click 'Run'" is open on the left side of the map. It contains the following instructions and settings:

- #2. Select the VMT Metric.** Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.*
 Setting: PA VMT Per Population
- #3. Select the Baseline Year.** The years available for analysis are from 2016 to 2040.*
 Setting: 2021
- #4. Select the Threshold (% reduction from baseline year).** Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.*
 Setting: Below County Baseline (0%)

A data popup window titled "Project Area VMT (2 of 2)" is open over a parcel on the map. It displays the following information:

Assessor Parcel Number (APN)	031231120
Traffic Analysis Zone (TAZ)	53876702
TAZ VMT	16.6
Jurisdiction VMT	15.9
% Difference	4.08%
VMT Metric	PA VMT Per Population
Threshold	15.9

The "Map Layers" panel on the right side of the interface shows the following layers:

- Project Area VMT
- Screening Results
- Low VMT Generating TAZs
- Parcels
- Jurisdiction Boundaries
- TAZ
- Transit Priority Area

The map shows a residential area with streets like S Maple Ln, Baldwin Ln, and Panorama Dr. A blue shaded area indicates the project area. The background includes "San Bernardino National Forest" and "Gold Mountain Memorial Park".

SBCTA PUBLISHED VMT PER WORKER VALUES FOR SBTAM BASE YEAR AND HORIZON YEAR

GEOGRAPHY	SBTAM Base Year - 2016			
	VMT Summary HB		VMT Summary HBW	
	HB VMT	HB VMT per Capita	HBW VMT	HBW VMT per Worker
Unincorporated County	8,161,122	24.81	1,321,314	19.49