INITIAL STUDY

FOR THE

BEAR VALLEY UNIFIED SCHOOL DISTRICT EDUCATION FOUNDATION YOUTH SPORTS COMPLEX

Prepared for:

Bear Valley Unified School District
Physical Address: 42271 Moonridge Road, Big Bear Lake, CA 92315
Mailing Address: PO Box 1529, Big Bear Lake, CA 92315

Applicant:

Bear Valley Unified School District Education Foundation
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LIST OF ABBREVIATIONS AND ACROYNMS

°F	Fahrenheit
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ACOE	Army Corps of Engineers
AF	acre feet
AFY	acre feet per year
AKA	also known as
amsl	above mean sea level
AMTP	Archaeological Monitoring and Treatment Plan
APE	Area of Potential Effect
APN	Assessor's Parcel Number
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BACMs	Best Available Control Measures
BBCCSD	Big Bear City Community Services District
BBLDWP	Big Bear Lake Department of Water and Power
BMPs	Best Management Practices
BRA	Biological Resources Assessment
BVES	Bear Valley Electric Service
BVUSD	Bear Valley Unified School District
C&D	construction and demolition
C_2Cl_4	perchloroethylene
C_2H_4O	acetaldehyde
C_4H_6	1,3-butadiene
C_6H_6	benzene
CAA	Clean Air Act
CAAA	Clean Air Act Amendment
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCAR	California Climate Action Registry
CDFW	California Department of Fish and Wildlife
CE	State Candidate Endangered
CEQA	California Environmental Quality Act
CH_2O	formaldehyde
CH_4	methane
CHRIS	California Historical Resources Information System
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide

CO_2	carbon dioxide
COA	Conditions of Approval
COCs	constituents of concern
Cr(VI)	hexavalent chromium
CRECs	Controlled Recognized Environmental Condition
CRHR	California Register of Historical Resources
CRMP	Cultural Resource Management Plan
CWA	Clean Water Act
CY	cubic yard
dB	decibel
dBA	A-weighted decibel
DBH	diameter of the tree at breast height
DEF	Bear Valley Unified School District Education Foundation
DOI	Department of Interior
DPM	diesel particulate matter
DTSC	Department of Toxic Substance Control
DWR	Department of Water Resources
EIR	Environmental Impact Report
EO	Executive Orders
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FGC	Fish & Game Code
FHSZ	Fire Hazard Severity Zone
FIRM	Federal Insurance Rate Map
FT	Federal Threatened
FTA	Federal Transit Association
GCC	Global Climate Change
GHG	Greenhouse Gas
gpm	gallons per minute
GSA	Groundwater Sustainability Agencies
GSP	Groundwater Sustainability Plans
HFCs	hydrofluorocarbons
hP	horse power
HSC	Health and Safety Code
IN	Institutional
in/sec	inches per second
km	kilometers
kWh	kilowatt hour
LAFCO	Local Agency Formation Commission
lbs./day	Pounds Per Day
LDR	Low Density Residential
Leq	equivalent continuous sound level
LRA	Local Responsibility Area
LSA	Lake or Streambed Alteration
LST	Localized Significance Thresholds
LUST	Leaking Underground Storage Tank

MARTA	Mountain Area Regional Transit Authority
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MM	Mitigation Measure
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
MT	Metric Ton
$MTCO_2e/yr$	Metric Tons of CO_2 equivalent per year
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NBP	Nesting Bird Plan
No.	Number
NO2 or NOx	Nitrogen Dioxide
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resource Conservation Service
O3	Ozone
OS	Open Space
Pb	Lead
PCE	Primary Constituent Elements
PEIR	Program EIR
PF	Public Facility
PFCs	perfluorocarbons
PM 10	Fine Particulate Matter
PM 2.5	Fine Particulate Matter
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resource Code
RECs	Recognized Environmental Condition
RMS	root mean square
ROG	reactive organic gases
ROW	Rights-of-Way
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SBB	San Bernardino Basin
SBBA	San Bernardino Basin Area
SBCFD	San Bernardino County Fire Department
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SE	State Endangered
SF_6	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SGMP	Sustainable Groundwater Management Plan

SIP	State Implementation Plan
SLF	Sacred Lands File
SO2	Sulfur Dioxide
SOI	Secretary of Interior
SRA	State Responsibility Area
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	*Toxic Air Contaminants*
TCP	Timberland Conversion Plan
TCR	Tribal Cultural Resources
THP	Timber Harvest Plan
THPO	Tribal Historic Preservation Officer
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VdB	vibration-velocity decibel
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled
WOTUS	Waters of the United States
WQMP	Water Quality Management Plan

PROJECT INFORMATION

Table 1
PROJECT INFORMATION

APNs:	0312-311-22 and -25	***USGS Quad:***	Big Bear City, CA
Lead Agency:	Bear Valley Unified School District Physical Address: 42271 Moonridge Road, Big Bear Lake, CA 92315 Mailing Address: PO Box 1529, Big Bear Lake, CA 92315	***T, R, Section:***	T2N, R1E, Section 13
Location:	The project is located at the following address: 44500 Baldwin Lane, Sugarloaf CA 92314. The approximate GPS coordinates of the project site are 34.252463º, -116.829239º.	***Land Use:***	Public Facility (PF)
Applicant:	Bear Valley Unified School District Education Foundation PO Box 1529, Big Bear Lake, CA 92315	***Zoning:***	Bear Valley/Rural Living-20 Acre Minimum & Bear Valley/Institutional
Applicant Contact Person:	Steve Foulkes 951-318-1970 sfoulkes2@gmail.com	***Proposal:***	A three field multi-use baseball, softball, and soccer complex.

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 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 northern portion of the project site contains forestry, consisting 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. The conifer forest located on the site consists of Jeffrey pine (*Pinus jeffreyi*) and incense cedar (*Calocedrus decurrans*), western juniper (*Juniperus occidentalis*), Singleleaf Pinyon Pine (*Pinus edulis*) with occasional California black oak (*Quercus kelloggi*) and shrubs such as flannelbush (*Fremontodendron californica*), chamise (*Adenostoma fasciculatum*), sagebrush (*Artemisia californica*), and yerba santa (*Eriodictyon sp.*) intermix with cacti and wildflowers such as prickly pear, prickly poppy, and mariposa lilies. The southern portion of the proposed project site has been previously engineered, as it contains land that is owned by Bear Valley Unified School District, and consists of a dirt track and field area that has been highly disturbed. The area to the south of the project site contains a parking lot, solar arrays, and a large structure that is utilized by the District for bus maintenance and as a warehouse. Additionally, the area to the east of this structure serves as bus parking presently. Vegetation within the southern, disturbed portion of the site is minimal, though several trees are located scattered throughout the site, along with lower profile brush scattered throughout the site.

The San Bernardino County General Plan Land Use is Public Facility (PF), while the Zoning classifications are Bear Valley/Rural Living-20 Acre Minimum and Bear Valley/Institutional. The land uses bordering the project site are outlined in Table 2 below:

Table 2
EXISTING LAND USE AND LAND USE ZONING DISTRICTS

Location	Existing Land Use	Land Use Category	Zoning District
Project Site	Vacant	Public Facilities (PF)	Bear Valley/Rural Living-20 Acre Minimum & Bear Valley/Institutional
North	Vacant, undeveloped land containing native vegetation, farther north are residences.	Low Density Residential (LDR), and Public Facility (PF)	Single Residential (RS) & Bear Valley/Rural Living-20 Acre Minimum
South	Residences	Low Density Residential (LDR)	Bear Valley/Single Residential (RS)
East	Big Bear High School	Public Facility (PF)	Bear Valley/Institutional (IN)
West	Baldwin Lane Elementary School and native vegetation	Public Facility (PF) and Open Space (OS)	Bear Valley/Institutional (IN) & Bear Valley/Rural Living-20 Acre Minimum

Project Overview

Introduction

In 2018 RCK Properties, Inc. donated approximately 213 acres of land to the Bear Valley Unified School District (BVUSD or District) (refer to **Figure 3**). BVUSD subsequently donated the property to the Bear Valley Unified School District Education Foundation in February 2020 for the purposes of developing outdoor recreation and educational opportunities for their students and the community. The proposed project would develop a Youth Sports Complex that covers approximately 4.53 acres of the donated property (which will be donated back to the District) in addition to a 9 acre portion of existing BVUSD land that presently serves as a track and field for use by the District (**Figure 4**).

Project Description

The proposed project would construct a three field multi-use sports complex within a 13.53-acre site. The Youth Sports Complex would, as shown on **Figure 4**, include fields that would accommodate baseball, softball, and soccer. The Youth Sports Complex would be installed east of Baldwin Lane Elementary School in the unincorporated community of Sugarloaf within San Bernardino County. Access to the Youth Sports Complex would be through an existing driveway along Baldwin Lane at the western boundary of the site. Access would be improved to include a 40' in length access road leading to a new parking area that would be adjacent to the southernmost field. The proposed Youth Sports Complex Project would provide approximately 150 parking spaces near the fields through creating 2 new paved parking spaces, 5 paved handicapped parking spaces and 80,500 square feet of unpaved parking areas. The access road and paved parking will create approximately 9,500 square feet (SF) of impervious area. The proposed project would include three backstops with associated fencing, portable toilets and 2 storage containers for equipment. The three fields will comprise approximately 250,000 SF of natural turf area. The fields will not contain nighttime lighting, as the fields will not be for utilization outside of daylight hours.

Utility Connections

The project site is located at 44500 Baldwin Lane in Sugarloaf, California, which is part of unincorporated San Bernardino County. The site is not currently served by any public utilities. 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 (BBLDWP); however, the northern portion of the property is located outside of the BBLDWP service area. The DWP, the Big Bear City Community Services District (BBCCSD), and the San Bernardino County Local Agency Formation Commission (LAFCO) have already agreed to an Out of Service Area Agreement to allow the DWP to provide water service to the project. Solid Waste service will be provided by the BBCCSD. No sewer service is necessary to serve the site, as the proposed project would utilize portable toilets in lieu of traditional sewer service.

Construction Scenario

The proposed project is expected to begin construction for the sports complex in June of 2025. It is estimated that construction of the Youth Sports Complex Project will be completed by approximately October 2027. The project will require clearing, grading and compacting approximately 38,000 cubic yards (CY) of soil within the 13.53 acre site. **Appendix 1** outlines the grading plans. **Figure 4** outlines the areas of cut and fill that will be required as part of project development. Vegetation that requires removal from the site will be trucked to the Big Bear Transfer Station for recycling. All trees and shrubs within the cut and fill areas and the access road will be removed and chipped where possible. 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. Equipment utilized will be traditional site development equipment of scrapers, wheel compactors, vibratory compactors, water trucks, petroleum powered fork lifts, and various hand tools traditional to grading operations. 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 Applicant to attenuate noise, traffic, and dust during the course of construction.

Operational Scenario

The Youth Sports Complex is intended for use by local organized youth sports leagues for games and practice. It will not be open to the general public. During the summer months the fields may be rented on weekends for adult softball tournaments.

PROJECT SITE PHOTOS



Photo 1: Overlooking the Track in a southeast direction.



Photo 2: Northern Field area



Photo 3: View of the Track looking to the South



Photo 4: View of the Track looking to the South/Southwest



Photo 5: View of the Track looking West/Northwest toward Baldwin Lane Elementary School



Photo 6: Photo the northern portion of the Track looking East



Photo 7: Northern Field area and trail therein



Photo 8: Northern Field area and trail therein



Photo 9: Northern Field area and trail therein



Photo 10: Northern Field area and trail therein



Photo 11: View of the Track looking Northwest

ADDITIONAL APPROVALS THAT MAY BE REQUIRED BY OTHER PUBLIC AGENCIES

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, and any other responsible agency that may have discretionary authority over all or a portion of the Project.

CAL FIRE has determined that a new Timber Harvest Plan and Timber Conversion Permit will be required for the project due to the magnitude of the changes from the previously approved THP/TCP.

SUMMARY OF CONSULTATION WITH CALIFORNIA NATIVE AMERICAN TRIBES

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

EVALUATION FORMAT

This Initial Study is prepared in compliance with the California Environmental Quality Act, Public Resources Code section 21000, et seq. (CEQA) and the State CEQA Guidelines, California Code of Regulations section 15000, et seq. Specifically, the preparation of an Initial Study is guided by Section 15063 of the CEQA Guidelines. This format of the study is presented as follows. The project is evaluated based on its effect on 18 major categories of environmental factors. Each factor is reviewed by responding to a series of questions regarding the impact of the project on each element of the overall factor. The Initial Study checklist provides a formatted analysis that provides a determination of the effect of the project on the factor and its elements. The effect of the project is categorized into one of the following four categories of possible determinations:

Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant	No Impact

Substantiation is then provided to justify each determination. One of the four following conclusions is then provided as a summary of the analysis for each of the major environmental factors.

1. **No Impact**: No impacts are identified or anticipated and no mitigation measures are required.

2. **Less than Significant Impact**: No significant adverse impacts are identified or anticipated and no mitigation measures are required.

3. **Less than Significant Impact with Mitigation Incorporated**: Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as a condition of project approval to reduce these impacts to a level below significant. The required mitigation measures are: (List of mitigation measures)

4. **Potentially Significant Impact**: Significant adverse impacts have been identified or anticipated. An Environmental Impact Report (EIR) is required to evaluate these impacts, which are (List of the impacts requiring analysis within the EIR).

At the end of the analysis the required mitigation measures are restated and categorized as being either self- monitoring or as requiring a Mitigation Monitoring and Reporting Program.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

DETERMINATION (To be completed by the Lead Agency)

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

☐	The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
☒	Although the proposed project could have a significant effect on the environment, there shall 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 shall be prepared.
☐	The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	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.
☐	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

, 2024 — Date

Lead Agency (signature)

Date

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
I. AESTHETICS: Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☒	☐	☐
c) In 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?	☐	☒	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

I. AESTHETICS

SUBSTANTIATION:

a) *Less Than Significant Impact* – Adverse impacts to scenic vistas can occur in one of two ways. First, an area itself may contain existing scenic vistas that would be altered by new development. The northern portion of the project site contains forestry, while the southern portion of the proposed project site has been previously engineered and consists of a dirt track and field area that has been highly disturbed. The proposed project would remove a majority of the trees located within northerly 4.53 acre site to develop the proposed sports complex. However, the proposed project would develop only 4.53 acres of the 213 acres of land that is managed by the Bear Valley Unified School District Education Foundation (District Education Foundation or DEF). This 4.53 acres will be removed from the 213 acres of donated land area by donating it back to the District. The remaining approximately 209 acres of land has become part of a system of trails for community use. As such, though the proposed project will result in a change in the scenic qualities of a small portion of the site the majority of the 213-acre site will remain unchanged. Furthermore, while the project requires the removal of vegetation, it would not install any structures beyond backstops, portable toilets, and storage containers for equipment to support activities at the proposed sports complex.

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 relatively level in elevation to the surrounding area, and while the project site varies in elevation, there are both high and low points throughout the site (the highest point is about 7030' in elevation, and the lowest is about 6075'), situated in the hills that separate the Big Bear City area from the Sugarloaf community area (refer to **Figure 1**). The proposed project will be graded to elevations of 7,010 at the highest point, and 6,995 at the lowest point with the finished grade of the northern field at about 7,005' +/-, and the southern fields at about 7,000' +/-. Views from residences to the north of the project would not by impacted by the proposed project development as views to the north are generally of the mountains located at higher elevations to the south, while similarly, views from the residences to the south of the project would not be substantially impacted by the proposed development as the mountains to the north are located at a higher elevation than the

proposed project site, and such views will be maintained. 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 within 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.

Furthermore, the proposed project would be developed within a site adjacent to Baldwin Lane Elementary School, with Big Bear High School located about 0.2 miles to the east of the project boundary, which contain similar features (ball fields, etc.) to that which is proposed by the Youth Sports Complex Project. Therefore, given that the elevation of the proposed sports complex project 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 With Mitigation Incorporated* – 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. No historic buildings are located within the area proposed to be disturbed as part of the proposed project. No rock outcroppings would be impacted by the proposed project. As stated under issue I(a), above, 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 formerly indicated 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. Trees will be removed as part of the proposed project. The San Bernardino County Development Code[1] Plant Protection and Management (88.01) requires a Tree Removal Permit in conjunction with the land use application or development permit; however, as the Project does not require a land use application or development permit from the County, the project would be exempt from this requirement, and therefore would not conflict with any County regulations governing scenic resources, such as trees.

The project site contains on the order of approximately 200-400 tree over 2" diameter of the tree at breast height (DBH) located within the approximately 4.53-acre northerly portion of the project site, a majority of which are anticipated to require removal to enable the development of the youth Sports Complex Project. The majority of the trees have been reviewed to be in good condition. Situations might arise whereby a tree on-site can be spared from construction. Alternatively, a tree located off-site but in proximity to construction might be impacted by the site work. In these instances, precautions should be taken so as not to compact the soil during construction and to avoid unnecessary root removals. As such, the following mitigation measure shall be implemented:

[1] San Bernardino County, 2024. San Bernardino County Development Code. https://codelibrary.amlegal.com/codes/sanbernardino/latest/sanberncty_ca/0-0-0-166578 (accessed 06/21/24)

AES-1 ***The Applicant shall avoid compaction of soil during construction in areas where trees are located within or adjacent to the project site do not require removal. The Applicant shall avoid root removal in all instances where it is possible to do so. The Applicant shall utilize the following Tree Preservation Guidelines:***

<u>Root Pruning</u>

- ***a. There shall be no disturbance to roots more than 2 inches in diameter. Roots less than 2 inches in diameter must be cleanly cut to encourage good callus tissue. It is recommended that roots be pruned back to the next root node.***
- ***b. Recommended distances from the trunk that roots should be pruned have been established for construction activities around trees. The recommendations are: Preferred distance –5 times the diameter of the tree at breast height (dbh); Minimum distance – 3 times dbh.***
- ***c. The recommended time to prune roots is before active root growth in late summer and fall.***
- ***d. The less frequently roots are pruned the less impact there will be on tree health and stability.***

<u>Root Protection Zone</u>

- ***a. A root protection zone shall be defined by a minimum 42" high barrier constructed around any potentially impacted tree. This barrier shall be at the drip line of the tree or at a distance from the trunk equal to 6 inches for each inch of trunk diameter 4.5 feet above the ground, if this method defines a larger area.***
- ***b. Should it be necessary to install irrigation lines within this area, the line shall be located by boring, or an alternate location for the trench is to be established. The minimum clearance between an open trench and a tree shall be no closer than 10 feet or 6 inches for each inch of trunk diameter measured at 4.5 feet above existing grade, if this method defines a larger distance. The maximum clearance shall be 10 feet. The contractor shall conform to these provisions.***
- ***c. At no time shall any equipment, materials, supplies or fill be allowed within the prescribed root protection.***

<u>Protection from Root Compaction</u>

- ***a. No vehicles shall be permitted to be parked under the dripline of trees in non-paved areas. Avoid placing heavy equipment, large rocks or boulders, and gravel under the drip line of the tree. The object is to avoid soil compaction, which makes it difficult for roots to receive oxygen from the soil.***

<u>Conclusion</u>

The above measures apply <u>only</u> to trees that do not require removal as part of the proposed project. The intent for the above tree and root protection measures is to ensure protection of trees located on the periphery of the proposed site development area to the maximum extent feasible. As such, trees that require removal shall be exempt from the above tree and root protection measures.

Furthermore, the proposed project is currently in the process of and is required to develop a Timber Harvest Plan (THP) and Timberland Conversion Plan (TCP) to comply with CAL FIRE requirements pertaining to tree removal as enforced by mitigation measure (**MM**) **AFR-1**, outlined under Section II, Agriculture and Forestry Resources, below. **MM AES-1 and AFR-1** would minimize the potential for the proposed project to significantly damage scenic resources, such as trees, to a level of less than significant. As such, based on the discussion above, and with implementation of the above mitigation measure, the proposed 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 With Mitigation Incorporated* – Please refer to the discussion under issue I(a) above. The northern portion of the project site contains forestry, while the southern portion of the proposed project site has been previously engineered and consists of a dirt track and field area that has been highly disturbed. According to the California State Office of Planning and Research (OPR) Site Check,[2] the proposed project is located in an Urbanized Area or urban cluster under the Census. 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 Bear Valley/Rural Living-20 Acre Minimum & Bear Valley/Institutional and is designated for Public Facility (PF) by the San Bernardino Countywide Plan. The proposed project would comply with the applicable zoning development standards governing scenic quality pertaining to the Bear Valley/Rural Living-20 Acre Minimum & Bear Valley/Institutional Districts. The San Bernardino Countywide 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 sports field complex designed to serve the Big Bear Valley, adjacent to existing developed school facilities, thus blending with the surrounding environment. Furthermore, the proposed project would be required to adhere to **MMs AES-1 and AFR-1** above, pertaining to impacts to trees. The proposed project will be required to develop a THP and TCP to comply with CAL FIRE requirements pertaining to tree removal as enforced by mitigation measure **MM AFR-1**, outlined under Section II, Agriculture and Forestry Resources, below. The San Bernardino Countywide Plan Policy NR-3.6 Regional Park Land states "*We coordinate with other jurisdictions and agencies to provide regional park land. We prioritize the maintenance and improvement of existing County parks and trails over their expansion or creation of new facilities."* The proposed project would contribute to providing parkland that can be utilized by Big Bear Valley residents and visitors, thereby meeting this General Plan Policy. 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 with the implementation of **MMs AES-1 and AFR-1**.

d) *Less Than Significant Impact* – Implementation of the proposed project is not anticipated to create new sources of light during the construction phase of the project, and the operational phase will not include any night lighting. During construction, it is not anticipated that night lighting would be required, as the proposed project would be constructed during daytime hours. Further, as no new night lighting is anticipated to be installed by the project, operational lighting would be nonexistent, and therefore would not result in a change from that which occurs at present at the project site and in project area. Thus, the site has been designed to minimize potential light and glare impacts associated with the proposed project, and therefore impacts under this issue would be less than significant.

[2] OPR, 2024. Site Check. https://sitecheck.opr.ca.gov/ (accessed 06/21/24)

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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. Will the project:				
a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, 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) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☒	☐	☐
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☒	☐	☐

II. AGRICULTURE AND FORESTRY RESOURCES

SUBSTANTIATION:

a) *No Impact* – The proposed project will occur within an area consisting of native vegetation and trees, and does not contain any agricultural uses. 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, which are depicted as part of the Countywide Plan Farmland Map, no prime farmland, unique farmland, or farmland of state importance exists within the vicinity of the proposed project (**Figure II-1**). 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 Bear Valley/Rural Living-20 Acre Minimum & Bear Valley/Institutional. 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) *Less Than Significant With Mitigation Incorporated* – The proposed project is located on a site containing native trees. Additionally, trees are found in abundance in the project area. No designated timberland resources delineated by the County would be disturbed as a result of project implementation because the County has not designated this site for such uses, and the site has not historically been used for timberland production. While the County has not designated the site for timberland resources, CAL FIRE designates sites containing trees/timberland resources as being "timberland use." CAL FIRE stipulates that when a project will convert timberland to a use other than growing timber a 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)]. As such, in addition to the TCP, a THP is required for the removal of the timber [PRC 4581]. Compliance with the above requirements is considered adequate to minimize impacts to timber resources and from conversion of timberland to a different use. As such, the following mitigation measure shall be implemented ensure that the project complies with these CAL FIRE requirements:

AFR-1 Prior to groundbreaking activities, the Applicant shall prepare and submit a Timberland Conversion Permit (TCP) pursuant to PRC 4621(a) and a Timber Harvesting Plan (THP) pursuant to PRC 4581 to CAL FIRE utilizing the services of a Registered Professional Forester approved by CAL FIRE.

Given the above, with implementation of **MM AFR-1**, the proposed project will meet CAL FIRE requirements pertaining to timberland conversion, and would therefore 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) *Less Than Significant With Mitigation Incorporated* – Please refer to the discussion under issue II(c), above. The proposed project is located on a site containing trees of varying sizes consistent with that which defines the Mountain Region of the County. No designated timberland resources delineated by the County would be disturbed as a result of project implementation because the County has not designated this site for such uses. The project site is zoned for Bear Valley/Rural Living & Bear Valley/Institutional (IN) use, and designated for Public Facility (PF) use. While the proposed project consists of site clearing activities that would remove existing trees within the site to develop the proposed sports complex, compliance with **MM AFR-1**, above, will ensure that the DEF complies with CAL FIRE requirements pertaining to timberland resources and removal of trees. As such, with implementation of **MM AFR-1**, above, while the project would require a TCP and THP to remove trees on site, no significant loss in forest land from the proposed project is anticipated to occur. Impacts under this issue are considered less than significant.

e) *Less Than Significant With Mitigation Incorporated* – The proposed project would construct a three field multi-use sports complex within a 13.53-acre site. The northern portion of the project site contains forestry, while the southern portion of the proposed project site has been previously engineered and consists of a dirt track and field area that has been highly disturbed. The project site and surrounding area do not support agricultural or forest uses that have been designated by the County. However, as stated above, while the County has not designated the site for timberland resources, CAL FIRE designates sites containing trees/timberland resources as being "timberland use." Compliance with the CAL FIRE requirements for preparation of a TCP and a THP, as enforced by **MM AFR-1**, is considered adequate to minimize impacts from conversion of timberland to a different use. Given the above, with implementation of **MM AFR-1**, the proposed project will meet CAL FIRE requirements pertaining to timberland conversion, and would therefore have a less than

significant potential to 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 such that a significant impact would occur.

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

III. AIR QUALITY

SUBSTANTIATION: The following information utilized in this section was obtained from the technical study "Youth Sports Complex Air Quality & Greenhouse Gas Assessment" prepared by Urban Crossroads dated August 29, 2024, and provided as Appendix 2 to this document.

Background

Climate
The regional climate has a substantial influence on air quality in the South Coast Air Basin (SCAB). In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the SCAB vary from the low to mid 60s (degrees Fahrenheit [°F]). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide (SO_2) to sulfates (SO_4) is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71 percent (%) along the coast and 59% inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as nitrogen oxides (NOX) and carbon monoxide (CO) from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

Wind Pattern and Project Location
The distinctive climate of the project area and the SCAB is determined by its terrain and geographical location. The SCAB is located in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter. Wind patterns across the south coastal region are characterized by westerly and southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season.

Criteria Pollutants
Both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are ozone (O_3) (precursor emissions include NO_X and reactive organic gases (ROG), CO, particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The Riverside County portion of the SCAB is designated as a nonattainment area for the federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3, PM_{10}, and $PM_{2.5}$.

Toxic Air Contaminants (TAC) Trend
In 1984, as a result of public concern for exposure to airborne carcinogens, CARB adopted regulations to reduce the amount of TAC emissions resulting from mobile and area sources, such as cars, trucks, stationary products, and consumer products. According to the Ambient and Emission Trends of Toxic Air Contaminants in California journal article which was prepared for CARB, results show that between 1990-2012, ambient concentration and emission trends for the seven TACs responsible for most of the known cancer risk associated with airborne exposure in California have declined significantly (between 1990 and 2012). The seven TACs studied include those that are derived from mobile sources: diesel particulate matter (DPM), benzene (C_6H_6), and 1,3-butadiene (C_4H_6); those that are derived from stationary sources: perchloroethylene (C_2Cl_4) and hexavalent chromium (Cr(VI)); and those derived from photochemical reactions of emitted VOCs: formaldehyde (CH_2O) and acetaldehyde (C_2H_4O).[3] The decline in ambient concentration and emission trends of these TACs are a result of various regulations CARB has implemented to address cancer risk.

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, and individuals with pre-existing respiratory or cardiovascular illness. Structures that house these persons or places where they gather are defined as "sensitive receptors." These structures typically include uses such as residences, hotels, and hospitals where an individual can remain for 24 hours. Consistent with the localized significance threshold (LST) Methodology, the nearest land use where an individual could remain for 24 hours to the project site has been used to determine construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$, since PM_{10} and $PM_{2.5}$ thresholds are based on a 24-hour averaging time.

[3] It should be noted that ambient DPM concentrations are not measured directly. Rather, a surrogate method using the coefficient of haze (COH) and elemental carbon (EC) is used to estimate DPM concentrations.

Receptors in the project study area are described below. All distances are measured from the project site boundary to the outdoor living areas (e.g., backyards) or at the building façade, whichever is closer to the project site. Receptors in the project study area are shown on **Figure III-1** under the Localized Construction Emissions section later in the report.

- Receptor R1 represents the Baldwin Lane Elementary School located at 44500 Baldwin Lane, approximately 41 feet west of the project site.
- Receptor R2 represents the existing residence at 109 Wabash Lane, approximately 150 feet south of the project site.
- Receptor R3 represents the existing residence at 109 Leonard Lane, approximately 138 feet south of the project site.

Applicable Regulatory Requirements

South Coast Air Quality Management District (SCAQMD) Rules that are currently applicable during construction activity for this project include but are not limited to Rule 403 (Fugitive Dust) and Rule 1113 (Architectural Coatings).

SCAQMD Rule 403
This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent and reduce fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth moving and grading activities. This rule is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM_{10} suppression techniques are summarized below.

- Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.
- All on-site roads will be paved as soon as feasible or watered periodically or chemically stabilized.
- All material transported off-site will be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.
- Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the workday to remove soil tracked onto the paved surface.

Methodology

In June 2024, the California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including SCAQMD, released the latest version of the CalEEMod Version 2022.1.1.26. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod has been used for this project to determine construction and operational air quality and greenhouse gas emissions.

Air Quality Regional Emissions Thresholds
The SCAQMD has developed regional significance thresholds for criteria pollutants, as summarized at Table III-1. The SCAQMD's CEQA Air Quality Significance Thresholds (March 2023) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

Table III-1
MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS

Pollutant	Construction	Operations
NO_X	100 lbs./day	55 lbs./day
VOC	75 lbs./day	55 lbs./day
PM_{10}	150 lbs./day	150 lbs./day
$PM_{2.5}$	55 lbs./day	55 lbs./day
SO_X	150 lbs./day	150 lbs./day
CO	550 lbs./day	550 lbs./day

lbs./day – Pounds Per Day

Air Quality Localized Emissions Thresholds
For this project, the appropriate area for the Localized Significance Threshold (LST) analysis is the SCAQMD Central San Bernardino Valley monitoring station (SRA 34). LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size. The SCAQMD's screening look-up tables are utilized in determining localized impacts. It should be noted that since the look-up tables identify thresholds at only 1 acre, 2 acres, and 5 acres, linear regression has been utilized to determine localized significance thresholds. Consistent with SCAQMD guidance, the thresholds presented in Table III-2 were calculated by interpolating the threshold values for the project's disturbed acreage.

It should be noted that though the project is greater than 1 acre in size, the acreage disturbed is based on the equipment list and days during each activity phase of construction according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday. The equipment-specific grading rates are summarized in the CalEEMod user's guide, Appendix A: Calculation Details for CalEEMod. It should be noted that the disturbed area per day is representative of a piece of equipment making multiple passes over the same land area. In other words, one Rubber Tired Dozer can make multiple passes over the same land area totaling 0.5 acres in a given 8-hour day. Appendix A of the CalEEMod User Manual only identifies equipment-specific grading rates for Crawler Tractors, Graders, Rubber Tired Dozers, and Scrapers; therefore, Tractors/Loaders/Backhoes equipment that was included in the site preparation and grading phase was replaced with Crawler Tractors. The project's construction activities could disturb a maximum of approximately 3.5 acres per day for site preparation and 4 acres per day for grading activities. Any other construction phases of development would result in lesser emissions and consequently lesser impacts than what is disclosed herein. As such, Table III-2 presents thresholds for localized construction and operational emissions.

Table III-2
MAXIMUM DAILY LOCALIZED EMISSIONS THRESHOLDS

Source	Activity	Emissions (lbs./day)			
		VOC	NOX	PM_{10}	$PM_{2.5}$
Construction	Site Preparation	220 lbs./day	1,625 lbs./day	25 lbs./day	9 lbs./day
	Grading	237 lbs./day	1,775 lbs./day	28 lbs./day	9 lbs./day
Operations	-	-	-	-	-

[1]Source of LSTs is provided on page 14 of 32.

Impact Analysis

a. *Less Than Significant Impact* – The project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743-square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is

principally responsible for air pollution control, and works directly with the Southern California Association of Governments (SCAG), county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In December 2022, the SCAQMD released the Final 2022 Air Quality Management Plan (AQMP)(2022 AQMP). The 2022 AQMP continues to evaluate current integrated strategies and control measures to meet the CAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels. Similar to the 2016 AQMP, the 2022 AQMP incorporates scientific and technological information and planning assumptions, including the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy Regional Transportation Plan/Sustainable Communities Strategies (RTP/SCS), a planning document that supports the integration of land use and transportation to help the region meet the federal Clean Air Act (CAA) requirements. The project's consistency with the AQMP will be determined using the 2022 AQMP as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the 1993 CEQA Handbook. These indicators are discussed below.

The proposed project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

The violations that under this criterion refer to are the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded. As evaluated, the project's regional and localized construction and operational-source emissions would not exceed applicable regional significance thresholds. As such, a less than significant impact is expected.

On the basis of the preceding discussion, the project is determined to be consistent with the first criterion.

The project will not exceed the assumptions in the AQMP based on the years of project build-out phase.

The 2022 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in County of San Bernardino General Plan is considered to be consistent with the AQMP.

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities. As such, when

considering that no emissions thresholds will be exceeded, a less than significant impact would result. The San Bernardino County General Plan Land Use is Public Facility (PF). The PF designation includes Institutional, academic, governmental and community service uses, either publicly owned or operated by non-profit organizations. The project is consistent with the current land use designation. As such, the proposed project would not conflict with the goals and objectives of the AQMP. Furthermore, the project, as evaluated herein would not exceed the regional or localized air quality significance thresholds.

On the basis of the preceding discussion, the project is determined to be consistent with the AQMP and a less than significant impact is expected.

b. *Less Than Significant Impact* – 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 emissions at the project site. Long-term emissions generated by future operation of the proposed well would be through a demand for energy to operate and through project related traffic.

Construction Emissions

Construction Activities
Construction activities associated with the project would result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Construction-related emissions are expected from the following activities:

- Site Preparation
- Grading
- Paving

Grading Activities
Dust is typically a major concern during grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions." Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. The project would require approximately 38,000 cubic yards of soil.

On-Road Trips
Construction generates on-road vehicle emissions from vehicle usage for workers, vendors, and haul trucks commuting to and from the site. Worker, vendor, and hauling trips are based on CalEEMod defaults.

Construction Duration
For purposes of analysis, construction of the project is expected to commence in June 2025 and would last through October 2027. The construction schedule utilized in the analysis represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.[4] The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per the CEQA Guidelines.

Construction Equipment
Equipment modeled is based on CalEEMod defaults and consultation with the Lead Agency. Consistent with industry standards and typical construction practices, each piece of equipment will

[4] As shown in the CalEEMod User's Guide Version 2022.1.1, Section 4.3 "Off-Road Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code.

Regional Construction Emissions Summary
The estimated maximum daily construction emissions are summarized on Table III-3, and as shown, the project construction-source emissions would not exceed SCAQMD regional thresholds. Thus, the project would result in a less than significant impact associated with construction activities. Detailed Construction model outputs are presented in Attachment A to Appendix 2.

Table III-3
REGIONAL CONSTRUCTION EMISSIONS SUMMARY

Source	Emissions (lbs./day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
2025	4.13	37.50	33.80	0.05	7.82	4.52
2026	3.49	31.30	30.80	0.07	4.61	2.40
2027	0.83	7.00	11.00	0.01	0.49	0.32
Winter						
2025	4.13	37.50	33.50	0.07	7.82	4.52
2026	3.48	31.30	30.50	0.07	4.61	2.40
2027	0.82	7.00	10.70	0.01	0.49	0.32
Maximum Daily Emissions	4.13	37.50	33.80	0.07	7.82	4.52
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

Regional Operational Emissions
Long-term air quality impacts occur from mobile source emission generated from project-related traffic and from emissions generated from energy usage. The proposed project primarily involves construction activity. For on-going operations, the project is intended for use by local organized youth sports leagues for games and practice. It will not be open to the general public. During the summer months the fields may be rented on weekends for adult softball tournaments.

Emissions associated with the pump are summarized in Table III-4. Project operational-source emissions would not exceed the numerical thresholds of significance established by the SCAQMD for any criteria pollutant, a less than significant impact would occur for project-related operational-source emissions and no mitigation is required.

Table III-4
TOTAL PROJECT REGIONAL OPERATIONAL EMISSIONS

Source	Emissions (lbs./day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
Mobile Source	0.05	0.04	0.39	0.00	0.09	0.02
Area Source	0.05	0.00	0.00	0.00	0.00	0.00
Total Maximum Daily Emissions	0.10	0.04	0.39	0.00	0.09	0.02
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

Source	Emissions (lbs./day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Winter						
Mobile Source	0.04	0.04	0.33	0.00	0.09	0.02
Area Source	0.05	0.00	0.00	0.00	0.00	0.00
Total Maximum Daily Emissions	0.09	0.04	0.33	0.00	0.09	0.02
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

Conclusion
As previously stated, the San Bernardino County General Plan Land Use is PF. The PF designation includes Institutional, academic, governmental and community service uses, either publicly owned or operated by non-profit organizations. The project, as evaluated herein would not exceed the regional or localized air quality significance thresholds. The CAAQS designates the project site as nonattainment for O_3, PM_{10}, and $PM_{2.5}$ while the NAAQS designates the project site as nonattainment for O_3 and $PM_{2.5}$.

The SCAQMD has published a report on how to address cumulative impacts from air pollution: White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution. In this report the SCAQMD clearly states (Page D-3):

"…the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for TAC emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which SCAB is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

Construction Impacts: The project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed project construction-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, proposed project construction-source emissions would be considered less than significant on a project-specific and cumulative basis.

Operational Impacts: The project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed project operational-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, the proposed project operational-source emissions would be considered less than significant on a project-specific and cumulative basis.

c. *Less Than Significant Impact* – The potential impact of project-generated air pollutant emissions at sensitive receptors has also been considered.

Localized Construction Emissions
The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as Localized Significance Thresholds (LSTs). The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4[5]. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses. It should be noted that SCAQMD also states that projects that are statutorily or categorically exempt under CEQA would not be subject to LST analyses. As such, although not required for this project, LST analysis is presented to further underscore that there are in fact no significant impacts associated with the project.

The SCAQMD recommends that the nearest sensitive receptor be considered when determining the project's potential to cause an individual or cumulatively significant impact. The nearest land use where an individual could remain for 24 hours to the project site has been used to determine localized construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$ (since PM_{10} and $PM_{2.5}$ thresholds are based on a 24-hour averaging time The nearest receptor used for evaluation of localized impacts of PM_{10} and $PM_{2.5}$ is location R3 existing residence at 109 Leonard Lane, approximately 138 feet (42 meters) south of the project site. Receptors in the project study area shown on **Figure III-1**.

As previously stated, and consistent with LST Methodology, the nearest industrial/commercial use to the project site is used to determine construction and operational LST air impacts for emissions of NO_X and CO as the averaging periods for these pollutants are shorter (8 hours or less) and it is reasonable to assume that an individual could be present at these sites for periods of one to 8 hours. The nearest receptor used for evaluation of localized impacts of PM_{10} and $PM_{2.5}$ is location R1 represented by the Baldwin Lane Elementary School located at 44500 Baldwin Lane, approximately 41 feet (12 meters) west of the project site. It should be noted that the *LST Methodology* explicitly states that "*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters*." As such, for evaluation of localized NO_X and CO, a 25-meter distance will be used.

Table III-5 identifies the localized impacts at the nearest receptor location in the vicinity of the project. Outputs from the model runs for construction LSTs are provided in Attachment A to Appendix 2. For analytical purposes, emissions associated with peak site preparation and grading activities are considered for purposes of LSTs since these phases represent the maximum localized emissions that would occur. Any other construction phases of development that overlap would result in lesser emissions and consequently lesser impacts than what is disclosed herein. As shown in Table III-5, emissions resulting from the project construction will not exceed the numerical thresholds of significance established by the SCAQMD for any criteria pollutant. Thus, a less than significant impact would occur for localized project-related construction-source emissions and no mitigation is required.

[5] The purpose of SCAQMD's Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities. Further, the SCAQMD defines Environmental Justice as "…equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."

Table III-5
PROJECT LOCALIZED CONSTRUCTION IMPACTS

On-Site Emissions	Emissions (lbs./day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Site Preparation				
Maximum Daily Emissions	37.50	32.40	7.59	4.47
SCAQMD Localized Threshold	220	1,625	25	9
Threshold Exceeded?	NO	NO	NO	NO
Grading				
Maximum Daily Emissions	32.60	29.40	4.19	2.38
SCAQMD Localized Threshold	237	1,775	28	9
Threshold Exceeded?	NO	NO	NO	NO

Results of the LST analysis indicate that the project will not exceed the SCAQMD localized significance thresholds during construction. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during project construction.

Localized Operational Emissions
The proposed project is to develop a three field multi-use sports complex within a 13.53-acre site. According to SCAQMD LST methodology, LSTs would apply to the operational phase of a proposed project, if the project includes stationary sources, or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., transfer facilities and warehouse buildings). The proposed project does not include such uses, and thus, due to the lack of significant stationary source emissions, no LST analysis is needed for operations.

CO "Hot Spot" Analysis
As discussed below, the project would not result in potentially adverse CO concentrations or "hot spots." Further, detailed modeling of project-specific CO "hot spots" is not needed to reach this conclusion. An adverse CO concentration, known as a "hot spot," would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment. To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards, as shown on Table III-6.

Table III-6
CO MODEL RESULTS

Intersection Location	CO Concentrations (ppm)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire Boulevard/Veteran Avenue	4.6	3.5	3.7
Sunset Boulevard/Highland Avenue	4	4.5	3.5
La Cienega Boulevard/Century Boulevard	3.7	3.1	5.2
Long Beach Boulevard/Imperial Highway	3	3.1	8.4

Notes: Federal 1-hour standard is 35 ppm and the deferral 8-hour standard is 9.0 ppm.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 8.4 ppm 8-hr CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the "hot spot" analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 7.7 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared. In contrast, an adverse CO concentration, known as a "hot spot," would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph)—or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact. Traffic volumes generating the CO concentrations for the "hot spot" analysis is shown on Table III-7. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vph and AM/PM traffic volumes of 8,062 vph and 7,719 vph respectively. The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm).

Table III-7
CO MODEL TRAFFIC RESULTS

Intersection Location	Peak Traffic Volumes (vph)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire Boulevard/Veteran Avenue	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset Boulevard/Highland Avenue	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374
La Cienega Boulevard/Century Boulevard	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach Boulevard/Imperial Highway	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

d. *Less Than Significant Impact* – Substantial odor-generating sources include land uses such as agricultural activities, feedlots, wastewater treatment facilities, landfills or various heavy industrial uses. The project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in

nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the solid waste regulations. The proposed project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed project construction and operations would be less than significant and no mitigation is required.

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

IV. BIOLOGICAL RESOURCES

SUBSTANTIATION: The following information is provided based on the Focused Biological Surveys conducted for the Proposed Youth Sports Complex. The assessment was conducted by Davey Resources Group dated August 30, 2024, and is titled "Bear Valley Unified School District Education Foundation Focused Biological Surveys for the Proposed Youth Sports Complex San Bernardino County, California." The following information is abstracted from the Biological Resources Assessment (BRA) provided as Appendix 3.

General Site Conditions

Vegetation
Vegetation on the site is composed of mixed coniferous forest typical of the Big Bear Lake region. Mixed coniferous forest is generally found above 5,000 feet elevation, with exceptions occurring on certain soil types and south exposures where available soil moisture is insufficient to support conifer trees. The conifer forest located on the site consists of Jeffrey pine (*Pinus jeffreyi*) and incense cedar (*Calocedrus decurrans*), western juniper (*Juniperus occidentalis*), Singleleaf Pinyon Pine (*Pinus edulis*) with occasional California black oak (*Quercus kelloggi*) and shrubs such as flannelbush (*Fremontodendron californica*), chamise (*Adenostoma fasciculatum*), sagebrush (*Artemisia californica*), and yerba santa (*Eriodictyon sp.*) intermix

with cacti and wildflowers such as prickly pear, prickly poppy, and mariposa lilies. Pebble plain habitats that support special-status plants occur in areas to the west, however, do not occur on the site.

Wildlife
The vegetation communities discussed above support habitat for numerous common wildlife species typically found in these areas. Wildlife species observed on the site include mountain chickadee (*Poecile gambeli*), mountain quail (*Oreortyx pictus*), common raven (*Corvus corax*), and turkey vulture (*Cathartes aura*).

Special Status Species
Plants: Special-status plant species are those considered rare, threatened, or endangered by the USFWS, California Department of Fish and Wildlife (CDFW), and California Native Plant Society (CNPS). Based on the literature review and California Natural Diversity Database (CNDDB) data, a total of 12 special-status plant species are known to occur in the area. Several of these species occur in pebble plain habitats that are in the area, but not located on the site. As part of the special-status plant survey, we visited the Dixie Lane pebble plains botanical area. During this time, we identified Big Bear Valley buckwheat (*Eriogonum kennedyi austromontanum*) in association with flat open rocky areas adjacent to the site, but not within the site.

Wildlife: Special-status wildlife species are those considered rare, threatened, or endangered by the United States Fish and Wildlife Service (USFWS) and CDFW. Federally listed threatened and/or endangered wildlife species that have been recorded in the CNDDB as occurring within 5 miles of the project area include sensitive species such as southern rubber boa, southwestern flying squirrel, and California spotted owl. These species, as well as nesting birds protected by the Migratory Bird Treaty Act (MBTA) were the target of focused surveys in this study.

Southern Rubber Boa
The southern rubber boa (SRB) is a small stout-bodied snake reaching 14-25 inches in total length. Dorsal coloration ranges from tan to olive-green in adults, while juveniles are pink to tan in color. SRB occupies oak-conifer and mixed-conifer forest from 5,000 to 8,000 feet in elevation where it uses fallen trees, rotting logs, rocks, and other debris as cover. This species is nocturnal during summer months and crepuscular during the spring and fall. Active individuals have been recorded during low temperatures (50 F). Once preferred microhabitats dry out and desiccate, SRB retreat underground and surface activity is limited to late afternoon and evening hours. The life-span of SRB is long relative to other snake species, with individuals known to live up to 50 years in the wild. Their diet consists of small mammals, birds, and lizards. When threatened, SRB will coil up, hide its head, and expose its tail to the predator. This behavior results in many individuals having heavily scarred or missing tails.

Upon completion of field surveys, biologists determined that although rubber boas could occur, their likelihood of occurrence is very low given the overall dry conditions on the site and lack of microhabitat features. For these reasons, it is unlikely that rubber boas will be adversely affected by the project.

California Spotted Owl
The California spotted owl is a subspecies of spotted owl that occurs throughout the Sierra Nevada mountain range in California and Nevada; in southern and coastal California in the Coastal, Transverse, and Peninsular mountain ranges; and in Sierra San Pedro Martir in Baja California Norte, Mexico. California spotted owls are mostly found on lands managed by the U.S. Forest Service and National Park Service. California spotted owls generally inhabit older forests that contain structural characteristics necessary for nesting, roosting, and foraging. In the Sierra Nevada range, a majority of California spotted owls occur within mid-elevation ponderosa pine, mixed conifer, white fir, and mixed-evergreen forest types, with fewer owls occurring in the lower elevation oak woodlands of the western foothills. On the central coast of California and in southern California, the owls are found in riparian /hardwood forests and woodlands, live oak/big cone fir forests, and redwood/California laurel forests. Nests are typically found in areas of high canopy cover, a high number of large trees, and downed trees.

Spotted owls were not detected during surveys and are likely absent from the site given the open nature of the forest and lack of structural characteristics available in older growth forest habitats. For this reason, this species is not expected to be adversely affected by the project.

San Bernardino Flying Squirrel

The San Bernardino flying squirrel is the terminal southern subspecies of northern flying squirrel in the western United States. Historically, the San Bernardino flying squirrel occurred in three populations that are all isolated from northern flying squirrel populations in the southern Sierra Nevada mountain range. The three populations historically occurred in the San Bernardino, San Gabriel and San Jacinto mountains, although there are only museum specimens for populations in the San Bernardino and San Jacinto populations. Rhoads initially described the subspecies, but more recent studies of mitochondrial DNA have confirmed the subspecies classification. Little is known about the life history characteristics of the San Bernardino flying squirrel. However, at the species level the northern flying squirrel has been studied extensively across much of its range.

In forests of the Pacific Northwest, northern flying squirrels have been proposed as a keystone species, due to their importance to forest health and its importance in the diet of the federally threatened northern spotted owl. Northern flying squirrels can occupy a broad range of habitats, but in general they prefer old growth or mature coniferous forests, with continuous closed canopy cover, and rich understory structural complexity.

Northern flying squirrels have been proposed as a K-selected species due to their relatively long life-span (>7 years) relative to body size, small litter sizes (2-3), seasonal reproduction (spring), and delayed maturation (>1-year-old at 1rst reproduction). Reported home range sizes (core nesting area) are quite variable (0.2-9ha) and variation is likely related to local food availability. Also, males have more variable and sometimes larger home ranges. Males and juveniles have larger measured dispersal distances, where the largest measured dispersal of a male was 1.5km and the largest measured dispersal of a juvenile was 2.1km.

Northern flying squirrels are primarily mycophagous and their diet largely consists of hypogeous fungi supplemented by secondary foods such as berries, seeds, nuts and eggs. Specifically, northern flying squirrels appear to favor Rhizopogon and Gauteria fungi truffles and patterns of habitat selection likely reflect suitable habitat for the growth of these fungi. For example, northern flying squirrels are associated with coarse woody debris, which provides microhabitats that support the growth of hypogeous fungi. A variety of avian and mammalian predators are known to consume northern flying squirrels, but significant predation is likely limited to the specialist predator northern spotted owl, and generalist predators such as barred owls, martens, ermines, and long-tailed weasels. Northern flying squirrels are the most common prey identified in the diets of northern spotted owls in Washington and Oregon, but are much less prevalent in the southern portions of northern flying squirrels range. Much of the suitable habitat for the subspecies San Bernardino flying squirrel, lies within the San Bernardino National Forest, with distribution potentially fragmented by fire and changes in vegetative cover along the Santa Ana River. The San Bernardino flying squirrel occupies high elevation (6,000'- 8,000') mixed coniferous forests characterized by white-fir (*Abies concolor*), Jeffrey pine (*Pinus jeffreyi*), and black oak (*Quercus kelloggii*). Successful trapping efforts targeting northern flying squirrels characterize habitat as mature to over-mature mixed conifer with relatively closed canopy, heavy duff, and close proximity to annual or ephemeral streams.

Fecal pellet analysis of San Bernardino flying squirrels indicate primary consumption of hypogeous fungi (Genera: Melanogaster, Hymenogaster, Gymnomyces) with supplemental consumption of Jeffrey pine pollen, plant material and insect parts. There is no available demographic information on the San Bernardino fly squirrel, but Brylski suggests that population densities are substantially less then populations in the Pacific Northwest.

San Bernardino flying squirrels were not detected during surveys and are likely absent from the site given the open nature of the forest and lack of forage. For this reason, this species is not expected to be adversely affected by the project.

Conclusion

Sensitive Biological Resources
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 California species of special concern (SSC) San Bernardino flying squirrel and California spotted owl.

A focused botanical field survey was conducted to determine whether any of the special status plant species documented in the project vicinity were present within the project site. The result of the focused botanical field survey concluded that that no state or federally listed plant species were found within the project area.

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 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.

Jurisdictional Waters
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 jurisdictional waters and no state or federal jurisdictional waters permitting will be required.

Impact Analysis

a. *Less Than Significant Impact* – 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 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 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 California SSC San Bernardino flying squirrel and California spotted owl. Therefore, 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 and 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 Davey Resources in Appendix 3, 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. Once constructed, the project area will be transformed to contain the developed sports complex proposed as part of the Youth Sports Complex 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 site contains 1,305 trees, which provide suitable habitat for nesting birds. Thus, the project area may include locations that function as nesting locations for native birds. To avoid impacting nesting birds as required by the MBTA and California FGC, the following mitigation measure shall be implemented:

BIO-1 ***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).***

- ***The removal of mature trees and snags shall, to the greatest extent practicable, occur outside the peak breeding season (typically February 1 through September 1). Mature trees and snags to be removed as part of the Project shall be more closely evaluated by a biologist familiar with the California spotted owl for their potential to support California spotted owl and the Applicant shall proceed with tree removal under the qualified biologist's advisement.***
- ***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 in accordance with the CDFW's recommended protocol for SPOW 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 With Mitigation Incorporated*– 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). The project site contains on the order of approximately 200-400 tree over 2" DBH located within the approximately 4.53-acre northerly portion of the project site, a majority of which are anticipated to require removal to enable the development of the Youth Sports Complex Project. Through implementation of **MM AES-1**, which sets forth guidelines for tree removal and preservation, and **MM AFR-1**, which will ensure that the proposed project will meet CAL FIRE requirements pertaining to timberland conversion, the potential for the project to conflict with local policies or ordinances pertaining to biological resources would be considered less than significant. No further mitigation is required.

f. *Less Than Significant With Mitigation Incorporated* – Please refer to the discussion under response IV(e) above, as well as responses I(c) under Aesthetics and II(c) under Agriculture and Forestry Resources. The BRA provided as **Appendix 3** concluded that the project is not located in an area within a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local or regional conservation plan. However, because the project site contains on the order of approximately 200-400 tree over 2" DBH located within the approximately 4.53-acre northerly portion of the project site, and is located in the forest area of the San Bernardino Mountains, CAL FIRE stipulates that when a project will convert timberland to a use other than growing timber a 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)]. As such, in addition to the TCP, a THP is required for the removal of the timber [PRC 4581]. Therefore, implementation of **MM AFR-1** will ensure that the proposed project will meet CAL FIRE requirements pertaining to timberland conversion, thereby minimizing the potential for a significant impact to any state, regional, or local habitat conservation plan. No further mitigation is necessary.

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

V. CULTURAL RESOURCES

SUBSTANTIATION: The information utilized in this section of the Initial Study was obtained from the following technical study: "Cultural Resources Assessment for the Bear Valley Unified School District Education Foundation Youth Sports Complex Project" prepared by Mojave Archaeological Consulting dated August 23, 2024 (**Appendix 4**).

Summary of the Finding

The purpose of the study is to provide the District with the necessary information and analysis to determine whether the 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 any "historical resources" as defined by CEQA, Mojave Archaeological Consulting initiated a records search with the South Central Coastal Information Center (SCCIC), requested a search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) and a list of Native American contacts, and conducted a pedestrian field survey. The investigation was carried out by Michelle Hart, M.A. Ms. Hart has more than 11 years of experience conducting cultural resource studies and meets the Secretary of Interior's professional qualifications standards for archaeology, architectural history, and history.

Previous Reports
On June 10, 2024, Mojave Archaeological Consulting requested a records search of the California Historical Resources Information System (CHRIS) from the SCCIC, which included a 0.5-mile-wide buffer (study area) of the project site. The results of the search were received on August 15, 2024. Based on the results of the data received from the SCCIC, as well as one additional forwarded report, there are a total of 31 previous cultural resources investigations within the 0.5-mile search area (Table 1, **Appendix 4**). Of these investigations, three have covered the project site, or portions of the project site, and are briefly summarized below:

- In 1981, consulting archaeologist JoAnne C. Leonard completed a cultural resources survey for a proposed land division in the vicinity of Sugarloaf southwest of Baldwin Lake. The survey encompassed 270 acres, including the entirety of the current project site. During the survey, two isolated prehistoric artifacts were recorded, both consisting of quartzite flakes. Based on the information provided within the report, it does not appear that either of the artifacts were found within the project site. Additionally, Leonard assessed the likelihood of buried cultural deposits in the area to be low.
- In 2004, archaeologists with Applied Earthworks completed a survey on behalf of the Natural Resources Conservation Service for a tree removal project. The survey encompassed 204 acres southwest of Baldwin Lake. The survey covered approximately 4 to 5 acres within the current project site, to the north of the track and field. No cultural resources were identified during the survey, either within or outside of the project site.

- In 2021, CRM TECH archaeologists surveyed approximately 15 acres north and west of Baldwin Lane Elementary School for the Youth Sports Complex Project. The survey covered approximately 3 acres of the current project site, to the north of the track and field (see **Figure V-1**). No cultural resources were identified during the survey.

The SCCIC data indicates that nine cultural resources have been previously documented within the 0.5-mile study area (Table 2 of **Appendix 4**). These resources include historic refuse scatters and dumps, historic roads, an isolated historic artifact, and one isolated prehistoric lithic tool. None of the previously recorded resources lie within or adjacent to the project site. The nearest recorded resource is a historic refuse dump, located approximately 0.25 miles to the northwest of the project site, the remainder of the resources are approximately 0.5-miles away.

Based on the findings of the current investigation, and the level of previous disturbance within the boundaries of the project site, the project is assessed as having a very low sensitivity for any buried cultural deposits. Considering this, pending any requests from the San Manuel Band of Mission Indians or other Tribes resulting from any applicable consultation, no further cultural resources work is recommended necessary for the proposed project activities. However, in the event that potentially significant archaeological materials are encountered during construction, all work must be halted in the vicinity of the discovery until a qualified archaeologist can assess the significance and integrity of the find. If intact and significant archaeological remains are encountered, the impacts of the project should be mitigated appropriately. Any such discoveries, and subsequent evaluation and treatment, should be documented in a cultural resources report, which would be submitted to the SCCIC for archival purposes. Additionally, Health and Safety Code Section 7050.5, CEQA Statute & Guidelines Section 15064.5(e), and Public Resources Code (PRC) Section 5097.98 mandate the process to be followed in the event of a discovery of human remains. Finally, if the project is expanded to include areas not covered by this survey or other recent cultural resource investigations in the study area, additional cultural resource investigations may be required.

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 4**, 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.
- The above conclusions are dependent on Native American Consultation, mitigation measures provided below, as well as under Section XVIII, Tribal Cultural Resources, are deemed sufficient to minimize impacts to cultural and tribal cultural resources.

If buried cultural materials are inadvertently discovered during any earth-moving operations associated with the project, the following mitigation measure shall be implemented:

CUL-1 Should any cultural resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an on-site inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with the on-site archaeological professional, who is acceptable to the District and retained by the Applicant. 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.

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

c) *Less Than Significant Impact* – 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 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 and no further mitigation is required.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

VI. ENERGY

SUBSTANTIATION:

a&b) *Less Than Significant Impact* – 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 Youth Sports Complex Project would require compliance with regulatory requirements to minimize emissions impacts from construction equipment use. 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 regulatory requirements 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 Youth Sports Complex would, as shown on **Figure 4**, include fields that would accommodate baseball, softball, and soccer. The park will not require substantial energy to operate because the fields will not contain nighttime lighting, as the fields will not be for utilization outside of daylight 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 will be powered by Bear Valley Electric Service (BVES) (a division of Golden State Water Company) through the power distribution system located adjacent to the site. BVES will be able to supply sufficient electricity. The project site will not require any connection to natural gas. Furthermore, no new lighting is required to be installed as part of the proposed project. The project 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 Indoor Water use consumption reduced through the maximum fixture water use rates.
- 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, 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.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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.	☐	☐	☒	☐
(ii) Strong seismic ground shaking?	☐	☐	☒	☐
(iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
(iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-site or offsite land-slide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

VII. GEOLOGY AND SOILS

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 USGS U.S. Quaternary Faults Map (**Figure VII-1**), and to the Fault Activity Map of California prepared for the Countywide Plan (**Figure VII-2**), 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 **Figures VII-1 and VII-2**; 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. 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 Youth Sports Complex 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 operational scenario will occur in outdoor spaces, and the only new structures that would be installed by the project are the backstops, portable toilets and 2 storage containers for equipment, which present 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 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 Landslide Map (**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 minimal onsite structures would be developed to serve visitors of the Youth Sports Complex— the only new structures that would be installed by the project are the backstops, portable toilets and 2 storage containers for equipment—and because the majority of the proposed project activities would be conducted outdoors in support of the sports complex 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 mildly slopes from north to south, and is covered with trees and other vegetation commensurate with the Mountain Region setting. The San Bernardino Countywide Plan Liquefaction and Landslide Map (**Figure VII-3**) demonstrates that the proposed project is not located within an area considered susceptible to landslide. The proposed project would be graded and compacted to enable development of the Youth Sports Complex 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 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 contains features similar to much of the Mountain Region including Great Basin sagebrush scrub and Pinyon-juniper woodland plant communities. The proposed development will remove several of the trees on site and will include mass grading the site to provide level surfaces upon which to develop the proposed sports fields. 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 Countywide 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 movement like fine-grained sediments. Furthermore, according to the Countywide 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 north of the community of Sugarloaf, and according to the United States Department of Agriculture (USDA) Web Soil Survey (**Appendix 5**), the proposed project is located on Garloaf-Urban land complex and Garloaf-Caribou creek 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 just north of the 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-Caribou creek complex soils. These are alluvial sediments that are not considered to contain expansive properties, as these soils are not incredibly fine loamy soils, and do not contain a high percentage of clay. The type of project proposed—an outdoor sports complex—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 fields, 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, creating substantial risks to life or property.

e) *No Impact* – The proposed project will not be served by municipal wastewater collection service, as it will utilize portable toilets onsite. Thus, no septic tanks or alternative wastewater disposal systems would be installed as part of the proposed project. The portable toilets would be serviced on an as needed basis, by a licensed service provider that will dispose of the portable toilet waste in accordance with local, State, and Federal law. 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 and Big Bear Lake General Plan indicate that only limited portions of Big Bear Valley areas are sensitive to paleontological resources. Most of Big Bear Valley consists of granitic-type bedrock and residual soils developed on this bedrock. However, in the floor areas of Big Bear Valley, previously unknown and unrecorded paleontological resources may be unearthed during excavation and grading-trenching activities for individual projects. The San Bernardino County General Plan for indicates that the proposed project area is located in a low-to-high sensitivity area for paleontological resources. This is demonstrated on **Figure VII-4**, which depicts the San Bernardino Countywide Plan EIR Paleontological Sensitivity-Mountain Region Map. Regardless, there is a potential for such resources to exist within the Youth Sports Complex Project. If previously unknown potentially unique paleontological resources are uncovered during excavation or construction, significant impacts could occur. The implementation of **MM GEO-3** would require a site-specific study to identify and mitigate impacts to potentially significant paleontological resources, which would minimize potential impacts to paleontological resources.

GEO-3 Should any paleontological resources be encountered during construction, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with the Lead Agency's onsite inspector. The paleontological professional shall assess the find, determine its significance, and determine appropriate mitigation measures within the guidelines of the California Environmental Quality Act that shall be implemented to minimize any impacts to a paleontological resource. Treatment of any discovered paleontological resources shall follow current professional standards.

Therefore, mitigation would be implemented that would require management and treatment of paleontological resources, if found during construction. Additional assessments that would identify management measures to minimize impacts to any paleontological resources found the project site would ensure that impacts to paleontological resources are less than significant. The potential impacts from construction are discussed in detail above. No operational impacts are anticipated, as once the facilities are installed, no potential to impact paleontological resources exists. Therefore, overall impacts would be less than significant with mitigation incorporated.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

VIII. GREENHOUSE GAS EMISSIONS

SUBSTANTIATION: The following information utilized in this section was obtained from the technical study "Youth Sports Complex Air Quality & Greenhouse Gas Assessment" prepared by Urban Crossroads dated August 29, 2024, and provided as **Appendix 2** to this document.

Climate Change Setting

Global climate change (GCC) is the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed project evaluated in this memo cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, this memo will evaluate the potential for the proposed project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO_2, N_2O, CH_4, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radioactive heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activity. Without the natural GHG effect, the earth's average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

For the purposes of this analysis, emissions of CO_2, CH_4, and N_2O were evaluated because these gases are the primary contributors to GCC from development projects. Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

Standards of Significance

According to the *CEQA Guidelines* Appendix G thresholds, to determine whether impacts from GHG emissions are significant. Would the project:

- **Threshold 1**: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- **Threshold 2**: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

The evaluation of an impact under CEQA requires measuring data from a project against both existing conditions and a "threshold of significance." For establishing significance thresholds, the Office of Planning and Research's amendments to the *CEQA Guidelines* Section 15064.7(c) state "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

CEQA Guidelines Section 15064.4(a) further states, ". . . A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . .; or (2) Rely on a qualitative analysis or performance-based standards."

CEQA Guidelines Section 15064.4 provides that a lead agency should consider the following factors, among others, in assessing the significance of impacts from greenhouse gas emissions:

- **Consideration #1:** The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2:** Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration #3:** The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

Establishment of Significance Thresholds
n acceptable approach, for small projects, is using a screening threshold of 3,000 MTCO2e/yr to determine if additional analysis is required. This approach is an accepted screening method used by numerous local agencies throughout South Coast Air Basin and is based on the SCAQMD staff's proposed GHG screening threshold for stationary source emissions for non- industrial projects, as described in the SCAQMD's Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans ("SCAQMD Interim GHG Threshold"). The SCAQMD Interim GHG Threshold identifies a screening threshold to determine whether additional analysis is required. As noted by the SCAQMD:

> *"...the...screening level for stationary sources is based on an emission capture rate of 90% for all new or modified projects...the policy objective of [SCAQMD's] recommended interim GHG significance threshold proposal is to achieve an emission capture rate of 90% of all new or modified stationary source projects. A GHG significance threshold based on a 90% emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a 90% emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth,*

while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This assertion is based on the fact that [SCAQMD] staff estimates that these GHG emissions would account for slightly less than 1% of future 2050 statewide GHG emissions target (85 [MMT CO2e/yr]). In addition, these small projects may be subject to future applicable GHG control regulations that would further reduce their overall future contribution to the statewide GHG inventory. Finally, these small sources are already subject to [Best Available Control Technology] (BACT) for criteria pollutants and are more likely to be single-permit facilities, so they are more likely to have few opportunities readily available to reduce GHG emissions from other parts of their facility."

Thus, and based on guidance from the SCAQMD, if an non-industrial project would emit GHGs less than 3,000 MT CO2e per year, the project is not considered a substantial GHG emitter and the GHG impact is less than significant, requiring no additional analysis and no mitigation. On the other hand, if an non-industrial project would emit GHGs in excess of 3,000 MT CO2e/yr, then the project could be considered a substantial GHG emitter, which would require additional analysis and potentially mitigation.

Impact Analysis

a. *Less Than Significant Impact* – The estimated GHG emissions for the project land use are summarized on Table VIII-1. The estimated GHG emission include emissions from CO2, CH4, N2O, and Refrigerants (R). As shown on Table VIII-1, the project would generate a total of approximately 76.02 MTCO2e/yr. Detailed operation model outputs for the proposed project are presented in Attachment A of **Appendix 2**.

The project is assumed to require less than one year for construction. During project construction, the CalEEMod2022.1 computer model predicts that the construction activities will generate the annual CO_2 emissions identified in Table VIII-1.

Table VIII-1
TOTAL PROJECT GHG EMISSIONS

Source	Emission (lbs./day)				
	CO_2	**CH_4**	**N_2O**	**R**	**Total CO_2e**
Annual construction-related emissions amortized over 30 years	51.43	2.33E-03	1.33E-03	7.67E-03	51.87
Energy	8.36	0.00	0.00	0.01	8.50
Water	15.40	0.00	0.00	0.00	15.50
Stationary	0.04	0.00	0.00	0.00	0.15
Total CO_2e (All Sources)	**76.02**				

As discussed previously, a screening threshold of 3,000 MTCO2e/yr to determine if additional analysis is required is an acceptable approach for small projects. This approach is a widely accepted screening threshold used by the numerous cities in the SCAQMD staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the SCAQMD's Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans ("SCAQMD Interim GHG Threshold"). The SCAQMD Interim GHG Threshold identifies a screening threshold to determine whether additional analysis is required for projects that generate less than 3,000 MTCO2e/yr would have a less-than-significant GHG emissions impact.

As shown in Table VIII-1, the project will result in approximately 76.02 MTCO2e/yr; the proposed project would not exceed the screening threshold of 3,000 MTCO2e/yr. This would be considered a less than significant impact.

b. *Less Than Significant Impact* – Pursuant to 15604.4 of the CEQA Guidelines, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions.

The 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) lays out a path to achieve targets for carbon neutrality and reduce anthropogenic greenhouse gas (GHG) emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

The project is consistent with the general plan land use designation, density, building intensity, and applicable policies specified for the project area in SCAG's Sustainable Community Strategy/ Regional Transportation Plan, which pursuant to SB 375 calls for the integration of transportation, land-use and housing policies to plan for achievement of the GHG-emissions target for the region. Thus, a less than significant impact related to GHG emissions from project construction and operation would occur and no mitigation is required.

Conclusion
Results of the assessment indicate that the project is not anticipated to result in a significant impact during construction or operational activities associated with air quality and GHG.

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

IX. HAZARDS AND HAZARDOUS MATERIALS

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 multi-field sports complex within the Mountain Region of San Bernardino County near 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 state and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste will be***

collected and disposed of at an appropriately a licensed disposal or treatment facility. This measure shall be incorporated into the SWPPP prepared for the proposed Youth Sports Complex Project. 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.

The proposed project will consist of developing a park within land containing Great Basin sagebrush scrub and Pinyon-juniper woodland plant communities to expand the facilities available to the public. Operation of such uses would not involve the use of a substantial amount of hazardous materials. Household/commercial cleaning supplies may be used in support of the Youth Sports Complex operations, but no substantial increase in the use of hazardous materials is anticipated to be required to support the park facilities. Compliance with all Federal, State, and local regulations governing the storage and use of hazardous materials is required, and will ensure that the project operates in a manner that poses no substantial hazards to the public or the environment. No further mitigation is required.

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 Baldwin Lane Elementary School, and within 0.1 mile of Big Bear High School located to the east of the project boundary, which contain similar features (ball fields, etc.) to that which is proposed by the Youth Sports Complex Project. 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 proposed project would develop a sports complex to serve the Community of Sugarloaf and the Big Bear Valley community; the project site contains features similar to much of the Big Bear Valley including Great Basin sagebrush scrub and Pinyon-juniper woodland plant communities. The proposed project is surrounded by similar vegetation to the north and west, residential uses to the south, and Baldwin Lane Elementary School to the east. 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 Youth Sports Complex Project will have a less than significant potential to create a significant hazard to the population or to the environment from their 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 Plan[6], the project is not located within the Airport Safety Review Area. This is shown on the San Bernardino Countywide Plan Airport Safety and Planning Areas (**Figure IX-2**). Given that the proposed project would not be located within an airport land use plan, and that the proposed project does not contain residences and would not facilitate long term visitation of the project site, the potential for the Youth Sports Complex 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, construction and operation of the project at this location would result in less than significant potential safety hazard for people residing or

[6] San Bernardino County, 1992. Airport Comprehensive Land Use Plan Big Bear City Airport. http://www.sbcounty.gov/Uploads/lus/Airports/BigBear.pdf (Accessed 08/27/24)

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 Impact* – 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-3**. The proposed project will be constructed entirely within the boundaries of the project site, with access to the site proposed to be maintained as it presently exists. The entrance to the site is bound within the existing BVUSD land that presently serves as a track and field for use by the District as shown on **Figure 4.** The access improvements would occur internal to the site to include a 40' in length access road leading to a new parking area that would be adjacent to the southernmost field. Thus, due to its location and point of access, there will be no potential to interfere with an emergency response or evacuation plan during construction. At no time during construction of Youth Sports Complex Project will any access to or along these roads be restricted. For additional information, please refer to the Transportation Section of this document, Section XVII. Therefore, the proposed project is not forecast to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts under this issue are considered less than significant

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 High and 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-4**, the Countywide Plan Policy Map of Fire Hazard Severity Zones, and **Figure IX-5**, the Countywide Plan Policy Map of Fire Responsibility Areas. 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 Youth Sports Complex 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 to west/south and the clearing of the 13.53-acre site of vegetation that could support a wildfire. 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—a sports complex consisting of outdoor fields, portable restrooms, and equipment storage containers—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.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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?	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
(i) result in substantial erosion or siltation on-site or offsite?	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-site or offsite?	☐	☐	☒	☐
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?; or,	☐	☒	☐	☐
(iv) impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

X. HYDROLOGY AND WATER QUALITY

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 service connection

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. Municipal wastewater within this area is delivered to the BBCCSD sewer system, which ultimately flows to the Big Bear Area Regional Wastewater Agency (BBARWA) Wastewater Treatment Plant (WTP). Annually, BBARWA collects

and treats approximately 800 million gallons of wastewater. BBARWA owns and operates a WTP, which currently treats about 2.4 million gallons per day (MGD) of wastewater. BBCCSD and BBARWA are responsible for the collection, transmission, treatment, and disposal of wastewater within their service areas, and do so in a manner that complies with required waste discharge requirements. However, the proposed project will not connect to municipal wastewater service, and further, will not require installation of alternative wastewater methods as the project will utilize portable toilets. The portable toilets would be serviced on an as needed basis, by a licensed service provider that will dispose of the portable toilet waste in accordance with local, State, and Federal law.

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 Applicant's 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 services. 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 2020[7]. BBLDWP anticipates that the total demand for water within its service area will grow to 2,283 AFY by 2045 AFY. BBLDWP anticipates that the demand for water for "other" uses within its service area will grow to1,660 AFY by 2040 AFY. The proposed project would require use of water to support site landscaping and to support the proposed fields should natural turf be selected in support of the project. As such, the District estimates that the proposed project would require an anticipated 8 AFY to operate. 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 8 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 Youth Sports Complex Project within the 13.85-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 contains features similar to much of the Big Bear area including Great Basin sagebrush scrub and 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 continue to slope from north to south. The proposed improvements include parking improvements, landscaping, fields, portable restrooms, and 2 equipment storage containers. The proposed project will utilize the existing and improve drainage systems to convey project runoff. The proposed project would develop sports fields, which would provide a minor increase in peak flowrate, while the associated parking and access road areas would result in marked increase in flowrate due to the conversion from undeveloped land to paved areas. The largest outfall flowrate will pass through the proposed basin. Given that the proposed development would utilize existing drainage systems and would install drainage improvements to accommodate the facilities proposed as part of the Youth Sports Complex 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. These systems would 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, thus, 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 existing and new drainage systems. The development of these drainage improvements would conform to County of San Bernardino

[7] BBLDWP, 2022. City of Big Bear Lake Department of Water and Power 2020 Urban Water Management Plan. https://www.bbldwp.com/ArchiveCenter/ViewFile/Item/249 (Accessed 08/27/24)

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 runoff and stormwater onsite. Thus, the implementation of onsite drainage improvements and compliance with the measures developed in the WQMP and the applicable County of San Bernardino requirements, 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 will 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 as designed will 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 existing and improved drainage systems. 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 and/or required by the County 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 Applicant 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 Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) shall be prepared for the District's review and approval prior to ground disturbance and the identified BMPs installed in accordance with schedules contained in these documents.

Compliance will also be ensured through fulfilling the requirements of a SWPPP and WQMP monitored by the County and the RWQCB, and through the implementation of **MM 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 **MM 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) #06071C7345H 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 collection basin to prevent 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 (**Figure X-1**). 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 200 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.[8] 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."[9] Even though the Bear Valley Basin is considered very low priority, the Bear Valley Basin GSP has been prepared.[10] The GSP provides the geographical and managerial context of the Bear Valley Basin, summarizes the groundwater basin setting (including groundwater conditions, water budget, and management areas), describes the criteria used to measure and demonstrate sustainability, reviews the existing groundwater monitoring and management programs, and defines how those actions will be incorporated into the Bear Valley Basin GSP to achieve and maintain sustainability in the future. As the proposed project would not conflict with the Bear Valley Basin GSP implementation. 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.

[8] Big Bear Area Regional Wastewater Agency, 2024. Bear Valley Basin Groundwater Sustainability Agency. https://www.bbarwa.org/bear-valley-basin-groundwater-sustainability-agency/ (Accessed 08/27/24)
[9] California Department of Water Resources, 2024. Sustainable Groundwater Management Act (SGMA) https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management (Accessed 08/27/24)
[10] Bear Valley Basin Groundwater Sustainability Agency, 2022. Bear Valley Basin GSP. https://www.bvbgsa.org/_files/ugd/85d1d2_4938efcd16804ccaa156cf1498c5a6b6.pdf (Accessed 08/27/24)

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

XI. LAND USE AND PLANNING

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 Bear Valley/Rural Living & Bear Valley/Institutional (IN) use, and the land use designation is Public Facility (PF). The proposed project would occur within a site located on the outskirts of the Sugarloaf Community within the Mountain Region of San Bernardino County. The proposed sports complex would be developed would be installed east of Baldwin Lane Elementary School, and about 0.1 mile to the east of the project boundary is Big Bear High School, which both contain similar features (ball fields, etc.) to that which is proposed by the Youth Sports Complex Project. To the north and west of the project site is vacant undeveloped land, some of which is designated for trails that are in the process of being developed by the DEF. 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 Youth Sports Complex at this location would be consistent with both 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 With Mitigation Incorporated* – The proposed project will develop a sports field complex within a vacant site containing native vegetation and trees. The project site is located within the Public Facility land use designation, and within the Bear Valley/Rural Living & Bear Valley/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 Youth Sports Complex Project; it can meet the requirements set forth in the Natural Resources Element pertaining to regional parks; it will not generate significant air emissions or GHG emissions, particularly once in operation as a park; 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.

Additionally, as discussed in the Agricultural and Forestry Resources Section of this document, CAL FIRE designates sites containing trees/timberland resources as being “timberland use.” 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)]. Compliance with CAL FIRE through the development of a TCP and THP is considered adequate to minimize impacts from conversion of timberland to a different use. The development of these plans and permits shall be implemented through **MM AFR-1**, which will ensure that the proposed project will meet CAL FIRE requirements pertaining to timberland conversion, and would therefore have a less than significant potential to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. No further mitigation is required to minimize impacts under this issue and impacts are therefore less than significant.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

XII. MINERAL RESOURCES

SUBSTANTIATION:

a) *No Impact* – The proposed project is located on an undeveloped site containing native vegetation, including Great Basin sagebrush scrub and Pinyon-juniper woodland plant community, and as such, does not contain any known important minerals resources. Furthermore, the San Bernardino County Countywide Plan Mineral Resource Zones Map 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 Youth Sports Complex 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 Youth Sports Complex 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.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne 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?	☐	☐	☐	☒

XIII. NOISE

SUBSTANTIATION: The following analysis has been abstracted from the *"Noise Impact Analysis for Bear Valley Unified School District Youth Sports Complex Project"* prepared by Roma Environmental, dated September 10, 2024 provided as Appendix 6 to this Initial Study.

Noise Background

Noise is generally described as unwanted sound. The proposed Youth Sports Complex Project will develop a multi-use sports complex within a 13.53-acre site with portable restrooms, and equipment storage containers. The proposed project is located within a site adjacent to the Baldwin Lane Elementary School, and about 0.2 mile to the east of the project boundary is Big Bear High School, which both contain similar features (ball fields, etc.) to that which is proposed by the Youth Sports Complex Project. To the north and west of the project site is vacant undeveloped land, some of which is designated for trails that have been developed by the DEF. To the south of the project, on the south side of Baldwin Lane, are residences. The background noise at the site would be minimal to moderate, given that in the northern and eastern portion of the site, the site shares a boundary with vacant forest land, while the western portion of the site shares a boundary with Baldwin Lane Elementary School and the school's associated fields and sport facilities. Traffic noise in this area is minimal given that the project site is located at the terminus of Baldwin Lane set back from State Highway 38.

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.

Vibration Fundamentals

The way in which vibration is transmitted through the earth is called propagation. Propagation of earthborn vibrations is complicated and difficult to predict because of the endless variations in the soil through which waves travel. There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Raleigh waves, travel along the ground's surface. These waves carry most of their3 energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. Compression waves, or P-waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. Shear waves, or S-waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or "side-to-side and perpendicular to the direction of propagation".

As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous peak of the vibration signal in inches per second. The RMS of a signal is the average of the squared amplitude of the signal in vibration decibels (VdB), ref one micro-inch per second. The Federal Railroad Administration uses the abbreviation "VdB" for vibration decibels to reduce the potential for confusion with sound decibel.

PPV is appropriate for evaluating the potential of building damage and VdB is commonly used to evaluate human response. Decibel notation acts to compress the range of numbers required in measuring vibration. Similar to the noise descriptors, L_{eq} and L_{max} can be used to describe the average vibration and the maximum vibration level observed during a single vibration measurement interval.

Ambient Noise Measurements

An American National Standards Institute (ANSI Section SI4 1979, Type 1) Larson Davis model LxT sound level meter was used to document existing ambient noise levels at four locations in the project vicinity (see Figure XIII-1). As shown in Table XIII-1, measured short-term noise levels (15-minutes) in the project vicinity ranged between 40.1 and 69.0 dBA L_{eq} and measured long-term noise levels (one 24-hour noise measurement) ranged between 31.8 and 54.7 dBA L_{eq} (See Table XIII-2). Noise measurement field sheets and data are provided in Appendix A.

Table XIII-1
SHORT-TERM NOISE MEASUREMENT SUMMARY

Site Location	Time Started	Leq	Lmax	L(2)	L(8)	L(25)	L(50)
STNM1	10:35 AM	42.6	61.0	52.8	44.3	37.9	35.7
STNM2	11:51 AM	69.0	81.6	77.3	74.1	69.9	64.3
STNM3	11:17 AM	47.3	54.7	51.2	50.2	48.6	47.5
STNM4	12:40 PM	43.8	57.3	52.8	47.0	41.7	39.7
STNM5	2:40 PM	62.0	80.8	71.4	65.9	56.5	51.8
STNM6	3:10 PM	60.8	76.9	71.5	64.5	57.8	50.8
STNM7	3:48 PM	49.1	62.8	59.0	55.9	45.0	39.0
STNM8	4:25 PM	40.1	57.0	51.0	41.2	35.9	33.5

Notes: (1) See Figure 4 for noise measurement locations. Each noise measurement was performed over a 15-minute duration.
(2) Noise measurements performed on July 22, 2024.

Table XIII-2
LONG-TERM NOISE MEASUREMENT SUMMARY

24-Hour Ambient Noise[1,2]								
Hourly Measurements	Time Started	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)
Overall Summary		49.6	74.9	30.3	58.1	54.3	48.2	41.4
1	7:00 AM	49.7	64.1	34.0	57.8	54.5	49.5	45.5
2	8:00 AM	54.7	74.9	37.9	61.3	58.1	54.3	50.2
3	9:00 AM	53.7	69.6	36.9	60.7	56.9	54.1	50.9
4	10:00 AM	54.6	70.2	37.6	60.7	57.8	55.3	52.9
5	11:00 AM	52.0	64.9	36.6	59.7	56.4	53.0	49.2
6	12:00 PM	50.5	65.8	35.6	58.4	55.4	50.4	45.9
7	1:00 PM	52.8	74.4	35.1	60.9	55.4	50.5	45.6
8	2:00 PM	51.1	74.5	34.1	59.2	56.1	50.2	44.0
9	3:00 PM	49.9	70.7	34.0	57.4	54.2	49.8	45.3
10	4:00 PM	49.6	65.5	34.1	58.2	54.0	48.9	43.2
11	5:00 PM	49.8	69.8	34.1	57.7	54.1	49.2	43.5
12	6:00 PM	46.6	62.2	31.7	55.8	51.6	45.4	39.4
13	7:00 PM	45.7	63.3	31.6	55.3	50.3	43.1	37.0
14	8:00 PM	47.8	70.9	32.4	56.3	50.6	44.0	38.1
15	9:00 PM	44.2	64.3	31.7	53.4	48.6	41.6	36.7
16	10:00 PM	44.7	65.7	31.4	54.2	47.8	41.1	36.9
17	11:00 PM	40.4	61.6	30.8	48.7	43.2	38.1	34.5
18	12:00 AM	40.7	57.7	30.6	50.4	44.8	38.3	33.5
19	1:00 AM	41.9	64.2	30.5	48.5	40.8	35.2	32.2
20	2:00 AM	31.8	46.1	30.3	35.7	33.4	31.3	30.9
21	3:00 AM	36.1	58.8	30.4	42.6	35.8	32.3	31.0
22	4:00 AM	39.1	61.6	30.4	47.4	40.4	34.7	31.9
23	5:00 AM	47.5	68.3	30.6	56.1	50.6	43.8	37.5
24	6:00 AM	49.5	67.1	36.3	58.1	53.3	48.2	44.8
CNEL	52.6							

Notes: (1) See Figure XIII-1 for noise measurement locations. Noise measurement was per formed over a 24-hour duration.
(2) Noise measurement performed from July 22 to July 23, 2024.

Regulatory Setting

San Bernardino Countywide Plan
The County of San Bernardino Countywide Plan (Policy Plan) serves as the County's General Plan and was adopted in October 2020. The County's Policy Plan's Hazards Element provides goals and policies that are intended to protect life, property, and commerce from impacts associated with natural hazards, human- generated hazards, and increased risk due to climate change. The noise related goals and policies from the Hazards Element that are applicable to the proposed project are presented below:

> *Goal HZ-2 Human-generated Hazards. People and the natural environment are protected from exposure to hazardous materials, excessive noise, and other human-generated hazards.*
>
> *Policy HZ-2.9 Control sound at the source. We prioritize noise mitigation measures that control sound at the source before buffers, sound walls, and other perimeter measures.*

San Bernardino County Development Code
Nearby residential land uses may be affected by project-generated operational noise. Potential impacts related to project generated stationary noise sources are evaluated in light of Section 83.01.080 of the County of San Bernardino Development Code which establishes noise criteria (Table 4) not to be exceeded at the property line of the affected land uses.

Noise Standards for Stationary Noise Sources: Stationary noise sources regulated by County of San Bernardino Development Code Section 83.01.080(c)(1) (Table 4). For purposes of this analysis, project operational noise was evaluated in light of the Leq(30-minute). It is highly unlikely that the other standards would be exceeded if the project is in compliance with the 30-minute Leq standard which is referred to as "L_{eq}" throughout this document. The Leq and Leq(30-minute) are equivalent for the purposes of this analysis.

Project generated noise has the potential to affect single family homes north and south and east of the project site as well as school uses west and northeast of the project site. The City's noise standard for stationary noise impacts to residential land uses are 55 dBA Leq during daytime hours and 45 dBA Leq during nighttime hours. Per Development Code Section 83.01.080(e), the base standards may be adjusted such that the allowable noise exposure standard shall be increased to reflect the ambient noise level if the measured ambient level exceeds any of the first four noise limit categories. If the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level. The appropriate adjustments to the standards are also provided in Table XIII-3.

Table XIII-3
COUNTY OF SAN BERNARDINO STATIONARY NOISE SOURCE STANDARDS

Affected Land Use (Receiving Noise)	**7:00 AM to 10:00 PM dBA L_{eq}**	**7:00 AM to 10:00 PM dBA L_{eq}**
Residential	55	45
Professional Services	55	55
Other Commercial	60	60
Industrial	70	70

(1) Per County of San Bernardino Development Code Section 83.01.080(e), if the measured ambient level exceeds any of the first four noise limit categories, 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, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.

Noise Standards for Adjacent Mobile Noise Sources

The County of San Bernardino has adopted interior and exterior standards for noise emitted by mobile noise sources (San Bernardino Code Section 83.01.080(d)). As shown in Table XIII-4, the applicable noise level criteria for impacts to residential land uses is an exterior noise level of 65 dBA CNEL and an interior noise level of 45 dBA CNEL. These standards are used in part to evaluate the project's potential to result in substantial increases in ambient noise levels. No other land uses are expected to be affected by project generated traffic noise.

If exterior noise levels do not exceed 65 dBA CNEL, it is assumed that interior noise levels do not exceed 45 dBA CNEL because typical residential construction provides approximately 20 dB of exterior to interior noise reduction when air circulation/air conditioning systems are provided.

Table XIII-4
COUNTY OF SAN BERNARDINO NOISE SOURCE STANDARDS FOR MOBILE SOURCES

Land Use		**L_{dn} (or CNEL) dB(A)**	
Category	**Type**	**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

Source: County of San Bernardino Development Code, Development Code Table 83-3.
(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.

Construction Noise: Temporary construction, maintenance, repair, and demolition activities between 7:00 AM and 7:00 PM, except Sundays and Federal holidays are exempt from Section 83.01.080(g)(3) the San Bernardino Development Code.

Groundborne Vibration: Section 83.01.090(a) of the County of San Bernardino Development Code prohibits the creation of ground vibration 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. Per Section 83.01.090(c), construction and demolition related ground vibration is exempt from this requirement as long as it occurs between 7:00 AM and 7:00 PM Mondays through Saturdays and not on Sundays or Federal holidays.

Federal Transit Administration

Construction Noise: In the absence of local quantitative construction noise thresholds, the Federal Transit Administration (FTA) provides guidelines (FTA 2018) that can be considered reasonable criteria for construction noise assessment. FTA construction noise standards are provided in Table XIII-5.

Table XIII-5
FTA DETAILED ANALYSIS CONSTRUCTION NOISE CRITERIA

Land Use	$L_{eq,(8\ hr)}$, dBA	
	Day	Night
Residential	80	70
Commercial	85	85
Industrial	90	90

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

Groundborne Vibration

The Federal Transit Administration (FTA) provides reasonable criteria for addressing potential impacts related to groundborne vibration. As shown in Table XIII-6, the threshold at which there is a risk to "architectural" damage to reinforced-concrete, steel or timber (no plaster) buildings is a peak particle velocity (PPV) of 0.5, at engineered concrete and masonry (no plaster) buildings a PPV of 0.3, at non-engineered timber and masonry buildings a PPV of 0.2 and at buildings extremely susceptible to vibration damage a PPV of 0.1.

Table XIII-6
FTA CONSTRUCTION VIBRATION DAMAGE CRITERIA

Building/Structural Category	PPV, in/sec	Approximate Lv*
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.1	90

Source: Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment Manual (September 2018). *RMS velocity in decibels, VdB re 1 micro-in/sec

Impact Analysis

a) *Less Than Significant With Mitigation Incorporated –*

Short Term Construction Noise

Construction noise associated with the proposed project will vary depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work. Construction phases are anticipated to include site preparation, grading, and paving. A summary of typical noise level data for a variety of construction equipment compiled by the Federal Highway Administration is presented in Table XIII-7. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings.

Construction noise associated with the proposed project was calculated at receptors located north, south, east, west and northeast of the project site utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together

with several key construction parameters including: distance to each receptor, equipment usage, percent usage factor, and baseline parameters for the project site.

Assumptions regarding construction phases and construction equipment found in the Air Quality and Greenhouse Gas Memo (Appendix 2) that was prepared for the proposed project were also used for the construction noise analysis; and noise reference levels and typical usage factors collected by the Federal Highway Administration (FHWA) were used to model construction noise levels at nearby receptors (Table XIII-7). Because most construction equipment will be moved and/or operated over the entire site, the construction equipment was modeled at the acoustical center of the project site to represent the average construction noise.

Construction noise levels during the loudest phase of construction (site preparation) are expected to range between 56.2 and 64.9 dBA Leq at nearby receptors north, south, east, west and northeast of the project site.

Table XIII-7
EQUIPMENT NOISE EMISSIONS AND ACOUSTICAL USAGE FACTORS

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
Backhoe	No	40	80	78	372
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Dozer	No	40	85	82	55
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Grader	No	40	85	-N/A-	0
Man Lift	No	20	85	75	23
Mounted Impact hammer (hoe ram)	Yes	20	90	90	212

Source: FHWA Roadway Construction Noise Model User's Guide January 2006.

As mentioned previously, Section 83.01.080(g)(3) the San Bernardino Development Code exempts temporary construction, maintenance, repair, and demolition activities from the County's stationary noise standards shown in Table 4, as long as it occurs between the hours 7:00 AM and 7:00 PM, and not at all on Sundays and Federal holidays. Construction activities that occur during periods that are not exempt from the County's nighttime stationary noise standards and exceed said standards would result in a significant impact. The following mitigation measure is provided to avoid such an impact.

NOI-1 ***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.***

The County has not adopted any noise level thresholds for construction noise that occurs during the officially exempt periods outlined above and found in Section 83.01.080(g)(3) the San Bernardino Development Code. When this is the case, it has been industry standard to evaluate construction noise impacts in light of the FTA numerical construction noise thresholds for CEQA evaluation purposes. As shown in Table XIII-5, the FTA standard for impacts to residential land uses, is an eight-hour Leq of 80 dBA.

As stated above, noise levels during the loudest phase of construction would range between 56.2 and 64.9 dBA Leq and would not exceed either the daytime FTA noise threshold. With implementation of **MM NOI-1**, impacts related to construction noise would be less than significant.

Off-Site Traffic Noise

Based on the County of San Bernardino mobile source noise standards (see Table XIII-4), the noise level criteria of 60 dBA CNEL for exterior noise and 45 dBA CNEL for interior noise apply to residential land uses in the vicinity of the project site. It is widely accepted that the average healthy human ear can barely perceive changes of 3 dBA in an outdoor environment and that a change of 5 dBA is readily perceptible.2 Accordingly, the project would result in a significant impact if the addition of project trips on surrounding roadways causes noise levels to increase at sensitive receptors by:

- 5 dBA in residential areas where the existing ambient noise level is within the County standard (60 dBA exterior or 45 dBA interior); or,
- 3 dBA in residential areas where the existing ambient noise level exceeds the County standard (60 dBA exterior or 45 dBA interior).

During operation, the proposed project is expected to generate a total of approximately 750 daily trips. It is anticipated that these vehicles will access the project site via Baldwin Lane. The measured existing noise level along Baldwin Lane is 52.6 dBA CNEL (Table XIII-1); and the modeled existing plus project noise level is 55.4 dBA CNEL. Therefore, operation of the proposed project will result in an increase of 2.4 dBA CNEL at land uses adjacent to Baldwin Lane between the project site and SR-38. Considering that the existing measured noise level is below 60 dBA CNEL and that the increase in noise level due to project generated vehicle traffic would be less than 3 dB, noise impacts related to project generated vehicle traffic would be less than significant and no mitigation is required.

Long Term Noise

The SoundPLAN acoustical modeling software was utilized to model noise sources generated on the project site at nearby receptors (e.g., residential land uses and schools). It is capable of evaluating both mobile and stationary noise sources (e.g., vehicle traffic, rail, parking lots, parks, drive-thru menus, car wash equipment, vacuums, etc.) by utilizing algorithms (based on the inverse square law) to calculate noise level projections. The software allows the user to input specific noise sources, spectral content, sound barriers, building placement, topography, and sensitive receptor locations.

All field areas were modeled using a SoundPLAN noise reference level for public soccer grounds with a sound power level of 101 L_w, which includes ball play with loud voices, spectators and children screaming. Field noise was modeled approximately five feet higher than each field area and was applied over the entire play and spectator surface. The proposed dirt parking areas were modeled using an area source sound power level of 60 dBA L_w which results in an approximate sound level of 65 dBA L_{eq} spread over the entire parking area to represent conversation, occasional door slams and car horns. All noise sources were assumed to persist over the entire modeled hour. These assumptions result in a very conservative analysis.

As shown in **Figures XIII-2 and XIII-3** peak operational noise is expected to range between 19 and 55 dBA L_{eq} at nearby land uses. More specifically, exterior peak operational noise levels are expected to reach up to 50 dBA L_{eq} at nearby residential land uses and up to 55 at nearby school uses and therefore, will not exceed the 55 dBA L_{eq} residential daytime noise standard at residential land uses presented in Error! Reference source not found.. Furthermore, although the County has not adopted a noise standard for school land uses, the State of California has adopted a background (ambient) noise level standard4 for the interior of classrooms of 35 dBA L_{eq}. Considering that typical

construction provides an exterior to interior noise reduction of 20 dB with a windows closed condition, this interior noise standard would not likely be exceeded if exterior noise levels do not exceed 55 dBA L_{eq}. Project operational noise levels would not exceed the County's noise standard for residential land uses or the State's noise standard for the interior of school classrooms. This impact would be less than significant.

Conclusion

With the implementation of **MM NOI-1** proposed to address construction noise above, the proposed project would have a less than significant potential to result in 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.

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 greatest potential sources of groundborne vibration expected to be utilized during construction of the project include a vibratory roller and a large bulldozer. As shown in Table XIII-8, a vibratory roller can generate a vibration level of approximately 0.21 in/sec PPV at a distance of 25 feet, while a large bulldozer can generate a vibration level of 0.089 in/sec PPV at 25 feet.

Based on the provided site plan and aerial photographs, the closest onsite structures (School District facilities) are located approximately 65 feet to the south of the proposed construction area and the nearest off-site structures (single family residences) are located approximately 315 feet south of the proposed construction area. At these distances, vibration levels produced by a vibratory roller would attenuate to approximately 0.05 in/sec PPV and 0.005 respectively; and vibration levels produced by a large bulldozer would attenuate to approximately 0.021 in/sec PPV and 0.002 respectively. Therefore, use of vibratory equipment during project construction would not cause groundborne vibration that is likely to result in structural damage to nearby engineered masonry and concrete buildings according to the damage criteria of 0.3 PPV inches/second as presented in Table XIII-6.

Table XIII-8
VIBRATION IMPACTS

Equipment		PPV at 25 feet, inches/second
Pile Driver (impact)	Upper range	1.518
	Typical	0.644
Pile Driver (sonic)	Upper range	0.734
	Typical	0.17
Clam Shovel (slurry wall)		0.21
Hydromill (slurry wall)	In soil	0.08
	In rock	0.017
Vibratory Roller		0.21
How Ram		0.089
Large Bulldozer		0.089
Caisson Drilling		0.089
Loaded Trucks		0.076
Jackhammer		0.035
Small Bulldozer		0.003

Source: Federal Transit Administration, transit Noise and Vibration Impact Assessment Manual. Sept. 2018.

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. The proposed project is located outside of the delineated noise contours for the Airport, as shown on **Figure IX-2**. Furthermore, the Exterior Noise Level Standards for Mobile Source Noise Sources within Open Space is 65 CNEL dBA as shown in Table XIII-1, below.

Table XIII-9
INTERIOR/EXTERIOR NOISE LEVEL STANDARDS – MOBILE NOISE SOURCES

Land Use		Ldn (or CNEL) dB(A)	
Categories	**Uses**	**Interior***	**Exterior****
Residential	Single and multi-family, duplex, mobile homes	45	60***
Commercial	Hotel, motel, transient housing	45	60***
	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, church, library	45	65
Open Space	Park	N/A	65
* Indoor environment excluding: bathrooms, kitchens, toilets, closets and corridors.			
** Outdoor environment limited to: Private yard of single-family dwellings; Multi-family private patios or balconies; Mobile home parks; Hospital/office building patios; Park picnic areas; School playgrounds; Hotel and motel recreation areas			
*** An exterior noise level of up to 65 dB (or CNEL) will 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 Ldn (or CNEL) with windows and doors closed. Requiring that windows and doors remain closed to achieve an acceptable interior noise level will necessitate the use of air conditioning or mechanical ventilation.			

The Big Bear City Airport is a public airport and operates 24/7. Mountain Mutual Aid and the Emergency Operations Center for the entire Big Bear Valley are located at the airport and medical evacuations are possible at any time during operations. While the project site is not located within the 60 dBA CNEL noise contour associated with this airport, it is adjacent to an elementary school and near a high school that are protected from flyovers with notes that are protected by Noise Abatement Procedures to help pilots avoid noise-sensitive residential areas and schools (below).

- Extreme Noise Sensitive Area, Practice (Fly Quiet) procedures in the interest of noise abatement.
- Noise abatement procedures: avoid overflying of high school 1 mile east at all times.
- Avoid housing to the east and elementary school.

Given the above, and 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.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

XIV. POPULATION AND HOUSING

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 sports complex within a vacant 13.53-acre site. The provision of new park facilities is not typically considered to be growth inducing, but instead is considered growth accommodating to meet the current demand for park facilities within the community. The proposed project would not require a significant number of employees to operate, beyond those persons who facilitate park maintenance (anticipated to create no more than 2 positions of employment). The District will do the administration for the park as part of their normal duties; as such, no new administrative employment positions are anticipated to be required to operate the proposed Youth Sports Complex. 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 many of the employees will reside in Mountain Region, which is an unincorporated area in San Bernardino County. The California Department of Finance population estimate for 2024 for Unincorporated San Bernardino County was 295,763, or 13.6% of the overall County population of 2,181,433. 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 less than 0.0001% 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 48,337 from the 2024 population identified by the California Department of Finance, 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 is vacant containing native trees and vegetation. 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.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XV. PUBLIC SERVICES: Will 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?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☒	☐
d) Parks?	☐	☐	☒	☐
e) Other public facilities?	☐	☐	☒	☐

XV. PUBLIC SERVICES

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 less than a mile to the east of the project site at 550 Maple Lane, Sugarloaf, CA 92386. Station #283 provides fire protection, fire prevention, and emergency medical services to the Big Bear Lake area. The proposed Youth Sports Complex Project would result in minimal potential for random emergency events during operations, because the majority of the facilities provided by the sports complex would provide for outdoor sporting activities. No permanent structures are proposed, only portable toilets and two equipment storage containers. The project will be served by fire equipment at Station #283, which would be capable of reaching the proposed project in the event of an emergency or 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 project will be required to adhere to standard conditions by the Big Bear Fire Department 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 sports complex 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 temporarily for the duration of construction. The project is not anticipated to generate any new direct demand for the area schools. The Youth Sports Complex Project would be developed within a site adjacent to Baldwin Lane Elementary School, with Big Bear High School located about 0.1 mile to the east of the project boundary, which each contain similar features (ball fields, etc.) to that which is proposed by the proposed project. 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 sports complex at this site is not anticipated adversely impact schools in any manner. Thus, the proposed project will not generate a substantial increase in elementary, middle, or high school population. Therefore, any impacts under this issue are considered less than significant. No mitigation is required.

d) *Less Than Significant Impact* – The proposed project would develop a sports complex facility to serve the Community of Sugarloaf and surrounding Mountain Region of San Bernardino County. This sports complex will serve the residents and visitors of the project area, but will not be open to the public. The Youth Sports Complex is intended to be utilized for youth sports leagues—youth baseball, softball, and soccer, and between seasons for adult softball tournaments. The proposed sports complex includes the installation of the following facilities: three fields that would accommodate baseball, softball, and soccer, three backstops with associated fencing, portable toilets and 2 storage containers for equipment. The proposed sports complex contributes 13.53 acres to a larger recreation area developed by the DEF to provide hiking trails to residents and visitors of the Mountain Region. As discussed throughout this Initial Study, the development of these improvements is not anticipated to cause any significant adverse impacts. As such, given that the proposed project would develop new park facilities to serve the community, it is anticipated that the proposed Youth Sports Complex Project would have a less than significant potential to cause a substantial adverse impact to Parks. No mitigation is required.

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 park that will contribute to the County's available Public Services. Thus, any impacts under this issue are considered less than significant, and no mitigation is required.

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

XVI. RECREATION

SUBSTANTIATION:

a) *No Impact* – As addressed in the discussion under XIV above, the proposed project does not include a use that would substantially induce population growth. Furthermore, the proposed project consists of developing a new sports complex with fields that would serve the Community. As such, the proposed project would create a new source for recreational facilities that, through drawing existing recreational facility users to this new sports complex, would decelerate the physical deterioration of existing nearby facilities that serve this community. The proposed Youth Sports Complex Project intends to meet the needs of residents and visitors of the Mountain Region, and as such by developing a new source of recreational facilities within the County, the project would not substantially deteriorate or accelerate deterioration of an existing facility. Therefore, given that the proposed project would improve access to park facilities within the County, specifically within the Mountain Region of the County, it is anticipated that the proposed project has a no adverse impact under this issue. No mitigation is required.

b) *Less Than Significant Impact* – As discussed under issue XV(d) and issue XVI(a) above, the proposed Youth Sports Complex Project would construct a new sports complex park within a 13.53-acre site in the Community of Sugarloaf, which is located in the Mountain Region of San Bernardino County. Based on the data and analysis contained in this Initial Study, the proposed sports complex/recreational facility 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 Youth Sports Complex Project would have a less than significant potential to have an adverse physical effect on the environment. No mitigation is required.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous inter-sections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

XVII. TRANSPORTATION

SUBSTANTIATION: A Trip Generation Assessment is provided as **Appendix 7** to this Initial Study, titled "Trip Generation Assessment" prepared by Urban Crossroads, dated November 17, 2020. This assessment was prepared for a former iteration of this project, and therefore, the trip generation has been revised to reflect the acreage of the proposed Youth Sports Complex Project per Table XVII-1, below.

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 along Baldwin Lane near the terminus of the roadway. Baldwin Lane delineated as a Mountain Major Highway serving the Community of Sugarloaf and Mountain Region. At the proposed project site, where the access road will be developed to provide access to the site, this roadway terminates enabling access to the perpendicular residential roadways.

Table XVII-1
PROJECT TRIP GENERATION

Land Use	Quantity	Units	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Project Trip Generation									
Sports Fields	13.53	AC	14	14	27	27	27	54	677

The Youth Sports Complex would generate an average of 677 daily weekday trips, 27 AM Peak Hour trips and 54 PM Peak Hour trips using trip generation numbers provided in CalEEMod for the proposed recreational uses. As such, the additional trips are not anticipated to exceed 54 trips during either the AM or PM Peak Hour, particularly given that park use is generally spread throughout the daylight hours, and sometimes into the evening hours when the fields are lit for various sports leagues use. 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.

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 according to the San Bernardino Countywide Plan. The site will continue to be accessible by the above means of transport once the sports complex has been developed, with the site access from Baldwin Lane remaining the same, though the internal site access will be improved as part of the proposed project.

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 Youth Sports Complex 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 Youth Sports Complex 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 sports complex within the unincorporated Community of Sugarloaf in San Bernardino County. The Countywide Plan PEIR indicates that the County's VMT threshold is as follows:

An employment VMT exceeding a level of 4 percent below existing VMT per employee would indicate a significant transportation impact. A VMT/employee above 23.1 would be considered significant.

This project will employ a minimal number of persons (a maximum of 2 employees) who would serve to maintain the sports complex. As such, a miniscule number of employee trips will occur each day to the Youth Sports Complex. Given that the project would result in a possible 2 employment positions, utilizing the average in the Mountain Region of the County (21.7), the project would result in an average of about 43.4 VMT daily. The population within the Unincorporated portions of the County is currently 295,763 persons, which equates to 6,418,057.1 VMT within the whole of unincorporated San Bernardino County. Therefore, the project would contribute an estimated additional 0.00067% increase in additional vehicle miles traveled within the County, which is not considered significant within the County of San Bernardino. Furthermore, the proposed Youth Sports Complex 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, the Youth Sports Complex 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 Impact* – The proposed project will occur entirely within the project site boundaries. The proposed project will be constructed entirely within the boundaries of the project site, with access to the site proposed to be maintained as it presently exists. The entrance to the site is bound within the existing BVUSD land that presently serves as a track and field for use by the District as shown on **Figure 4.** The access improvements would occur internal to the site to include a 40' in length access road leading to a new parking area that would be adjacent to the southernmost field. 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. Emergency response and evacuation procedures would be coordinated with the County, as well as the police and fire departments. Thus, due to its location and point of access, there will be no potential to 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 Youth Sports Complex 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. No mitigation is required.

d. *Less Than Significant Impact* – The proposed project consists of activities that will take place along Baldwin Lane within the Community of Sugarloaf within the County of San Bernardino. Vehicles travelling to and from the project site would utilize Baldwin Lane and nearby Maple Lane and State Highway 38 to access the site. The proposed project will be constructed entirely within the boundaries of the project site, with access to the site proposed to be maintained as it presently exists. The entrance to the site is bound within the existing BVUSD land that presently serves as a track and field for use by the District as shown on **Figure 4.** The access improvements would occur internal to the site to include a 40' in length access road leading to a new parking area that would be adjacent to the southernmost field. Access to the site is adequate and the nearest emergency response station is located less than a mile to the east of the project site at 550 Maple Lane, 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 Countywide Plan Evacuation Route Map provided as **Figure IX-3.** Adequate emergency access along Baldwin Lane will be maintained. Thus, because of the lack of adverse impact on local circulation no potential for significant impacts on emergency access are forecast to occur during construction or operation. Impacts are less than significant and no mitigation is required.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
XVIII. TRIBAL CULTURAL RESOURCES: Will the project:				
a) 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?				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or?	☐	☒	☐	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☐	☒	☐	☐

XVIII. TRIBAL CULTURAL RESOURCES

SUBSTANTIATION: 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. Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

A Tribal Cultural Resource is defined in the Public Resources Code section 21074 and includes the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either of the following: included or determined to be eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources as defined in subdivision (k) of Section 5020.1;
- 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purpose of this paragraph, the lead agency shall consider the significance of the resources to a California American tribe;
- A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape;
- A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "non-unique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal resource if it conforms with the criteria of subdivision (a).

a)i-ii *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**, 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 that significant. Therefore, with implementation of the above mentioned mitigation measures, the project has a less than significant potential to 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 either **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 **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.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☒	☐	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☒	☐	☐

XIX. UTILITIES AND SERVICE SYSTEMS

SUBSTANTIATION:

a) Water

Less Than Significant Impact – Water will be provided by the BBLDWP. Water service is available through a connection located adjacent to the project site. 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 Youth Sports Complex 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

Less Than Significant Impact – BBCCSD and BBARWA are responsible for the collection, transmission, treatment, and disposal of wastewater within their service areas. However, the proposed project will not connect to municipal wastewater service, and further, will not require installation of alternative wastewater methods as the project will utilize portable toilets. The portable toilets would be serviced on an as needed basis, by a licensed service provider that will dispose of the portable toilet waste in accordance with local, State, and Federal law. Therefore, development of the Youth Sports Complex Project would not result in a significant environmental effect related to the relocation or construction of new or expanded wastewater facilities. Impacts are less than significant.

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 and utilization of existing and improved stormwater management systems 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 Youth Sports Complex 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 and the 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 Youth Sports Complex Project is not anticipated to result in significant impacts, as evidenced by the discussions in preceding sections. Therefore, development of the Youth Sports Complex 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 sports complex 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 sports complex would not require installation of wireless internet service or phone serve. 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 the proposed fields should natural turf be selected in support of the project. 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 Youth Sports Complex Project within the 13.53-acre site is not forecast to cause a significant demand for new groundwater 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. Thus, impacts under this issue would be less than significant.

c) *No Impact* – All wastewater generated by the sports complex would be collected through the portable toilets onsite, which would be serviced on an as needed basis, by a licensed service provider that will dispose of the portable toilet waste in accordance with local, State, and Federal law. As no new wastewater connections would occur onsite, the implementation of the proposed project would not such 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. No impacts are anticipated to occur under this issue.

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 San Timoteo Landfill or the Victorville Landfill. 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.[11] The Victorville Landfill has a maximum permitted capacity of 3,000 tons per day, and a remaining capacity of 79,400,000 CY, with a maximum permitted capacity of 93,400,000 CY according to CalRecycle.[12] Using the an averaging of the Solid Waste Generation Rates from CalRecycle[13], the solid waste generation rate for a golf courses (the most applicable use listed), is 0.5 lbs per day per visitor. With an average number of 1,354 visitors per day,[14] the proposed project is anticipated to generate 677 pounds of waste per day or 123.55 tons of waste per year, reduced to 68.44 tons per year upon a 75% 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 and AB 341.

Construction would not require demolition of any structures, though it would require vegetation removal which can be removed and transported to a green waste collection facility. 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. 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:

UTIL-1 The contract with construction contractors / tree removal professionals shall include the requirement that all materials that can feasibly be recycled shall be salvaged and recycled, including trees and site vegetation that must be removed. The contractor / tree removal professionals 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 Youth Sports Complex 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.

[11] CalRecycle, 2024. Victorville Sanitary Landfill.
https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1906?siteID=2688 (Accessed 09/04/24)
[12] CalRecycle, 2024. San Timoteo Landfill.
https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1870?siteID=2652 (Accessed 09/04/24)
[13] CalRecycle, 2024. Estimated Solid Waste Generation Rates.
https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates (Accessed 09/04/24)
[14] This assumes that for each vehicle trip, two persons per vehicle would visit the park on average.

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 BBCCSD. 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.

Issues	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
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?	☐	☐	☒	☐
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?	☐	☒	☐	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☒	☐	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

XX. WILDFIRE

SUBSTANTIATION:

a) *Less Than Significant Impact* – The proposed project area is an area susceptible to wildland fires, and is located within a delineated High and 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-4**, the Countywide Plan Policy Map of Fire Hazard Severity Zones, and **Figure IX-5**, the Countywide Plan Policy Map of Fire Responsibility Areas. 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 Countywide Plan Evacuation Plan Map provided as **Figure IX-3**. 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 will be constructed entirely within the boundaries of the project site, with access to the site proposed to be maintained as it presently exists. The entrance to the site is bound within the existing BVUSD land that presently serves as a track and field for use by the District as shown on **Figure 4.** The access improvements would occur internal to the site to include a 40' in length access road leading to a new parking area that would be adjacent to the southernmost field. 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 With Mitigation Incorporated* – The proposed project is located within a vacant site in the northeastern most corner of the Community of Sugarloaf; it is located in a relatively hilly area due to its location in the mountains. The project site slopes gently from north to south, and will be graded to create level foundations upon which to develop the proposed fields, parking lot, and the portable restrooms, and equipment storage containers. 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 and that interfaces with the nearby forest. A requirement for this site is that it must comply with CAL FIRE requirements for timberland

conversion and must also create a Timber Harvesting Plan that would describe and outline the manner in which the existing trees on site will be removed. This Plan, enforced by **MM AFR-1**, would include fire minimization requirements and will therefore assist in minimizing the potential for a fire hazard during construction. Once in operation, the proposed project will consist of open fields, with minimal indoor structures. The proposed project will remove vegetation, thereby minimizing the potential fire risks within this site, and the proposed project will be subject to a design review by the County to ensure that the development of a sports complex at this site is designed in accordance with fire department recommendations. Furthermore, given that, 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, 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. With the implementation of **MM AFR-1**, 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 sports complex 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; and the project will develop a new internal access road without interference along Baldwin Lane. As stated above, the project will require removal of a majority of the trees located within the project site. The removal of these trees and other vegetation in support of the proposed Youth Sports Complex Project could exacerbate fire risk due to the type of equipment that may be necessary to facilitate the tree removal. **MM AFR-1** is required in order to facilitate the development of a THP to meet CAL FIRE requirements that are intended to minimize potentially exacerbated circumstances that could result in fire risk. Compliance with **MM AFR-1** would ensure that fire risk is minimized during construction. Additionally, 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 ***During site clearing within the project site when any electrical construction equipment is in use, the construction crew shall have fire prevention equipment (such as fire extinguishers, emergency sand bags, etc.) to put out any accidental fires that could occur from the use of electrical construction/maintenance equipment.***

The proposed project would not result in any ongoing impacts to the environment that would exacerbate fire risk as the proposed project is a sports field complex that will be designed in accordance with fire department recommendations and to County design standards. Therefore, with the implementation of **MMs AFR-1** and **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.

d) *Less Than Significant Impact* – The proposed project is located within a site that slopes slightly from north to south; while the project site varies in elevation, there are both high and low points throughout the site (the highest point is about 7030' in elevation, and the lowest is about 6075'), situated in the hills that separate the Big Bear City area from the Sugarloaf community area (refer to **Figure 1**). The proposed project will be graded to elevations of 7,010 at the highest point, and 6,995 at the lowest point with the finished grade of the northern field at about 7,005' +/-, and the southern fields at about 7,000' +/-. 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 each of the fields that would be developed by this project. The proposed project is located in an area that has not been historically subject to flooding. The site design will incorporate an internal access road providing access to the site such that the project drainage would remain comparable to that which exists at present. Furthermore, given that the project would install several fields, much of the

runoff associated with the site would be retained within the fields and landscaped area; compaction, grading, and overall construction of this site would minimize slope instability by design. Therefore, the development of the Youth Sports Complex 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.

Issues	*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?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

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 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 (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 previous reports performed for this 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. Please see biological and cultural sections of this Initial Study.

b) *Less Than Significant With Mitigation Incorporated* – The project has twelve (12) potential impacts that are individually limited, but may be cumulatively considerable The issues of Aesthetics, Agriculture and Forestry Resources, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use, Noise, Tribal Cultural Resources, 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 sports complex 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 park/recreational 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 Air Quality, Energy, Greenhouse Gas, Mineral Resources, Population/Housing, Public Services, Recreation, and Transportation. The issues of Aesthetics, Agriculture and Forestry Resources, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use, Noise, 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 for the Youth Sports Complex Project. A Notice of Availability and Notice of Intent to Adopt a Mitigated Negative Declaration (NOA/NOI) will be issued for this project by the District. The Initial Study, NOA, and 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.

MITIGATION MEASURES

Any mitigation measures that are not "self-monitoring" shall have a Mitigation Monitoring and Reporting Program prepared and adopted at time of project approval. Condition compliance will be verified by existing procedure.

Aesthetics

AES-1 The Applicant shall avoid compaction of soil during construction in areas where trees are located within or adjacent to the project site do not require removal. The Applicant shall avoid root removal in all instances where it is possible to do so. The Applicant shall utilize the following Tree Preservation Guidelines:

Root Pruning

a. There shall be no disturbance to roots more than 2 inches in diameter. Roots less than 2 inches in diameter must be cleanly cut to encourage good callus tissue. It is recommended that roots be pruned back to the next root node.
b. Recommended distances from the trunk that roots should be pruned have been established for construction activities around trees. The recommendations are: Preferred distance –5 times the diameter of the tree at breast height (dbh); Minimum distance – 3 times dbh.
c. The recommended time to prune roots is before active root growth in late summer and fall.
d. The less frequently roots are pruned the less impact there will be on tree health and stability.

Root Protection Zone

a. A root protection zone shall be defined by a minimum 42" high barrier constructed around any potentially impacted tree. This barrier shall be at the drip line of the tree or at a distance from the trunk equal to 6 inches for each inch of trunk diameter 4.5 feet above the ground, if this method defines a larger area.
b. Should it be necessary to install irrigation lines within this area, the line shall be located by boring, or an alternate location for the trench is to be established. The minimum clearance between an open trench and a tree shall be no closer than 10 feet or 6 inches for each inch of trunk diameter measured at 4.5 feet above existing grade, if this method defines a larger distance. The maximum clearance shall be 10 feet. The contractor shall conform to these provisions.
c. At no time shall any equipment, materials, supplies or fill be allowed within the prescribed root protection.

Protection from Root Compaction

a. No vehicles shall be permitted to be parked under the dripline of trees in non-paved areas. Avoid placing heavy equipment, large rocks or boulders, and gravel under the drip line of the tree. The object is to avoid soil compaction, which makes it difficult for roots to receive oxygen from the soil.

Conclusion

The above measures apply only to trees that do not require removal as part of the proposed project. The intent for the above tree and root protection measures is to ensure protection of trees located on the periphery of the proposed site development area to the maximum extent feasible. As such, trees that require removal shall be exempt from the above tree and root protection measures.

Agriculture and Forestry Resources

AFR-1 Prior to groundbreaking activities, the Applicant shall prepare and submit a Timberland Conversion Permit (TCP) pursuant to PRC 4621(a) and a Timber Harvesting Plan (THP) pursuant to PRC 4581 to CAL FIRE utilizing the services of a Registered Professional Forester approved by CAL FIRE.

Biological Resources

BIO-1 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).

- The removal of mature trees and snags shall, to the greatest extent practicable, occur outside the peak breeding season (typically February 1 through September 1). Mature trees and snags to be removed as part of the Project shall be more closely evaluated by a biologist familiar with the California spotted owl for their potential to support California spotted owl and the Applicant shall proceed with tree removal under the qualified biologist's advisement.
- 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 in accordance with the CDFW's recommended protocol for SPOW survey.

Cultural Resources

CUL-1 Should any cultural resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an on-site inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with the on-site archaeological professional, who is acceptable to the District and retained by the Applicant. 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.

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 Should any paleontological resources be encountered during construction, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with the Lead Agency's onsite inspector. The paleontological professional shall assess the find, determine its significance, and determine appropriate mitigation measures within the guidelines of the California Environmental Quality Act that shall be implemented to minimize any impacts to a paleontological resource. Treatment of any discovered paleontological resources shall follow current professional standards.

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 state and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste will be collected and disposed of at an appropriately a licensed disposal or treatment facility. This measure shall be incorporated into the SWPPP prepared for the proposed Youth Sports Complex Project. 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 Applicant's 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 Applicant 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 Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) shall be prepared for the District's review and approval prior to ground disturbance and the identified BMPs installed in accordance with schedules contained in these documents.

Noise

NOI-1 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.

Utilities and Service Systems

UTIL-1 The contract with construction contractors / tree removal professionals shall include the requirement that all materials that can feasibly be recycled shall be salvaged and recycled, including trees and site vegetation that must be removed. The contractor / tree removal professionals 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 During site clearing within the project site when any electrical construction equipment is in use, the construction crew shall have fire prevention equipment (such as fire extinguishers, emergency sand bags, etc.) to put out any accidental fires that could occur from the use of electrical construction/maintenance equipment.

PROJECT-SPECIFIC REFERENCES

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FIGURES

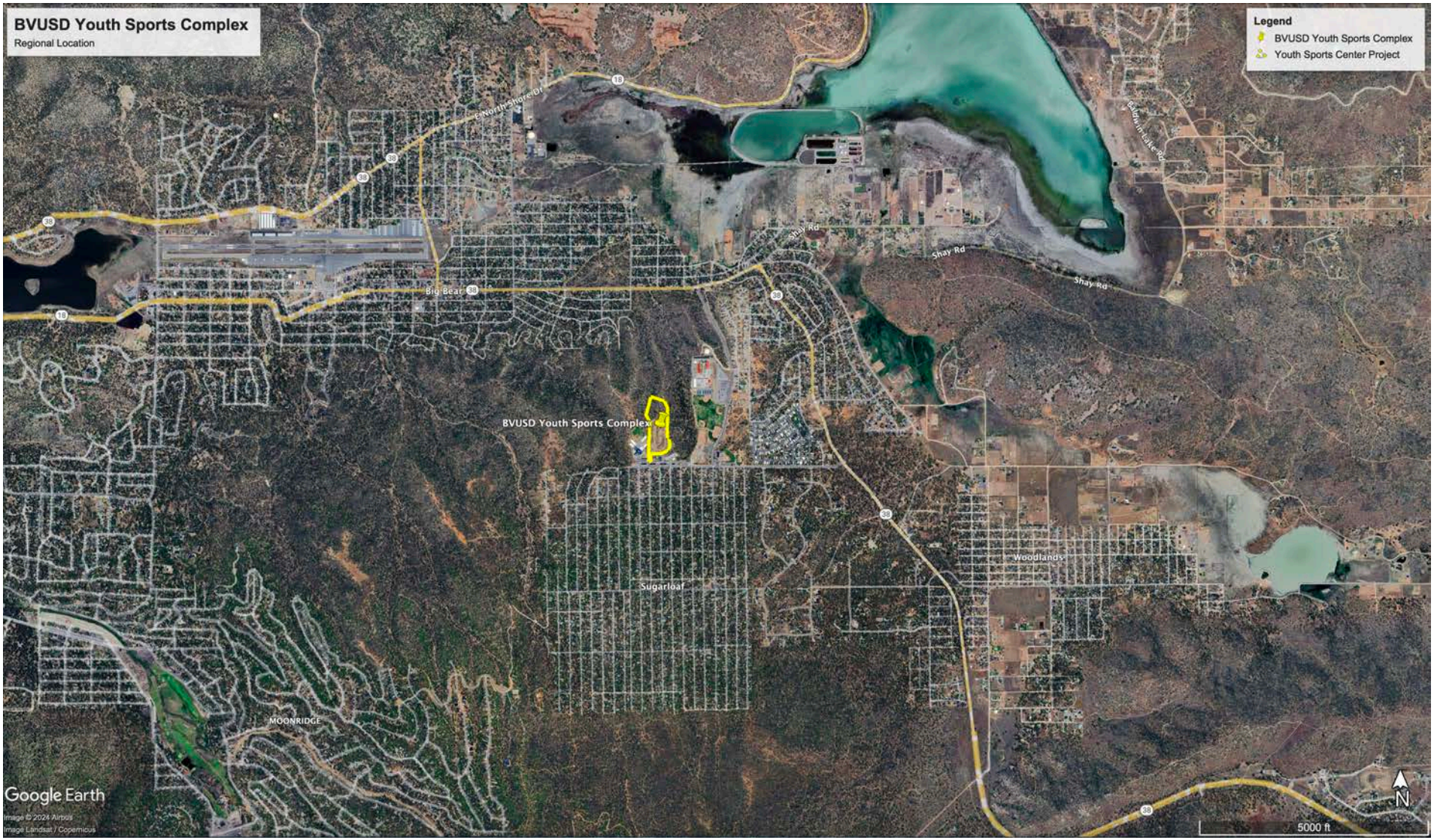


FIGURE 1

Tom Dodson & Associates
Environmental Consultants

Regional Site Location



FIGURE 2

Tom Dodson & Associates
Environmental Consultants

Project Site Location

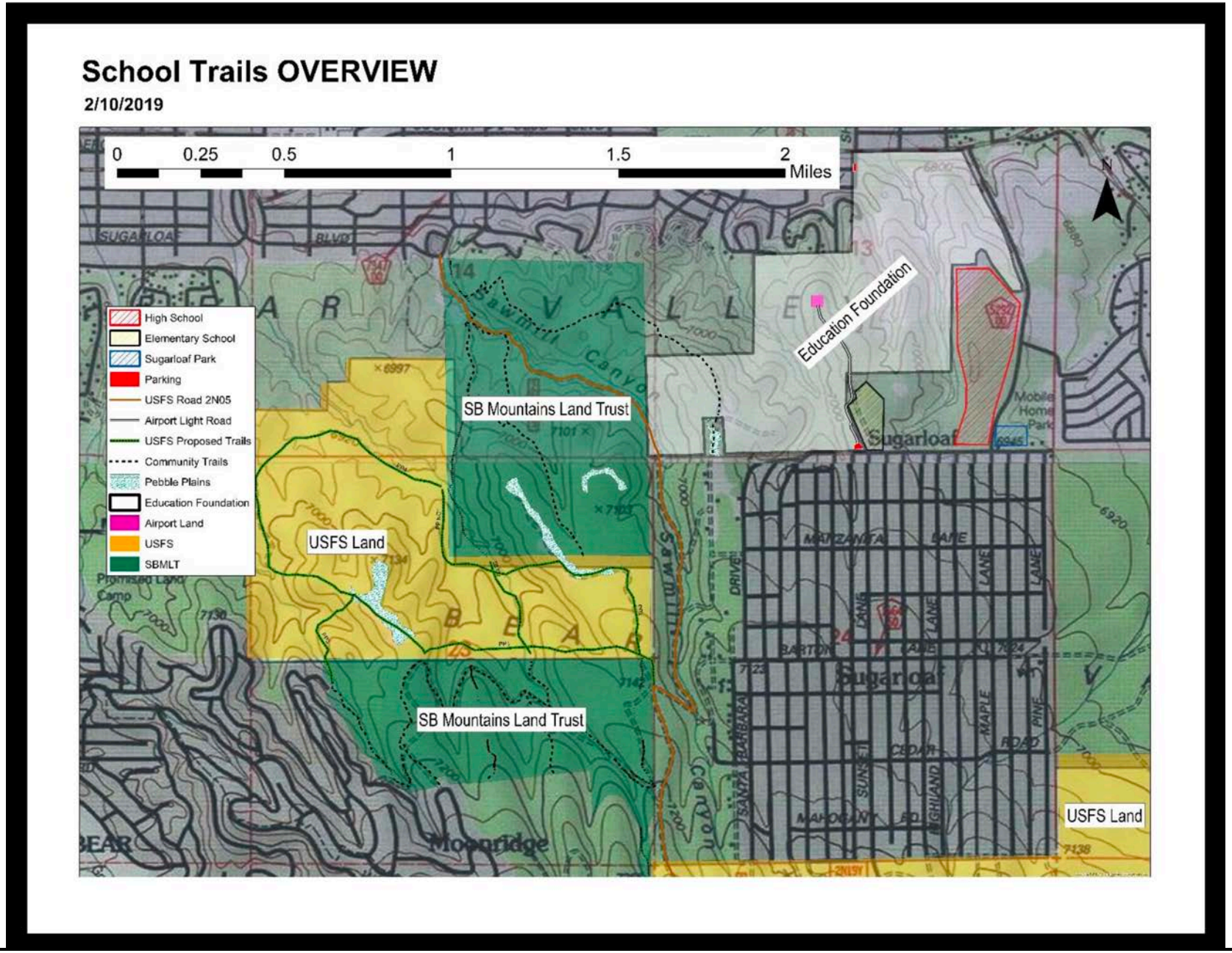


FIGURE 3

Tom Dodson & Associates
Environmental Consultants

BVUSD Education Foundation Donated Area



FIGURE 4

Tom Dodson & Associates
Environmental Consultants

Site Plan and Grading Plan

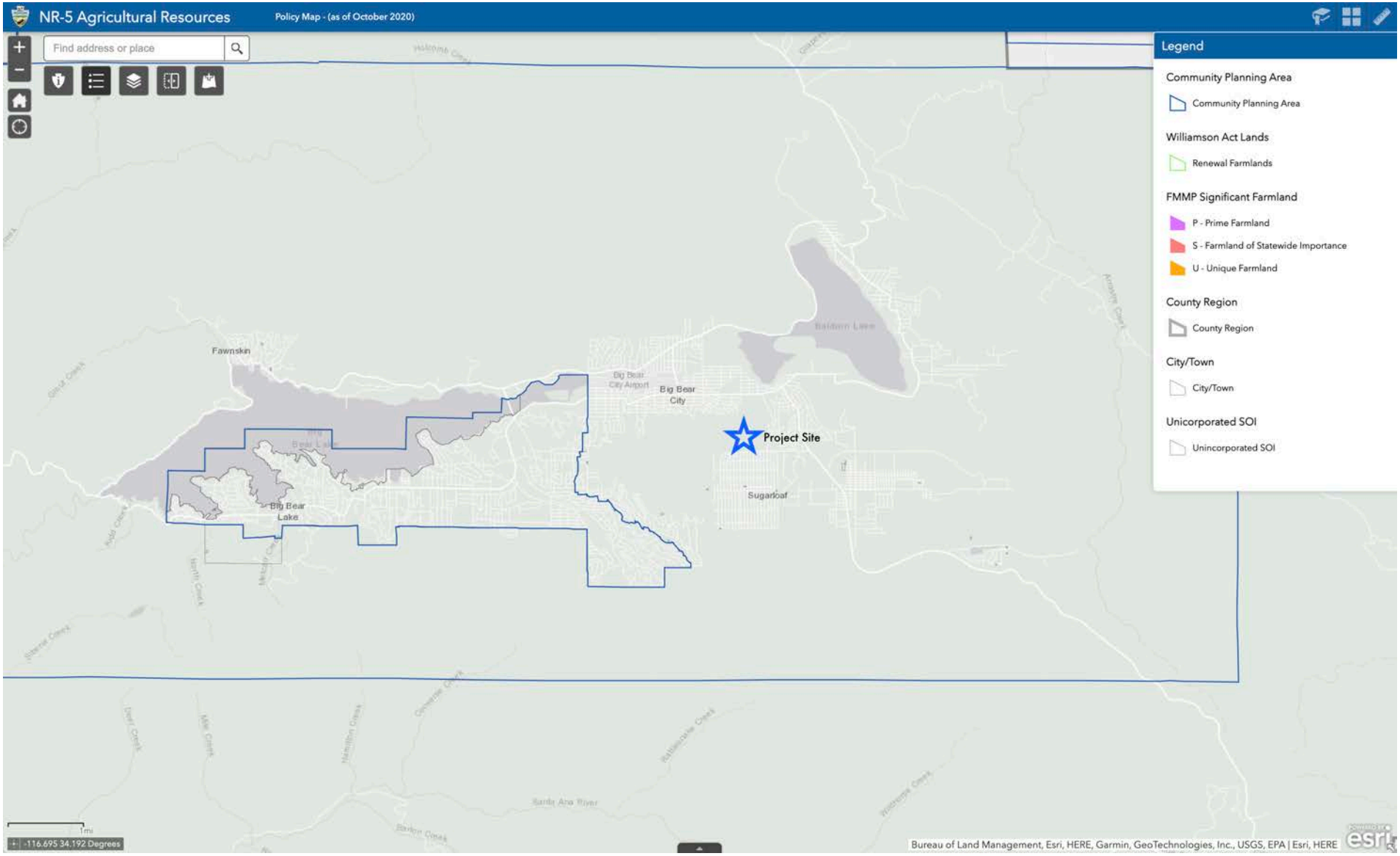


FIGURE II-1

Tom Dodson & Associates
Environmental Consultants

Agricultural Resources

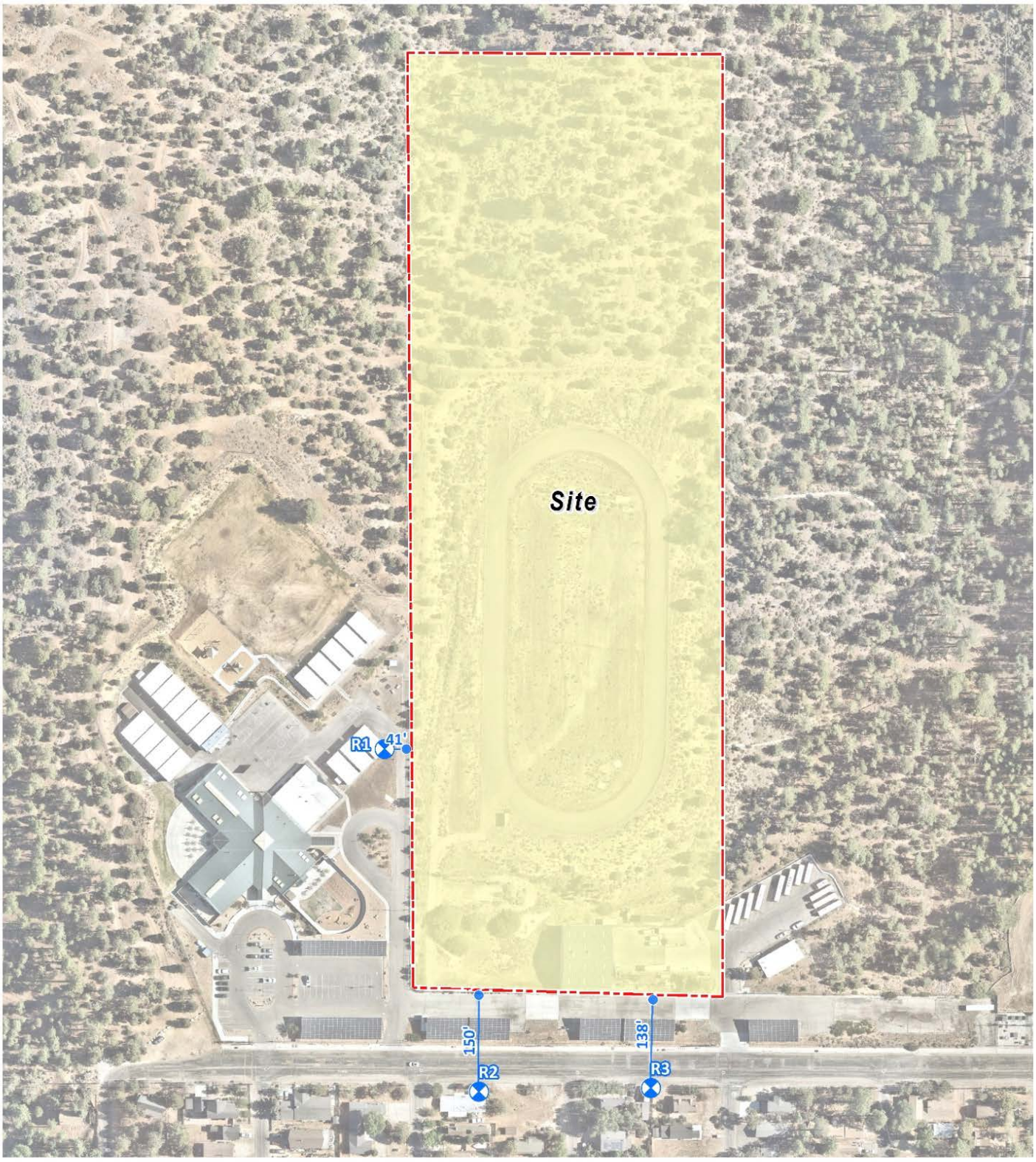
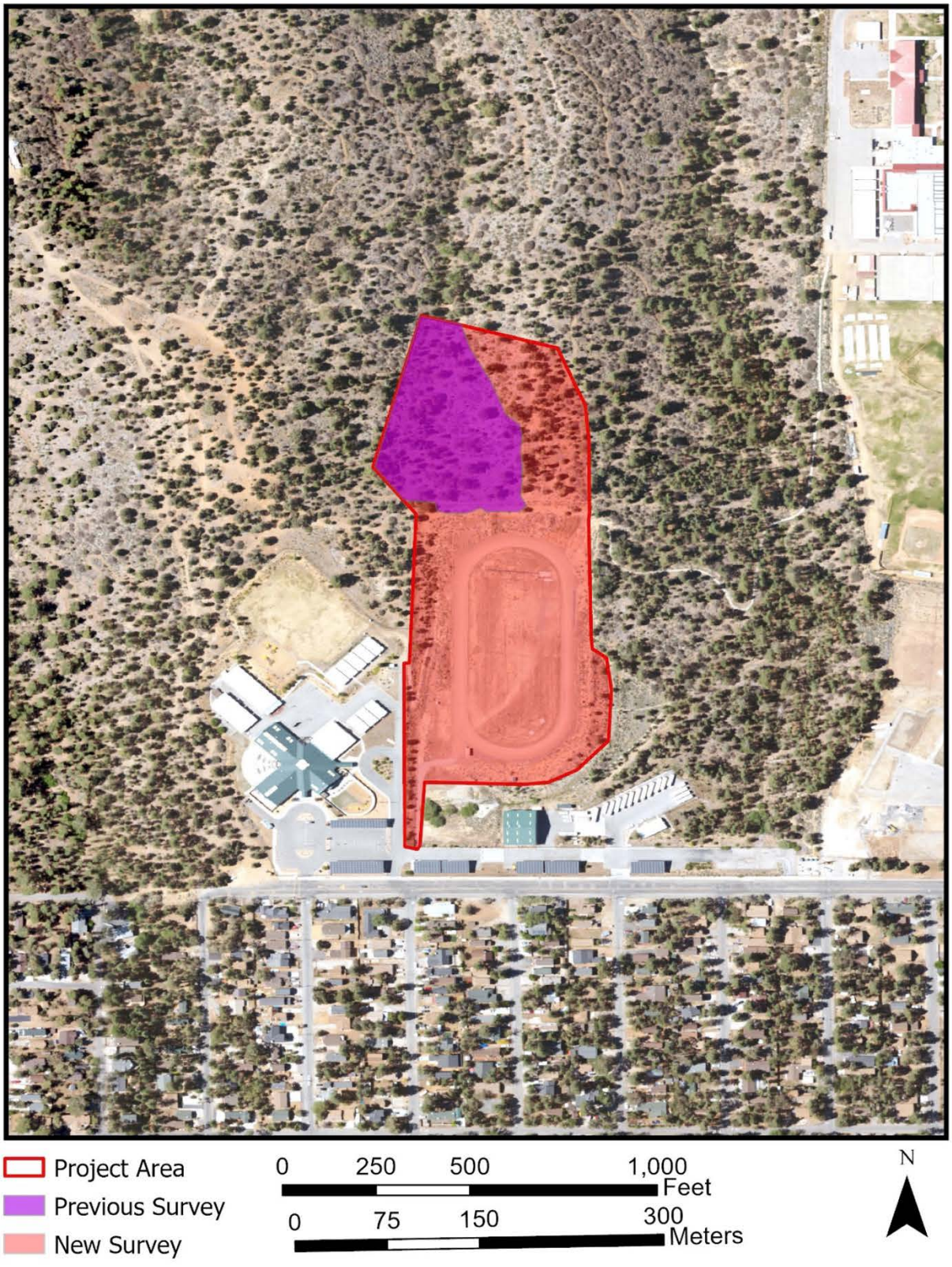


FIGURE III-1

Tom Dodson & Associates
Environmental Consultants

Sensitive Receptors



Map 3: Detail of Project Area and Survey Coverage

FIGURE V-1

Tom Dodson & Associates *Environmental Consultants*	**Detail of Project Area and Cultural Survey Coverage**

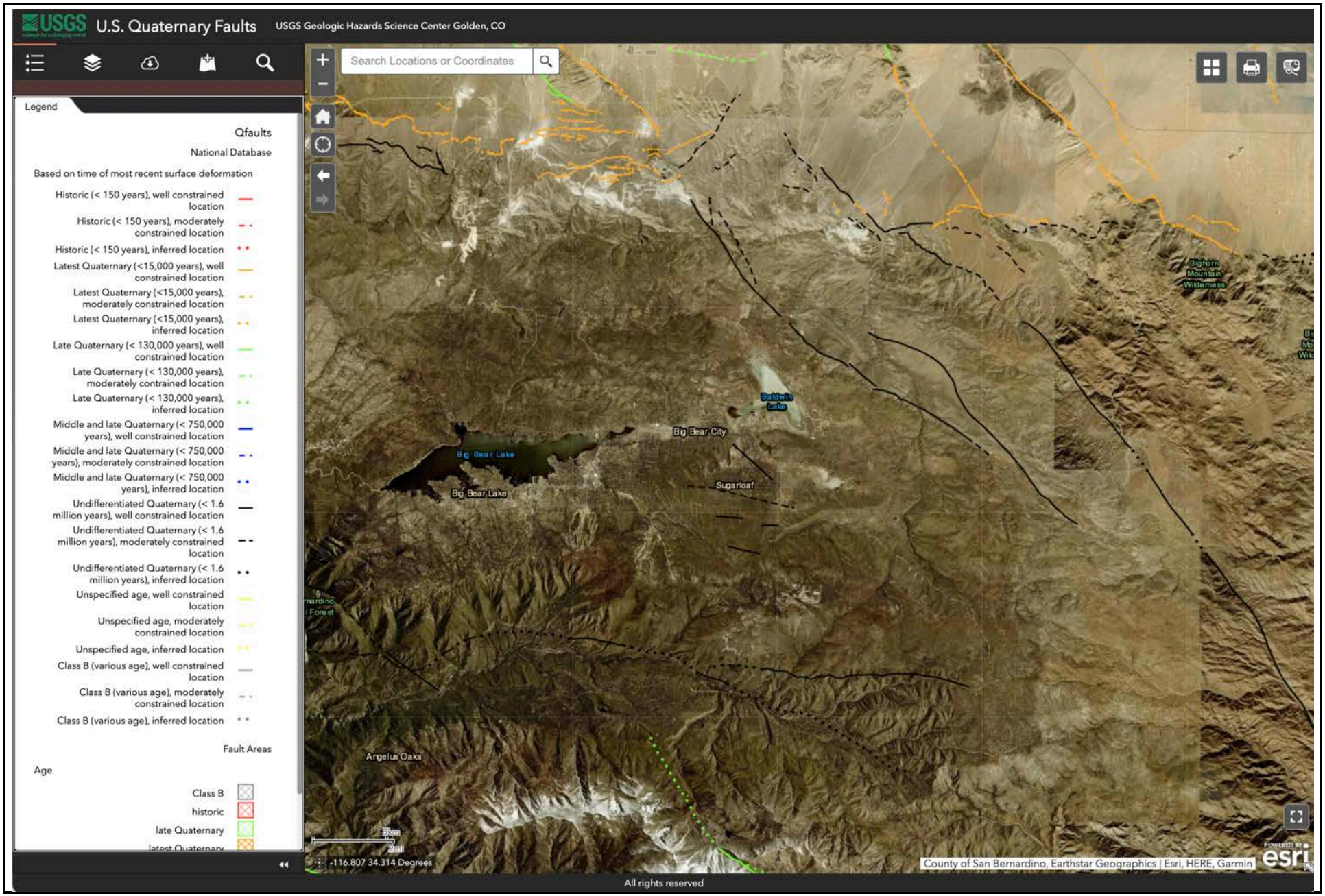


FIGURE VII-1

Tom Dodson & Associates
Environmental Consultants

USGS Quaternary Fault Map

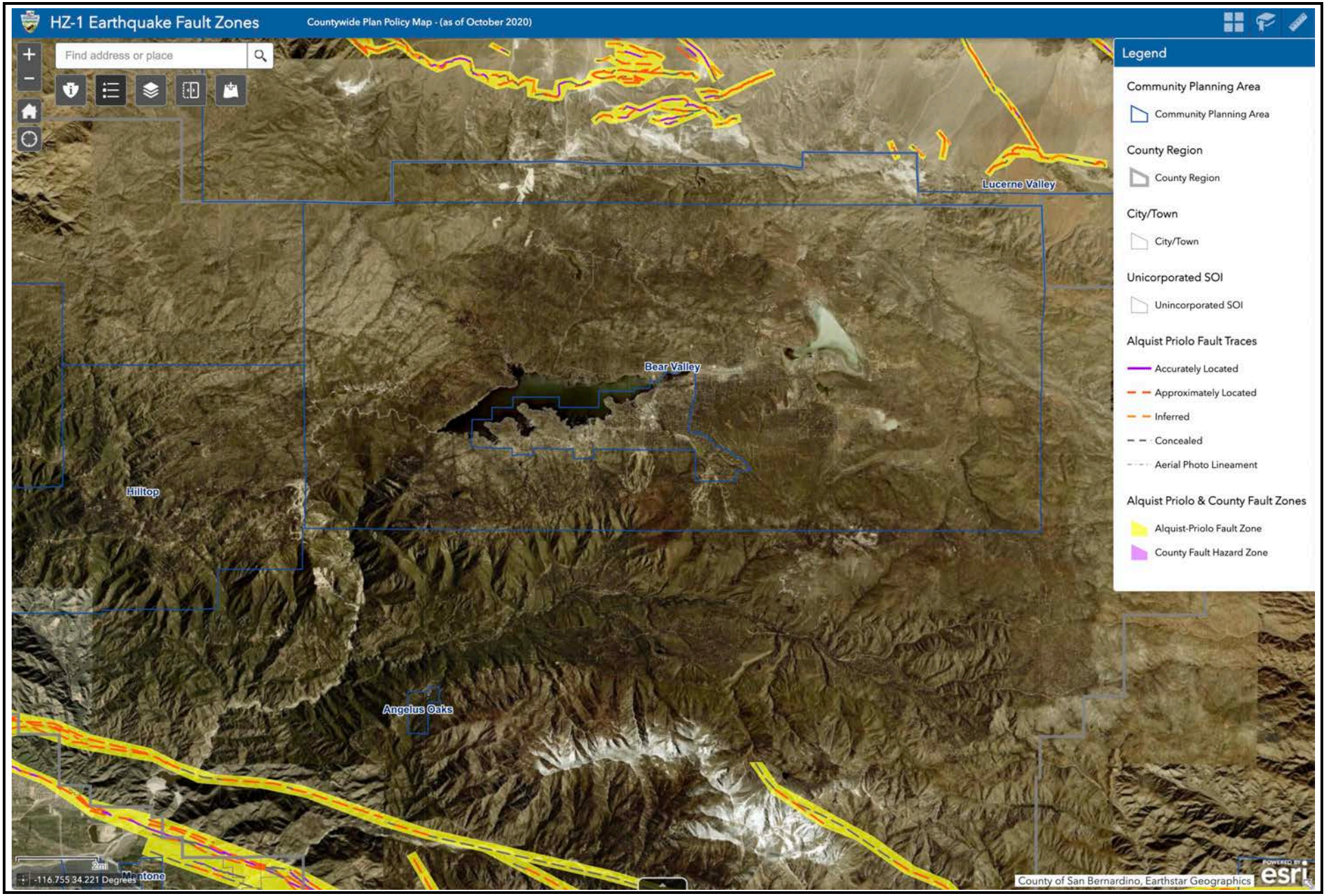


FIGURE VII-2

Tom Dodson & Associates
Environmental Consultants

Environmental Fault Zones

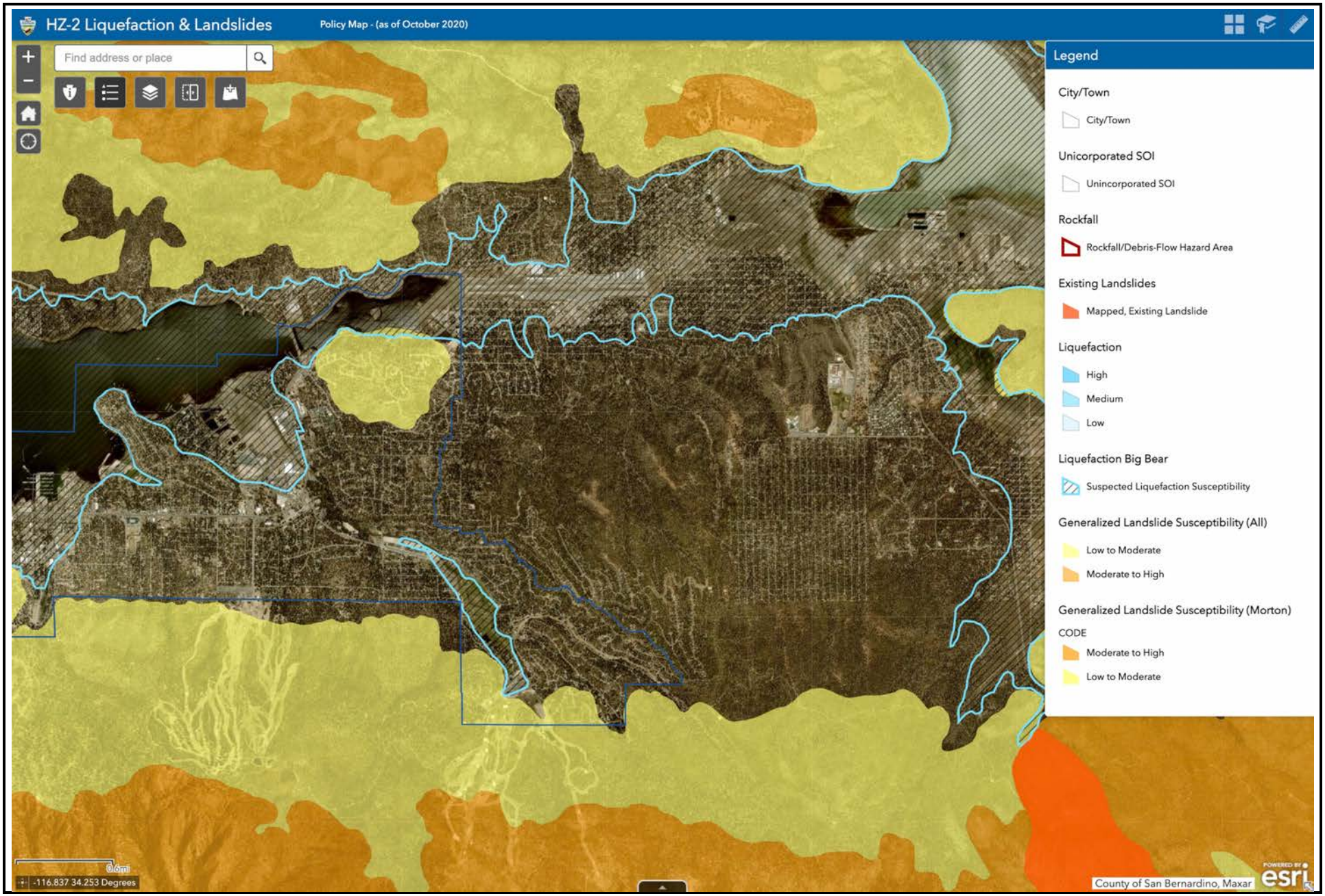


FIGURE VII-3

Tom Dodson & Associates
Environmental Consultants

Liquefaction and Landslides

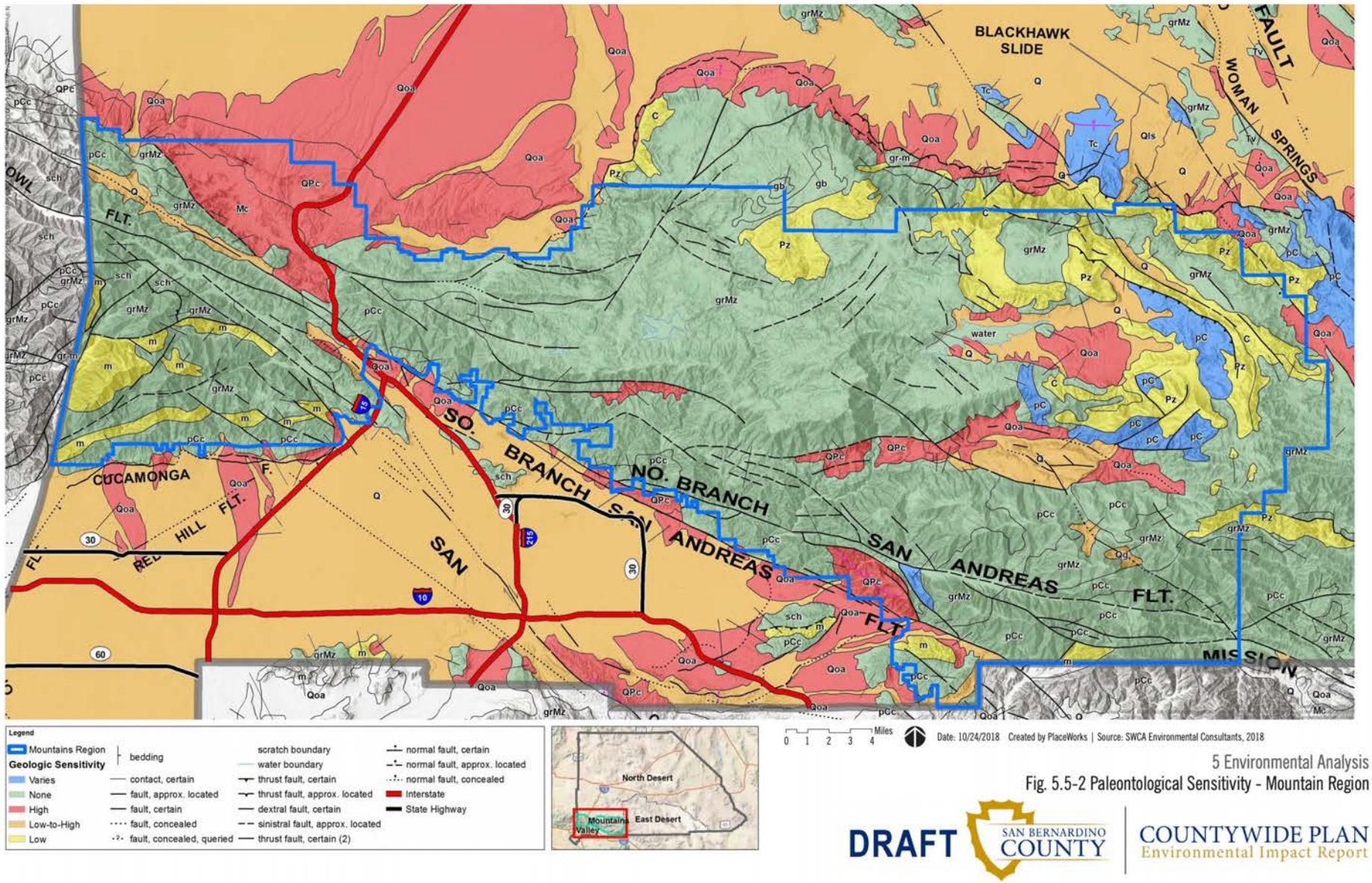


FIGURE VII-4

Tom Dodson & Associates
Environmental Consultants

Paleontological Sensitivity

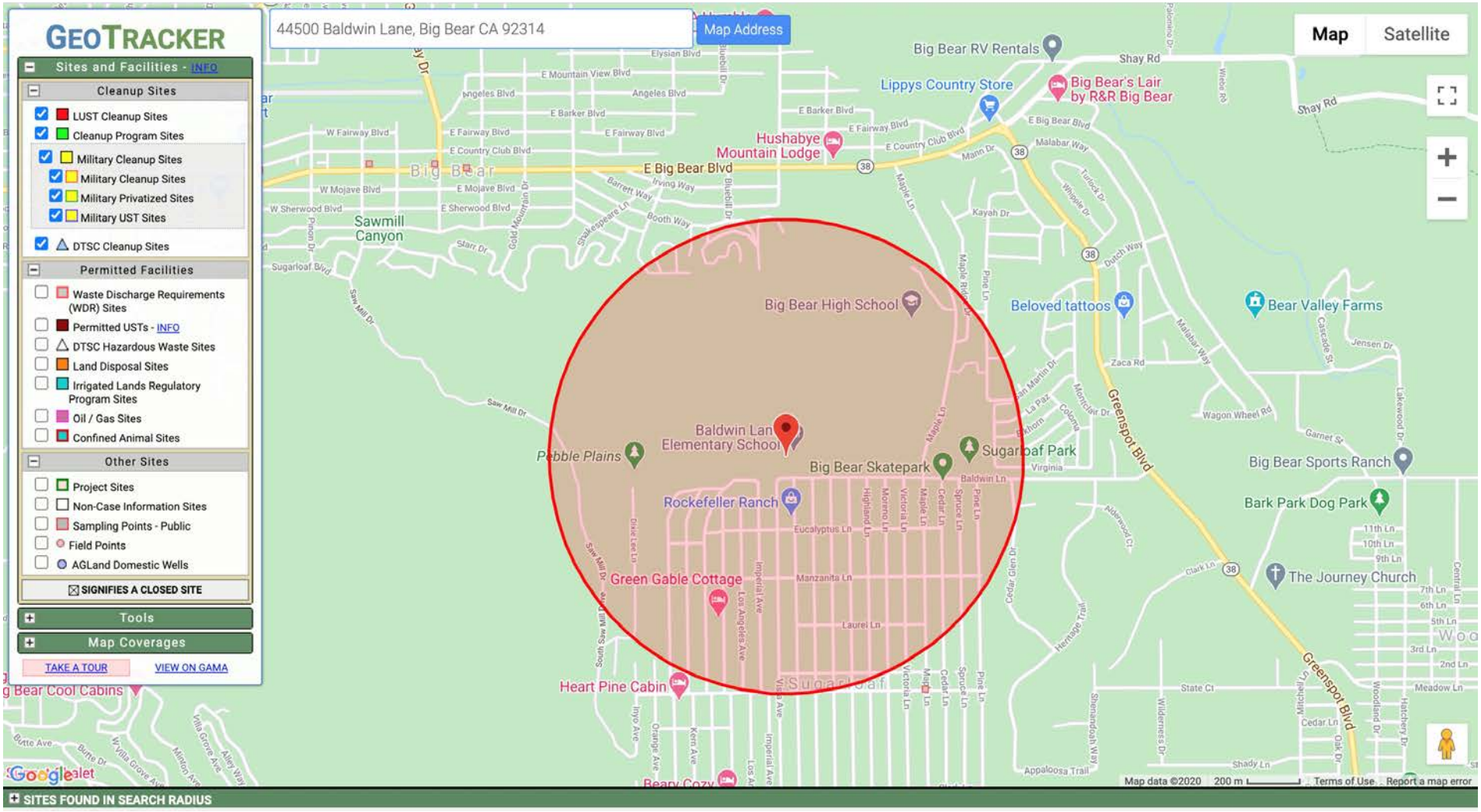


FIGURE IX-1

Tom Dodson & Associates
Environmental Consultants

GeoTracker

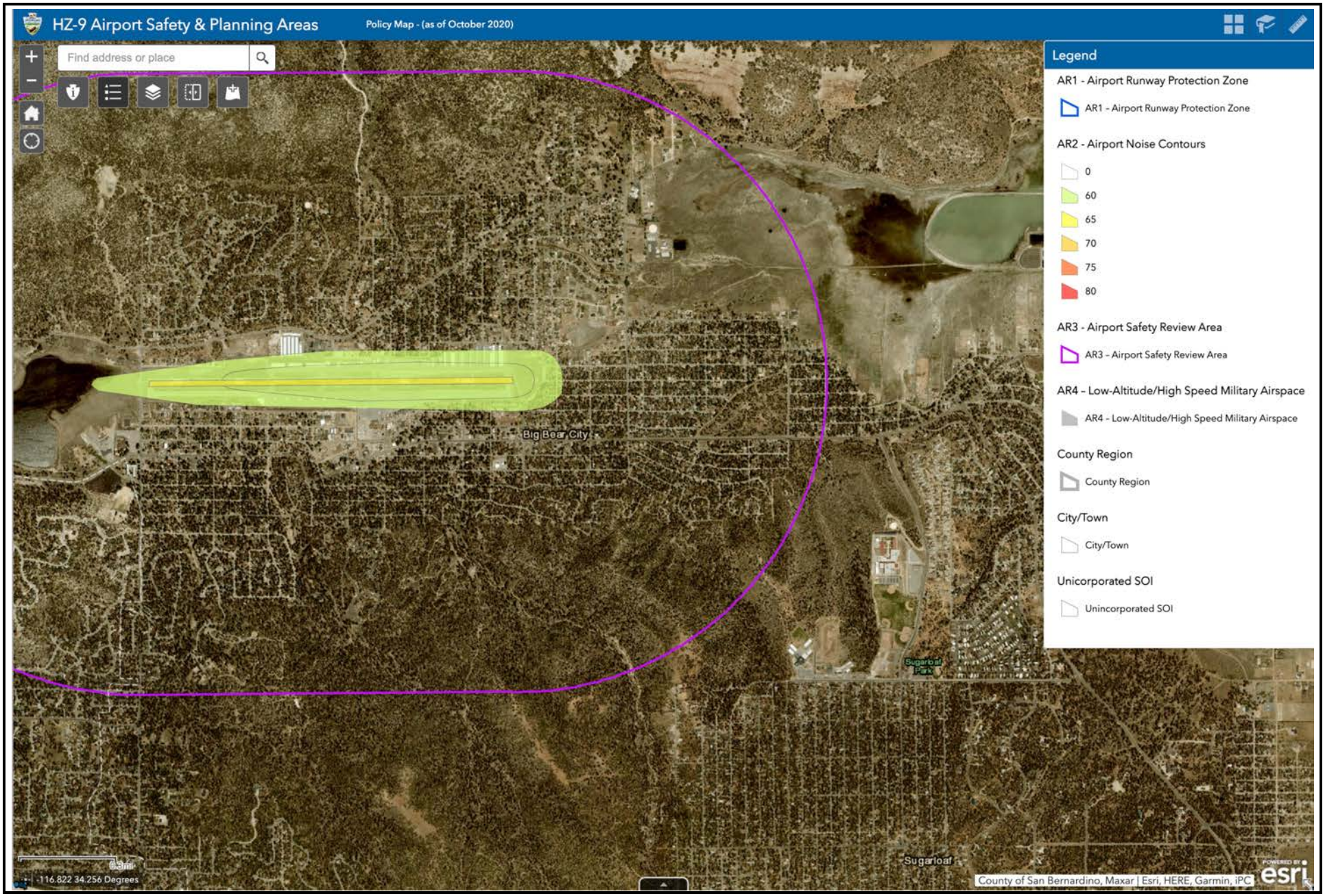


FIGURE IX-2

Tom Dodson & Associates
Environmental Consultants

Airport Safety and Planning Areas

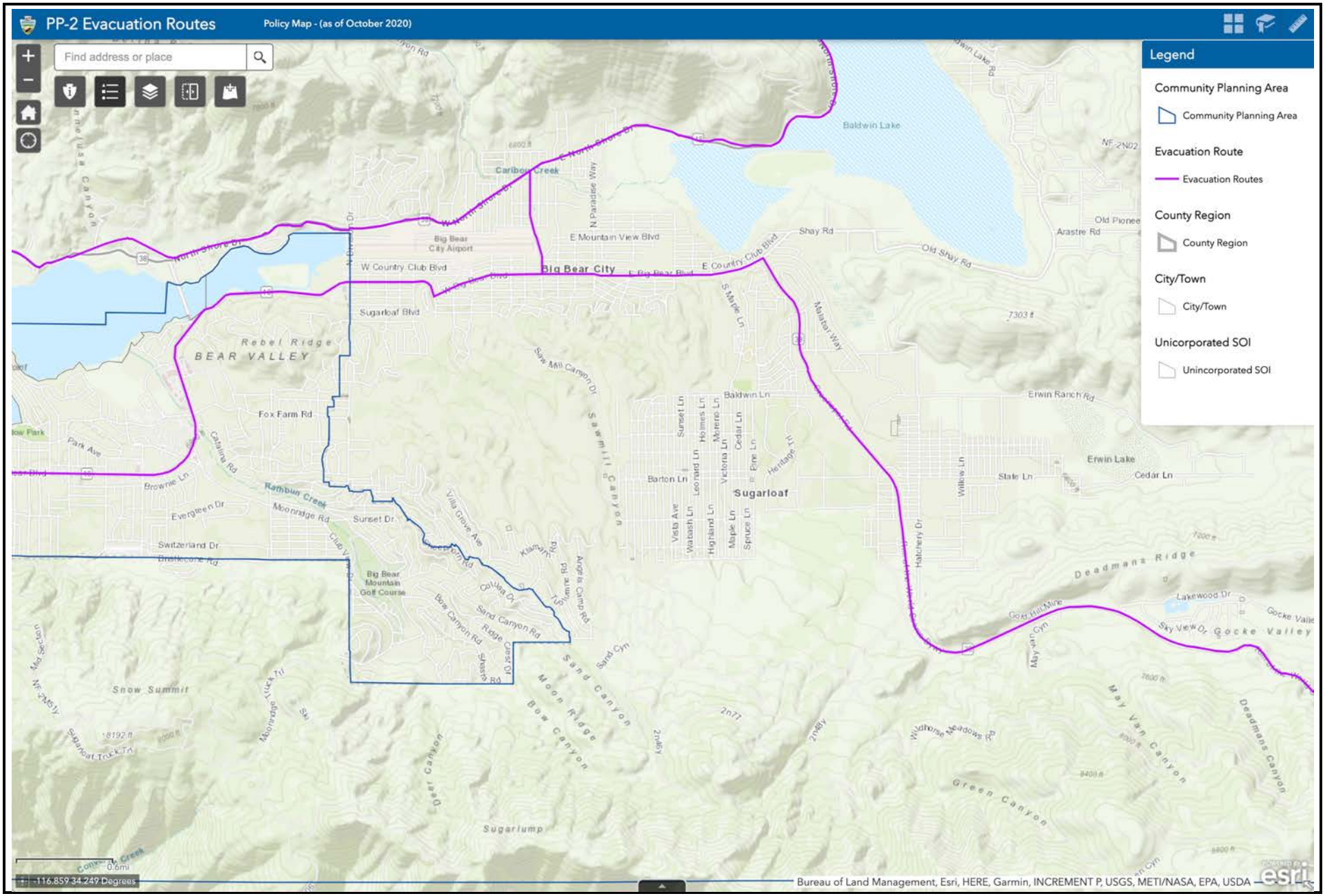


FIGURE IX-3

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Environmental Consultants

Evacuation Routes

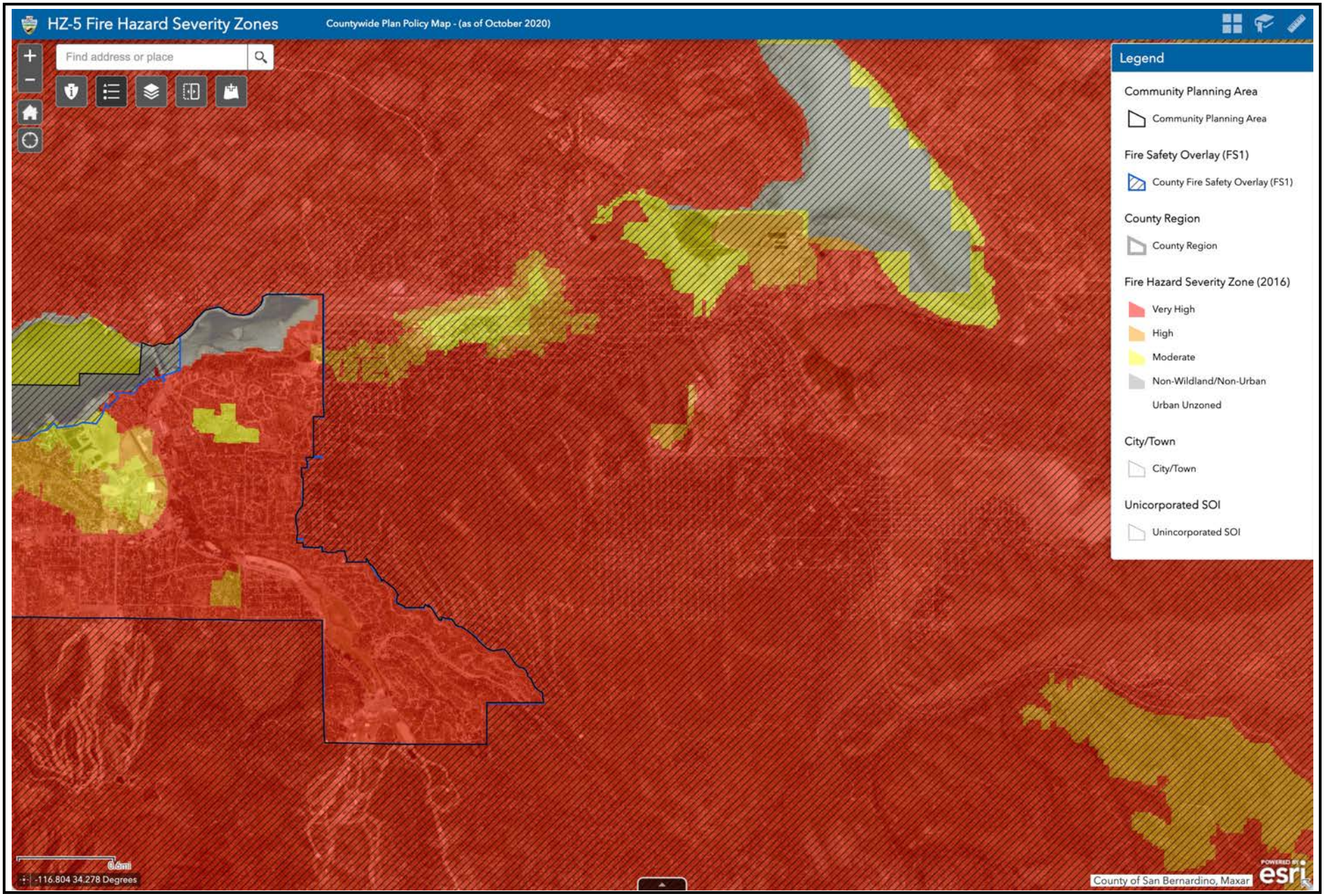


FIGURE IX-4

Tom Dodson & Associates
Environmental Consultants

Fire Hazard Severity Zones

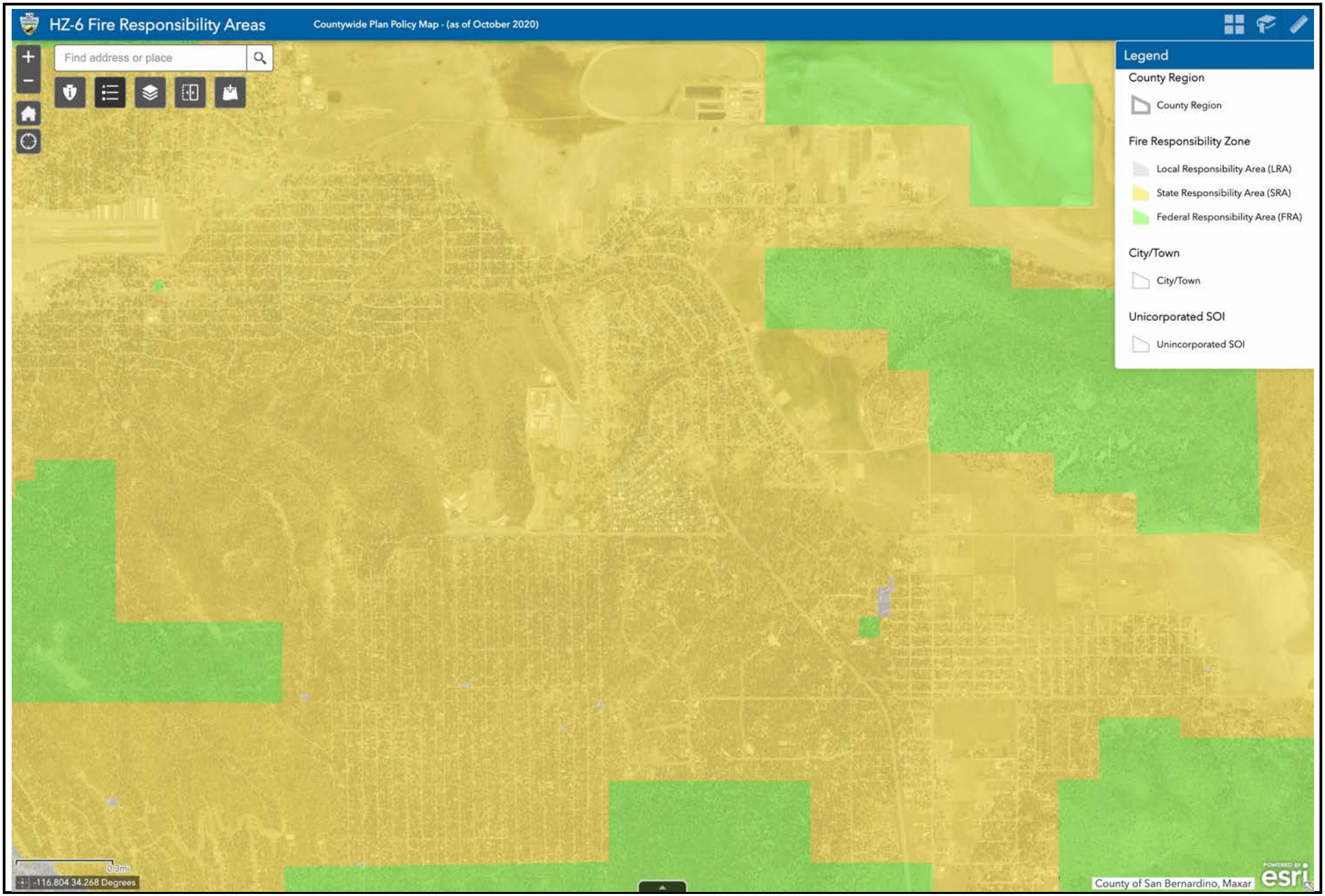


FIGURE IX-5

Tom Dodson & Associates
Environmental Consultants

Fire Responsibility Areas



FIGURE X-1

Tom Dodson & Associates
Environmental Consultants

FEMA

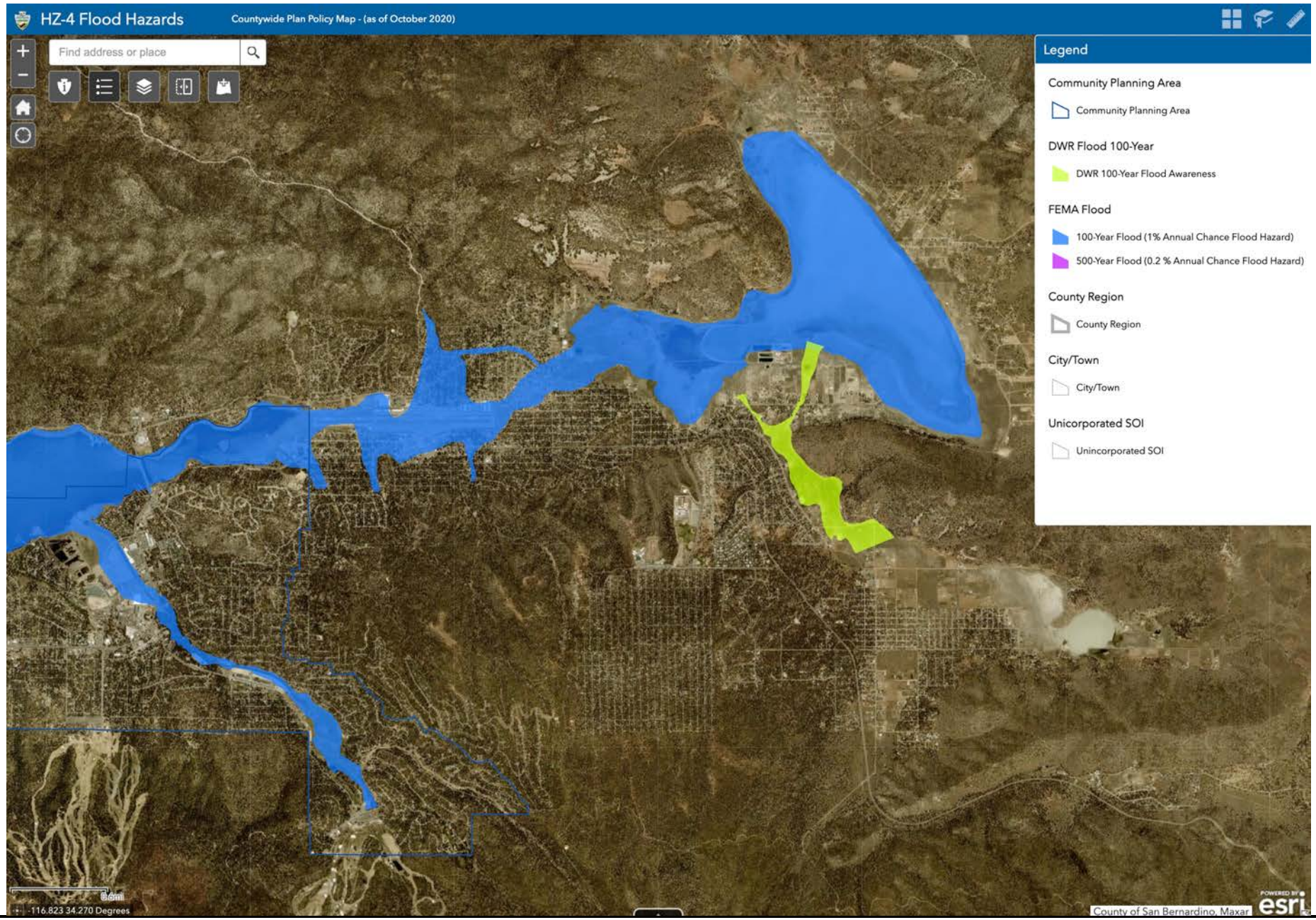


FIGURE IX-2

Tom Dodson & Associates
Environmental Consultants

Flood Hazards

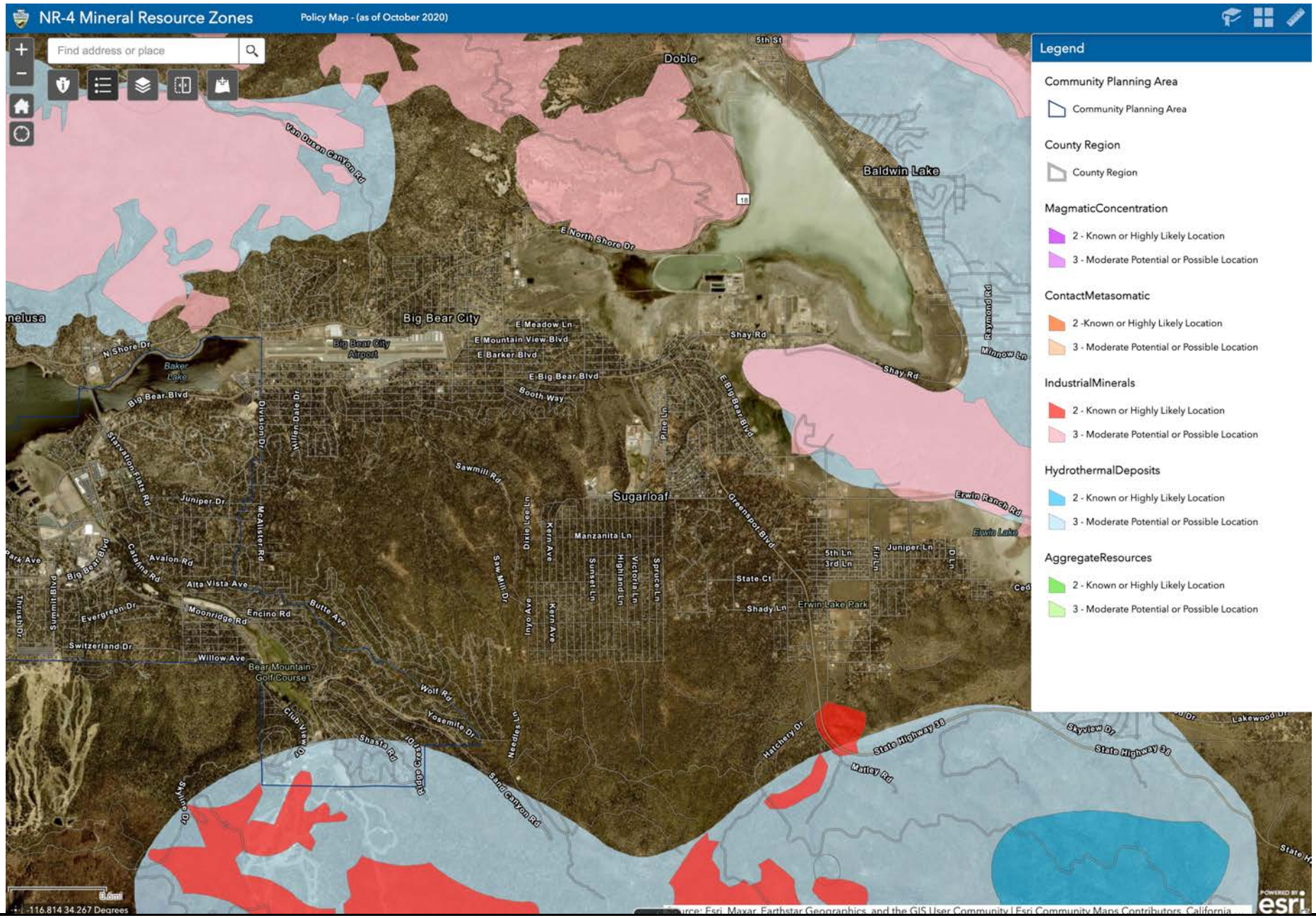


FIGURE XII-1

Tom Dodson & Associates
Environmental Consultants

Mineral Resource Zones

Noise Measurement Location Map



FIGURE XIII-1

Tom Dodson & Associates
Environmental Consultants

Noise Measurement Location Map

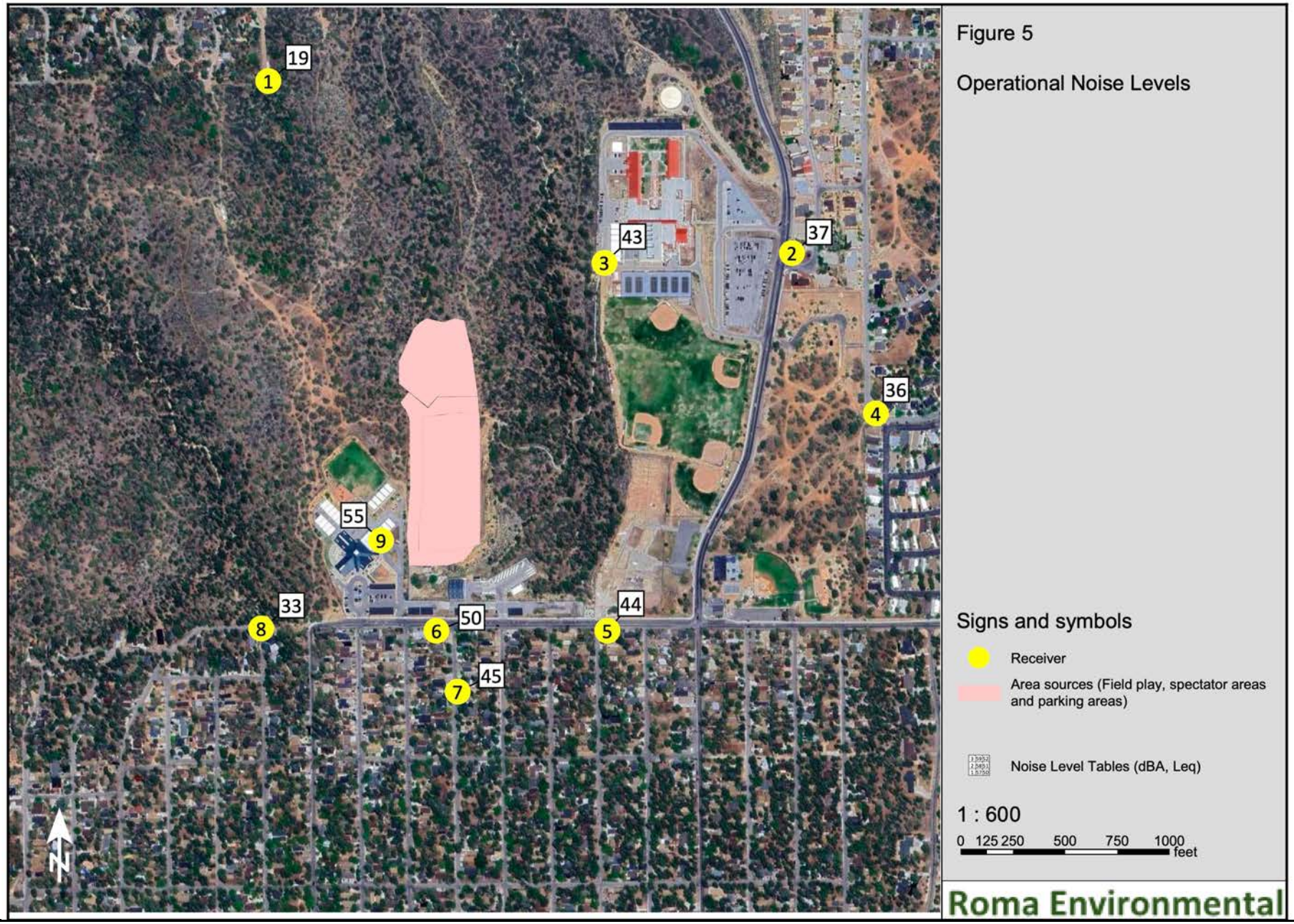


FIGURE XIII-2

Tom Dodson & Associates
Environmental Consultants

Operational Noise Levels

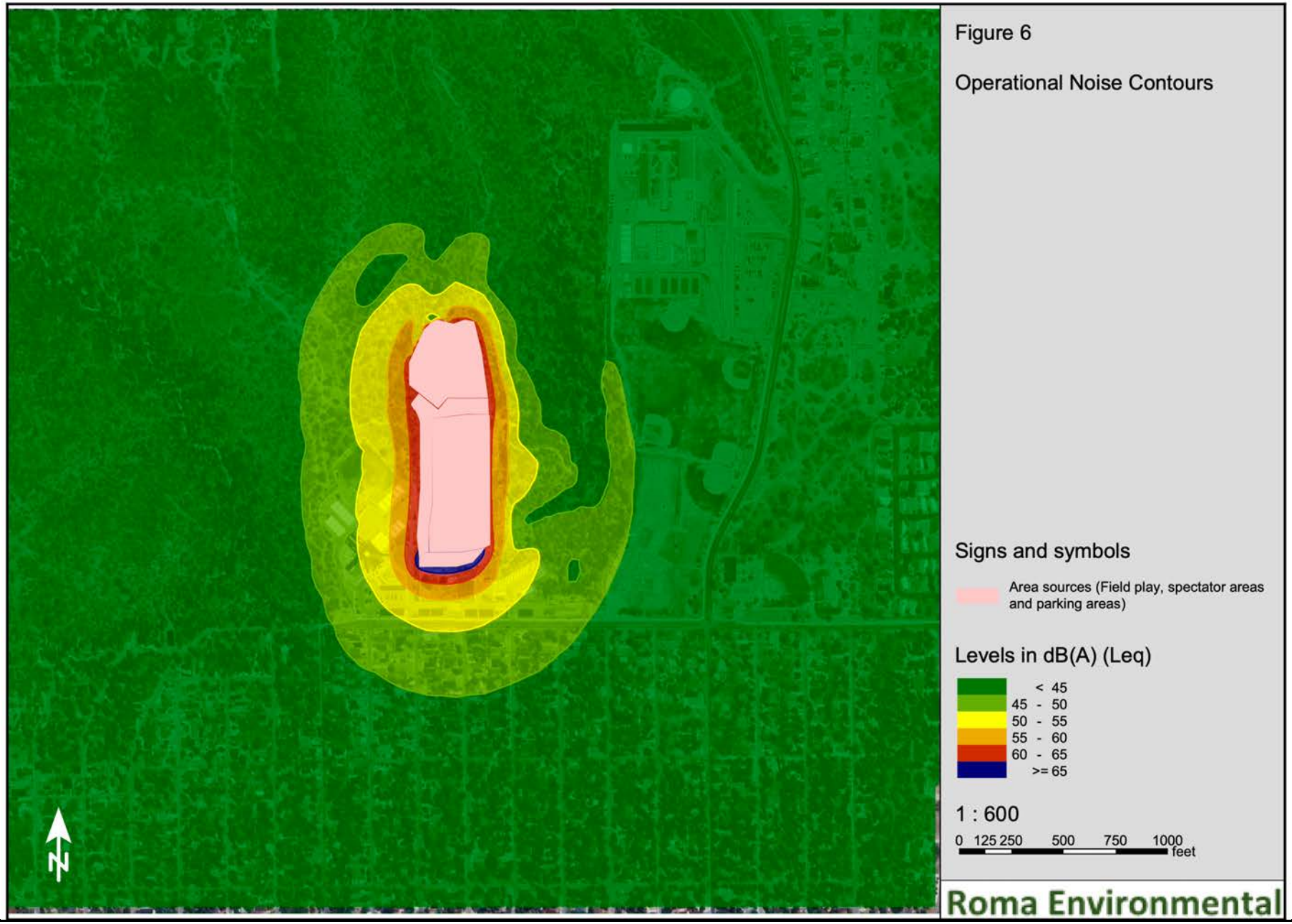


FIGURE XIII-1

Tom Dodson & Associates
Environmental Consultants

Operational Noise Contours

APPENDIX 1

GRADING PLANS

ROUGH GRADING PLANS
BIG BEAR HIGH SCHOOL
TRACK FIELD REPLACEMENT

LEGAL DESCRIPTION

PORTION OF THE SOUTHEAST 1/4 OF SECTION 13, T2N. R1E, SBM, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA.

BASIS OF BEARINGS

BASIS OF BEARINGS: THE BEARINGS HEREON ARE BASED ON THE BEARING OF N89°15'19"W BETWEEN CORS STATION P470 (PID DH4099) AND CORS STATION P610 (DN7440).

BENCHMARK

BENCHMARK: #123 PER BIG BEAR CITY BENCHMARK MAP. FOUND BOAT SPIKE IN 36" PINE, 20 TO 30' NW OF THE SE CORNER OF SECTION 13, T2N, R1E, SBM.
ELEVATION: 6917.75

TBM-1 PK NAIL SET FOR TARGET NO. 104
ELEVATION: 6924.91

SOURCE OF TOPOGRAPHY

THE EXISTING TOPOGRAPHY SHOWN ON THIS EXHIBIT HAS BEEN COMPLIED PHOTOGRAMMETRICALLY BY ROBERT J. LUNG & ASSOCIATES. BASED ON AERIAL PHOTOGRAPHY DATED 06/10/2020

ESTIMATED START/COMPLETION OF CONSTRUCTION

START: MAY 2023
COMPLETION: AUGUST 2023

ABBREVIATIONS

AC	ASPHALT PAVEMENT	MAX.	MAXIMUM
ALIGN	ALIGNMENT	MIN.	MINIMUM
APN	ASSESSOR'S PARCEL NUMBER	MOC	MIDDLE OF CURVE
BC	BEGIN OF CURVE	OH	OVERHEAD
BEG	BEGIN	OR	OFFICIAL RECORDS
BNDY	BOUNDARY	PA	PLANTER AREA
BS	BOTTOM STEP	PI	POINT OF INTERSECTION
BVC	BEGIN VERTICAL CURVE	PIV	POINT OF VERTICAL INTERSECTION
CL, ℄	CENTERLINE	PROP	PROPOSED
CMP	CORRUGATED METAL PIPE	PRVC	POINT OF REVERSE VERTICAL CURVE
CNTR.	CENTER	PT	POINT
DOC#	COCUMENT NUMBER	R/W	RIGHT OF WAY
DWY	DRIVEWAY	RD	ROAD
EA	EACH	RSB	RECORD OF SURVEY BOOK
EC	END OF CURVE	STD.	STANDARD
EG	EXISITNG GRADE	SF	SQUARE FEET
ELEV	ELEVATION	ST.	STREET
E'LY	EASTERLY	STA.	STATION
EOP	EDGE OF PAVEMENT	TAN	TANGENT
EVC	END VERTICAL CURVE	TB	TOP OF BERM
E-W	EAST-WEST	TD	TOP OF DIKE
EX.	EXISTING	TF	TOP OF FOOTING
FG	FINISHED GRADE	TG	TOP OF GRATE
FS	FINISHED SURFACE	TRW	TOP OF RETAINING WALL
GB	GRADE BREAK	TS	TOP STEP
GFF	GARAGE FINISHED FLOOR	TW	TOP OF WALL
HDWL	HEADWALL	VC	VERTICAL CURVE
HP	HIGH POINT	VIF	VERIFY IN FIELD
LF	LINEAR FEET	W'LY	WESTERLY
LP	LOW POINT		

LEGEND

–1550–	PROPOSED 5' CONTOUR		PROPOSED WROUGHT IRON FENCE
1549	PROPOSED 1' CONTOUR		EXISTING FIRE HYDRANT
(1550)	EXISTING 5' CONTOUR		EXISTING UNKNOWN STRUCTURE
(1549)	EXISTING 1' CONTOUR		EXISTING STRUCTURE
	EXISTING EDGE OF PAVEMENT		EXISTING TREE
	WATER SERVICE	XX.X	SLOPE
	SEWER SERVICE	2	LOT NUMBER
	FIRE HYDRANT	XX.X	PAD ELEVATION
	PROPOSED FENCE	PLAN 1R	PLAN NUMBER
	SWALE FLOW LINE		32W LED ST. LIGHT
	PIPE BELOW SWALE		41W LED ST. LIGHT
PP#A228	EXISTING POWER POLE		
	PROPOSED WALL		

PROFESSIONAL ENGINEER'S NOTICE TO CONTRACTOR

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS" OF THE U.S. DEPARTMENT OF LABOR AND THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS "CONSTRUCTION SAFETY ORDERS." THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTORS AND SUBCONTRACTORS COMPLIANCE WITH SAID REGULATIONS AND ORDERS.

CONTRACTOR FURTHER AGREES THAT HE SHALL ASSUMEN SOLE AND COMPLETE RESPONSIBILITY FOR JOB-SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE CITY, THE OWNER AND THE CIVIL ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

THE EXISTENCE AND APPROXIMATE LOCATIONS OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. THE CIVIL ENGINEER ASSUMES NO LIABILITY LOCATION OF SAID LINES NOR FOR UTILITY OR IRRIGATION LINES WHOSE LOCATIONS ARE NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY AND IRRIGATION COMPANIES PRIOR TO WORK OR EXCAVATION TO DETERMINE THE EXACT LOCATIONS OF ALL LINES AFFECTING THIS WORK, WHETHER OR NOT SHOWN HEREON, AND FOR ANY DAMAGE OR PROTECTION TO THESE LINES.

CONSTRUCTION NOTES & QUANTITIES ESTIMATE

1	CONSTRUCT TERRACE DRAIN PER DETAIL THIS SHEET	283	LF
2	CONSTRUCT CONCRETE BLOCK DIVERTER (SPLASH) WALL PER THIS SHEET	36	LF
3	CONSTRUCT ASPHALT PAVEMENT (3" AC OVER NATIVE COMPACTED SOIL)	10,347	SF
4	CONSTRUCT DOWN DRAIN PER DETAIL THIS SHEET	509	LF
5	RELOCATE STRUCTURE	3	EA
6	REMOVE POLE	5	EA
7	REMOVE TRACK CURB	3051	LF
8	REMOVE COVERED VAULTS	2	EA
9	REMOVE INTERCEPTOR DRAIN	14	LF
10	REMOVE ASPHALT PAVEMENT	3535	SF
11	REMOVE SIGN	1	EA
12	PROTECT SIDEWALK IN PLACE	-	-
13	RELOCATE METER	1	EA
14	REMOVE CONCRETE SIDEWALK	170	SF
15	RELOCATE CHAIN LINK FENCE	545	LF
16	REMOVE CHAIN LINK FENCE	403	LF
17	CONSTRUCT UNPAVED PARKING AREA	80,464	SF
18	CONSTRUCT OUTLET PAD PER DETAIL THIS SHEET	150	SF

EARTHWORK QUANTITIES ESTIMATE

CUT	37,128 CU YD
FILL	38,846 CU YD
NET FILL	1,718 CU YD

EROSION CONTROL NOTES & QUANTITIES ESTIMATE

NOTE: ALL BMPs LISTED ARE PER CALIFORNIA STORMWATER QUALITY ASSOCIATION BEST MANAGEMENT PRACTICE HANDBOOK, (CONSTRUCTION, JULY 2012)

1	EC-03	HYDRAULIC MULCH	45,850	SF
2	EC-04	HYDROSEED	45,850	SF
3	EC-09	EARTH DIKES	-	SF
4	EC-10	VELOCITY DISSIPATION DEVICES	-	EA
5	SE-01	SILT FENCE	3,693	LF
6	SE-03	SEDIMENT TRAP	-	EA
7	SE-05	FIBER ROLLS	2,063	LF
8	SE-06	GRAVEL BAG BERM	308	LF
9	SE-10	STORM DRAIN INLET PROTECTION	2	EA
10	TC-01	STABILIZED CONSTRUCTION ENTRANCE AND EXIT	1	EA

NOTICE TO CONTRACTOR : THE FURNISHING OF THE ABOVE TABLE OF PROBABLE QUANTITIES DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO DERIVE HIS OWN ESTIMATE OF CONSTRUCTION QUANTITIES AND IS ONLY SUPPLIED AS AN AID TO THE CONTRACTOR. THE FIRM OF HICKS AND HARTWICK DOES NOT WARRANT THAT THIS IS A COMPLETE LIST OF QUANTITIES TO COMPLETE THE WORK SHOWN HEREON.

GENERAL GRADING NOTES

1. ANY MODIFICATIONS OF OR CHANGES IN APPROVED GRADING PLANS MUST BE APPROVED BY THE CITY BUILDING OFFICIAL.
2. A COPY OF THE GRADING PERMIT AND APPROVED GRADING PLAN MUST BE IN THE POSSESSION OF A RESPONSIBLE PERSON AND AVAILABLE AT THE SITE WHILE WORK IS IN PROGRESS.
3. ENGINEER MUST SET GRADE STAKES FOR ALL DRAINAGE DEVICES AND OBTAIN INSPECTION APPROVAL BEFORE POURING.
4. PROVISIONS SHALL BE MADE FOR CONTRIBUTORY DRAINAGE AT ALL TIMES.
5. SECURE PERMISSION FROM CITY ENGINEER, EASEMENT GRANTEE, STATE HIGHWAY DEPARTMENT, AND/OR HOMEOWNERS ASSOCIATION FOR CONSTRUCTION, GRADING, AND/OR DISCHARGE OF DRAINAGE WITHIN STREET RIGHT-OF-WAY.
6. GRADING SHALL NOT BE STARTED WITHOUT FIRST NOTIFYING THE GRADING INSPECTOR.
7. CUT AND FILL SLOPES SHALL BE NO STEEPER THAN 2 UNITS HORIZONTAL TO 1 UNIT VERTICAL (2: 1), EXCEPT WHERE SPECIFICALLY APPROVED OTHERWISE.
8. FILLS SHALL BE COMPACTED THROUGHOUT TO A MINIMUM OF 90% RELATIVE COMPACTION. AGGREGATE BASE FOR ASPHALTIC AREAS SHALL BE COMPACTED TO MINIMUM OF 95% RELATIVE COMPACTION. NO ROCKS GREATER THAN 6 INCHES IN DIAMETER MAY BE PLACED IN FILL.
9. AREAS TO RECEIVE FILL SHALL BE PROPERLY PREPARED AND APPROVED, IN WRITING, BY THE SOIL ENGINEER AND THE BUILDING OFFICIAL PRIOR TO PLACING FILL.
10. FILL SHALL BE BENCHED INTO COMPETENT MATERIAL.
11. ALL EXISTING FILLS SHALL BE APPROVED BY THE BUILDING OFFICIAL OR REMOVED PRIOR TO PLACING ADDITIONAL FILLS.
12. STOCK PILING OF EXCESS MATERIAL SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO EXCAVATION.
13. CLEAR AND REMOVE FROM SITE ALL DEBRIS, EXCEPTING FOR EXISTING TREES IN DESIGNATED LANDSCAPE AREAS; STRIP SITE OF VEGETATION, LARGE ROOTS, SURFACE TRASH AND ROCKS. UNDER NO CIRCUMSTANCES SHALL THE CLEAN BEAR SITES BE USED FOR DISPOSAL. VIOLATORS ARE SUBJECT TO A $500.00 FINE.
14. ALL TRENCH BACKFILLS SHALL BE TESTED AND APPROVED BY THE SOIL ENGINEER.
15. THE ENGINEERING GEOLOGIST AND SOIL ENGINEER SHALL, AFTER CLEARING AND PRIOR TO THE PLACEMENT OF FILL IN CANYONS, INSPECT EACH CANYON FOR AREAS OF ADVERSE STABILITY AND TO DETERMINE THE PRESENCE OR ABSENCE OF SUBSURFACE WATER OR SPRING FLOW. IF NEEDED, SUBDRAINS WILL BE DESIGNED AND CONSTRUCTED PRIOR TO THE PLACEMENT OF FILL IN EACH RESPECTIVE CANYON.
16. SUBDRAIN OUTLETS SHALL BE COMPLETED AT THE BEGINNING OF THE SUBDRAIN CONSTRUCTION.
17. THE EXACT LOCATION OF THE SUBDRAINS SHALL BE SURVEYED IN THE FIELD FOR LINE/GRADE AND REFLECTED ON AS-GRADED PLANS.
18. ALL CUT SLOPES SHALL BE INVESTIGATED BOTH DURING AND AFTER GRADING BY THE ENGINEERING GEOLOGIST TO DETERMINE IF ANY SLOPE STABILITY PROBLEM EXISTS. SHOULD EXCAVATION DISCLOSE ANY GEOLOGICAL HAZARDS OR POTENTIAL GEOLOGICAL HAZARDS, THE ENGINEERING GEOLOGIST SHALL SUBMIT RECOMMENDED REMEDIATION TO THE BUILDING OFFICIAL FOR APPROVAL.
19. WHERE SUPPORT OR BUTTRESSING OF CUT AND NATURAL SLOPES IS DETERMINED TO BE NECESSARY BY THE ENGINEERING GEOLOGIST AND SOIL ENGINEER, THE SOIL ENGINEER SHALL SUBMIT DESIGN, LOCATIONS, AND CALCULATIONS TO THE BUILDING OFFICIAL PRIOR TO CONSTRUCTION. THE ENGINEERING GEOLOGIST AND SOIL ENGINEER SHALL INSPECT AND CONTROL THE CONSTRUCTION OF THE BUTTRESSING AND CERTIFY TO THE STABILITY OF THE SLOPE AND ADJACENT STRUCTURES UPON COMPLETION.
20. SUBDRAIN OUTLETS SHALL BE COMPLETED AT THE BEGINNING OF THE SUBDRAIN CONSTRUCTION.
21. THE ENGINEERING GEOLOGIST SHALL PERFORM PERIODIC INSPECTIONS AND SUBMIT A COMPLETE REPORT AND MAP UPON COMPLETION OF THE ROUGH GRADING.
22. THE COMPACTION REPORT AND APPROVAL FROM THE SOIL ENGINEER SHALL INDICATE THE TYPE OF FIELD TESTING PERFORMED, EACH TEST SHALL BE IDENTIFIED WITH THE METHOD OF OBTAINING THE IN-PLACE DENSITY, WHETHER SAND CONE OR NUCLEAR GAUGE, AND SHALL BE SO NOTED FOR EACH TEST.
23. THE GRADING CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT VERIFYING THAT THE WORK DONE UNDER HIS DIRECTION WAS PERFORMED IN ACCORDANCE WITH THE APPROVED PLANS AND REQUIREMENTS OF APPENDIX 33 OF THE CITY OF BIG BEAR LAKE BUILDING CODE OR DESCRIBING ALL VARIANCES FROM THE APPROVED PLANS AND REQUIREMENTS OF THE CODE.
24. THE UNDERSIGNED DESIGN ENGINEER VERIFIES THAT THIS GRADING PLAN WAS PREPARED UNDER MY SUPERVISION IN ACCORDANCE WITH THE CITY OF BIG BEAR LAKE BUILDING CODE. ALL SOILS ENGINEER AND ENGINEERING GEOLOGY RECOMMENDATIONS WERE INCORPORATED IN THE PLAN. (MUST BE SIGNED AND DATED BY THE DESIGN ENGINEER.)
25. GRADING OPERATIONS MUST BE CONDUCTED UNDER PERIODIC GEOLOGIC INSPECTION WITH INSPECTION REPORTS TO BE SUBMITTED TO THE BUILDING DEPARTMENT.
26. EXPORT SOIL MUST BE TRANSPORTED TO A LEGAL DUMP OR TO A PERMITTED SITE SHOWN CLEARLY ON APPROVED PLANS.
27. SLOPES SHALL BE PLANTED WITH AN APPROVED PLANT MATERIAL AND PROVIDED WITH AN APPROVED IRRIGATION SYSTEM, UNLESS AN ALTERNATIVE HAS BEEN APPROVED BY THE CITY.
28. THE ENGINEER SHALL SUBMIT A LETTER OF CERTIFICATION TO THE BUILDING OFFICIAL STATING THAT THE GRADING WAS DONE IN COMPLIANCE WITH THE APPROVED GRADING PLAN.
29. ANY CONTRACTOR PERFORMING WORK ON THIS PROJECT SHALL FAMILIARIZE HIMSELF WITH THE SITE AND SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING FACILITIES RESULTING DIRECTLY OR INDIRECTLY FORM HIS OPERATION, WHETHER OR NOT SUCH FACILITIES ARE SHOWN ON THESE PLANS. PUBLIC STREETS SHALL BE KEPT CLEAN FROM DIRT AND/OR DEBRIS. THE GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS INCURRED IN STREET CLEANING NECESSITATED BY HIS OPERATION.
30. ALL ROADS USED BY CONSTRUCTION TRAFFIC SHALL BE KEPT CLEAR OF CONSTRUCTION DEBRIS RELATED TO THE SITE CONSTRUCTION. IF DEBRIS FROM THE PROJECT IS LEFT ON THE ROAD OVERNIGHT, THE CITY MAY CLEAN THE ROAD AND CHARGE THE PERMIT HOLDER A MINIMUM FEE OF $100.00 PLUS $100 PER HOUR SPENT CLEANING THE ROAD.
31. PRELIMINARY SOIL AND GEOLOGY REPORTS AND ALL SUBSEQUENT REPORTS, AS APPROVED BY THE CITY OF BIG BEAR LAKE, ARE CONSIDERED A PART OF THE APPROVED GRADING PLAN. ALL RECOMMENDATIONS CONTAINED ARE TO BE COMPLIED WITH OR REVISIONS SUBMITTED FOR REVIEW.
32. ALL EXISTING DRAINAGE COURSES THROUGH THIS SITE SHALL REMAIN OPEN UNTIL FACILITIES TO HANDLE STORM WATER ARE APPROVED AND FUNCTIONAL; HOWEVER, IN ANY CASE, THE PERMITTEE SHALL BE HELD LIABLE FOR ANY DAMAGE DUE TO OBSTRUCTING NATURAL DRAINAGE PATTERNS.
33. ROOF GUTTERS SHALL BE INSTALLED TO PREVENT ROOF DRAINAGE FROM FALLING ON MANUFACTURED SLOPES. GUTTERS SHALL BE CONNECTED TO NON-EROSIVE PIPING OR OTHER METHOD ACCEPTABLE TO THE BUILDING OFFICIAL.
34. ANY EXCAVATIONS ADJACENT TO OTHER PROPERTY OR STRUCTURES ARE SUBJECT TO THE PROVISIONS OF CALIFORNIA CIVIL CODE, SECTION 832, AND IS THE RESPONSIBILITY OF THE PERMITTEE AND/OR OWNER.

GENERAL PLANTING AND IRRIGATION NOTES

35. ALL CUT AND FILL SLOPES WILL BE PLANTED WITH AN APPROVED GROUND COVER AND PROVIDED WITH AN IRRIGATION SYSTEM AS SOON AS PRACTICAL DURING GRADING. IN ADDITION TO THE GROUND COVER PLANTS SHALL BE INSTALLED ON ALL SLOPES. ALL PLANTING SHALL BE OF A TYPE APPROVED BY THE CITY.
36. THE PLANS FOR A DESIGNED IRRIGATION SYSTEM FOR FULL COVERAGE OF ALL PORTION OF THE SLOPES SHALL BE SUBMITTED AND APPROVED PRIOR TO ROUGH GRADING APPROVAL BY THE CITY.
37. PLANTING AND IRRIGATION PLANS FOR SLOPES MUST BE PREPARED AND SIGNED BY A CIVIL ENGINEER OR LANDSCAPE ARCHITECT.
38. FINISH GRADING WILL BE COMPLETED AND APPROVED AND SLOPE PLANTING AND IRRIGATION SYSTEMS INSTALLED BEFORE OCCUPANCY OF BUILDINGS.

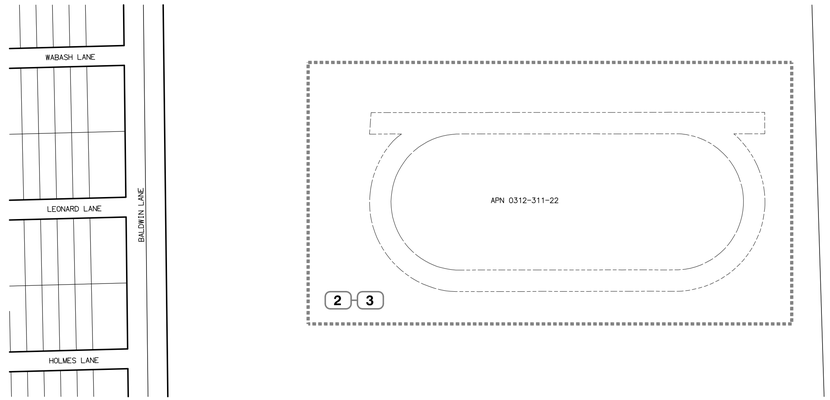
EROSION CONTROL PROVISIONS CERTIFICATE

39. STORM WATER MANAGEMENT PLANS INCORPORATING ALL THE PROVISIONS OF THE CITY OF BIG BEAR LAKE MUNICIPAL CODE SHALL BE SUBMITTED AND APPROVED PRIOR TO PERMIT ISSUANCE. SUCH PLANS ARE TO INCLUDE CONSTRUCTION AND POST CONSTRUCTION PHASE PROVISIONS REFLECTING 'BEST MANAGEMENT PRACTICES'.
40. SPECIFY ON PLANS: IN CASE OF EMERGENCY CALL: STEVE FOULKES
WORK TELEPHONE NUMBER: 951-318-1970
HOME TELEPHONE NUMBER: 909-866-4473
41. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIME DURING THE RAINY SEASON. NECESSARY MATERIALS SHALL BE AVAILABLE ON-SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
42. EROSION CONTROL DEVICES SHALL NOT BE MOVED OR MODIFIED WITHOUT THE APPROVAL OF THE CITY BUILDING OFFICIAL.
43. STOCKPILED MATERIALS SHALL BE PLACED TO BE ACCESSIBLE BY VEHICLE DURING PERIODS OF PRECIPITATION AND PROTECTED FROM PRECIPITATION AND RUNOFF AT THE END OF EACH WORKING DAY.
44. ALL REMOVABLE EROSION PROTECTIVE DEVICES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY.
45. AFTER A RAINSTORM ALL SILT AND DEBRIS SHALL BE REMOVED FROM STREETS, CHECK BERMS, AND BASINS. NO STANDING WATER SHALL BE LEFT IN OPEN TRENCHES.
46. GRADED AREAS ON THE PERMITTED AREA PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPES AT THE CONCLUSION OF EACH WORKING DAY. DRAINAGE TO BE DIRECTED TOWARD DESILTING FACILITIES.
47. ISSUANCE OF A GRADING PERMIT DOES NOT ELIMINATE THE NEED FOR PERMITS FROM OTHER AGENCIES WITH REGULATORY RESPONSIBILITIES FOR CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE WORK AUTHORIZED ON THIS PLAN.
48. EROSION CONTROL MEASURES AND PLANTING SHALL BE INSTALLED AND MAINTAINED AS SOON AS PRACTICAL, IN AREAS NOT SUBJECT TO FREQUENT TRAFFIC.
49. ISSUANCE OF A GRADING PERMIT DOES NOT ELIMINATE THE NEED FOR PERMITS FROM OTHER AGENCIES WITH REGULATORY RESPONSIBILITIES FOR CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE WORK AUTHORIZED ON THIS PLAN.
50. THE UNDERSIGNED CIVIL ENGINEER AND CONTRACTOR SHALL INSPECT THE EROSION CONTROL WORK AND ENSURE THAT THE WORK IS IN ACCORDANCE WITH THE APPROVED PLANS.

SIGNATURE: _____ DATE _____
ENGINEER

SIGNATURE: _____ DATE _____
CONTRACTOR

INDEX MAP

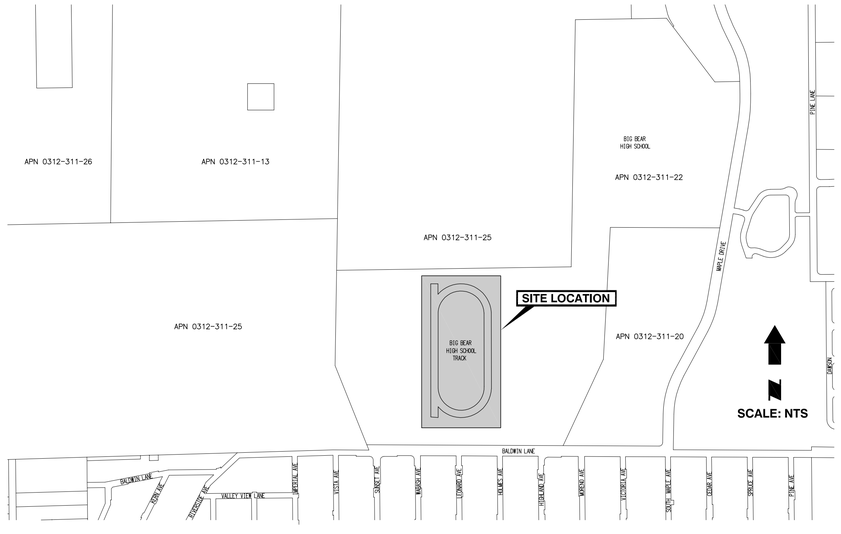


INDEX LEGEND

- (#) INDICATES SHEET NUMBER
- (1) TITLE SHEET
- (2) GRADING PLAN/DEMOLITION PLAN
- (3) EROSION CONTROL PLAN

NOT TO SCALE

VICINITY MAP



Underground Service Alert
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1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG

BENCHMARK
BENCH MARK: #123 PER BIG BEAR CITY BENCHMARK MAP, FOUND BOAT SPIKE IN 36" PINE, 20' TO 30' NW OF THE SE CORNER OF SECTION 13, T2N, R1E, SBM.
ELEVATION: 6917.75
TBM-1 PK NAIL SET FOR TARGET NO. 104
ELEVATION: 6924.91

PREPARED BY:
MATTHEW C. HICKS • RCE 63494 DATE
Hicks & Hartwick, Inc.
CIVIL ENGINEERS - LAND SURVEYORS
37 East Olive Avenue, Suite C
REDLANDS, CALIFORNIA
(909) 793-2257

REGISTERED PROFESSIONAL ENGINEER MATTHEW C. HICKS No. C 63494 CIVIL STATE OF CALIFORNIA

MARK	REVISIONS	APPR	DATE

COUNTY OF SAN BERNARDINO
DEPARTMENT OF PUBLIC WORKS

MOHAMMAD SIDDIQUI DATE
ENGINEER, TRAFFIC DIVISION

GRANT MANN DATE
TRAFFIC DIVISION CHIEF

RECOMMENDED BY:

APPROVED BY:

SAMEH BASTA DATE
LAND DEVELOPMENT MANAGER

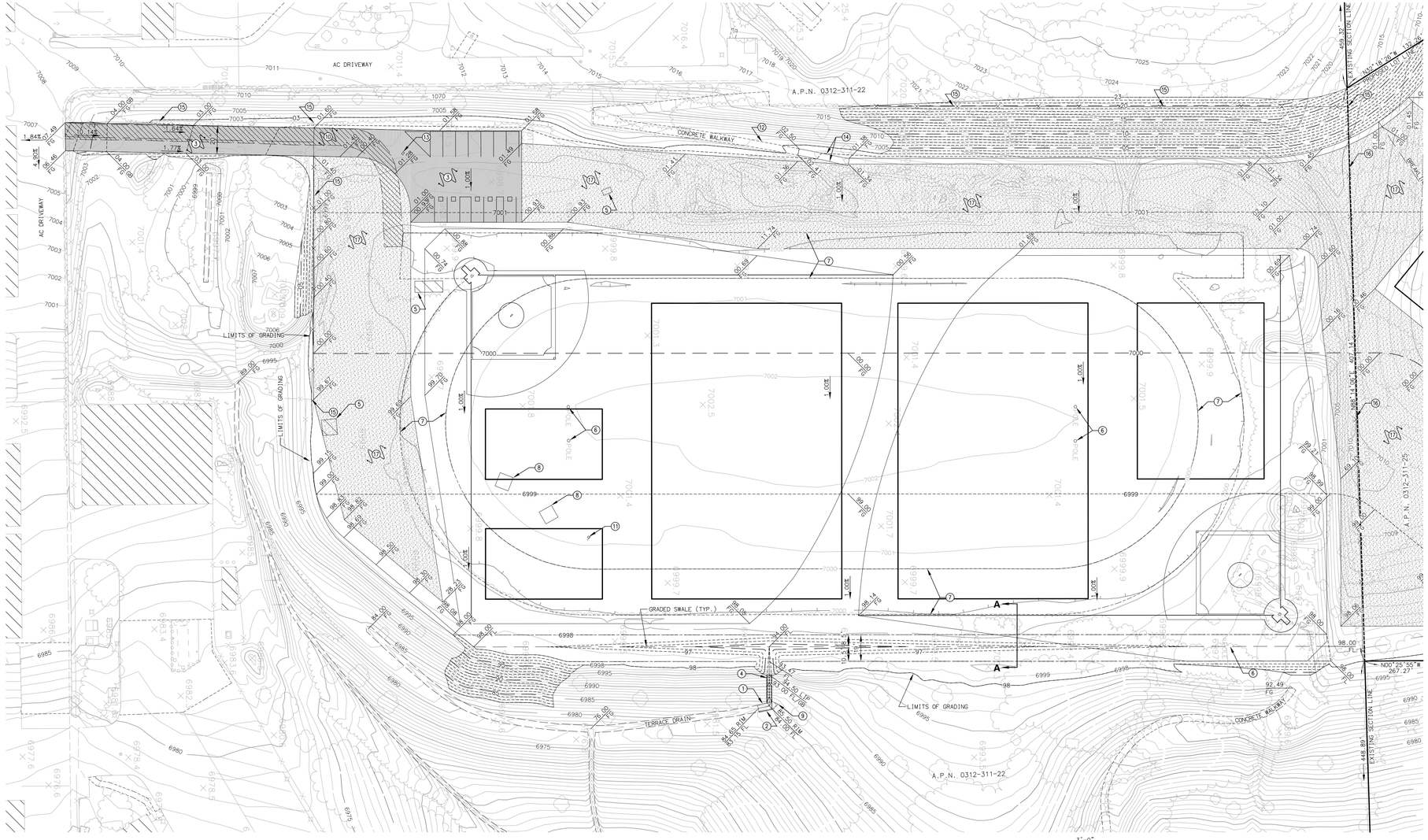
PRECISE GRADING PLAN

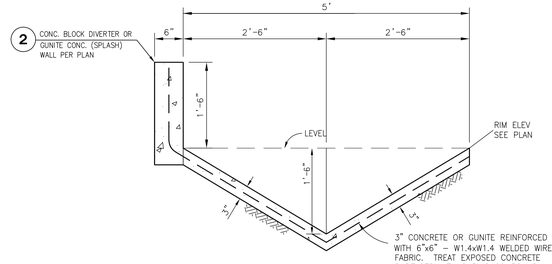
BIG BEAR HIGH SCHOOL TRACK FIELD REPLACEMENT

TITLE SHEET

ROAD NO. ******
FILE NO. ***-***
SHEET 1 OF 4

\\171\cocdata\L\10003\L10193 ROC Support\e\LPA\DE\L 10193_BM_TRACK-01-PLAN-C.dwg 2:13pm - Jan 26, 2024



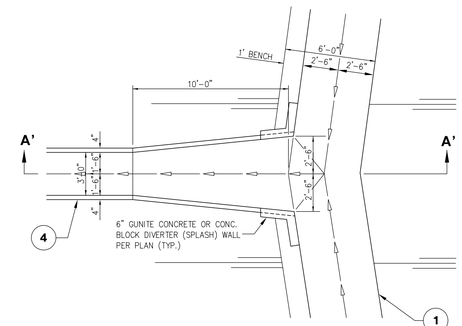


NOTES:

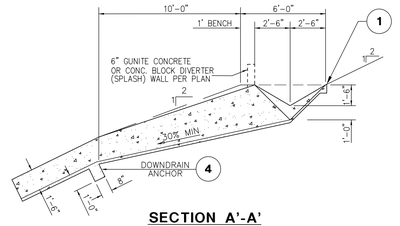
1. GROUND TO BE PRE-WETTED TO THE SATISFACTION OF THE GRADING INSPECTOR PRIOR TO PLACEMENT OF CONCRETE OR GUNITE.
2. "SACK RUB" CONCRETE MORTAR FINISH ON SPLASH WALL TO ACHIEVE SAME COLOR AND TEXTURE AS ADJACENT INTERCEPTOR DRAIN.

1 TERRACE DRAIN

NOT TO SCALE



PLAN



SECTION A'-A'

9 TERRACE DRAIN & DOWNDRAIN INTERSECTION

NOT TO SCALE

SYMBOL DESCRIPTION

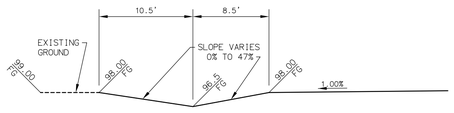
- CONSTRUCT NEW AC PAVING
- REMOVE EXISTING AC PAVING
- CONSTRUCT UNPAVED PARKING AREA

CONSTRUCTION NOTES

1. CONSTRUCT TERRACE DRAIN PER DETAIL THIS SHEET
2. CONSTRUCT CONCRETE BLOCK DIVERTER (SPLASH) WALL PER THIS SHEET
3. CONSTRUCT ASPHALT PAVEMENT (3" AC OVER NATIVE COMPACTED SOIL)
4. CONSTRUCT DOWN DRAIN PER DETAIL THIS SHEET
5. RELOCATE STRUCTURE
6. REMOVE POLE
7. REMOVE TRACK CURB
8. REMOVE COVERED VAULTS
9. REMOVE INTERCEPTOR DRAIN
10. REMOVE ASPHALT PAVEMENT
11. REMOVE SIGN
12. PROTECT SIDEWALK IN PLACE
13. RELOCATE METER
14. REMOVE CONCRETE SIDEWALK
15. RELOCATE CHAIN LINK FENCE
16. REMOVE CHAIN LINK FENCE
17. CONSTRUCT UNPAVED PARKING AREA
18. CONSTRUCT OUTLET PAD PER DETAIL THIS SHEET

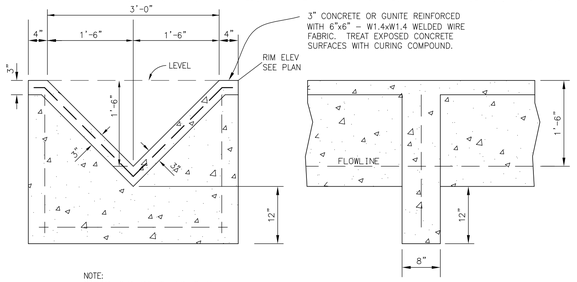
LEDGEND

FG	FINISH GRADE
FL	FLOWLINE
GB	GRADE BREAK
	SWALE FLOW LINE
	LIMITS OF GRADING LINE



SECTION A-A

NOT TO SCALE



NOTE:
GROUND TO BE PRE-WETTED TO THE SATISFACTION OF THE GRADING INSPECTOR PRIOR TO PLACEMENT OF CONCRETE.

INSTALL 8" CONCRETE ANCHOR WITH #4 REINFORCING BARS EVERY 10' OF VERTICAL HEIGHT OF DOWNDRAIN

4 DOWN DRAIN AND ANCHOR

NOT TO SCALE

SCALE: 1" = 40'

GRAPHIC SCALE

40 20 0 40 80 120

Underground Service Alert

DIG SAFE TOLL FREE

Call: TOLL FREE 1-800-227-2600

TWO WORKING DAYS BEFORE YOU DIG

BENCHMARK

BENCH MARK: #123 PER BIG BEAR CITY BENCHMARK MAP, FOUND BOAT SPIKE IN 36" PINE, 20' TO 30' NW OF THE SE CORNER OF SECTION 13, T2N, R1E, SBM.

ELEVATION: 6917.75

TBM-1 PK NAIL SET FOR TARGET NO. 104 ELEVATION: 6924.91

PREPARED BY:

MATTHEW C. HICKS • RCE 63494 DATE

Hicks & Hartwick, Inc.

CIVIL ENGINEERS - LAND SURVEYORS

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REGISTERED PROFESSIONAL ENGINEER MATTHEW C. HICKS No. C 63494 CIVIL STATE OF CALIFORNIA

MARK	REVISIONS	APPR	DATE

COUNTY OF SAN BERNARDINO
DEPARTMENT OF PUBLIC WORKS

MOHAMMAD SIDDIQUI ENGINEER, TRAFFIC DIVISION DATE

GRANT MANN TRAFFIC DIVISION CHIEF DATE

RECOMMENDED BY:

APPROVED BY:

SAMEH BASTA LAND DEVELOPMENT MANAGER DATE

PRECISE GRADING PLAN

BIG BEAR HIGH SCHOOL TRACK FIELD REPLACEMENT

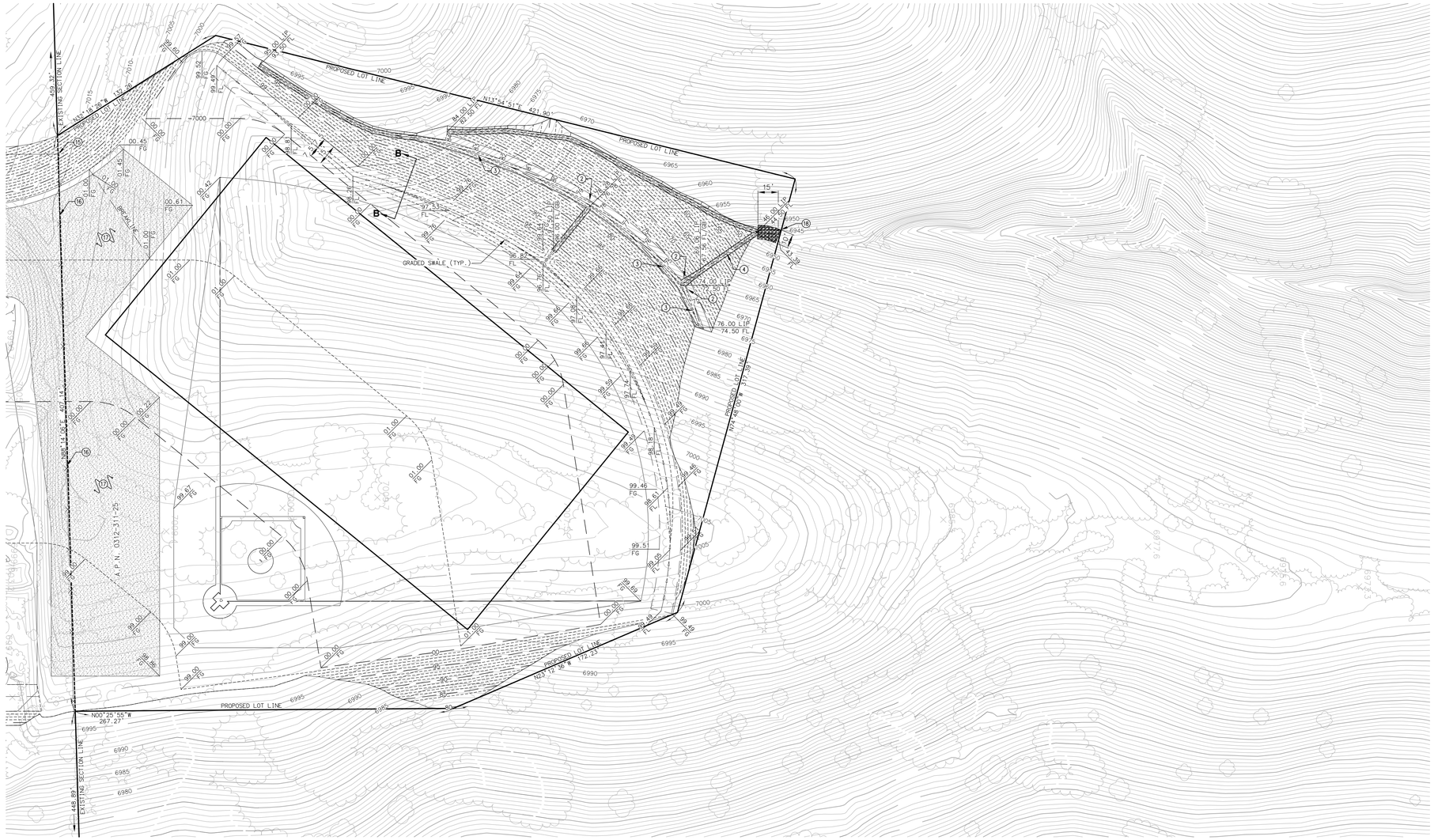
PRECISE GRADING PLAN DEMOLITION PLAN

ROAD NO. ******

FILE NO. ***_***

SHEET 2 OF 4

10193_GM_TRACK-02_PLAN-C.dwg - SHT02 8:36am - Jan 31, 2024 (c) Hicks & Hartwick, Inc.



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- CONSTRUCT UNPAVED PARKING AREA

CONSTRUCTION NOTES

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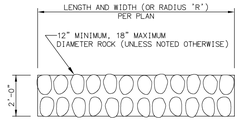
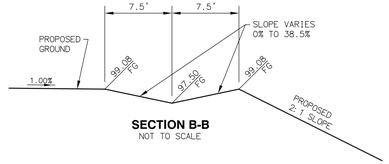
15. RELOCATE CHAIN LINK FENCE
16. REMOVE CHAIN LINK FENCE
17. CONSTRUCT UNPAVED PARKING AREA
18. CONSTRUCT OUTLET PAD PER DETAIL THIS SHEET

LEDGEND

FG	FINISH GRADE
FL	FLOWLINE
GB	GRADE BREAK
——•——•——	SWALE FLOW LINE
— — —|— —	LIMITS OF GRADING LINE



(18) OUTLET PAD DETAIL
NOT TO SCALE



SECTION B-B
NOT TO SCALE

SCALE: 1" = 40'

GRAPHIC SCALE

40 20 0 40 80 120

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ELEVATION: 6924.91

PREPARED BY:

MATTHEW C. HICKS • RCE 63494 DATE

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REGISTERED PROFESSIONAL ENGINEER MATTHEW C. HICKS No. C 63494 CIVIL STATE OF CALIFORNIA

MARK	REVISIONS	APPR	DATE

COUNTY OF SAN BERNARDINO
DEPARTMENT OF PUBLIC WORKS

MOHAMMAD SIDDIQUI DATE
ENGINEER, TRAFFIC DIVISION

GRANT MANN DATE
TRAFFIC DIVISION CHIEF

RECOMMENDED BY:

APPROVED BY:

SAMEH BASTA DATE
LAND DEVELOPMENT MANAGER

PRECISE GRADING PLAN

BIG BEAR HIGH SCHOOL TRACK FIELD REPLACEMENT

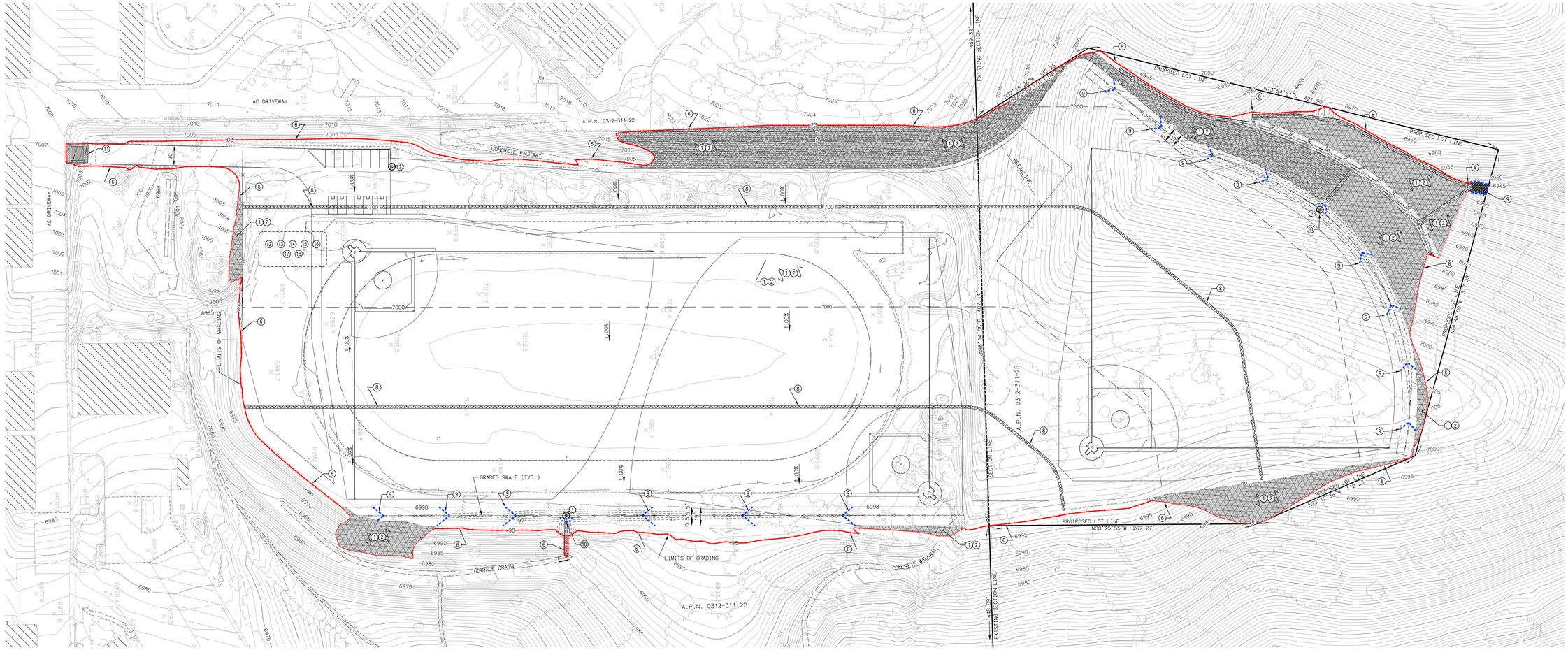
PRECISE GRADING PLAN DEMOLITION PLAN

ROAD NO. ******

FILE NO. ***-***

SHEET 3 OF 4

10193_GM_TRACK-03_PLAN-C.dwg : SHT03 8:34am – Jan 31, 2024 (c) Hicks & Hartwick, Inc.



EROSION CONTROL PLAN NOTES AND LEGEND

NOTE: ALL BMPs LISTED ARE PER CALIFORNIA STORMWATER QUALITY ASSOCIATION BEST MANAGEMENT PRACTICE HANDBOOK, (CONSTRUCTION, JULY 2012)

EROSION CONTROL BMPs

1. EC-03 HYDRAULIC MULCH
2. EC-04 HYDROSEED
3. EC-09 EARTH DIKES AND DRAINAGE SWALES {SWALES}
4. EC-10 VELOCITY DISSIPATION DEVICES {DIKES}
5. EC-15 SOIL PREPARATION-ROUGHENING

TEMPORARY SEDIMENT CONTROL BMPs

6. SE-01 SILT FENCE
7. SE-03 SEDIMENT TRAP
8. SE-05 FIBER ROLLS
9. SE-06 GRAVEL BAG BERM
10. SE-10 STORM DRAIN INLET PROTECTION
11. TC-01 STABILIZED CONSTRUCTION ENTRANCE AND EXIT

TEMPORARY NON-STORMWATER BMPs

12. NS-08 VEHICLE AND EQUIPMENT CLEANING
13. NS-09 VEHICLE AND EQUIPMENT FUELING
14. NS-10 VEHICLE AND EQUIPMENT MAINTENANCE

TEMPORARY MATERIALS MANAGEMENT BMPs

15. WM-01 MATERIAL DELIVERY AND STORAGE
16. WM-05 SOLID WASTE MANAGEMENT
17. WM-08 CONCRETE WASTE MANAGEMENT
18. WM-09 SANITARY-SEPTIC WASTE MANAGEMENT

MONITORING AND SAMPLING LOCATIONS

1. (P) STORMWATER DISCHARGE LOCATION
2. (P) UN-CONTAMINATED NON-VISIBLE RUN-OFF SAMPLE LOCATION
3. (P) CONTAMINATED NON-VISIBLE RUN-OFF SAMPLE LOCATION

SCALE: 1" = 50'

GRAPHIC SCALE

50 25 0 50 100 150

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PREPARED BY:

MATTHEW C. HICKS • RCE 63494 DATE

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MARK	REVISIONS	APPR	DATE

COUNTY OF SAN BERNARDINO
DEPARTMENT OF PUBLIC WORKS

MOHAMMAD SIDDIQUI DATE
ENGINEER, TRAFFIC DIVISION

GRANT MANN DATE
TRAFFIC DIVISION CHIEF

RECOMMENDED BY:

APPROVED BY:

SAMEH BASTA DATE
LAND DEVELOPMENT MANAGER

PRECISE GRADING PLAN

BIG BEAR HIGH SCHOOL TRACK FIELD REPLACEMENT

EROSION CONTROL PLAN

ROAD NO. ******

FILE NO. ***-***

SHEET 4 OF 4

10193_GM_TRACK-04_PLAN-C.dwg - SHT04 8:35am - Jan 31, 2024 (c) Hicks & Hartwick, Inc.

APPENDIX 2

AIR QUALITY AND GREENHOUSE GAS

MEMORANDUM

URBAN | CROSSROADS

DATE: August 29, 2024
TO: Kaitlyn Dodson-Hamilton, Tom Dodson & Associates
FROM: Haseeb Qureshi
Alyssa Barnett
JOB NO: 16142-03 AQ & GHG Assessment

YOUTH SPORTS CENTER AIR QUALITY & GREENHOUSE GAS ASSESSMENT

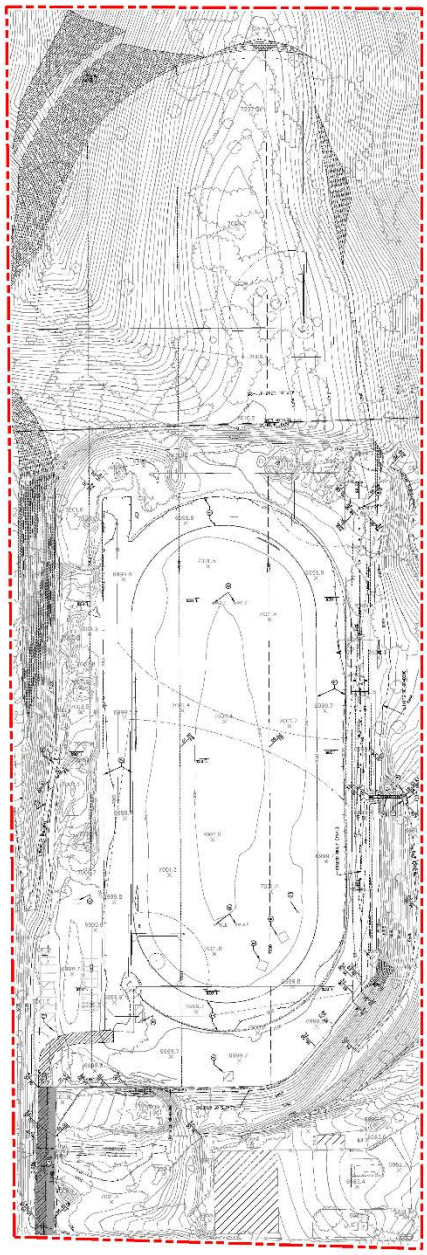
Kaitlyn Dodson-Hamilton

Urban Crossroads, Inc. is pleased to provide the following Air Quality & Greenhouse Gas Assessment for the Youth Sports Center (**Project**), which is located in the unincorporated community of Sugarloaf in Big Bear, California.

PROJECT OVERVIEW

It is our understanding that the project is to construct a three field multi-use sports complex within a 13.5-acre site. The Youth Sports Complex would include fields that would accommodate baseball, softball, and soccer. The Youth Sports Complex would be installed east of Baldwin Lane Elementary School. Access to the Youth Sports Complex would be through a new driveway along Baldwin Lane at the western boundary of the site. This improvement would include a 40' in length access road leading to a new parking area that would be adjacent to the southernmost field. The proposed Youth Sports Complex Project would provide approximately 150 parking spaces near the fields through creating 7 new paved parking spaces, 5 paved handicapped parking spaces and 80,500 square feet (SF) of unpaved parking areas. The access road and paved parking will create approximately 10,400 square feet of impervious area. The proposed project would include three backstops with associated fencing, portable toilets and 2 storage containers for equipment. The three fields will comprise approximately 250,000 SF of natural turf area. The fields will not contain nighttime lighting, as the fields will not be for utilization outside of daylight hours. A preliminary site plan for the proposed Project is shown on Exhibit 1.

EXHIBIT 1: SITE PLAN



LEGEND:
Site Boundary

SUMMARY OF FINDINGS

Results of the assessment indicate that the Project would result in a less than significant with respect to air quality and greenhouse gases (GHG).

PROJECT AIR QUALITY IMPACTS

AIR QUALITY SETTING

SOUTH COAST AIR BASIN (SCAB)

The Project site is located in the SCAB within the jurisdiction of South Coast Air Quality Management District (SCAQMD) (1). The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. As stated, the Project site is located within the SCAB, a 6,745-square-mile subregion of the SCAQMD, which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County.

The SCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Los Angeles County portion of the Mojave Desert Air Basin is bounded by the San Gabriel Mountains to the south and west, the Los Angeles / Kern County border to the north, and the Los Angeles / San Bernardino County border to the east. The Riverside County portion of the Salton Sea Air Basin is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley.

Regional Climate

The regional climate has a substantial influence on air quality in the SCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the SCAB vary from the low to mid 60s (degrees Fahrenheit [°F]). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide (SO_2) to sulfates (SO_4) is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71 percent (%) along the coast and 59% inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90% of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SCAB with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the SCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year there are approximately 10 hours of possible sunshine, and on the longest day of the year there are approximately 14½ hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as nitrogen oxides (NO_X) and carbon monoxide (CO) from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

Wind Patterns and Project Location

The distinctive climate of the Project area and the SCAB is determined by its terrain and geographical location. The SCAB is located in a coastal plain with connecting broad valleys and

low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter.

Wind patterns across the south coastal region are characterized by westerly and southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season.

Criteria Pollutants

Both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are ozone (O_3) (precursor emissions include NO_X and reactive organic gases (ROG), CO, particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The Riverside County portion of the SCAB is designated as a nonattainment area for the federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3, PM_{10}, and $PM_{2.5}$.

Toxic Air Contaminants (TAC) Trend

In 1984, as a result of public concern for exposure to airborne carcinogens, CARB adopted regulations to reduce the amount of TAC emissions resulting from mobile and area sources, such as cars, trucks, stationary products, and consumer products. According to the Ambient and Emission Trends of Toxic Air Contaminants in California journal article (2) which was prepared for CARB, results show that between 1990-2012, ambient concentration and emission trends for the seven TACs responsible for most of the known cancer risk associated with airborne exposure in California have declined significantly (between 1990 and 2012). The seven TACs studied include those that are derived from mobile sources: diesel particulate matter (DPM), benzene (C_6H_6), and 1,3-butadiene (C_4H_6); those that are derived from stationary sources: perchloroethylene (C_2Cl_4) and hexavalent chromium (Cr(VI)); and those derived from photochemical reactions of emitted VOCs: formaldehyde (CH_2O) and acetaldehyde (C_2H_4O).[1] The decline in ambient concentration and emission trends of these TACs are a result of various regulations CARB has implemented to address cancer risk.

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, and individuals with pre-existing respiratory or cardiovascular illness. Structures that house these persons or places where they gather are defined as "sensitive receptors." These structures typically include uses such as residences, hotels, and hospitals where an individual can remain for 24 hours. Consistent with the localized significance threshold (LST) Methodology, the nearest

[1] It should be noted that ambient DPM concentrations are not measured directly. Rather, a surrogate method using the coefficient of haze (COH) and elemental carbon (EC) is used to estimate DPM concentrations.

land use where an individual could remain for 24 hours to the Project site has been used to determine construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$, since PM_{10} and $PM_{2.5}$ thresholds are based on a 24-hour averaging time.

Receptors in the Project study area are described below. All distances are measured from the Project site boundary to the outdoor living areas (e.g., backyards) or at the building façade, whichever is closer to the Project site. Receptors in the Project study area are shown on Exhibit 2 under the Localized Construction Emissions section later in the report.

- Receptor R1 represents the Baldwin Lane Elementary School located at 44500 Baldwin Lane, approximately 41 feet west of the Project site.
- Receptor R2 represents the existing residence at 109 Wabash Lane, approximately 150 feet south of the Project site.
- Receptor R3 represents the existing residence at 109 Leonard Lane, approximately 138 feet south of the Project site.

REGULATORY BACKGROUND

FEDERAL REGULATIONS

The EPA is responsible for setting and enforcing the national ambient air quality standards (NAAQS) for O_3, CO, NO_X, SO_2, PM_{10}, and lead (Pb) (3). The 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 EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of 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 (4). The CAA also mandates that each state 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.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions) (5) (6). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O_3, NO_2, SO_2, PM_{10}, CO, $PM_{2.5}$, and Pb. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a NAAQS for $PM_{2.5}$.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and NO_X. NO_X is a collective term that includes all forms of NO_X which are emitted as byproducts of the combustion process.

CALIFORNIA REGULATIONS

CARB

The CARB, which became part of the California EPA (CalEPA) in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. AB 2595 mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. The CARB established the California ambient air quality standards (CAAQS) for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for SO_4, visibility, hydrogen sulfide (H_2S), and vinyl chloride (C_2H_3Cl). However, at this time, H_2S and C_2H_3Cl are not measured at any monitoring stations in the SCAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (7) (8).

Local air quality management districts, such as the SCAQMD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare Air Quality Management Plans (AQMP) that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g., motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a 5% or more annual reduction in emissions or 15% or more in a period of three years for ROGs, NO_X, CO and PM_{10}. However, air basins may use an alternative emission reduction strategy that achieves a reduction of less than 5% per year under certain circumstances.

AQMP

Currently, the NAAQS and CAAQS are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMP to meet the state and federal ambient air quality standards (9). AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

APPLICABLE REGULATORY REQUIREMENTS

SCAQMD Rules that are currently applicable during construction activity for this Project include but are not limited to Rule 403 (Fugitive Dust) and Rule 1113 (Architectural Coatings) (10) (11).

SCAQMD Rule 403

This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent and reduce fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth moving and grading activities. This rule is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM_{10} suppression techniques are summarized below.

- Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.
- All on-site roads will be paved as soon as feasible or watered periodically or chemically stabilized.
- All material transported off-site will be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.
- Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the workday to remove soil tracked onto the paved surface.

METHODOLOGY

In June 2024, the California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including SCAQMD, released the latest version of the CalEEMod Version 2022.1.1.26. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (12). Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational air quality and greenhouse gas emissions.

Standards of Significance

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the California Environmental Quality Act Guidelines (*CEQA Guidelines*) (14 CCR §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would (13):

- **Threshold 1**: Conflict with or obstruct implementation of the applicable air quality plan.
- **Threshold 2**: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.

- **Threshold 3**: Expose sensitive receptors to substantial pollutant concentrations.
- **Threshold 4**: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

AIR QUALITY REGIONAL EMISSIONS THRESHOLDS

The SCAQMD has developed regional significance thresholds for criteria pollutants, as summarized at Table 1 (14). The SCAQMD's CEQA Air Quality Significance Thresholds (March 2023) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

TABLE 1: MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS

Pollutant	Construction	Operations
NO_X	100 lbs./day	55 lbs./day
VOC	75 lbs./day	55 lbs./day
PM_{10}	150 lbs./day	150 lbs./day
$PM_{2.5}$	55 lbs./day	55 lbs./day
SO_X	150 lbs./day	150 lbs./day
CO	550 lbs./day	550 lbs./day

lbs./day – Pounds Per Day

AIR QUALITY LOCALIZED EMISSIONS THRESHOLDS

For this Project, the appropriate SRA for the LST analysis is the SCAQMD Central Big Bear Lake monitoring station (SRA 38). LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size. The SCAQMD's screening look-up tables are utilized in determining localized impacts. It should be noted that since the look-up tables identify thresholds at only 1 acre, 2 acres, and 5 acres, linear regression has been utilized to determine localized significance thresholds. Consistent with SCAQMD guidance, the thresholds presented in Table 2 were calculated by interpolating the threshold values for the Project's disturbed acreage.

It should be noted that though the Project is less than 1 acre in size, the acres disturbed is based on the equipment list and days during each phase of construction according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday. The equipment-specific grading rates are summarized in the CalEEMod user's guide, Appendix A: Calculation Details for CalEEMod (15). It should be noted that the disturbed area per day is representative of a piece of equipment making multiple passes over the same land area. In other words, one Rubber Tired Dozer can make multiple passes over the same land area totaling 0.5 acres in a given 8-hour day. Appendix A of the CalEEMod User Manual only identifies equipment-specific grading rates for Crawler Tractors, Graders, Rubber Tired Dozers, and Scrapers; therefore, Tractors/Loaders/Backhoes equipment that was included in the site preparation and grading phase was replaced with Crawler Tractors. The Project's construction activities could

disturb a maximum of approximately 3.5 acres per day for site preparation and 4 acres per day for grading activities. Any other construction phases of development would result in lesser emissions and consequently lesser impacts than what is disclosed herein. As such, Table 2 presents thresholds for localized construction and operational emissions.

TABLE 2: MAXIMUM DAILY LOCALIZED EMISSIONS THRESHOLDS

Source	Activity	Emissions (lbs./day)			
		VOC	NOX	PM_{10}	$PM_{2.5}$
Construction	Site Preparation	220 lbs./day	1,625 lbs./day	25 lbs./day	9 lbs./day
	Grading	237 lbs./day	1,775 lbs./day	28 lbs./day	9 lbs./day
Operations	-	-	-	-	-

[1]Source of LSTs is provided on page 14 of 32.

CONSTRUCTION ACTIVITIES

Construction activities associated with the Project would result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Construction-related emissions are expected from the following activities:

- Site Preparation
- Grading
- Paving

GRADING ACTIVITIES

Dust is typically a major concern during grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions." Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. The Project would require approximately 38,000 cubic yards of soil.

ON-ROAD TRIPS

Construction generates on-road vehicle emissions from vehicle usage for workers, vendors, and haul trucks commuting to and from the site. Worker, vendor, and hauling trips are based on CalEEMod defaults.

CONSTRUCTION DURATION

For purposes of analysis, construction of the Project is expected to commence in June 2025 and would last through October 2027. The construction schedule utilized in the analysis represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to

emission regulations becoming more stringent.[2] The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (16).

CONSTRUCTION EQUIPMENT

Equipment modeled is based on CalEEMod defaults and consultation with the Project Applicant. Consistent with industry standards and typical construction practices, each piece of equipment will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code.

REGIONAL CONSTRUCTION EMISSIONS SUMMARY

The estimated maximum daily construction emissions are summarized on Table 3, and as shown, the Project construction-source emissions would not exceed SCAQMD regional thresholds. Thus, the Project would result in a less than significant impact associated with construction activities. Detailed Construction model outputs are presented in Attachment A.

TABLE 3: REGIONAL CONSTRUCTION EMISSIONS SUMMARY

Source	Emissions (lbs./day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
2025	4.13	37.50	33.80	0.05	7.82	4.52
2026	3.49	31.30	30.80	0.07	4.61	2.40
2027	0.83	7.00	11.00	0.01	0.49	0.32
Winter						
2025	4.13	37.50	33.50	0.07	7.82	4.52
2026	3.48	31.30	30.50	0.07	4.61	2.40
2027	0.82	7.00	10.70	0.01	0.49	0.32
Maximum Daily Emissions	4.13	37.50	33.80	0.07	7.82	4.52
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

[1]PM_{10} and $PM_{2.5}$ source emissions reflect 3x daily watering per SCAQMD Rule 403 for fugitive dust.

[2] As shown in the CalEEMod User's Guide Version 2022.1.1, Section 4.3 "Off-Road Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

REGIONAL OPERATIONAL EMISSIONS

Long-term air quality impacts occur from mobile source emission generated from Project-related traffic and from emissions generated from energy usage. The proposed Project primarily involves construction activity. For on-going operations, the Project is intended for use by local organized youth sports leagues for games and practice. It will not be open to the general public. During the summer months the fields may be rented on weekends for adult softball tournaments.

Emissions associated with the Project are summarized in Table 4. Project operational-source emissions would not exceed the numerical thresholds of significance established by the SCAQMD for any criteria pollutant, a less than significant impact would occur for Project-related operational-source emissions and no mitigation is required.

TABLE 4: TOTAL PROJECT REGIONAL OPERATIONAL EMISSIONS

Source	Emissions (lbs./day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
Mobile Source	0.05	0.04	0.39	0.00	0.09	0.02
Area Source	0.05	0.00	0.00	0.00	0.00	0.00
Total Maximum Daily Emissions	0.10	0.04	0.39	0.00	0.09	0.02
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO
Winter						
Mobile Source	0.04	0.04	0.33	0.00	0.09	0.02
Area Source	0.05	0.00	0.00	0.00	0.00	0.00
Total Maximum Daily Emissions	0.09	0.04	0.33	0.00	0.09	0.02
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

LOCALIZED CONSTRUCTION EMISSIONS

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology) (17). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as Localized Significance Thresholds (LSTs). The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4[3]. LSTs represent

[3] The purpose of SCAQMD's Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities. Further, the SCAQMD defines Environmental Justice as "…equitable environmental policymaking and

the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses. It should be noted that SCAQMD also states that Projects that are statutorily or categorically exempt under CEQA would not be subject to LST analyses. As such, although not required for this Project, LST analysis is presented to further underscore that there are in fact no significant impacts associated with the Project.

The SCAQMD recommends that the nearest sensitive receptor be considered when determining the Project's potential to cause an individual or cumulatively significant impact. The nearest land use where an individual could remain for 24 hours to the Project site has been used to determine localized construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$ (since PM_{10} and $PM_{2.5}$ thresholds are based on a 24-hour averaging time The nearest receptor used for evaluation of localized impacts of PM_{10} and $PM_{2.5}$ is location R3 existing residence at 109 Leonard Lane, approximately 138 feet (42 meters) south of the Project site. Receptors in the Project study area shown on Exhibit 2.

As previously stated, and consistent with LST Methodology, the nearest industrial/commercial use to the Project site is used to determine construction and operational LST air impacts for emissions of NO_X and CO as the averaging periods for these pollutants are shorter (8 hours or less) and it is reasonable to assume that an individual could be present at these sites for periods of one to 8 hours. The nearest receptor used for evaluation of localized impacts of PM_{10} and $PM_{2.5}$ is location R1 represented by the Baldwin Lane Elementary School located at 44500 Baldwin Lane, approximately 41 feet (12 meters) west of the Project site. It should be noted that the *LST Methodology* explicitly states that "*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters* (17)." As such, for evaluation of localized NO_X and CO, a 25-meter distance will be used.

enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."

EXHIBIT 2: SENSITIVE RECEPTOR LOCATIONS

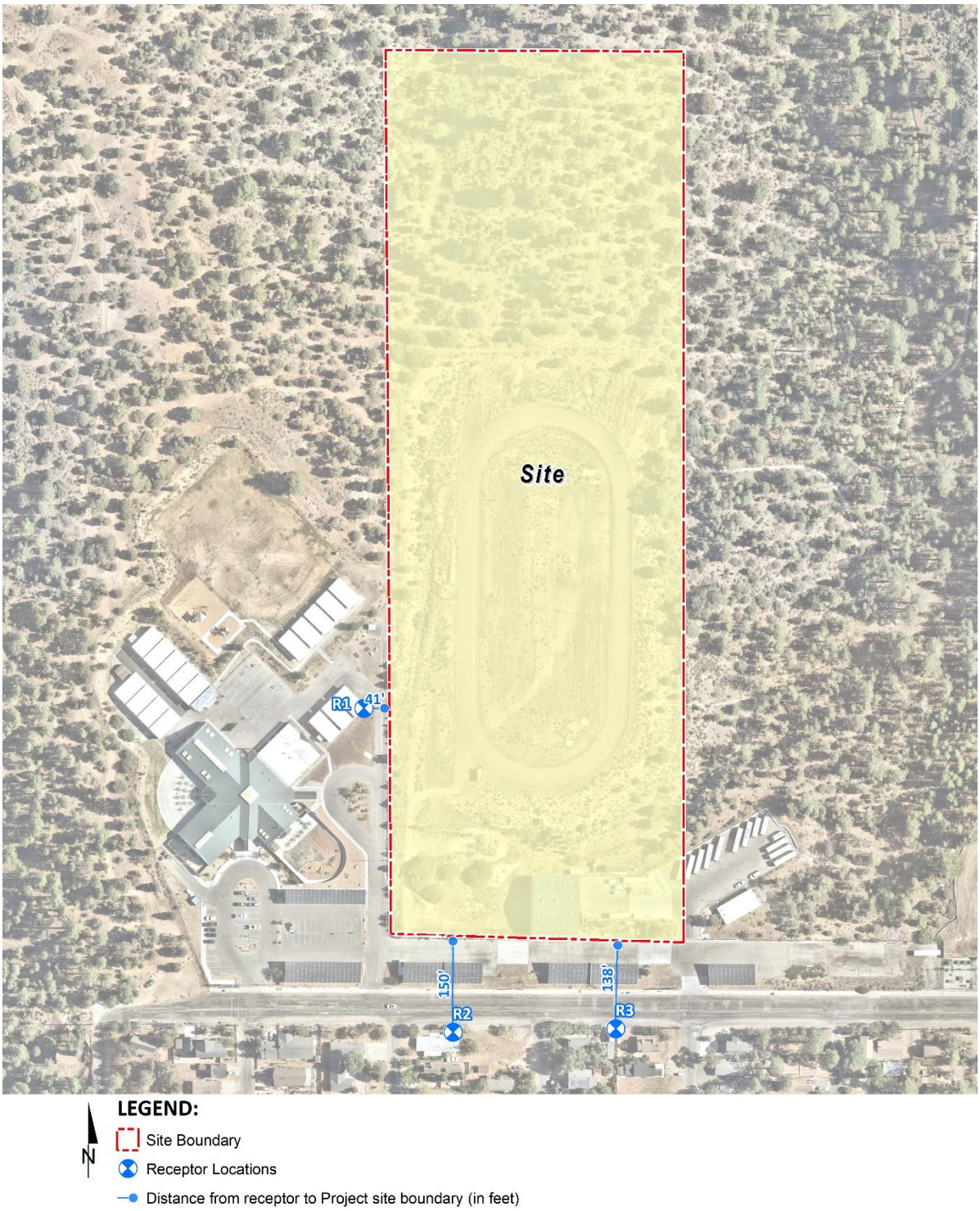


Table 5 identifies the localized impacts at the nearest receptor location in the vicinity of the Project. Outputs from the model runs for construction LSTs are provided in Attachment A. For analytical purposes, emissions associated with peak site preparation and grading activities are considered for purposes of LSTs since these phases represent the maximum localized emissions that would occur. Any other construction phases of development that overlap would result in lesser emissions and consequently lesser impacts than what is disclosed herein. As shown in Table 5, emissions resulting from the Project construction will not exceed the numerical thresholds of significance established by the SCAQMD for any criteria pollutant. Thus, a less than significant impact would occur for localized Project-related construction-source emissions and no mitigation is required.

TABLE 5: PROJECT LOCALIZED CONSTRUCTION IMPACTS

On-Site Emissions	Emissions (lbs./day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Site Preparation				
Maximum Daily Emissions	37.50	32.40	7.59	4.47
SCAQMD Localized Threshold	220	1,625	25	9
Threshold Exceeded?	NO	NO	NO	NO
Grading				
Maximum Daily Emissions	32.60	29.40	4.19	2.38
SCAQMD Localized Threshold	237	1,775	28	9
Threshold Exceeded?	NO	NO	NO	NO

LOCALIZED OPERATIONAL EMISSIONS

The proposed Project is to develop a three field multi-use sports complex within a 13.5-acre site. According to SCAQMD LST methodology, LSTs would apply to the operational phase of a proposed project, if the project includes stationary sources, or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., transfer facilities and warehouse buildings). The proposed Project does not include such uses, and thus, due to the lack of significant stationary source emissions, no LST analysis is needed for operations.

AIR QUALITY IMPACTS – CONSISTENCY WITH THRESHOLD NO. 1

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

The Project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743-square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the Southern California Association of Governments (SCAG), county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In December 2022, the SCAQMD released the Final 2022 AQMP (2022 AQMP). The 2022 AQMP continues to evaluate current integrated strategies and control measures to meet the CAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels (18). Similar to the 2016 AQMP, the 2022 AQMP incorporates scientific and technological information and planning assumptions, including the 2020-2045 RTP/SCS, a planning document that supports the integration of land use and transportation to help the region meet the federal CAA requirements (19). The Project's consistency with the AQMP will be determined using the 2022 AQMP as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the 1993 CEQA Handbook (20). These indicators are discussed below.

The proposed Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

The violations that under this criterion refer to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded. As evaluated, the Project's regional and localized construction and operational-source emissions would not exceed applicable regional significance thresholds. As such, a less than significant impact is expected.

On the basis of the preceding discussion, the Project is determined to be consistent with the first criterion.

The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The 2022 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in County of San Bernardino General Plan is considered to be consistent with the AQMP.

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities. As

such, when considering that no emissions thresholds will be exceeded, a less than significant impact would result.

The San Bernardino County General Plan Land Use is Public Facility (PF). The PF designation includes Institutional, academic, governmental and community service uses, either publicly owned or operated by non-profit organizations (21).The Project is consistent with the current land use designation. As such, the proposed Project would not conflict with the goals and objectives of the AQMP. Furthermore, the Project, as evaluated herein would not exceed the regional or localized air quality significance thresholds.

On the basis of the preceding discussion, the Project is determined to be consistent with the AQMP and a less than significant impact is expected.

AIR QUALITY IMPACTS – CONSISTENCY WITH THRESHOLD NO. 2

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

The Project, as evaluated herein would not exceed the regional or localized air quality significance thresholds. The CAAQS designates the Project site as nonattainment for O_3, PM_{10}, and $PM_{2.5}$ while the NAAQS designates the Project site as nonattainment for O_3 and $PM_{2.5}$.

The SCAQMD has published a report on how to address cumulative impacts from air pollution: White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution (22). In this report the SCAQMD clearly states (Page D-3):

> *"…the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for TAC emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.*
>
> *Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."*

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which SCAB is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and

operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

Construction Impacts

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed Project construction-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, proposed Project construction-source emissions would be considered less than significant on a project-specific and cumulative basis.

Operational Impacts

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed Project operational-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, the proposed Project operational-source emissions would be considered less than significant on a project-specific and cumulative basis.

AIR QUALITY IMPACTS – CONSISTENCY WITH THRESHOLD NO. 3

Would the expose sensitive receptors to substantial pollutant concentrations?

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Results of the LST analysis indicate that the Project will not exceed the SCAQMD localized significance thresholds during construction. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during Project construction.

Additionally, the Project will not exceed the SCAQMD localized significance thresholds during operational activity. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations.

CO "HOT SPOT" ANALYSIS

As discussed below, the Project would not result in potentially adverse CO concentrations or "hot spots." Further, detailed modeling of Project-specific CO "hot spots" is not needed to reach this conclusion. An adverse CO concentration, known as a "hot spot," would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment. To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards, as shown on Table 6.

TABLE 6: CO MODEL RESULTS

Intersection Location	CO Concentrations (ppm)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire Boulevard/Veteran Avenue	4.6	3.5	3.7
Sunset Boulevard/Highland Avenue	4	4.5	3.5
La Cienega Boulevard/Century Boulevard	3.7	3.1	5.2
Long Beach Boulevard/Imperial Highway	3	3.1	8.4

Notes: Federal 1-hour standard is 35 ppm and the deferral 8-hour standard is 9.0 ppm.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 8.4 ppm 8-hr CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the "hot spot" analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 7.7 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared (23). In contrast, an adverse CO concentration, known as a "hot spot," would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph)—or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (24). Traffic volumes generating the CO concentrations for the "hot spot" analysis is shown on Table 7. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vph and AM/PM traffic volumes of 8,062 vph and 7,719 vph respectively (25). The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm).

TABLE 7: CO MODEL RESULTS

Intersection Location	Peak Traffic Volumes (vph)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire Boulevard/Veteran Avenue	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset Boulevard/Highland Avenue	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374
La Cienega Boulevard/Century Boulevard	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach Boulevard/Imperial Highway	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

AIR QUALITY IMPACTS – CONSISTENCY WITH THRESHOLD NO. 4

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

The potential for the Project to generate objectionable odors has also been considered. 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 contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the solid waste regulations. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction and operations would be less than significant and no mitigation is required (26).

PROJECT GHG ANALYSIS

CLIMATE CHANGE SETTING

Global climate change (GCC) is the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this memo cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, this memo will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO_2, N_2O, CH_4, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radiative heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activity. Without the natural GHG effect, the earth's average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

For the purposes of this analysis, emissions of CO_2, CH_4, and N_2O were evaluated because these gases are the primary contributors to GCC from development projects. Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

REGULATORY SETTING

Executive Order S-3-05

Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.

- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80% below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Assembly Bill (AB) 32

The California State Legislature enacted AB 32, which requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. GHGs, as defined under AB 32, include CO_2, CH_4, N_2O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. CARB is the state agency charged with monitoring and regulating sources of GHGs. Pursuant to AB 32, CARB adopted regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 states the following:

> *"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."*

CARB approved the 1990 GHG emissions level of 427 million metric ton of CO_2 equivalent per year ($MMTCO_2e$) on December 6, 2007 (27). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 $MMTCO_2e$. Emissions in 2020 in a "business as usual" (BAU) scenario were estimated to be 596 $MMTCO_2e$, which do not account for reductions from AB 32 regulations (28). At that level, a 28.4% reduction was required to achieve the 427 $MMTCO_2e$ 1990 inventory. In October 2010, CARB prepared an updated BAU 2020 forecast to account for the recession and slower forecasted growth. The forecasted inventory without the benefits of adopted regulation is now estimated at 545 $MMTCO_2e$. Therefore, under the updated forecast, a 21.7% reduction from BAU is required to achieve 1990 levels (29).

Progress in Achieving AB 32 Targets and Remaining Reductions Required

The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. The progress is shown in updated emission inventories prepared by CARB for 2000 through 2012 (30). The State has achieved the Executive Order S-3-05 target for 2010 of reducing GHG emissions to 2000 levels. As shown below, the 2010 emission inventory achieved this target.

- 1990: 427 $MMTCO_2e$ (AB 32 2020 target)
- 2000: 463 $MMTCO_2e$ (an average 8% reduction needed to achieve 1990 base)
- 2010: 450 $MMTCO_2e$ (an average 5% reduction needed to achieve 1990 base)

CARB has also made substantial progress in achieving its goal of achieving 1990 emissions levels by 2020. As described earlier in this section, CARB revised the 2020 BAU inventory forecast to account for new lower growth projections, which resulted in a new lower reduction from BAU to achieve the 1990 base. The previous reduction from 2020 BAU needed to achieve 1990 levels was 28.4% and the latest reduction from 2020 BAU is 21.7%.

- 2020: 545 $MMTCO_2e$ BAU (an average 21.7% reduction from BAU needed to achieve 1990 base)

Senate Bill (SB) 32

On September 8, 2016, Governor Jerry Brown signed the SB 32 and its companion bill, AB 197. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature (31).

AB 197

A condition of approval for SB 32 was the passage of AB 197. AB 197 requires that CARB consider the social costs of GHG emissions and prioritize direct reductions in GHG emissions at mobile sources and large stationary sources. AB 197 also gives the California legislature more oversight over CARB through the addition of two legislatively appointed members to the CARB Board and the establishment a legislative committee to make recommendations about CARB programs to the legislature.

Executive Order B-55-18 and SB 100

Executive Order B-55-18 and SB 100. SB 100 and Executive Order B-55-18 were signed by Governor Brown on September 10, 2018. Under the existing RPS, 25% of retail sales are required to be from renewable sources by December 31, 2016, 33% by December 31, 2020, 40% by December 31, 2024, 45% by December 31, 2027, and 50% by December 31, 2030. SB 100 raises California's RPS requirement to 50% renewable resources target by December 31, 2026, and to achieve a 60% target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural Resources Agency (CNRA), California Environmental Protection Agency (CalEPA), the Department of Food and Agriculture (CDFA), and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

Title 24 California Code of Regulations (CCR)

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, industrial, commercial, and school buildings that went in effect on August 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that was effective on January 1, 2023[4]. As construction of the Project is anticipated to be completed in 2027, the Project would be required to comply with the Title 24 standards in place at that time.

SCAQMD

SCAQMD is the agency responsible for air quality planning and regulation in the SCAB. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SCAB. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Threshold that could be applied by lead agencies. The working group has not provided additional guidance since release of the interim guidance in 2008. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:
    - Residential and commercial land use: 3,000 metric ton of CO_2 equivalent ($MTCO_2e/yr.$)

[4] The 2022 California Green Building Standard Code will be published July 1, 2022.

  - Industrial land use: 10,000 $MTCO_2e$/yr.
  - Based on land use type: residential: 3,500 $MTCO_2e$/yr.; commercial: 1,400 $MTCO_2e$/yr.; or mixed use: 3,000 $MTCO_2e$/yr.
- Tier 4 has the following options:
  - Option 1: Reduce Business-as-Usual (BAU) emissions by a certain percentage; this percentage is currently undefined.
  - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
  - Option 3: 2020 target for service populations (SP), which includes residents and employees: 4.8 $MTCO_2e$ per SP per year for projects and 6.6 $MTCO_2e$ per SP per year for plans;
  - Option 3, 2035 target: 3.0 $MTCO_2e$ per SP per year for projects and 4.1 $MTCO_2e$ per SP per year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's interim thresholds used the Executive Order S-3-05 year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO_2 concentrations at 450 ppm, thus stabilizing global climate.

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if the Project would include stationary sources of emissions subject to SCAQMD permits. Notwithstanding, if the Project requires a stationary permit, it would be subject to the applicable SCAQMD regulations.

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules:

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, Southern California (SoCal) Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, GHG Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

SCAQMD is the agency responsible for air quality planning and regulation in the SCAB. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

GHG IMPACTS

Standards of Significance

According to the *CEQA Guidelines* Appendix G thresholds, to determine whether impacts from GHG emissions are significant. Would the project:

- **Threshold 1**: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- **Threshold 2**: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

The evaluation of an impact under CEQA requires measuring data from a project against both existing conditions and a "threshold of significance." For establishing significance thresholds, the Office of Planning and Research's amendments to the *CEQA Guidelines* Section 15064.7(c) state "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

CEQA Guidelines Section 15064.4(a) further states, ". . . A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . .; or (2) Rely on a qualitative analysis or performance-based standards."

CEQA Guidelines Section 15064.4 provides that a lead agency should consider the following factors, among others, in assessing the significance of impacts from greenhouse gas emissions:

- **Consideration #1:** The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2:** Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration #3:** The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

Discussion on Establishment of Significance Thresholds

An acceptable approach, for small projects, is using a screening threshold of 3,000 $MTCO_2e/yr$ to determine if additional analysis is required. This approach is an accepted screening method

used by numerous local agencies throughout South Coast Air Basin and is based on the SCAQMD staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the SCAQMD's *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans* ("SCAQMD Interim GHG Threshold"). The SCAQMD Interim GHG Threshold identifies a screening threshold to determine whether additional analysis is required (32). As noted by the SCAQMD:

> *"…the…screening level for stationary sources is based on an emission capture rate of 90% for all new or modified projects…the policy objective of [SCAQMD's] recommended interim GHG significance threshold proposal is to achieve an emission capture rate of 90% of all new or modified stationary source projects. A GHG significance threshold based on a 90% emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a 90% emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This assertion is based on the fact that [SCAQMD] staff estimates that these GHG emissions would account for slightly less than 1% of future 2050 statewide GHG emissions target (85 [MMT CO_2e/yr]). In addition, these small projects may be subject to future applicable GHG control regulations that would further reduce their overall future contribution to the statewide GHG inventory. Finally, these small sources are already subject to [Best Available Control Technology] (BACT) for criteria pollutants and are more likely to be single-permit facilities, so they are more likely to have few opportunities readily available to reduce GHG emissions from other parts of their facility."* (33)

Thus, and based on guidance from the SCAQMD, if an non-industrial project would emit GHGs less than 3,000 MT CO_2e per year, the project is not considered a substantial GHG emitter and the GHG impact is less than significant, requiring no additional analysis and no mitigation. On the other hand, if an non-industrial project would emit GHGs in excess of 3,000 MT CO_2e/yr, then the project could be considered a substantial GHG emitter, which would require additional analysis and potentially mitigation.

GHG IMPACTS – CONSISTENCY WITH THRESHOLD NO. 1

Would the Project have the potential to generate direct or indirect GHG emissions that would result in a significant impact on the environment?

PROJECT GHG EMISSIONS

The estimated GHG emissions for the Project land use are summarized on Table 8. The estimated GHG emission include emissions from Carbon Dioxide (CO_2), Methane (CH_4), Nitrous Oxide (N_2O), and Refrigerants (R). As shown on Table 8, the Project would generate a total of approximately 76.02 MTCO_2e/yr. Detailed operation model outputs for the proposed Project are presented in Attachment A.

TABLE 8: TOTAL PROJECT GHG EMISSIONS

Source	Emissions (MT/year)				
	CO_2	CH_4	N_2O	R	Total CO_2e
Annual construction-related emissions amortized over 30 years	51.43	2.33E-03	1.33E-03	7.67E-03	51.87
Mobile Source	8.36	0.00	0.00	0.01	8.50
Energy Source	15.40	0.00	0.00	0.00	15.50
Waste	0.04	0.00	0.00	0.00	0.15
Total CO_2e (All Sources)	76.02				

As discussed previously, a screening threshold of 3,000 $MTCO_2e$/yr to determine if additional analysis is required is an acceptable approach for small projects. This approach is a widely accepted screening threshold used by the numerous cities in the SCAQMD staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the SCAQMD's Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans ("SCAQMD Interim GHG Threshold"). The SCAQMD Interim GHG Threshold identifies a screening threshold to determine whether additional analysis is required for projects that generate less than 3,000 $MTCO_2e$/yr would have a less-than-significant GHG emissions impact.

As shown in Table 8, the Project will result in approximately 76.02 $MTCO_2e$/yr; the proposed project would not exceed the screening threshold of 3,000 $MTCO_2e$/yr. This would be considered a less than significant impact.

GHG IMPACTS – CONSISTENCY WITH THRESHOLD NO. 2

Would the Project have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs?

Pursuant to 15604.4 of the CEQA Guidelines, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions (34).

The 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) lays out a path to achieve targets for carbon neutrality and reduce anthropogenic greenhouse gas (GHG) emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon (35).

The Project is consistent with the general plan land use designation, density, building intensity, and applicable policies specified for the Project area in SCAG's Sustainable Community Strategy/ Regional Transportation Plan, which pursuant to SB 375 calls for the integration of transportation, land-use and housing policies to plan for achievement of the GHG-emissions target for the region. Thus, a less than significant impact related to GHG emissions from Project construction and operation would occur and no mitigation is required.

CONCLUSION

Results of the assessment indicate that the Project is not anticipated to result in a significant impact during construction or operational activities associated with air quality and GHG.

If you have any questions or comments, I can be reached at hqureshi@urbanxroads.com.

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ATTACHMENT A
CALEEMOD PROPOSED PROJECT EMISSIONS MODEL OUTPUTS

Bear Valley Youth Sports Complex Detailed Report

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1.1. Basic Project Information

Data Field	Value
Project Name	Bear Valley Youth Sports Complex
Construction Start Date	6/3/2025
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	1.80
Location	34.25191364001141, -116.82920766375535
County	San Bernardino-South Coast
City	Unincorporated
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5156
EDFZ	10
Electric Utility	Bear Valley Electric Service
Gas Utility	Southwest Gas Corp.
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
City Park	5.74	Acre	5.74	0.00	0.00	0.00	—	—

Parking Lot	80.5	1000sqft	1.85	0.00	0.00	0.00	—	—
Other Asphalt Surfaces	10.4	1000sqft	0.24	0.00	0.00	0.00	—	—
Other Non-Asphalt Surfaces	247	1000sqft	5.67	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

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2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.91	4.13	37.5	33.8	0.07	1.93	5.89	7.82	1.78	2.74	4.52	—	8,032	8,032	0.39	0.23	3.06	8,113
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.90	4.13	37.5	33.5	0.07	1.93	5.89	7.82	1.78	2.74	4.52	—	8,034	8,034	0.40	0.24	0.09	8,115
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.02	2.47	22.2	21.7	0.05	0.99	2.28	3.27	0.91	0.91	1.71	—	5,686	5,686	0.27	0.16	0.94	5,743
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.55	0.45	4.06	3.96	0.01	0.18	0.42	0.60	0.17	0.17	0.31	—	941	941	0.04	0.03	0.16	951

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.91	4.13	37.5	33.8	0.05	1.93	5.89	7.82	1.78	2.74	4.52	—	5,775	5,775	0.23	0.05	0.91	5,798
2026	4.26	3.49	31.3	30.8	0.07	1.40	3.22	4.61	1.29	1.12	2.40	—	8,032	8,032	0.39	0.23	3.06	8,113
2027	0.97	0.83	7.00	11.0	0.01	0.30	0.20	0.49	0.27	0.05	0.32	—	1,714	1,714	0.06	0.02	0.64	1,722
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.90	4.13	37.5	33.5	0.07	1.93	5.89	7.82	1.78	2.74	4.52	—	8,034	8,034	0.40	0.24	0.09	8,115
2026	4.25	3.48	31.3	30.5	0.07	1.40	3.22	4.61	1.29	1.12	2.40	—	8,009	8,009	0.38	0.23	0.08	8,088
2027	0.97	0.82	7.00	10.7	0.01	0.30	0.20	0.49	0.27	0.05	0.32	—	1,697	1,697	0.06	0.02	0.02	1,705
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.97	1.65	15.1	13.6	0.02	0.74	2.07	2.81	0.69	0.91	1.59	—	2,710	2,710	0.12	0.05	0.31	2,728
2026	3.02	2.47	22.2	21.7	0.05	0.99	2.28	3.27	0.91	0.79	1.71	—	5,686	5,686	0.27	0.16	0.94	5,743
2027	0.53	0.45	3.80	5.83	0.01	0.16	0.11	0.27	0.15	0.02	0.17	—	921	921	0.03	0.01	0.15	926
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.36	0.30	2.75	2.48	< 0.005	0.14	0.38	0.51	0.13	0.17	0.29	—	449	449	0.02	0.01	0.05	452
2026	0.55	0.45	4.06	3.96	0.01	0.18	0.42	0.60	0.17	0.14	0.31	—	941	941	0.04	0.03	0.16	951
2027	0.10	0.08	0.69	1.06	< 0.005	0.03	0.02	0.05	0.03	< 0.005	0.03	—	153	153	0.01	< 0.005	0.02	153

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.10	0.10	0.04	0.39	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	0.27	195	195	0.04	0.01	0.31	198

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.10	0.10	0.04	0.33	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	0.27	188	188	0.04	0.01	0.01	191
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.07	0.02	0.18	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	0.27	144	144	0.04	< 0.005	0.07	146
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.04	23.8	23.8	0.01	< 0.005	0.01	24.1

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.05	0.05	0.04	0.39	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	101	101	< 0.005	< 0.005	0.31	103
Area	0.05	0.05	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	93.1	93.1	0.01	< 0.005	—	93.5
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.27	0.00	0.27	0.03	0.00	—	0.93
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.10	0.10	0.04	0.39	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	0.27	195	195	0.04	0.01	0.31	198
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.05	0.04	0.04	0.33	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	95.2	95.2	< 0.005	< 0.005	0.01	96.7
Area	0.05	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	93.1	93.1	0.01	< 0.005	—	93.5

Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.27	0.00	0.27	0.03	0.00	—	0.93
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.10	0.10	0.04	0.33	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	0.27	188	188	0.04	0.01	0.01	191
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.02	0.18	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	50.5	50.5	< 0.005	< 0.005	0.07	51.4
Area	0.05	0.05	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	93.1	93.1	0.01	< 0.005	—	93.5
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.27	0.00	0.27	0.03	0.00	—	0.93
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.08	0.07	0.02	0.18	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	0.27	144	144	0.04	< 0.005	0.07	146
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	8.36	8.36	< 0.005	< 0.005	0.01	8.50
Area	0.01	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	15.4	15.4	< 0.005	< 0.005	—	15.5
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.15
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.04	23.8	23.8	0.01	< 0.005	0.01	24.1

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.82	4.05	37.5	32.4	0.05	1.93	—	1.93	1.78	—	1.78	—	5,528	5,528	0.22	0.04	—	5,547
Dust From Material Movement	—	—	—	—	—	—	5.66	5.66	—	2.69	2.69	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.82	4.05	37.5	32.4	0.05	1.93	—	1.93	1.78	—	1.78	—	5,528	5,528	0.22	0.04	—	5,547
Dust From Material Movement	—	—	—	—	—	—	5.66	5.66	—	2.69	2.69	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.32	1.11	10.3	8.88	0.01	0.53	—	0.53	0.49	—	0.49	—	1,515	1,515	0.06	0.01	—	1,520
Dust From Material Movement	—	—	—	—	—	—	1.55	1.55	—	0.74	0.74	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.87	1.62	< 0.005	0.10	—	0.10	0.09	—	0.09	—	251	251	0.01	< 0.005	—	252
Dust From Material Movement	—	—	—	—	—	—	0.28	0.28	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	1.36	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	247	247	0.01	0.01	0.91	250
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	1.03	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	226	226	0.01	0.01	0.02	229
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.30	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	62.8	62.8	< 0.005	< 0.005	0.11	63.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.4	10.4	< 0.005	< 0.005	0.02	10.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.24	3.57	32.6	29.4	0.06	1.52	—	1.52	1.40	—	1.40	—	6,715	6,715	0.27	0.05	—	6,738
Dust From Material Movement	—	—	—	—	—	—	2.67	2.67	—	0.98	0.98	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.60	0.50	4.59	4.15	0.01	0.21	—	0.21	0.20	—	0.20	—	946	946	0.04	0.01	—	949
Dust From Material Movement	—	—	—	—	—	—	0.38	0.38	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.11	0.09	0.84	0.76	< 0.005	0.04	—	0.04	0.04	—	0.04	—	157	157	0.01	< 0.005	—	157
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.10	1.17	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	258	258	0.01	0.01	0.03	262
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.02	1.33	0.72	0.01	0.01	0.28	0.30	0.01	0.08	0.09	—	1,060	1,060	0.11	0.17	0.06	1,114
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.17	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	36.9	36.9	< 0.005	< 0.005	0.06	37.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	< 0.005	0.19	0.10	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	149	149	0.02	0.02	0.14	157
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.11	6.11	< 0.005	< 0.005	0.01	6.20
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.7	24.7	< 0.005	< 0.005	0.02	26.0

3.5. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.03	3.39	30.0	28.7	0.06	1.38	—	1.38	1.27	—	1.27	—	6,715	6,715	0.27	0.05	—	6,738
Dust From Material Movement	—	—	—	—	—	—	2.67	2.67	—	0.98	0.98	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.03	3.39	30.0	28.7	0.06	1.38	—	1.38	1.27	—	1.27	—	6,715	6,715	0.27	0.05	—	6,738
Dust From Material Movement	—	—	—	—	—	—	2.67	2.67	—	0.98	0.98	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	21.2	20.3	0.04	0.98	—	0.98	0.90	—	0.90	—	4,757	4,757	0.19	0.04	—	4,774
Dust From Material Movement	—	—	—	—	—	—	1.89	1.89	—	0.69	0.69	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.44	3.87	3.71	0.01	0.18	—	0.18	0.16	—	0.16	—	788	788	0.03	0.01	—	790
Dust From Material Movement	—	—	—	—	—	—	0.35	0.35	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.08	1.44	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	276	276	0.01	0.01	0.94	280
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.02	1.23	0.70	0.01	0.01	0.28	0.30	0.01	0.08	0.09	—	1,040	1,040	0.10	0.17	2.12	1,095
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.09	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	253	253	< 0.005	0.01	0.02	256
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.13	0.01	1.28	0.70	0.01	0.01	0.28	0.30	0.01	0.08	0.09	—	1,041	1,041	0.10	0.17	0.05	1,093
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.07	0.81	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	182	182	< 0.005	0.01	0.29	184
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.09	0.01	0.91	0.50	0.01	0.01	0.20	0.21	0.01	0.06	0.06	—	737	737	0.07	0.12	0.65	775
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.1	30.1	< 0.005	< 0.005	0.05	30.5

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	< 0.005	0.17	0.09	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	122	122	0.01	0.02	0.11	128

3.7. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.87	8.87	< 0.005	< 0.005	—	8.90
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.47	1.47	< 0.005	< 0.005	—	1.47

Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.82	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	190	190	< 0.005	0.01	0.02	192
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.13	1.13	< 0.005	< 0.005	< 0.005	1.15
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	0.40	3.76	5.40	0.01	0.16	—	0.16	0.15	—	0.15	—	819	819	0.03	0.01	—	822
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.69	0.98	< 0.005	0.03	—	0.03	0.03	—	0.03	—	136	136	0.01	< 0.005	—	136
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	1.01	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	203	203	< 0.005	0.01	0.64	206
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.76	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	186	186	< 0.005	0.01	0.02	188
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.43	0.00	0.00	0.11	0.11	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.15	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.9	16.9	< 0.005	< 0.005	0.02	17.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.05	0.05	0.04	0.39	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	101	101	< 0.005	< 0.005	0.31	103
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.05	0.05	0.04	0.39	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	101	101	< 0.005	< 0.005	0.31	103
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.05	0.04	0.04	0.33	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	95.2	95.2	< 0.005	< 0.005	0.01	96.7
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.05	0.04	0.04	0.33	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	95.2	95.2	< 0.005	< 0.005	0.01	96.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	8.36	8.36	< 0.005	< 0.005	0.01	8.50
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	8.36	8.36	< 0.005	< 0.005	0.01	8.50

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	93.1	93.1	0.01	< 0.005	—	93.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	93.1	93.1	0.01	< 0.005	—	93.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	93.1	93.1	0.01	< 0.005	—	93.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	93.1	93.1	0.01	< 0.005	—	93.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	15.4	15.4	< 0.005	< 0.005	—	15.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	15.4	15.4	< 0.005	< 0.005	—	15.5

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.05	0.05	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.05	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.27	0.00	0.27	0.03	0.00	—	0.93
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.27	0.00	0.27	0.03	0.00	—	0.93
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.27	0.00	0.27	0.03	0.00	—	0.93
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.27	0.00	0.27	0.03	0.00	—	0.93
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.15
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.15

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	6/3/2025	10/20/2025	5.00	100	—
Grading	Grading	10/21/2025	12/28/2026	5.00	310	—
Paving	Paving	12/29/2026	10/4/2027	5.00	200	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Crawler Tractors	Diesel	Average	4.00	8.00	87.0	0.43

Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	15.3	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	350	0.00	—
Grading	38,000	—	1,240	0.00	—
Paving	0.00	0.00	0.00	0.00	7.76

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
City Park	0.00	0%
Parking Lot	1.85	100%
Other Asphalt Surfaces	0.24	100%
Other Non-Asphalt Surfaces	5.67	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	565	0.03	< 0.005
2026	0.00	482	0.03	< 0.005
2027	0.00	482	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
City Park	4.48	11.3	12.6	2,409	44.0	111	124	23,704
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	20,284

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
City Park	0.00	482	0.0330	0.0040	0.00
Parking Lot	70,518	482	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	482	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	482	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
City Park	0.00	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
City Park	0.49	—
Parking Lot	0.00	—
Other Asphalt Surfaces	0.00	—
Other Non-Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	38.6	annual days of extreme heat
Extreme Precipitation	7.50	annual days with precipitation above 20 mm

Sea Level Rise	—	meters of inundation depth
Wildfire	35.6	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	98.7
AQ-PM	2.90
AQ-DPM	5.31
Drinking Water	7.57
Lead Risk Housing	37.2
Pesticides	0.00
Toxic Releases	6.81
Traffic	2.25
Effect Indicators	—

CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	3.64
Impaired Water Bodies	43.8
Solid Waste	0.00
Sensitive Population	—
Asthma	75.7
Cardio-vascular	88.0
Low Birth Weights	32.8
Socioeconomic Factor Indicators	—
Education	47.1
Housing	59.7
Linguistic	16.4
Poverty	81.5
Unemployment	19.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	26.3826511
Employed	25.70255357
Median HI	18.01616836
Education	—
Bachelor's or higher	38.0341332
High school enrollment	100
Preschool enrollment	4.042089054
Transportation	—

Auto Access	33.27345053
Active commuting	1.039394328
Social	—
2-parent households	15.77056333
Voting	69.47260362
Neighborhood	—
Alcohol availability	72.1416656
Park access	54.71577056
Retail density	11.81829847
Supermarket access	11.00988066
Tree canopy	93.96894649
Housing	—
Homeownership	55.83215706
Housing habitability	54.90825099
Low-inc homeowner severe housing cost burden	7.429744643
Low-inc renter severe housing cost burden	71.62838445
Uncrowded housing	70.98678301
Health Outcomes	—
Insured adults	18.06749647
Arthritis	0.0
Asthma ER Admissions	46.4
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	13.6

Cognitively Disabled	28.0
Physically Disabled	6.4
Heart Attack ER Admissions	10.8
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	67.2
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	98.7
SLR Inundation Area	0.0
Children	23.1
Elderly	16.5
English Speaking	85.8
Foreign-born	9.5
Outdoor Workers	51.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	93.5
Traffic Density	20.4
Traffic Access	23.0
Other Indices	—
Hardship	51.3
Other Decision Support	—

2016 Voting	78.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	17.0
Healthy Places Index Score for Project Location (b)	23.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Construction will begin June 2025 and end October 2027
Construction: Off-Road Equipment	Crawler Tractors used in lieu of Tractors/Loaders/Backhoes

APPENDIX 3

BIOLOGICAL RESOURCES ASSESSMENT

August 30, 2024

Steven Foulkes
BVUSD Education Foundation
PO Box 1529
Big Bear Lake 92315

RE: Bear Valley Unified School District Education Foundation Focused Biological Surveys
for the Proposed Youth Sports Complex San Bernardino County, California

On behalf of the Bear Valley Unified School District (BVUSD), Davey Resource Group (DRG) conducted focused surveys for special-status species on the project site and analyzed the potential for the project to affect these resources. Specifically, this document addresses any potential for special status wildlife species that include southern rubber boa, California spotted owl and San Bernardino flying squirrel, as well as nesting birds. We also surveyed for special-status plants, the majority of which occur in Pebble Plain habitats in the area.

The project site is located in the Big Bear Lake area along the northside of Baldwin Lane and bordered by the Baldwin Lane Elementary School to the southwest (Figure 1). The site occurs on the Big Bear City 7.5' United States Geological Survey (USGS) Quadrangle. Elevation onsite is approximately 6,960 feet above mean sea level with a range of higher and lower elevations that don't vary appreciably from the valley elevation. The property is mostly undeveloped, supporting natural vegetation with the exception of fencing on the perimeter of the old football field and weedy vegetation associated with the fenced portion of the site. Surrounding land uses include developed school property to the south and east and open land to the north and west. A designated Pebble Plain habitat area occurs offsite to the west.

Regulatory Background

Federal Endangered Species Act

The United States Fish and Wildlife Service (USFWS) has jurisdiction over species listed as threatened or endangered under the federal Endangered Species Act (FESA). Section 9 of FESA protects listed species from "take", which is broadly defined as actions taken to, "harass, harm,

pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct," (USFWS). FESA protects threatened and endangered plants and animals and their critical habitat. Candidate species are those proposed for listing; these species are usually treated by resource agencies as if they were actually listed during the environmental review process.

Procedures for addressing impacts to federally listed species follow two principal pathways, both of which require consultation with the USFWS, which administers the FESA for all terrestrial species. The first pathway is the Section 10(a) incidental take permit, which applies to situations where a non-federal government entity must resolve potential adverse impacts to species protected under FESA. The second pathway is Section 7 consultation, which applies to projects directly undertaken by a federal agency or private projects requiring a federal permit or approval.

Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, 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. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the state Fish and Game Code (FGC). All raptors and their nests are protected from take or disturbance under the MBTA (16 United States Code [USC], Section 703, et seq.) and California statute (FGC Section 3503.5). The golden eagle (*Aquila chrysaetos*) and bald eagle (*Haliaeetus leucocephalus*) are also afforded additional protection under the Bald and Golden Eagle Protection Act, amended in 1973 (16 USC, Section 669, et seq.).

Federal Bald and Golden Eagle Protection Act

With few exceptions, this act (16 USC 668–668d) prohibits take of bald eagles and golden eagles. Unlike the MBTA, which defines "take" to mean only direct killing or taking of birds or their body parts, eggs, and nests, the Bald and Golden Eagle Protection Act defines take in a manner similar to FESA as including "pursuing, shooting, shooting at, poisoning, wounding, killing, capturing, trapping, collecting, molesting, and disturbing," with "disturb" further defined (50 CFR 22.3) as ''to agitate or bother a Bald or Golden Eagle to a degree that causes, or is likely to cause, based on the best scientific information available; (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.'' Therefore, the requirements for guarding against impacts to eagles generally are far more stringent than those required by the MBTA alone.

California Fish and Game Code

Under the state of California Endangered Species Act (CESA), the state of California Department of Fish and Wildlife (CDFW) has the responsibility for maintaining a list of endangered and threatened species (FGC § 2070). Sections 2050 through 2098 of the Fish and Game Code (FGC) outline the protection provided to California's rare, endangered, and threatened species. Section 2080 of the FGC prohibits the taking of plants and animals listed under the CESA. Section 2081 established an incidental take permit program for state listed species. The CDFW maintains a list of "candidate species," which it formally notices as being under review for addition to the list of endangered or threatened species. In addition, the Native Plant Protection Act of 1977 (FGC Section § 1900, *et seq*.) prohibits the taking, possessing, or sale within the State of any plants with a state designation of rare, threatened, or endangered (as defined by CDFW). An exception to this prohibition in the Native Plant Protection Act allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify CDFW and give that state agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed. (FGC Section 1913 exempts from "take" prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way.") Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of a proposed project.

CDFW also maintains lists of "Species of Special Concern" that serve as species "watch lists." The CDFW has identified many Species of Special Concern. Species with this status have limited distribution or the extent of their habitats has been reduced substantially, such that their populations may be threatened. Thus, their populations are monitored, and they may receive special attention during environmental review. While they do not have statutory protection, they may be considered rare under the state of California Environmental Quality Act (CEQA) and thereby warrant specific protection measures.

Sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA. CEQA Guidelines Section 15065 (Mandatory Findings of Significance) requires that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines Section 15380 (Rare or Endangered Species) provides for assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing. Unlisted plant species on the CNPS's Lists 1A, 1B, and 2 would typically be considered under CEQA.

Sections 3500 to 5500 of the FGC outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. The CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of wildlife.

Under Section 3503.5 of the FGC, it is unlawful to take, possess, or destroy any birds in the orders of *Falconiformes* or *Strigiformes* (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. To comply with the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project study area and determine whether the proposed project will have a potentially significant impact on such species. In addition, CDFW encourages informal consultation on any proposed project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of the CESA. "Take" of protected species incidental to otherwise lawful management activities may be authorized under FGC Section 206.591. Authorization from CDFW would be in the form of an Incidental Take Permit.

California Native Plant Society

The California Native Plant Society (CNPS) maintains a rank of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS ranked plants receive consideration under CEQA review. The following identifies the definitions of the CNPS ranks:

- **Rank 1A:** Plants presumed Extinct in California;
- **Rank 1B:** Plants Rare, Threatened, or Endangered in California
- **Rank 2:** Plants Rare, Threatened, or Endangered in California, numerous elsewhere;
- **Rank 3:** Plants about which we need more information—A Review List; and
- **Rank 4:** Plants of limited distribution—A Watch List.

All plants appearing on CNPS Lists 1 or 2 are considered to meet the CEQA Guidelines Section 15380 criteria. While only some of the plants ranked 3 and 4 meet the definitions of threatened or endangered species, the CNPS recommends that all Rank 3 and Rank 4 plants be evaluated for consideration under CEQA.

CEQA Guidelines

The following CEQA Guidelines serve as thresholds of significance for determining potentially significant impacts to the biological resources identified in this report:

- Has a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Has a substantial adverse effect on federally protected wetlands as defined by Sections 10 and/or 404 of the CWA through direct removal or filling;
- Interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impedes the use of native wildlife nursery sites;
- Conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflicts with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, state or federal habitat conservation plan.

Methods

The literature review and field survey provide a baseline from which to evaluate the biological resources potentially occurring on the project site as well as the surrounding area. In addition, the recent biological study from 2023 on the adjacent parcel to the west also provides useful biological baseline information.

As part of the literature review, DRG biologists examined existing recent environmental documentation for the project site and local vicinity. This documentation included the previous environmental studies for the area; literature pertaining to habitat requirements of special-status species potentially occurring in the vicinity of the project site; and federal register listings, protocols, and species data provided by the USFWS. Specifically, these documents included:

- California Natural Diversity Database 5-mile radius records search of the Big Bear City USGS 7.5-minute quadrangle;
- California Native Plant Society (CNPS) online Inventory of Rare and Endangered Plants of California records search of the USGS 7.5-minute quadrangle;
- USFWS Information for Planning and Conservation (IPaC) was developed and provided a list of Federally protected plants, wildlife, and critical habitat for the limits of the proposed project site, and
- CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities

The literature reviewed also included the United States Department of Agriculture Soil Survey for the project site and the current USGS 7.5-minute topographic quadrangle maps and recently flown aerial photographs as a preliminary analysis of the existing conditions within the project site and immediate vicinity. Information obtained from the review of the topographic maps included elevation range, general watershed information, and potential drainage feature locations. Aerial photographs provided a perspective of the most current site conditions relative to onsite and offsite land use and plant community locations.

Prior to conducting the field survey, DRG biologists reviewed USGS topographic maps and aerial photography to identify any potential sensitive habitats such as pebble plains and natural drainage features and water bodies.

Field Survey

Field surveys were conducted by DRG on August 7-8, 2024, consisting of daytime and nighttime surveys to ensure optimal species detection. Specifically, surveys involved meandering transects to target any suitable habitats for these species as well as microhabitat requirements such as rock outcrops, pebble plains, or unique plant associations within the site boundaries (Figure 2). Given the extent of survey coverage, all potential habitats and associated habitat features were evaluated during surveys.

Vegetation and plant species observed during surveys were identified by visual characteristics and morphology in the field. Uncommon and less familiar plants were identified offsite with the use of

taxonomic guides. Vegetation communities and boundaries were noted on current aerial photography and through field observation. Habitat types were based on the classification system from *A Guide to Wildlife Habitats of California* (CDFW 1988). Vegetation community and land cover types used to help classify habitat types are based on Holland (1986) and Oberbauer (1996) and cross-referenced with the CNDDB.

Wildlife species detected during the survey by sight, calls, tracks, scat, or other signs were recorded in a field notebook. Notations were made regarding suitable habitat for those special-status species determined to potentially occur within the project site (CDFW 2018). Appropriate field guides were used to assist with species identification during surveys, such as Peterson (2010), Reid (2006), and Stebbins (2003).

Results

Vegetation

Vegetation on the site is composed of mixed coniferous forest typical of the Big Bear Lake region. Mixed coniferous forest is generally found above 5,000 feet elevation, with exceptions occurring on certain soil types and south exposures where available soil moisture is insufficient to support conifer trees. The conifer forest located on the site consists of Jeffrey pine (*Pinus jeffreyi*) and incense cedar (*Calocedrus decurrans*), western juniper (*Juniperus occidentali*s), Singleleaf Pinyon Pine(*Pinus edulis)* with occasional California black oak (*Quercus kelloggi*) and shrubs such as flannelbush (*Fremontodendron californica*), chamise (*Adenostoma fasciculatum*), sagebrush (*Artemisia californica*), and yerba santa (*Eriodictyon* sp.) intermix with cacti and wildflowers such as prickly pear, prickly poppy, and mariposa lilies. Pebble plain habitats that support special-status plants occur in areas to the west, however, do not occur on the site.

Wildlife

The vegetation communities discussed above support habitat for numerous common wildlife species typically found in these areas. Wildlife species observed on the site include mountain chickadee (*Poecile gambeli*), mountain quail (*Oreortyx pictus*), common raven (*Corvus corax*), and turkey vulture (*Cathartes aura*).

Special-Status Species

The following section discusses the potential for special-status biological resources to occur on the site.

<u>Plants</u>

Special-status plant species are those considered rare, threatened, or endangered by the USFWS, CDFW, and CNPS. Based on the literature review and CNDDB data, a total of 12 special-status plant species are known to occur in the area. Several of these species occur in pebble plain habitats that are in the area, but not located on the site. As part of the special-status plant survey, we visited the Dixie Lane pebble plains botanical area. During this time, we identified Big Bear Valley buckwheat (*Eriogonum kennedyi austromontanum*) in association with flat open rocky areas adjacent to the site.

Wildlife

Special-status wildlife species are those considered rare, threatened, or endangered by the USFWS and CDFW. Federally listed threatened and/or endangered wildlife species that have been recorded in the CNDDB as occurring within 5 miles of the project area include sensitive species such as southern rubber boa, southwestern flying squirrel, and California spotted owl. These species, as well as nesting birds protected by the MBTA were the target of focused surveys in this study.

SOUTHERN RUBBER BOA

The southern rubber boa (SRB) is a small stout-bodied snake reaching 14-25 inches in total length. Dorsal coloration ranges from tan to olive-green in adults, while juveniles are pink to tan in color. SRB occupies oak-conifer and mixed-conifer forest from 5,000 to 8,000 feet in elevation where it uses fallen trees, rotting logs, rocks, and other debris as cover (CDFG, 1987). This species is nocturnal during summer months and crepuscular during the spring and fall. Active individuals have been recorded during low temperatures (50 F). Once preferred microhabitats dry out and desiccate, SRB retreat underground and surface activity is limited to late afternoon and evening hours. The life-span of SRB is long relative to other snake species, with individuals known to live up to 50 years in the wild (Stebbins and McGinnis, 2012). Their diet consists of small mammals, birds, and lizards. When threatened, SRB will coil up, hide its head, and expose its tail to the predator. This behavior results in many individuals having heavily scarred or missing tails.

Upon completion of field surveys, biologists determined that although rubber boas could occur, their likelihood of occurrence is very low given the overall dry conditions on the site and lack of microhabitat features. For these reasons, it is unlikely that rubber boas will be adversely affected by the project.

CALIFORNIA SPOTTED OWL

The California spotted owl is a subspecies of spotted owl that occurs throughout the Sierra Nevada mountain range in California and Nevada; in southern and coastal California in the Coastal, Transverse, and Peninsular mountain ranges; and in Sierra San Pedro Martir in Baja California Norte, Mexico. California spotted owls are mostly found on lands managed by the U.S. Forest Service and National Park Service. California spotted owls generally inhabit older forests that contain structural characteristics necessary for nesting, roosting, and foraging. In the Sierra Nevada range, a majority of California spotted owls occur within mid-elevation ponderosa pine, mixed conifer, white fir, and mixed-evergreen forest types, with fewer owls occurring in the lower elevation oak woodlands of the western foothills. On the central coast of California and in southern California, the owls are found in riparian /hardwood forests and woodlands, live oak/big cone fir forests, and redwood/California laurel forests. Nests are typically found in areas of high canopy cover, a high number of large trees, and downed trees.

Spotted owls were not detected during surveys and are likely absent from the site given the open nature of the forest and lack of structural characteristics available in older growth forest habitats. For this reason, this species is not expected to be adversely affected by the project.

SAN BERNARDINO FLYING SQUIRREL

The San Bernardino flying squirrel is the terminal southern subspecies of northern flying squirrel in the western United States. Historically, the San Bernardino flying squirrel occurred in three populations that are all isolated from northern flying squirrel populations in the southern Sierra Nevada mountain range. The three populations historically occurred in the San Bernardino, San Gabriel and San Jacinto mountains, although there are only museum specimens for populations in the San Bernardino and San Jacinto populations (Brylski 1998). Rhoads (1987) initially described the subspecies, but more recent studies of mitochondrial DNA have confirmed the subspecies classification (Arbogast 1999, Arbogast 2007). Little is known about the life history characteristics of the San Bernardino flying squirrel. However, at the species level the northern flying squirrel has been studied extensively across much of its range.

In forests of the Pacific Northwest, northern flying squirrels have been proposed as a keystone species, due to their importance to forest health and its importance in the diet of the federally threatened northern spotted owl (*Strix occidentalis caurina*; Smith 2007). Northern flying squirrels can occupy a broad range of habitats, but in general they prefer old growth or mature coniferous forests, with continuous closed canopy cover, and rich understory structural complexity (Smith et al. 2003).

Northern flying squirrels have been proposed as a K-selected species due to their relatively long life-span (>7 years) relative to body size, small litter sizes (2-3), seasonal reproduction (spring), and delayed maturation (>1-year-old at 1rst reproduction; Wells-Gosling and Heaney 1984). Reported home range sizes (core nesting area) are quite variable (0.2-9ha) and variation is likely related to local food availability. Also, males have more variable and sometimes larger home ranges. Males and juveniles have larger measured dispersal distances, where the largest measured dispersal of a male was 1.5km and the largest measured dispersal of a juvenile was 2.1km (Smith 2007, Wiegl 1999).

Northern flying squirrels are primarily mycophagous and their diet largely consists of hypogeous fungi supplemented by secondary foods such as berries, seeds, nuts and eggs (Maser et al. 1978, Wells-Gosling and Heaney 1984). Specifically, northern flying squirrels appear to favor Rhizopogon and Gauteria fungi truffles and patterns of habitat selection likely reflect suitable habitat for the growth of these fungi. For example, northern flying squirrels are associated with coarse woody debris, which provides microhabitats that support the growth of hypogeous fungi (Carey 1999, Lehmkuhl 2004). A variety of avian and mammalian predators are known to consume northern flying squirrels, but significant predation is likely limited to the specialist predator northern spotted owl (Forsman et al. 2004), and generalist predators such as barred owls (Strix varia; Wiens et al. 2014), martens (*Martes americana*; Bull 2000), ermines (*Mustella erminea*; Wilson and Carey 1996), and long-tailed weasels (*Mustella frenata*; Wilson and Carey 1996). Northern flying squirrels are the most common prey identified in the diets of northern spotted owls in Washington and Oregon, but are much less prevalent in the southern portions of northern flying squirrels range (Forsman et al. 2004, Smith et al. 1999). Much of the suitable habitat for the subspecies San Bernardino flying squirrel, lies within the San Bernardino National Forest, with distribution potentially fragmented by fire and changes in vegetative cover along the Santa Ana River (Brylski 1998). The San Bernardino flying squirrel occupies high elevation (6,000’- 8,000’) mixed coniferous forests characterized by white-fir (*Abies concolor*), Jeffrey pine (*Pinus jeffreyi*), and black oak (*Quercus kelloggii*; Butler et al. 1991). Successful trapping efforts targeting northern flying squirrels characterize habitat as mature to over-mature mixed conifer with relatively closed canopy, heavy duff, and close proximity to annual or ephemeral streams (Butler et al. 1991).

Fecal pellet analysis of San Bernardino flying squirrels indicate primary consumption of hypogeous fungi (Genera: Melanogaster, Hymenogaster, Gymnomyces) with supplemental consumption of Jeffrey pine pollen, plant material and insect parts (Butler et al. 1991). There is no available

demographic information on the San Bernardino fly squirrel, but Brylski (1998) suggests that population densities are substantially less then populations in the Pacific Northwest.

San Bernardino flying squirrels were not detected during surveys and are likely absent from the site given the open nature of the forest and lack of forage. For this reason, this species is not expected to be adversely affected by the project.

MBTA PROTECTED NESTING BIRDS

Although a number of avian species undoubtedly forage on the site and these species could nest onsite, no nests were found during surveys. Given the potential for birds to nest on the site, further surveys may be necessary given the timing of project activities.

Discussion and Recommendations

Although no special-status plant or wildlife species are expected to be adversely affected by the project, potential effects could occur to common resident and migratory species during any construction periods. Increased activity levels associated with various project activities could be disruptive to nesting birds. These activities could potentially subject birds to risk of death or injury, and they are likely to avoid using the area until such project activities have dissipated or ceased. Relocation, in turn, could cause hunger or stress among individual birds by displacing them into adjacent territories belonging to other individuals. The following measures will minimize adverse effects to common bird species:

- If vegetation removal or ground disturbance activities are scheduled to commence during the breeding season (February 1 through August 31), an additional pre-construction nesting bird survey should be conducted to identify any possible nesting activity.
- Pre-construction surveys shall be completed no more than 30 days prior to ground disturbance within the project site and will include a 100-ft buffer area of the project site to be surveyed.
- A construction-free buffer of suitable dimensions must be established around any active raptor and migratory bird nests (up to 250 feet for raptors, depending on the location and species) for the duration of the project or until it has been determined that the young have fledged and are independent of their parents.
- As an alternative to the above measures, the project applicant may choose to remove vegetation that could be potential nesting habitat during the non-breeding season from September 1st through January 31st.

Please contact me at 916.305.5823 or brian.mayerle@davey.com, if you have any questions or need additional information.

Brian Mayerle

Senior Biologist/Project Developer

Davey Resource Group
916.305.5823
brian.mayerle@davey.com

Attachments: 1. Site and Vicinity
2. Map of Site Survey (Proposed Youth Sports Complex)
3. Site Photos

Figure 1. Youth Sports Complex Botanical and Biological Field Survey Vicinity Map

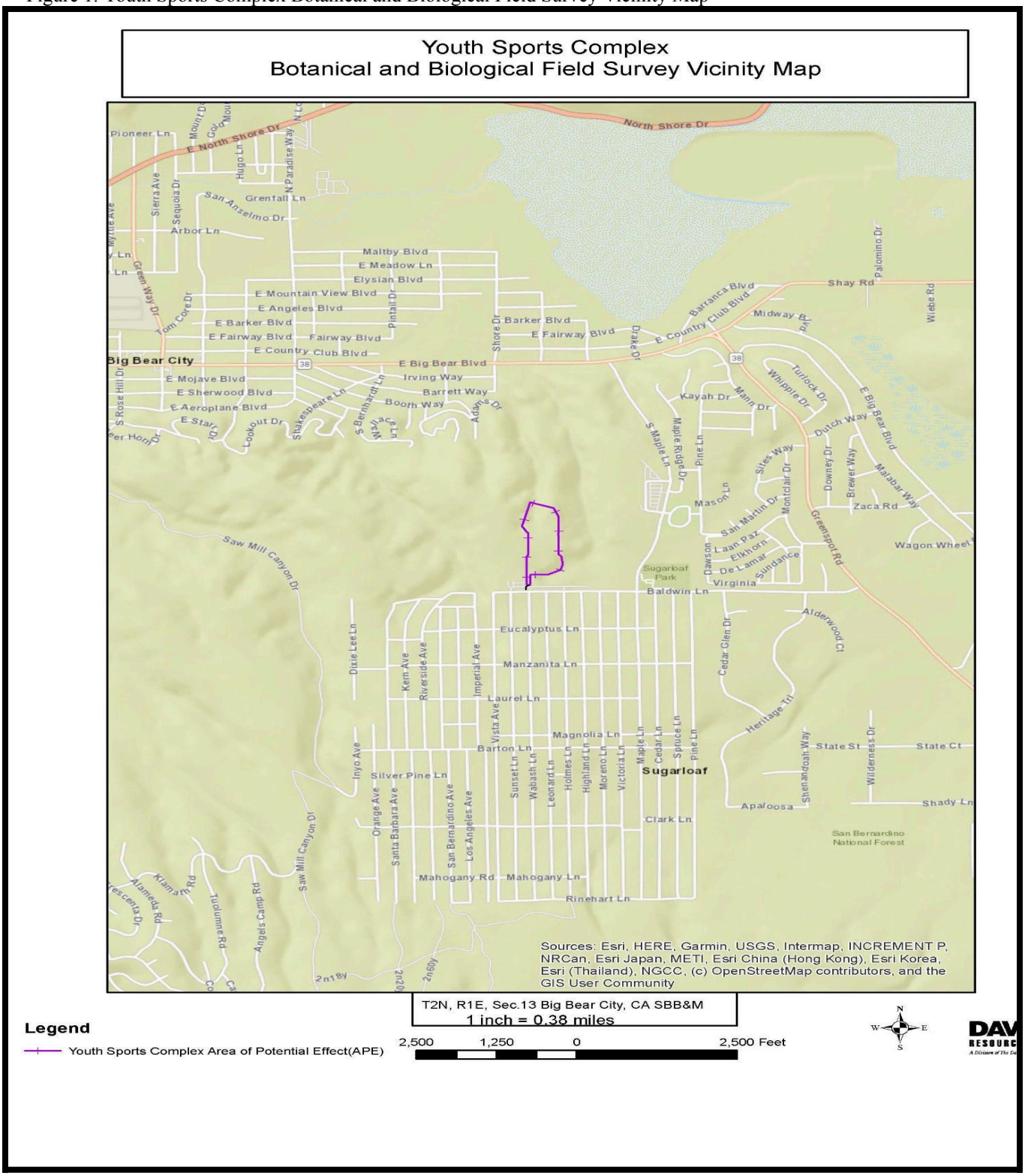
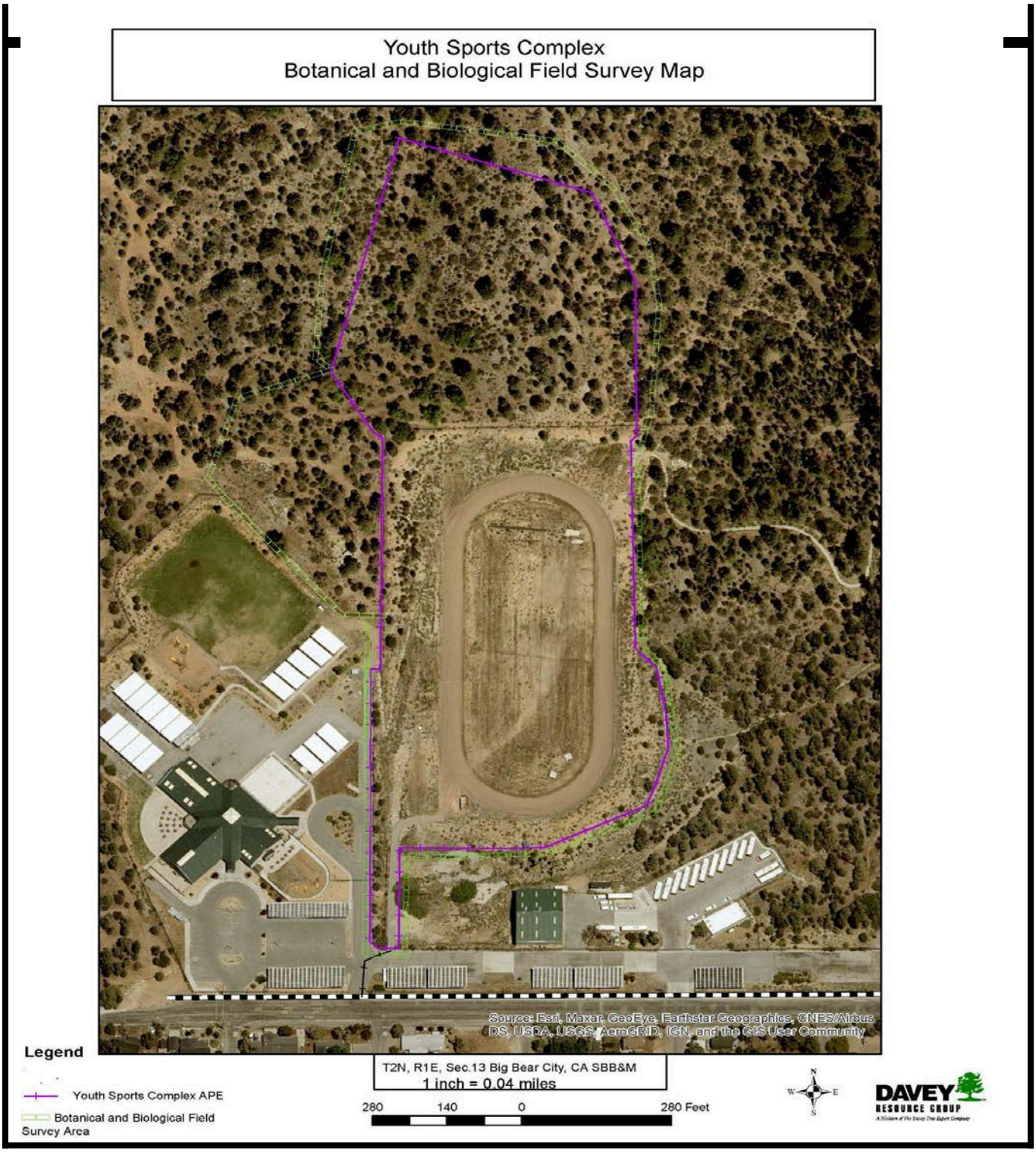


Figure 2. Youth Sports Complex Botanical and Biological Field Srvey Map







Photos 1-2: Field Conditions on Youth Sports Complex Site





Photos 3-4: Field Conditions on Youth Sports Complex Site

APPENDIX 4

CULTURAL RESOURCES REPORT

August 16, 2024

Kaitlyn Dodson-Hamilton
Tom Dodson & Associates
2150 N. Arrowhead Ave
San Bernardino, CA 92405

Subject: Cultural Resources Assessment for the Bear Valley Unified School District Education Foundation Youth Sports Complex Project

Dear Ms. Kaitlyn Dodson-Hamilton,

At your request, Mojave Archaeological Consulting, LLC has prepared a cultural resources assessment for the Bear Valley Unified School District (BVUSD) Education Foundation Youth Sports Complex Project, located east of Baldwin Lane Elementary School at 44500 Baldwin Lane in Sugarloaf California, unincorporated San Bernardino County (see Attachment A, Map 1). BVUSD is the lead agency for compliance with the California Environmental Quality Act (CEQA). The purpose of this letter report is to provide BVUSD with the information and analysis to determine the potential for the proposed project to impact historical or archaeological resources under CEQA.

The project is located within APNs 0312-311-22 and -25 within Section 13 of Township 2 North, Range 1 East on the Big Bear City, California USGS 7.5-minute quadrangle (see Attachment A, Map 2). The project site consists of approximately 13.5 acres where BVUSD proposes to develop a youth sports complex. Approximately 9 acres of the site consists of an existing track and field while the remaining 4.53 acres is currently undeveloped. BVUSD plans to construct 3 sports fields on the site, with associated facilities including backstops, parking, fencing, access road, and utility connections. The project will require clearing, grading, and compacting within the 13.5-acre site.

In order to identify any "historical resources" as defined by CEQA, Mojave Archaeological Consulting initiated a records search with the South Central Coastal Information Center (SCCIC), requested a search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) and a list of Native American contacts, and conducted a pedestrian field survey. The investigation was carried out by Michelle Hart, M.A. Ms. Hart has more than 11 years of experience conducting cultural resource studies and meets the Secretary of Interior's professional qualifications standards for archaeology, architectural history, and history.

Research

Previous Reports

On June 10, 2024, Mojave Archaeological Consulting requested a records search of the California Historical Resources Information System (CHRIS) from the SCCIC, which included a 0.5-mile-wide buffer (study area) of the project site. The results of the search were received on August 15, 2024. Based on the results of the data received from the SCCIC, as well as one additional forwarded report, there are a total of 31 previous cultural resources investigations within the 0.5-mile search area (Table 1). Of these investigations, three have covered the project site, or portions of the project site, and are briefly summarized below:

- In 1981, consulting archaeologist JoAnne C. Leonard completed a cultural resources survey for a proposed land division in the vicinity of Sugarloaf southwest of Baldwin Lake (Leonard 1981). The survey encompassed 270 acres, including the entirety of the current project site. During the survey, two isolated prehistoric artifacts were recorded, both consisting of quartzite flakes. Based on the information provided within the report, it does not appear that either of the artifacts were found within the project site. Additionally, Leonard assessed the likelihood of buried cultural deposits in the area to be low.
- In 2004, archaeologists with Applied Earthworks completed a survey on behalf of the Natural Resources Conservation Service for a tree removal project (Mirro 2004). The survey encompassed 204 acres southwest of Baldwin Lake. The survey covered approximately 4 to 5 acres within the current project site, to the north of the track and field. No cultural resources were identified during the survey, either within or outside of the project site.
- In 2021, CRM TECH archaeologists surveyed approximately 15 acres north and west of Baldwin Lane Elementary School for the Maple Hill Community Fields Project (Tang and Hogan 2021). The survey covered approximately 3 acres of the current project site, to the north of the track and field (see Map 3). No cultural resources were identified during the survey.

Table 1: Previous Surveys within 0.5-miles of the Project Site

Number	Year	Author(s)	Title	Within Project Site
SB-00210	1974	San Bernardino County Museum Association	Archaeological Resources Impact Report: Kern Rock Mobile Home Park	No
SB-00297	1976	Gerald A. Smith	"Sawmill" Timber Sale and Land Exchange Review of Archaeological Reconnaissance.	No
SB-00603	1978	Joseph E. Hearn	Archaeological-Historical Resources Assessment for Tract No. 7105; Big Bear City	No
SB-00659	1979	Joseph E. Hearn	Maple Lane East to State Highway 38, Big Bear Area, HO 6245	No
SB-00969	1980	San Bernardino County Museum Association	Environmental Impact Analysis: A Cultural Resource Evaluation of Tentative Tract 11512, Big Bear City, San Bernardino County, California	No
SB-01016	1980	Joanne C. Leonard	An Archaeological Assessment of Tentative Tract No. 11647	No
SB-01123	1981	Michael K. Lerch	Cultural Resources Assessment of Tentative Tract No. 8236, Sugarloaf Area, San Bernardino County	No
SB-01222	1981	JoAnne C. Leonard	A Cultural Resource Assessment of 270 Acres in the Sugarloaf Vicinity	Yes
SB-03858	2002	Fred E. Budinger	A Section 106 Historic Preservation Review of the Proposed Verizon Wireless Greenspot Unmanned Cellular Telecommunications Site to be Located Near Baldwin Ave & N. Maple Lane, Big Bear City, San Bernardino County, California	No
SB-04126	2003	Michael Dice	Records Search Results and Site Visit for Spring Telecommunication Facility SB33XC256C (San Bernardino County Tower) Near Baldwin Lake, Big Bear City, San Bernardino County, California	No

Number	Year	Author(s)	Title	Within Project Site
SB-04612	2004	Michael Mirro	Cultural Resources Survey of Highway 18 Extension 2 (Baldwin Lake Road) Between Big Bear City and the Baldwin Lake Road Intersection with State Route 18, California	No
SB-04665	2006	Michael Mirro	Cultural Resources Survey of 41 acres on the Peterson Santiso Property for the Natural Resources Conservation Service	No
SB-05157	2004	Michael Mirro	Cultural Resources Survey of 204 Acres on the RCK Property for the Natural Resources Conservation Service	Yes
SB-05304	2006	Michael Mirro	Cultural Resources Survey of 292 Parcels Encompassing 145.9 acres within the Urban Parcel BBC 1999 Project Area for the Natural Resources Conservation Service	No
SB-05311	2006	Michael Mirro	Cultural Resources Survey of 83 Parcels Comprising 15.09 acres within the Urban Large Parcel BBC 193 Project Area for the Natural Resources Conservation Service	No
SB-05382	2006	Michael Mirro	Cultural Resources Survey of 341 Parcels Encompassing 396.6 acres within the Urban Large Parcel BBC 202 Project Area for the Natural Resources Conservation Service	No
SB-05384	2007	Michael Mirro	Cultural Resources Survey of 209 Parcels Encompassing 513.3 acres within the Urban Large Parcel BBC 210 Project Area for the Natural Resources Conservation Service	No
SB-05572	2007	Dicken Everson	Archaeological Survey Report for State Route 38 New Traffic Signal and West-Bound Left-Turn Lane Community of Big Bear City, San Bernardino County, California	No
SB-05581	2005	Michael Mirro	Cultural Resource Survey of Highway 38 Between State Route 18 at Big Bear Dam and Mill Creek Canyon	No
SB-06008	2007	Michael Mirro	Cultural Resources Monitoring of State Route 38 in the San Bernardino Mountains for the Natural Resources Conservation Service	No
SB-06106	2008	John Stephen Alexandrowicz , Ian Craig and Thaddeus Besedin	A Historical Resources Investigation at the Sawmill Project in the Vicinity of Big Bear City and Moonridge, San Bernardino County, California	No
SB-06397	2008	Thomas W. Tory	Dept. of Forestry and Fire Protection. CCR 1038 Exemption	No
SB-06405	2009	Jimmy Smith	Confidential Archaeological Letter for the McCoy Forest Fire Prevention Exemption, San Bernardino County, California	No
SB-06412	2009	Bai Tang	Addendum to Historical/Archaeological Resources Survey Report Carrari Ranch Specific Plan (Formerly Tentative Tract No. 16925) in and Near the City of Rancho Cucamonga, San Bernardino County, California	No
SB-06617	2009	Peter Feller	Confidential Archaeological Letter for the Brown Fire Forest Prevention Exemption, San Bernardino County, California	No
SB-06619	2009	Bai “Tom” Tang, Terri Jacquemain, Daniel Ballester, and Laura H. Shaker	Identification and Evaluation of Historic Properties Big Bear Lake Department of Water and Power Infrastructure Improvement Project in and Near the City of Big Bear Lake, San Bernardino County, California	No
SB-06699	2009	Peter Feller	Confidential Archaeological Letter for the Ospina Forest Fire Prevention Exemption, San Bernardino County, California	No

Number	Year	Author(s)	Title	Within Project Site
SB-07018	2011	Wayne H. Bonner	Cultural Resources Records Search and Site Visit Results for T-Mobile USA Candidate IE25964-A (Perry Reservoir), 201 Maple Lane Big Bear City, San Bernardino County, California	No
SB-07714	2004	Dennis McDougall	Cultural Resources Investigation, Second Addendum: Cultural Resource Survey of Seven Proposed Compliance Monitoring Well Locations and Access Routes for Interim Measures No. 3: Topock Compressor Station Expanded Groundwater Extraction and Treatment System, San Bernardino County, California	No
SB-07735	2013	Kyle Garcia	Results of Archaeological Monitoring Services for the Maple Lane Drainage Improvement Project: County of San Bernardino, California	No
N/A; Pending Entry	2021	Bai "Tom" Tang and Michael Hogan	Historical/Archaeological Resources Survey Report Bear Valley Unified School District Education Foundation Maple Hill Community Fields Project, 44500 Baldwin Lane, Sugarloaf Area, San Bernardino County, California	Yes

Previous Resources

The SCCIC data indicates that nine cultural resources have been previously documented within the 0.5-mile study area (Table 2). These resources include historic refuse scatters and dumps, historic roads, an isolated historic artifact, and one isolated prehistoric lithic tool. None of the previously recorded resources lie within or adjacent to the project site. The nearest recorded resource is a historic refuse dump, located approximately 0.25 miles to the northwest of the project site, the remainder of the resources are approximately 0.5-miles away.

Table 2: Previously Recorded Resources within 0.5-Miles of the Project Site

Resource Number	Resource Description	Within Project Site?
P-36-013245	Historic refuse scatter	No
P-36-019868 CA-SBR-13206H	Historic refuse dump	No
P-36-024051 CA-SBR-015236H	Historic road (Bufflehead Drive)	No
P-36-024052 CA-SBR-015237H	Historic road (Teal Drive)	No
P-36-024077 CA-SBR-015262H	Historic road (Bluebill Drive)	No
P-36-024547 CA-SBR-015588H	Historic road (Shore Drive)	No
P-36-026802	Historic artifact (early 1900's chauffer badge)	No
P-36-026803	Historic refuse dump	No
P-36-060173	Prehistoric lithic tool	No

Historic Maps and Aerial Imagery

Maps and aerial imagery were also reviewed to determine the historic land uses in the study area. Available sources included General Land Office (GLO) land survey plat maps dating to 1858, USGS topographic quadrangle maps dating from 1902 through the 1990's, and aerial imagery dating from 1938 to modern periods. On the 1858 GLO plat, an "Indian Trail" is mapped approximately 0.5 miles southwest of the project site. No other cultural features were mapped in the area at that time. By 1902 a road was present on the south side of Big Bear and Baldwin Lakes about 0.5 miles north of the project site, this road was the predecessor to Rim of the World Drive. The residential community of Sugarloaf was laid out by 1938 and is depicted as a grid of dirt roads with little evidence of further development. By the 1960's there is an increasing number of residences and roads in the area. No residences or other buildings or structures are apparent near the project site until Baldwin Lane Elementary School was constructed sometime between the 1980's and 1995. In summary, the project site and surrounding lands remained as undeveloped forest land through the 1960's and no buildings or structures appear to have ever been present within the immediate project site. In all, historic maps and aerial imagery suggest that the project is in an area that is low in sensitivity for historic period cultural resources.

A Sacred Lands File (SLF) search was requested from the Native American Heritage Commission (NAHC) on June 10, 2024. The NAHC responded on June 21, 2024 and stated the SLF search identified unspecified Native American cultural resources in the general vicinity of the project site. They recommended that the San Manuel Band of Mission Indians be contacted for further information (see Conclusions below for further discussion).

Field Survey

While the records search indicated the entirety of the project site had been previously surveyed, approximately 10.5 acres had not been surveyed in recent decades. As the older surveys are considered to be out of date for compliance purposes, an intensive pedestrian survey of all areas not covered by the recent 2021 survey by CRM TECH was completed on June 09, 2024 (see Attachment A, Map 3). The intensive survey was conducted using transects spaced no more than 15 meters apart. The majority of the survey area had been previously disturbed for the existing track and field and had very little vegetation cover. As such, ground visibility was generally excellent (approximately 90 percent) throughout most of the project site. A small area north of the track and field retains some native forest habitat; in this area ground visibility averaged approximately 70 percent. To assess the potential for buried cultural deposits, soil profiles were examined at locations of rodent burrows, previously excavated soils, and other natural and artificial exposures. No cultural resources were identified during the field survey. Photographs depicting the survey are provided in Attachment B.

Conclusions

Mojave Archaeological Consulting assessed the proposed project site for potentially significant resources under CEQA. No cultural resources have been previously recorded within or adjacent to the project site in any previous investigations, and the current pedestrian survey likewise did not identify any prehistoric or historic cultural resources.

It should be noted that as with the earlier 2021 cultural resource investigation by CRM TECH, the Sacred Lands File search still indicates there may be unspecified Native American cultural resource(s) in the general area and the NAHC recommends the San Manuel Band of Mission Indians be contacted for further information regarding these potential resources. The NAHC's reply, and the contact information for the San Manuel Band of Mission Indians, as well as other Native American Tribes who may also have

knowledge of cultural resources in the area are included in Attachment C to assist BVUSD with any requests for further information and for reference for any consultation if applicable.

Based on the findings of the current investigation, and the level of previous disturbance within the boundaries of the project site, the project is assessed as having a very low sensitivity for any buried cultural deposits. Considering this, pending any requests from the San Manuel Band of Mission Indians or other Tribes resulting from any applicable consultation, no further cultural resources work is recommended necessary for the proposed project activities. However, in the event that potentially significant archaeological materials are encountered during construction, all work must be halted in the vicinity of the discovery until a qualified archaeologist can assess the significance and integrity of the find. If intact and significant archaeological remains are encountered, the impacts of the project should be mitigated appropriately. Any such discoveries, and subsequent evaluation and treatment, should be documented in a cultural resources report, which would be submitted to the SCCIC for archival purposes. Additionally, Health and Safety Code Section 7050.5, CEQA Statute & Guidelines Section 15064.5(e), and PRC Section 5097.98 mandate the process to be followed in the event of a discovery of human remains. Finally, if the project is expanded to include areas not covered by this survey or other recent cultural resource investigations in the study area, additional cultural resource investigations may be required.

If you have any questions or comments regarding these findings and recommendations, please contact me at (760) 583-3445 or michelle@mojavearchaeology.com.

Sincerely,

M. Hart

Michelle Hart, M.A.
Principal Investigator/ Cultural Resources Consultant

Attachments

A: Project Maps
B: Survey Photographs
C: Response from Native American Heritage Commission

References

Leonard, Joanne C.

1981 *Cultural Resource Assessment of 270 Acres in the Sugarloaf Vicinity*. On file with the South Central Coastal Information Center, Fullerton, California.

Mirro, Michael

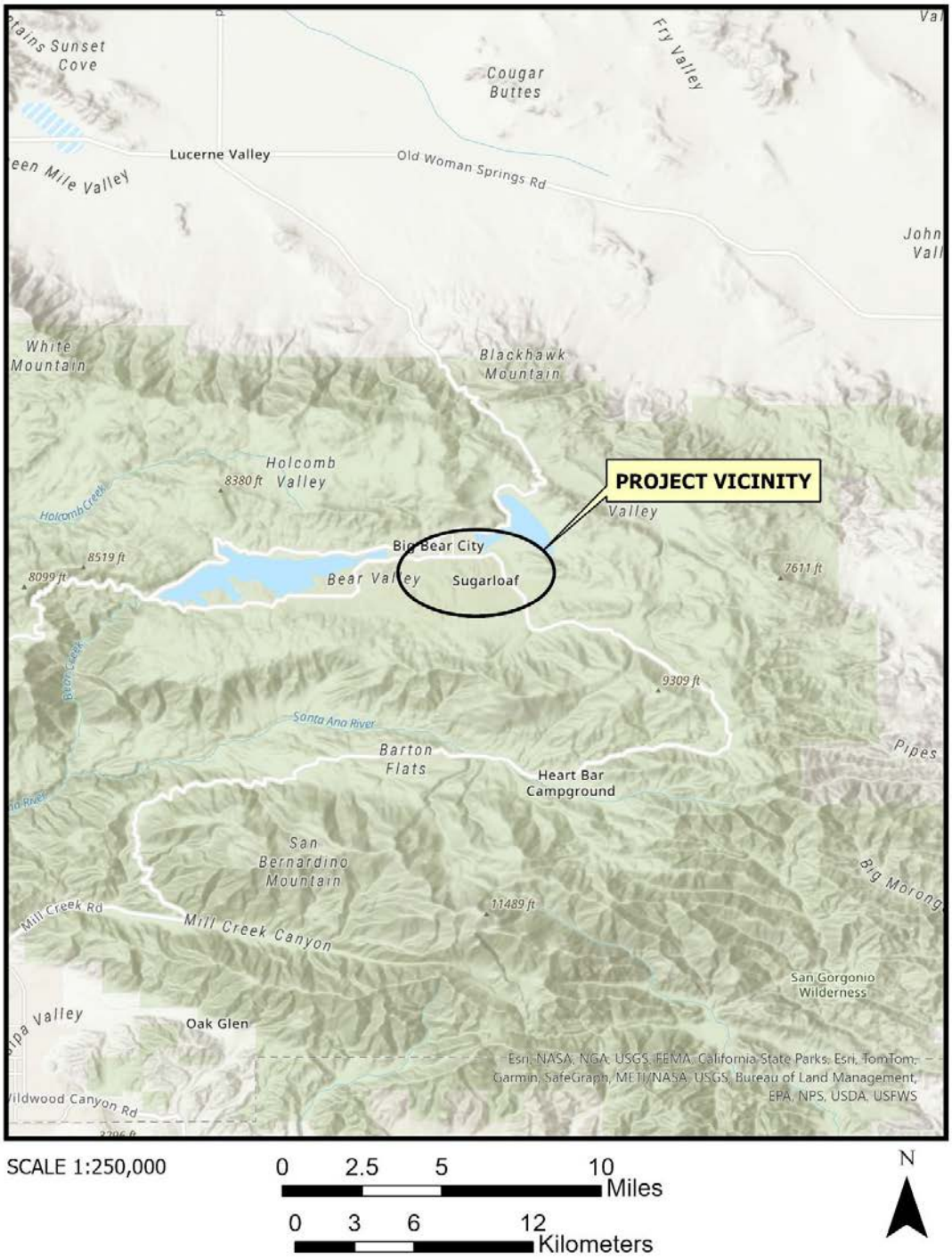
2024 *Cultural Resources Survey of 204 Acres on the RCK Property for the Natural Resources Conservation Service*. Letter report. On file with the South Central Coastal Information Center, Fullerton, California.

Tang, Bai "Tom" and Michael Hogan

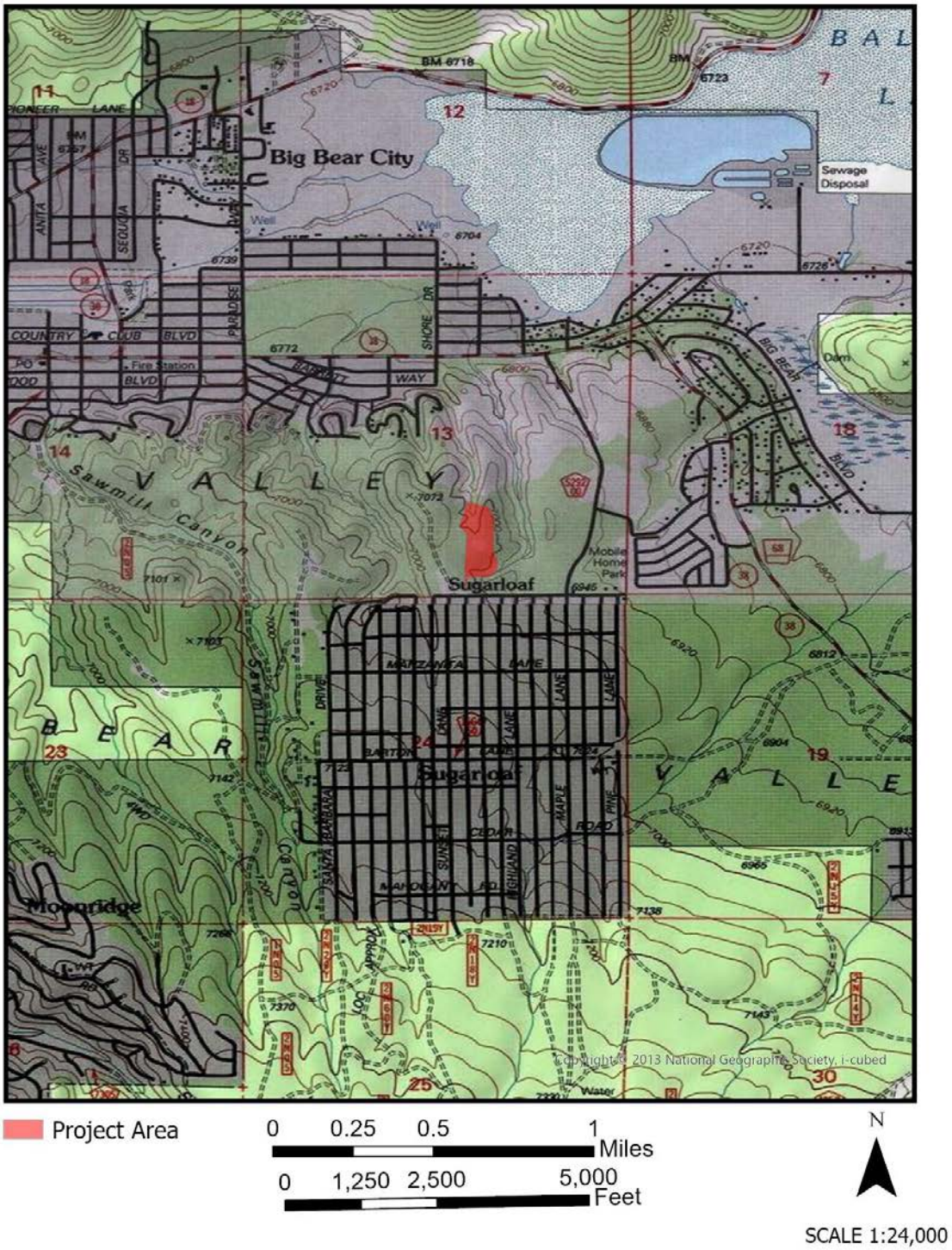
2021 *Historical/Archaeological Resources Survey Report, Bear Valley Unified School District Education Foundation Maple Hill Community Fields Project 44500 Baldwin Lane, Sugarloaf Area, San Bernardino County, California*. On file with Tom Dodson and Associates.

Attachment A

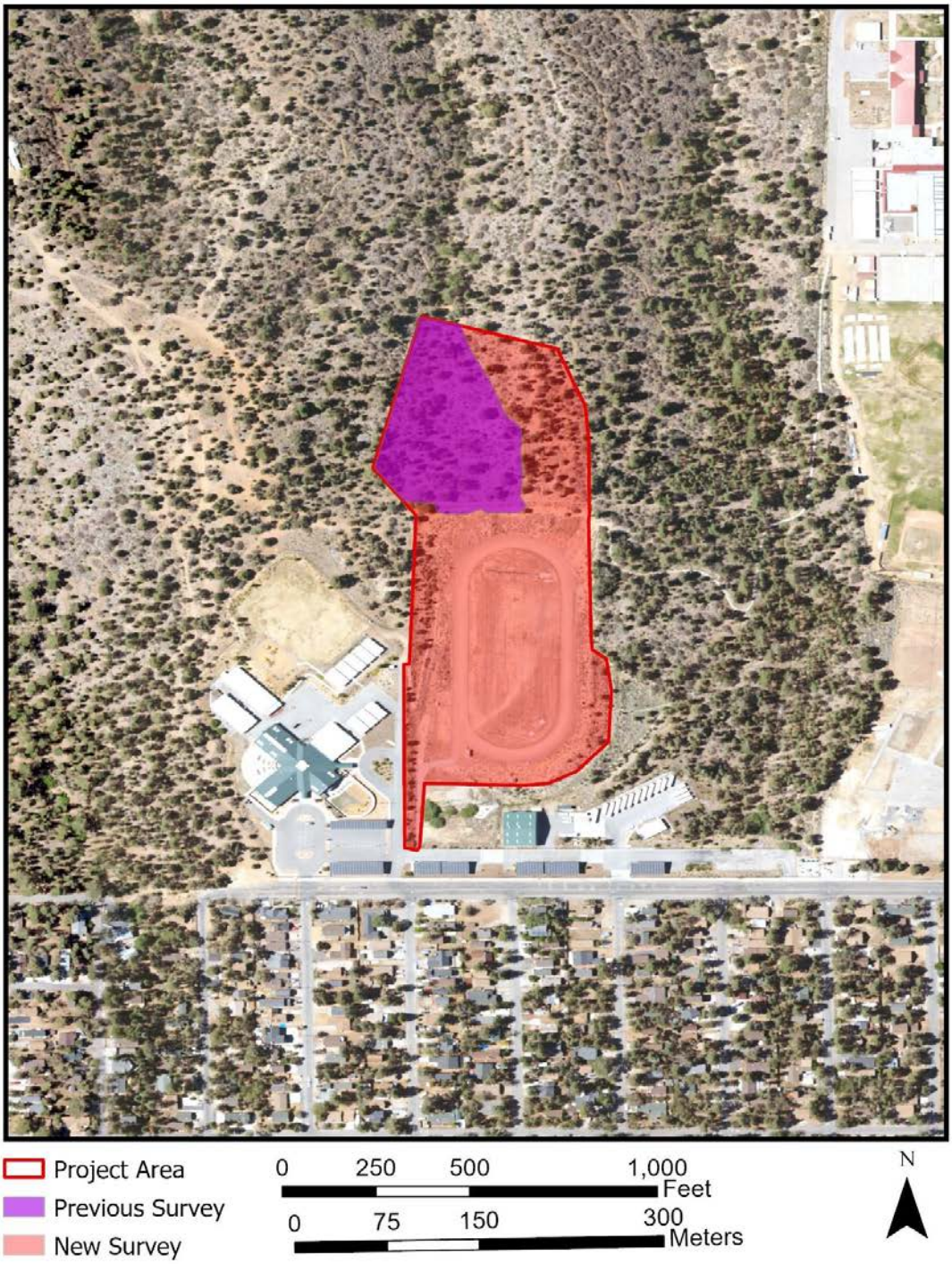
Project Maps



Map 1: Overview of Project Vicinity



Map 2: Project Location



Map 3: Detail of Project Area and Survey Coverage

Attachment B

Survey Photographs

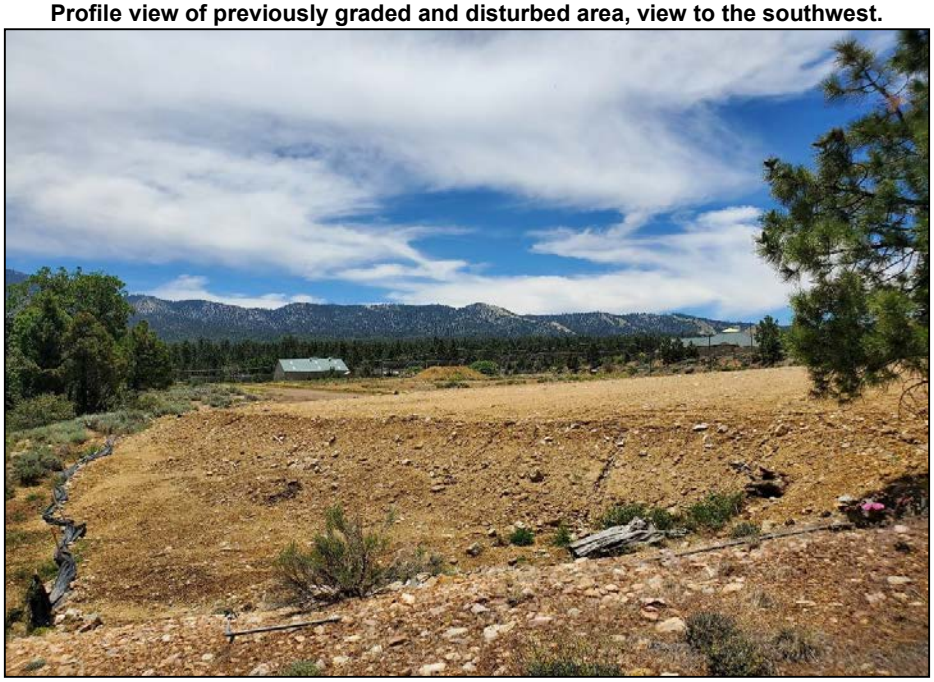
Project site overview from northwest corner of existing track and field, view to the southeast.



Project site overview from east side of track and field, view to the northwest.



Profile view of previously graded and disturbed area, view to the southwest.



Overview of forested portion of project site north of the track and field, view to the southwest.



Attachment C

Response from Native American Heritage Commission

STATE OF CALIFORNIA — Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Reginald Pagaling
Chumash

VICE-CHAIRPERSON
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

SECRETARY
Sara Dutschke
Miwok

PARLIAMENTARIAN
Wayne Nelson
Luiseño

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
Laurena Bolden
Serrano

COMMISSIONER
Reid Milanovich
Cahuilla

COMMISSIONER
Bennae Calac
Pauma-Yuima Band of Luiseño Indians

EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok, Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

June 21, 2024

Michelle A. Hart
Mojave Archaeological Consulting

Via Email to: michelle@mojavearchaeology.com

Re: BVUSD Education Foundation Maple Hill Community Fields Update Project, San Bernardino County

To Whom It May Concern:

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: Murphy.Donahue@NAHC.ca.gov

Sincerely,

Murphy Donahue

Murphy Donahue
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
San Bernardino County
6/21/2024

Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation
Agua Caliente Band of Cahuilla Indians	F	Lacy Padilla, Director of Historic Preservation/THPO	5401 Dinah Shore Drive Palm Springs, CA, 92264	(760) 333-5222	(760) 699-6919	ACBCI-THPO@aguacaliente.net	Cahuilla
Morongo Band of Mission Indians	F	Robert Martin, Chairperson	12700 Pumarra Road Banning, CA, 92220	(951) 755-5110	(951) 755-5177	abrierty@morongo-nsn.gov	Cahuilla Serrano
Morongo Band of Mission Indians	F	Ann Brierty, THPO	12700 Pumarra Road Banning, CA, 92220	(951) 755-5259	(951) 572-6004	abrierty@morongo-nsn.gov	Cahuilla Serrano
Quechan Tribe of the Fort Yuma Reservation	F	Jordan Joaquin, President, Quechan Tribal Council	P.O.Box 1899 Yuma, AZ, 85366	(760) 919-3600		executivesecretary@quechantribe.com	Quechan
Quechan Tribe of the Fort Yuma Reservation	F	Manfred Scott, Acting Chairman - Kw'ts'an Cultural Committee	P.O. Box 1899 Yuma, AZ, 85366	(928) 210-8739		culturalcommittee@quechantribe.com	Quechan
Quechan Tribe of the Fort Yuma Reservation	F	Jill McCormick, Historic Preservation Officer	P.O. Box 1899 Yuma, AZ, 85366	(928) 261-0254		historicpreservation@quechantribe.com	Quechan
San Manuel Band of Mission Indians	F	Alexandra McCleary, Senior Manager of Cultural Resources Management	26569 Community Center Drive Highland, CA, 92346	(909) 633-0054		alexandra.mccleary@sanmanuel-nsn.gov	Serrano
Serrano Nation of Mission Indians	N	Mark Cochrane, Co-Chairperson	P. O. Box 343 Patton, CA, 92369	(909) 578-2598		serranonation1@gmail.com	Serrano
Serrano Nation of Mission Indians	N	Wayne Walker, Co-Chairperson	P. O. Box 343 Patton, CA, 92369	(253) 370-0167		serranonation1@gmail.com	Serrano

Attachment D

2021 Cultural Resources Report

HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT

BEAR VALLEY UNIFIED SCHOOL DISTRICT
MAPLE HILL COMMUNITY FIELDS PROJECT

44500 Baldwin Lane, Sugarloaf Area
San Bernardino County, California

For Submittal to:

Land Use Services Department
County of San Bernardino
385 North Arrowhead Avenue, First Floor
San Bernardino, CA 92415

Prepared for:

Tom Dodson and 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

February 17, 2021
CRM TECH Contract No. 3687

Title: Historical/Archaeological Resources Survey Report: Bear Valley Unified School District Maple Hill Community Fields Project, 44500 Baldwin Lane, Sugarloaf Area, San Bernardino County, California

Author(s): Bai "Tom" Tang, Principal Investigator/Historian
Deirdre Encarnación, Archaeologist/Report Writer
Daniel Ballester, Archaeologist/Field Director

Consulting Firm: CRM TECH
1016 East Cooley Drive, Suite A/B
Colton, CA 92324
(909) 824-6400

Date: February 17, 2021

For Submittal to: Land Use Services Department
County of San Bernardino
385 North Arrowhead Avenue, First Floor
San Bernardino, CA 92415
(909) 387-8311

Prepared for: Tom Dodson and Associates
2150 North Arrowhead Avenue
San Bernardino, CA 92405
(909) 882-3612

Project Size: Approximately 15 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 Nos. 0312-311-13 and -25 (portions); no "historical resources" under CEQA

MANAGEMENT SUMMARY

Between December 2020 and February 2021, at the request of Tom Dodson and Associates, CRM TECH performed a cultural resources survey on approximately 15 acres of vacant land near the unincorporated community of Sugarloaf, San Bernardino County, California. The subject property of the study consists of portions of Assessor's Parcel Nos. 0312-311-13 and -25 and is located adjacent to the Baldwin Lane Elementary School at 44500 Baldwin Lane, in the south half of Section 13, T2N R1E, San Bernardino Baseline and Meridian.

The study is part of the environmental review process for the proposed construction of a multi-use sports complex by the Bear Valley Unified School District, including four fields with backstops and associated fencing, a prefabricated restroom and snack bar, an 800-foot access road, and approximately 140 parking spaces as well as other associated improvements and utilities. The County of San Bernardino Land Use Services Department, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA).

The purpose of the study is to provide the County 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 indicate 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.

Based on these findings, CRM TECH recommends to the County of San Bernardino Land Use Services Department a tentative determination of *No Impact* regarding cultural resources, pending the results of government-to-government consultations with local Native American groups by the County. No additional cultural resources investigations will be necessary 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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INTRODUCTION

Between December 2020 and February 2021, at the request of Tom Dodson and Associates, CRM TECH performed a cultural resources survey on approximately 15 acres of vacant land near the unincorporated community of Sugarloaf, San Bernardino County, California (Fig. 1). The subject property of the study consists of portions of Assessor's Parcel Nos. 0312-311-13 and -25 and is located adjacent to the Baldwin Lane Elementary School at 44500 Baldwin Lane, in the south half 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 construction of a multi-use sports complex by the Bear Valley Unified School District, including four fields with backstops and associated fencing, a prefabricated restroom and snack bar, an 800-foot access road, and approximately 140 parking spaces as well as other associated improvements and utilities.

The County of San Bernardino Land Use Services Department, as the lead agency for the project, required the study in compliance with the California Environmental Quality Act (CEQA; PRC §21000, et seq.). The purpose of the study is to provide the County 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. Personnel who participated in the study are named in the appropriate sections below, and their qualifications are provided in Appendix 1.

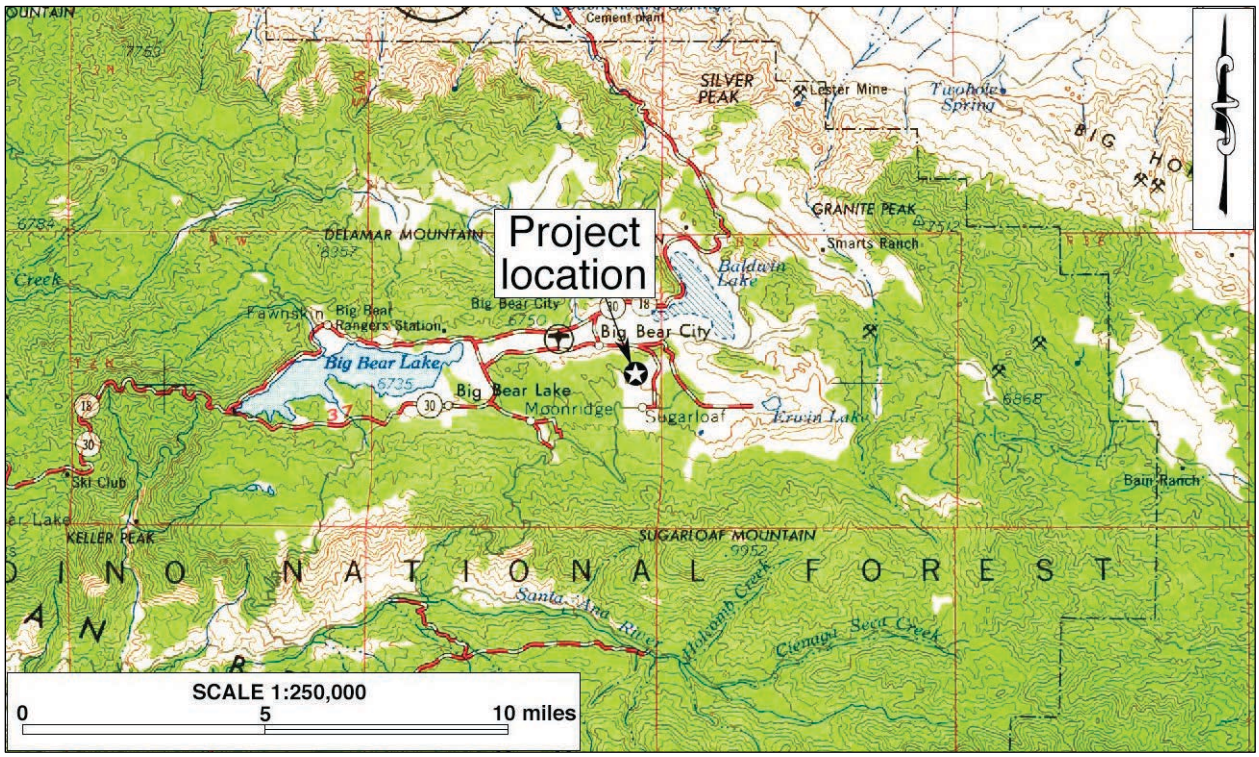

Figure 1. Project vicinity. (Based on USGS San Bernardino, Calif., 120'x60' quadrangle [USGS 1969])

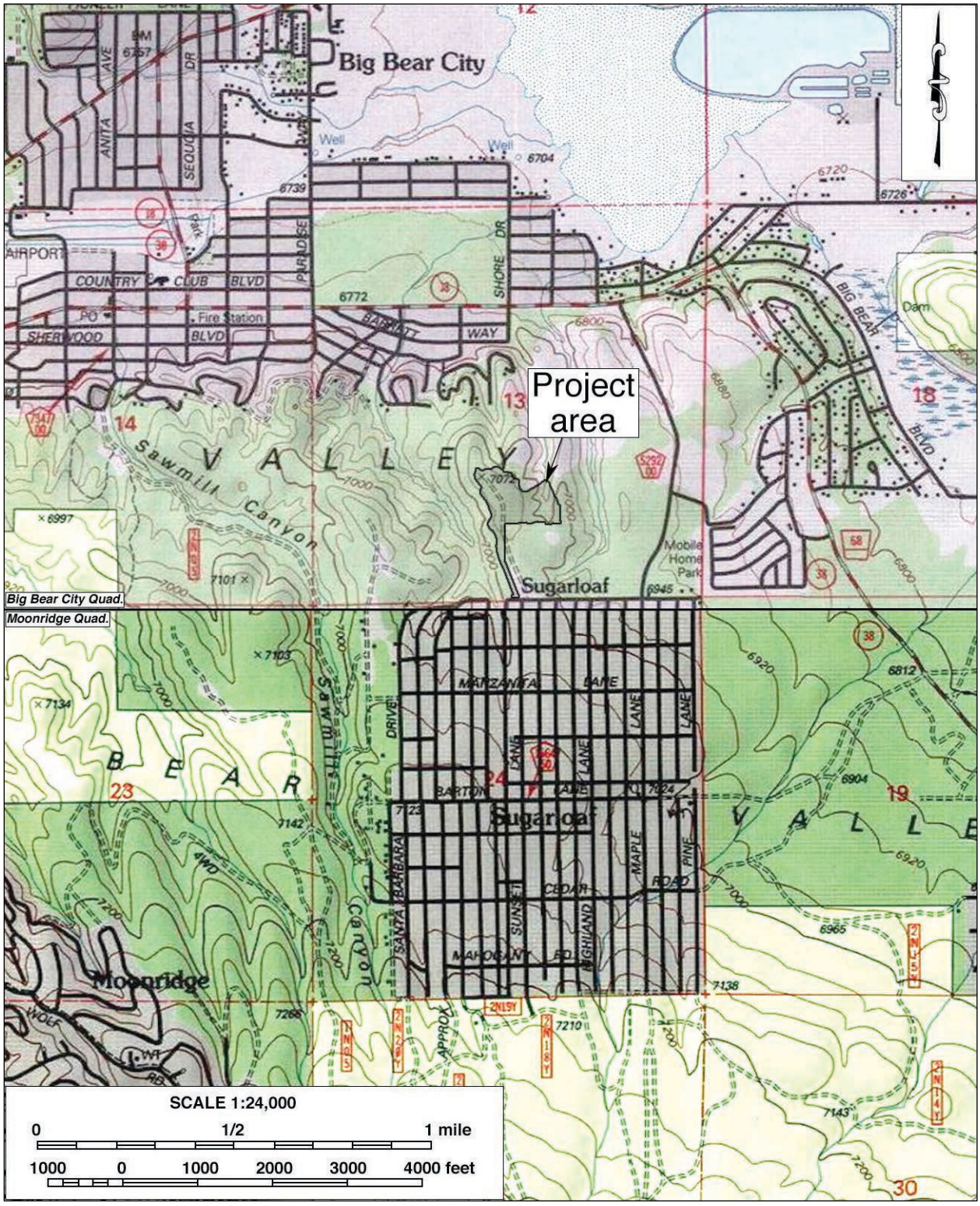

Figure 2. Project area. (Based on USGS Big Bear City and Moonridge, Calif., 7.5' quadrangles [1996a; 1996b])



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 project vicinity enjoys an alpine climate and a forest-dominated environment, in sharp contrast to the Mediterranean climate and desert environment in most of southern California. Temperatures in Big Bear Valley vary 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 2018). The average annual precipitation reaches more than 18 inches of rainfall and 35 inches of snowfall (*ibid.*).

The project area is located on the northern edge of the residential community of Sugarloaf, wrapping around the north and west sides of the Baldwin Lane Elementary School. Elevations in the project area range approximately from 7,010 to 7,080 feet above mean sea level, and the terrain is relatively level over much of the property but with steep slopes along the western and eastern boundaries. Off-road vehicle use, wood gathering, and trash dumping have impacted the ground surface in the vicinity. The surface soils are composed of brown, medium- to coarse-grained sands mixed with small to large rocks. The vegetation features plants of the Great Basin sagebrush scrub and Pinyon-juniper woodland communities, including Pinyon and Jeffrey pines, wild buckwheat, sagebrush, flannel bush, and other small grasses and shrubs (Fig. 4).



Figure 4. Overview of the project area. (Photograph taken on February 12, 2021; view to the south)

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 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 hostelries 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 the less urbanized communities in the eastern portion of the valley, including Sugarloaf, has 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 January 19, 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 that had not been digitized were unavailable to SCCIC staff, and the results of recently submitted studies have not been processed. Therefore, the SCCIC cautions that the records search results "may or may not be complete" (see App. 2).

SACRED LANDS FILE SEARCH

In order to identify any known Native American cultural resources in or near the project area, on December 2, 2020, 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. The NAHC is the State of California's trustee agency for the protection of "tribal cultural resources," as defined by California Public Resources Code §21074, and is tasked with identifying and cataloging properties of Native American cultural value, including places of special religious, spiritual, or social significance and known graves and cemeteries throughout the state. The response from the NAHC is summarized below and attached to this report in Appendix 3.

HISTORICAL BACKGROUND RESEARCH

Historical background research for this study was conducted by CRM TECH principal investigator/ historian Bai "Tom" Tang. Sources consulted during the research included published literature in local history, historic maps of the Sugarloaf area, and aerial photographs of the project vicinity. Among the maps consulted for this study were the U.S. General Land Office's (GLO) land survey plat maps dated 1858 and the U.S. Geological Survey's (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 January 21 and February 12, 2021, CRM TECH field director Daniel Ballester and project archaeologist Hunter O'Donnell carried out the field survey of the project area. The survey was completed by walking a series of parallel transects spaced 10 meters (approximately 33 feet) apart and oriented either east-west or north-south, depending upon the terrain, wherever ground visibility warrants an intensive-level inspection. During the initial survey, roughly 80% of the ground surface was covered by snow, reducing part of the survey effort to a reconnaissance level. At the time of the second survey, most of the snow had melted, resulting in fair to good ground visibility (70-80%). The ground surface in the entire project area was systematically examined for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years ago or older).

RESULTS AND FINDINGS

RECORDS SEARCH

According to SCCIC records, the project area was included in two large-scale surveys carried out in 1981 and 2004, each covering over two hundred acres (Leonard 1981; Mirro 2004; Fig. 5). Due to limitation in available records, however, the SCCIC was unable to provide copies of these reports (see App. 2). In any event, as these surveys are now 40 and 17 years old, respectively, they are considered to be out of date for statutory compliance purposes today. SCCIC records further indicate that no historical/archaeological resources were previously identified within or adjacent to project boundaries.

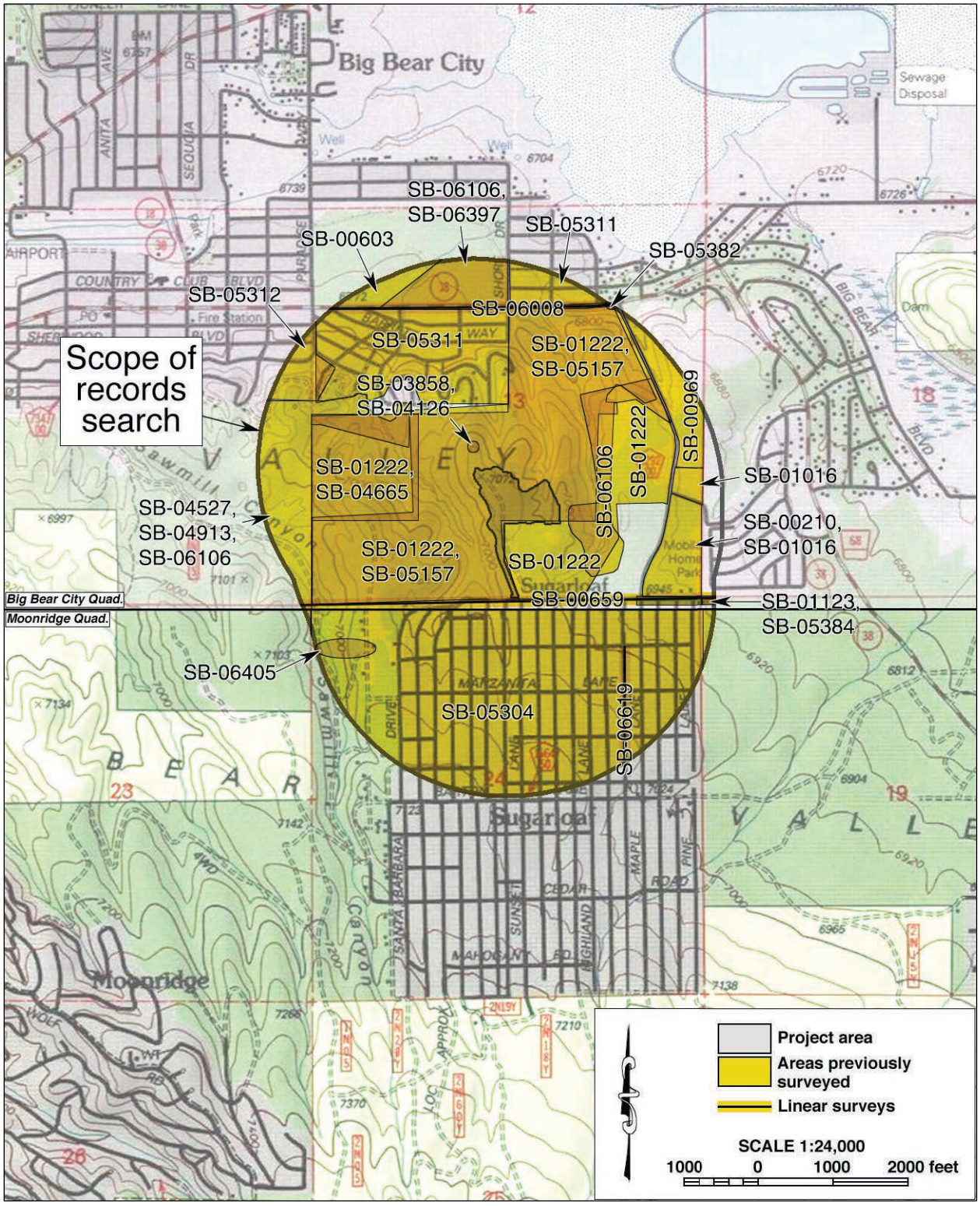

Figure 5. Previous cultural resources studies in the vicinity of the project area, listed by SCCIC file number. Locations of historical/archaeological resources are not shown as a protective measure.

Within the half-mile scope of the records search, 26 additional studies have been reported to the SCCIC. As a result of these and other similar studies in the vicinity, seven historical/archaeological sites and one isolate—i.e., a locality with less than three artifacts—have been recorded within the records search scope, as listed below in Table 1.

Table 1. Previously Recorded Cultural Resources within the Scope of the Records Search

Primary Number	Trinomial	Resource Type	Age	First Recorded	Description
36-019868	CA-SBR-013206H	Site	Historical	2007	Domestic refuse dump
36-024051	CA-SBR-015236H	Site	Historical	2011	Bufflehead Drive
36-024052	CA-SBR-015237H	Site	Historical	2011	Teal Drive
36-024076	CA-SBR-015261H	Site	Historical	2011	Barrett Way
36-024077	CA-SBR-015262H	Site	Historical	2011	Bluebill Drive
36-024547	CA-SBR-15588H	Site	Historical	2011	Shore Drive
36-026802	N/A	Isolate	Historical	2013	Chauffer Badge, ca. 1914
36-026803	N/A	Site	Historical	2013	Domestic refuse deposit

As Table 1 demonstrates, all eight of these known cultural resources dated to the historic period, and no prehistoric—i.e., Native American—resources were recorded within the scope of the records search. Five of the seven sites represented small segments of existing roadways, and the other two consisted of deposits of domestic refuse, while the isolate was a "chauffer badge" dating to circa 1914. None of these previously recorded resources were found in the immediate vicinity of the project area, and thus none of them require further consideration during this study.

SACRED LANDS FILE SEARCH

In response to CRM TECH's inquiry, the NAHC states in a letter dated December 16, 2020, that the Sacred Lands File identified unspecified Native American cultural resource(s) in the general vicinity of the project area and recommends contacting the San Manuel Band of Mission Indians for further information. In addition, the NAHC recommended that other local Native American groups be consulted as well and provided a referral list of eight individuals with four other Native American groups who may have knowledge of such resources. The NAHC's reply is attached to this report in Appendix 3 for reference by the County of San Bernardino in future government-to-government consultations with these local tribes.

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. 6-8; NETR Online 1938-1969). In the 1850s, when the U.S. government conducted the first systematic land surveys in Big Bear Valley, an Indian trail observed roughly a half-mile southwest of the project area was the only human-made feature known to be present in the vicinity (Fig. 6). 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. 7), which would later evolve into Rim of the World Drive.

As mentioned above, the small residential community of Sugarloaf was laid out sometime before 1938. As of that year, the area features a grid of dirt roads with little evidence of further

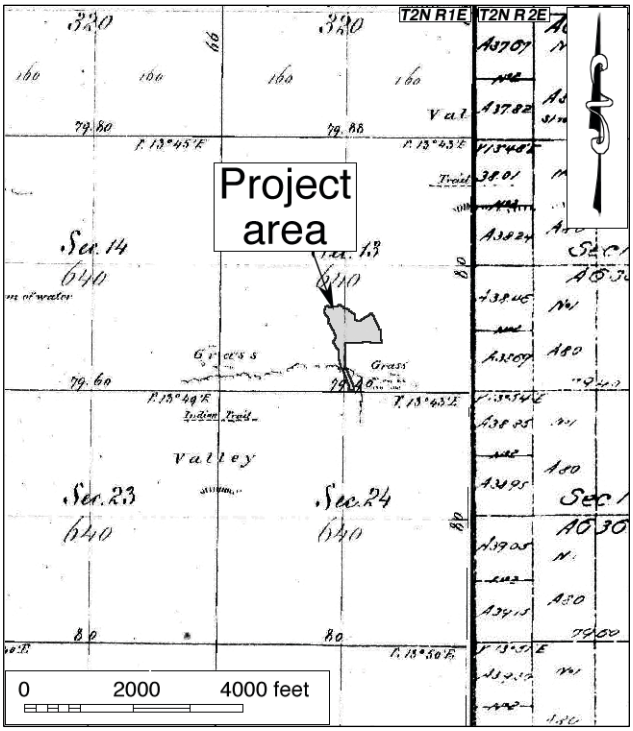

Figure 6. Project area and vicinity in 1857-1858. (Source: GLO 1858a; 1858b)

development occurring (NETR Online 1938). Growth in the area, represented by the emergence of an increasing number of homes along these roads, evidently began in earnest after the end of World War II (NETR Online 1953-1969; Fig. 8). By 1969, Baldwin Lane remained the northern boundary of all development at Sugarloaf, and no buildings or structures were present on the land adjacent to the project area until the Baldwin Lane Elementary School was built between 1983 and 1995 (NETR Online 1969-1995). None of these developments nearby, however, has had any direct impact within the project area itself (NETR Online 1995-2016; Google Earth 1985-2020).

FIELD SURVEY

The field survey did not encounter any potential "historical resources," either prehistoric or historical in origin, within the project area. The ground surface in the project

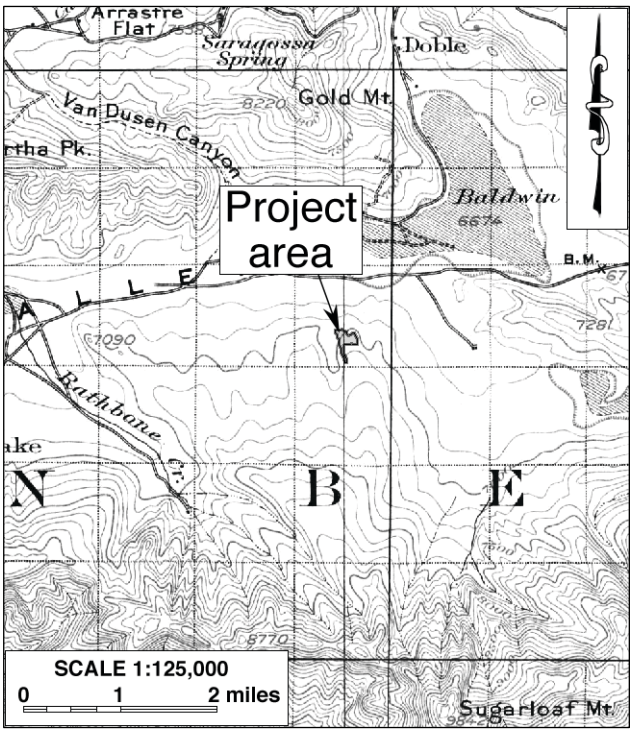

Figure 7. Project area and vicinity in 1899. (Source: USGS 1902)

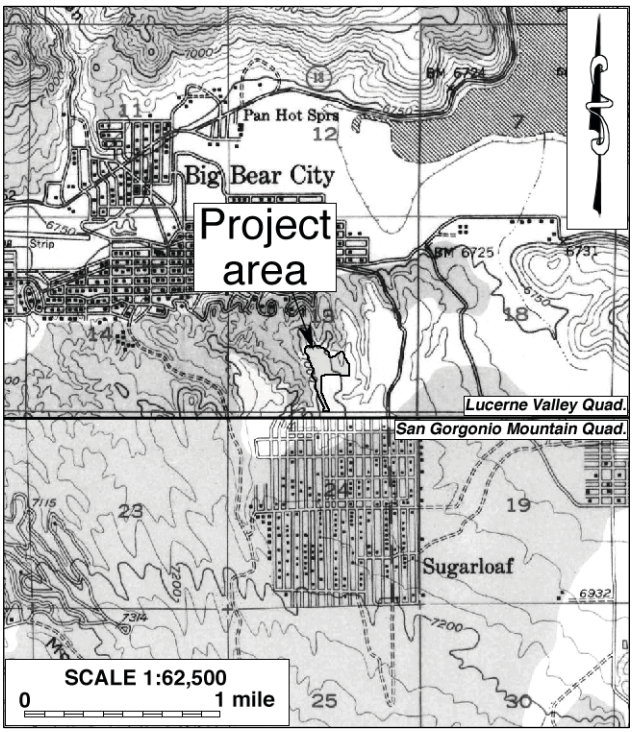

Figure 8. Project area and vicinity in 1945-1954. (Source: USGS 1947; 1954)

area has been disturbed to some extent by off-road vehicle use, wood gathering, and trash dumping. A dirt access road was noted on the property, connecting Baldwin Lane with a cell phone tower located beyond the project boundaries to the north.

DISCUSSION

The purpose of this study is to identify any cultural resources within or adjacent to the project area and to assist the County of San Bernardino Land Use Services Department 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 were known to be 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 discovered 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 for further information).

In light of these findings and the criteria listed above, the present study concludes that no "historical resources" are known to 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 County 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 the NAHC reported the presence of unspecified Native American cultural resource(s) in the general vicinity. Accordingly, CRM TECH presents the following recommendations to the County of San Bernardino Land Use Services Department:

- A tentative determination of *No Impact* on cultural resources appears to be appropriate for the proposed project, pending the results of government-to-government consultations with local Native American groups by the County.
- No additional cultural resources investigations will be necessary 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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1938-2016 Aerial photographs of the project vicinity; taken in 1938, 1945, 1953, 1969, 1983, 1995, 2002, 2005, 2009, 2010, 2012, 2014, and 2016. http://www.historicaerials.com.
NOAA (National Oceanic and Atmospheric Administration, U.S. Department of Commerce)
2018 NOAA Online Weather Data: Almanac for Big Bear Lake, CA. http://w2.weather.gov/climate/xmacis.php?wfo=sgx.
O'Connell, James F., Philip J. Wilke, Thomas F. King, and Carol L. Mix (eds.)
1974 Perris Reservoir Archaeology: Late Prehistoric Demographic Change in Southeastern California. On file, Eastern Information Center, University of California, Riverside.
Ramos, James
2009 Big Bear: Spiritual Home of the Yuhaviatam. *The Press-Telegram* (Long Beach) November 19. https://www.presstelegram.com/2009/11/19/big-bear-spiritual-home-of-the-yuhaviatam/.
Robinson, John W.
1989 *The San Bernardinos: The Mountain Country from Cajon Pass to Oak Glen, Two Centuries of Changing Use*. Big Santa Anita Historical Society, Arcadia, California.
Robinson, John W., and Bruce D. Risher
1989 San Bernardino National Forest: A Century of Federal Stewardship. *San Bernardino County Museum Quarterly* XXXVII(4).
Strong, William Duncan
1929 *Aboriginal Society in Southern California*. University of California Publications in American Archaeology and Ethnology 26. Reprinted by Malki Museum Press, Banning, Calif., 1972.
USGS (United States Geological Survey, U.S. Department of the Interior)
1902 Map: San Gorgonio, Calif. (30', 1:125,000); surveyed in 1899.
1947 Map: Lucerne Valley, Calif. (15', 1:62,500); aerial photographs taken in 1945.

1954 Map: San Gorgonio Mountain, Calif. (15', 1:62,500); aerial photographs taken in 1952, field-checked in 1954.
1969 Map: San Bernardino, Calif. (1:250,000); 1958 edition revised.
1996a Map: Big Bear City, Calif. (7.5', 1:24,000); 1971 edition photorevised in 1994.
1996b Map: Moonridge, Calif. (7.5', 1:24,000); 1970 edition photorevised in 1994.

Warren, Claude N.
1984 The Desert Region. In Michael J. Moratto (ed.): *California Archaeology*; pp. 339-430. Academic Press, Orlando, Florida.

APPENDIX 1:
PERSONNEL QUALIFICATIONS

PRINCIPAL INVESTIGATOR/HISTORIAN
Bai "Tom" Tang, M.A.

Education

1988-1993	Graduate Program in Public History/Historic Preservation, UC 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, UC Riverside.
1990	Intern Researcher, California State Office of Historic Preservation, Sacramento.
1990-1992	Teaching Assistant, History of Modern World, UC Riverside.
1988-1993	Research Assistant, American Social History, UC 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/ARCHAEOLOGIST
Michael Hogan, Ph.D., RPA*

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.
1996-1998	Project Director and Ethnographer, Statistical Research, Inc., Redlands.
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	Archaeological Technician, Field Director, and Project Director 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

Author and co-author of, contributor to, and principal investigator for numerous cultural resources management study reports since 1986.

Memberships

* Register of Professional Archaeologists; Society for American Archaeology; Society for California Archaeology; Pacific Coast Archaeological Society; Coachella Valley Archaeological Society.

PROJECT ARCHAEOLOGIST/REPORT WRITER
Deirdre Encarnación, M.A.

Education

2003	M.A., Anthropology, San Diego State University, California.
2000	B.A., Anthropology, minor in Biology, with honors; San Diego State University, California.

Professional Experience

2004-	Project Archaeologist/Report Writer, CRM TECH, Riverside/Colton, California.
2001-2003	Part-time Lecturer, San Diego State University, California.
2001	Research Assistant for Dr. Lynn Gamble, San Diego State University.
2001	Archaeological Collection Catalog, SDSU Foundation.

Memberships

Society for California Archaeology; Society for Hawaiian Archaeology; California Native Plant Society; Journal of California and Great Basin Anthropology.

PROJECT ARCHAEOLOGIST/FIELD DIRECTOR
Daniel Ballester, M.S., RPA (Registered Professional Archaeologist)

Education

2013	M.S., Geographic Information System (GIS), University of Redlands, California.
1998	B.A., Anthropology, California State University, San Bernardino.
1997	Archaeological Field School, University of Las Vegas and University of California, Riverside.
1994	University of Puerto Rico, Rio Piedras, Puerto Rico.

Professional Experience

2002-	Field Director/GIS Specialist, CRM TECH, Riverside/Colton, California.
2011-2012	GIS Specialist for Caltrans District 8 Project, Garcia and Associates, San Anselmo, California.
2009-2010	Field Crew Chief, Garcia and Associates, San Anselmo, California.
2009-2010	Field Crew, ECorp, Redlands.
1999-2002	Project Archaeologist, CRM TECH, Riverside, California.
1998-1999	Field Crew, K.E.A. Environmental, San Diego, California.
1998	Field Crew, A.S.M. Affiliates, Encinitas, California.
1998	Field Crew, Archaeological Research Unit, University of California, Riverside.

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

SUMMARY OF CULTURAL RESOURCES RECORDS SEARCH RESULTS

South Central Coastal Information Center
California State University, Fullerton
Department of Anthropology MH-426
800 North State College Boulevard
Fullerton, CA 92834-6846
657.278.5395 / FAX 657.278.5542
sccic@fullerton.edu
California Historical Resources Information System
Orange, Los Angeles, and Ventura Counties

1/19/2021 Records Search File No.: 21933.8099

Nina Gallardo
CRM TECH
1016 E. Cooley Drive, Suite A/B
Colton, CA 92324

Re: Record Search Results for 3687 Baldwin Maple

The South Central Coastal Information Center received your records search request for the project area referenced above, located on the Big Bear City and Moonridge, CA USGS 7.5' quadrangle. Due to the COVID-19 emergency, we have implemented new records search protocols, which limits the deliverables available to you at this time. **WE ARE ONLY PROVIDING DATA THAT IS ALREADY DIGITAL AT THIS TIME.** Please see the attached document on COVID-19 Emergency Protocols for what data is available and for future instructions on how to submit a records search request during the course of this crisis. If your selections on your data request form are in conflict with this document, we reserve the right to default to emergency protocols and provide you with what we stated on this document. You may receive more than you asked for or less than you wanted. The following reflects the results of the records search for the project area and a ½-mile radius:

As indicated on the data request form, the locations of resources and reports are provided in the following format: ☒ custom GIS maps ☐ shape files ☐ hand-drawn maps

Resources within project area: 0	None
Resources within ½-mile radius: 8	SEE ATTACHED MAP or LIST
Reports within project area: 2	SB-01222, SB-05157
Reports within ½-mile radius: 26	SEE ATTACHED MAP or LIST

Resource Database Printout (list):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Digital Database (spreadsheet):	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (list):	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Report Digital Database (spreadsheet):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Record Copies:	☒ enclosed	☐ not requested	☐ nothing listed
Report Copies:	☐ enclosed	☐ not requested	☐ nothing listed

☒ not scanned

OHP Built Environment Resources Directory (BERD) 2019: ☒ available online; please go to https://ohp.parks.ca.gov/?page_id=30338

Archaeo Determinations of Eligibility 2012: ☐ enclosed ☐ not requested ☒ nothing listed

Los Angeles Historic-Cultural Monuments ☐ enclosed ☒ not requested ☐ nothing listed

Historical Maps: ☒ not available at SCCIC; please go to https://ngmdb.usgs.gov/topoview/viewer/#4/39.98/-100.02

Ethnographic Information: ☒ not available at SCCIC

Historical Literature: ☒ not available at SCCIC

GLO and/or Rancho Plat Maps: ☒ not available at SCCIC

Caltrans Bridge Survey: ☒ not available at SCCIC; please go to http://www.dot.ca.gov/hq/structur/strmaint/historic.htm

Shipwreck Inventory: ☒ not available at SCCIC; please go to http://shipwrecks.slc.ca.gov/ShipwrecksDatabase/Shipwrecks_Database.asp

Soil Survey Maps: (see below) ☒ not available at SCCIC; please go to http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System,

Isabela Kott
GIS Technician/Staff Researcher

Enclosures:

(X) Covid-19 Emergency Protocols for San Bernardino County Records Searches – 2 pages

(X) Custom Maps – 1 page

(X) Resource Digital Database (spreadsheet) – 8 lines

(X) Report Digital Database (spreadsheet) – 28 lines

(X) Resource Record Copies – (all – scanned only)) 37 pages

Emergency Protocols for San Bernardino County Records Searches

These instructions are for qualified consultants with a valid Access and Use Agreement.

WE ARE ONLY PROVIDING DATA THAT IS ALREADY DIGITAL AT THIS TIME. WE ARE NOT PROVIDING SHAPEFILE DATA FOR SAN BERNARDINO COUNTY; YOU WILL ONLY RECEIVE A CUSTOM DIGITAL MAP.

We can only provide you information that is already in digital format; therefore, your record search may or may not be complete. Some records are only available in paper formats and so may not be available at this time. This also means that there may be data missing from the database bibliographies; locations of resource and report boundaries may be missing or mis-mapped on our digital maps; and that no pdf of a resource or report is available or may be incomplete.

As for the GIS mapped data, bibliographic databases, and pdfs of records and reports; not all the data in our digital archive for San Bernardino County was processed by SCCIC, therefore, we cannot vouch for its accuracy. Accuracy checking and back-filling of missing information is an on-going process under normal working conditions and cannot be conducted under the emergency protocols.

This is an extraordinary and unprecedented situation. Your options will be limited so that we can help as many of you as possible in the shortest amount of time. You may not get everything you want and/or you may get more than you want. We appreciate your patience and resilience.

Please send in your request via email using the data request form along with the associated shape files and pdf map of the project area. If you have multiple SBCO jobs for processing, you may not get them all back at the same time. Use this data request form:

http://web.sonoma.edu/nwic/docs/CHRISDataRequestForm.pdf

Please make your selections on the data request form based on the following instructions.

1. Keep your search radius as tight as possible, but we understand if you have a requirement. The wider the search radius, the higher the cost. You are welcome to request a Project area only search, but please make it clear on the request form that that is what you are seeking.

2. You will get custom maps of resource locations for the project area and the radius that you choose. We will only be providing maps of report locations for the project area and up to a ¼-mile radius. If you need bibliographic information for more than ¼-mile radius – you will be charged for all report map features within your selected search radius. You can opt out of having us create custom maps but you still pay for the map features in the project area or the selected search radius if you want the associated bibliographic information or pdfs of resources or reports.

3. You can request copies of site records and reports if they are digitally available.

4. You will also get the bibliographies (List, Details, Spreadsheet) that you choose for resources and reports. Because the bibliographic database is not yet complete, you will only get what is available at the time of your records search.
5. If you request more than what we are offering here, we may provide it if it is available or we reserve the right to default to these instructions. If you want copies of resources and reports that are not available digitally at the time of the search, you can send us a separate request for processing when we are allowed to return to the office. Fees will apply.

6. **You will need to search the OHP BERD yourself for your project area and your search radius.** This replaces the old OHP HPD. It is available online at the OHP website.

7. You can go online to find historic maps, so we are not providing them at this time.

8. Your packet will be sent to you electronically via Dropbox. We use 7-zip to password protect the files so you will need both on your computers. We email you the password. If you can't use Dropbox for some reason, then you will need to provide us with your Fed ex account number and we will ship you a disc with the results. As a last resort, we will ship on a disc via the USPS. You may be billed for our shipping and handling costs.

9. We will be billing you at the staff rate of $150 per hour and you will be charged for all resources and reports according to the "custom map charges", even if you don't get a custom or hand-drawn map. You will also be billed 0.15 per pdf page, as usual. Quad fees will apply if your research includes more than 2 quads. The fee structure for custom maps was designed to mimic the cost of doing the search by hand so the fees are comparable.

10. A copy of the digital fee structure is available on the Office of Historic Preservation website under the CHRIS tab. If the digital fee structure is new to you or you don't understand it; please ask questions before we process your request, not after. Thank you.

APPENDIX 3

RESPONSE FROM
NATIVE AMERICAN HERITAGE COMMISSION

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Merri Lopez-Keifer
Luiseño

PARLIAMENTARIAN
Russell Attebery
Karuk

COMMISSIONER
Marshall McKay
Wintun

COMMISSIONER
William Mungary
Paiute/White Mountain Apache

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[**Vacant**]

COMMISSIONER
[**Vacant**]

EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

December 16, 2020

Nina Gallardo
CRM TECH

Via Email to: ngallardo@crmtech.us

Re: Proposed Bear Valley Unified School District Maple Hill Community Fields 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 you have submitted for the above referenced project. The results were positive. Please contact the San Manuel Band of Mission Indians on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

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

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
San Bernardino County
12/16/2020

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

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

Morongo Band of Mission Indians
Denisa Torres, Cultural Resources Manager
12700 Pumarra Road — Cahuilla, Serrano
Banning, CA, 92220
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@morongo-nsn.gov

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Road — Cahuilla, Serrano
Banning, CA, 92220
Phone: (951) 849 - 8807
Fax: (951) 922-8146
dtorres@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
jmauck@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

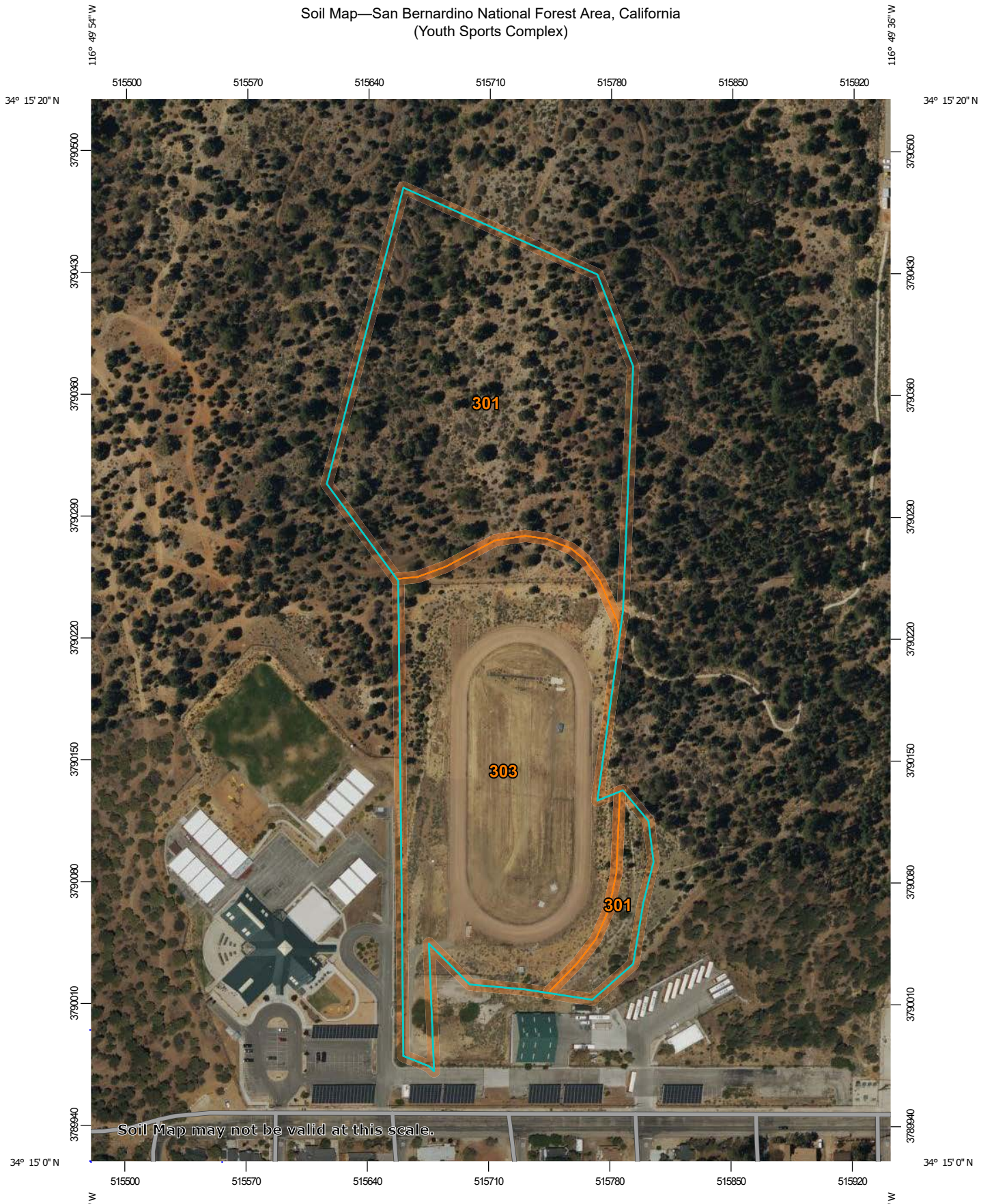
This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed Bear Valley Unified School District Maple Hill Community Fields Project, San Bernardino County.

APPENDIX 5

SOILS MAPS

Soil Map—San Bernardino National Forest Area, California
(Youth Sports Complex)



Map Scale: 1:2,980 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 40 80 160 240

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

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 15, Aug 30, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 27, 2021—May 27, 2021

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-Caribou creek complex, 15 to 30 percent slopes	7.8	51.0%
303	Garloaf-Urban land complex, 4 to 9 percent slopes	7.5	49.0%
Totals for Area of Interest		**15.2**	**100.0%**

APPENDIX 6

NOISE IMPACT ANALYSIS

Noise Impact Analysis

For
Bear Valley Unified School District
Youth Sports Complex Project

Located in
Sugarloaf, San Bernardino County, California

Prepared for:

Tom Dodson & Associates
2150 N Arrowhead Ave
San Bernardino, CA 92405

Prepared by:

Roma Stromberg, M.S.

Roma Environmental
CEQA, NEPA, Noise and Air Quality
roma@romaenvironmental.com
951-544-3170

September 10, 2024

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I. Introduction and Setting

A. Purpose and Objectives

The purpose of this report is to provide an assessment of the noise and vibration impacts that may occur with the development of the proposed Youth Sports Complex Project and to identify mitigation measures that may be necessary to reduce those impacts. The objectives of the study include:

- documentation of existing noise conditions
- discussion of noise modeling methodology and procedures
- analysis of noise and vibration generated by the construction of the project
- analysis and discussion of potential traffic noise impacts from the proposed project
- analysis and discussion of noise impacts associated with on-site operation
- recommendations for mitigation measures

B. Project Location

The project site is located at 44500 Baldwin Lane in the unincorporated community of Sugarloaf in San Bernardino County, just south of the City of Big Bear, California. The project site consists of 13.5-acres of a 56.44-acre parcel (031-231-11-22) also shared with Baldwin Lane Elementary School and Big Bear High School. More specifically, the project site is located immediately east of Baldwin Lane Elementary School and north of a school district parking lot, solar arrays, and a large structure utilized by the District for bus maintenance and as a warehouse. Figure 1 and Figure 2 provide a regional and local context, respectively, of the project location.

C. Proposed Project

The proposed Youth Sports Complex includes three fields that would accommodate baseball, softball, and soccer. The proposed facilities include three fields with backstops, associated fencing, portable toilets and two storage containers for equipment. The proposed project is shown in Figure 3.

The Youth Sports Complex is intended for use by local organized youth sports leagues for games and practice. It will not be open to the general public but may be rented on weekends for adult softball tournaments during the summer. The fields will not be used outside of daylight hours.

Access to the Youth Sports Complex would be via an existing driveway along Baldwin Lane at the western boundary of the site. Access would be improved to include an access road leading to a new parking area that would be adjacent to the southernmost field.

Construction of the project is expected to begin in June of 2025 and is estimated to be complete by October 2027. The project will require clearing, re-grading and compacting of approximately 38,000

cubic yards (CY) of soil. Vegetation that requires removal will be trucked to the Big Bear Transfer Station for recycling. All trees within the cut and fill areas and the access roads 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. Clearing and grading will be conducted using traditional mechanized grading and compaction equipment including scrapers, wheel compactors, vibratory compactors, water trucks, petroleum powered fork-lifts, and various hand tools traditional to clearing and grading operations. 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.

Figure 1

Regional Location



N

Figure 1

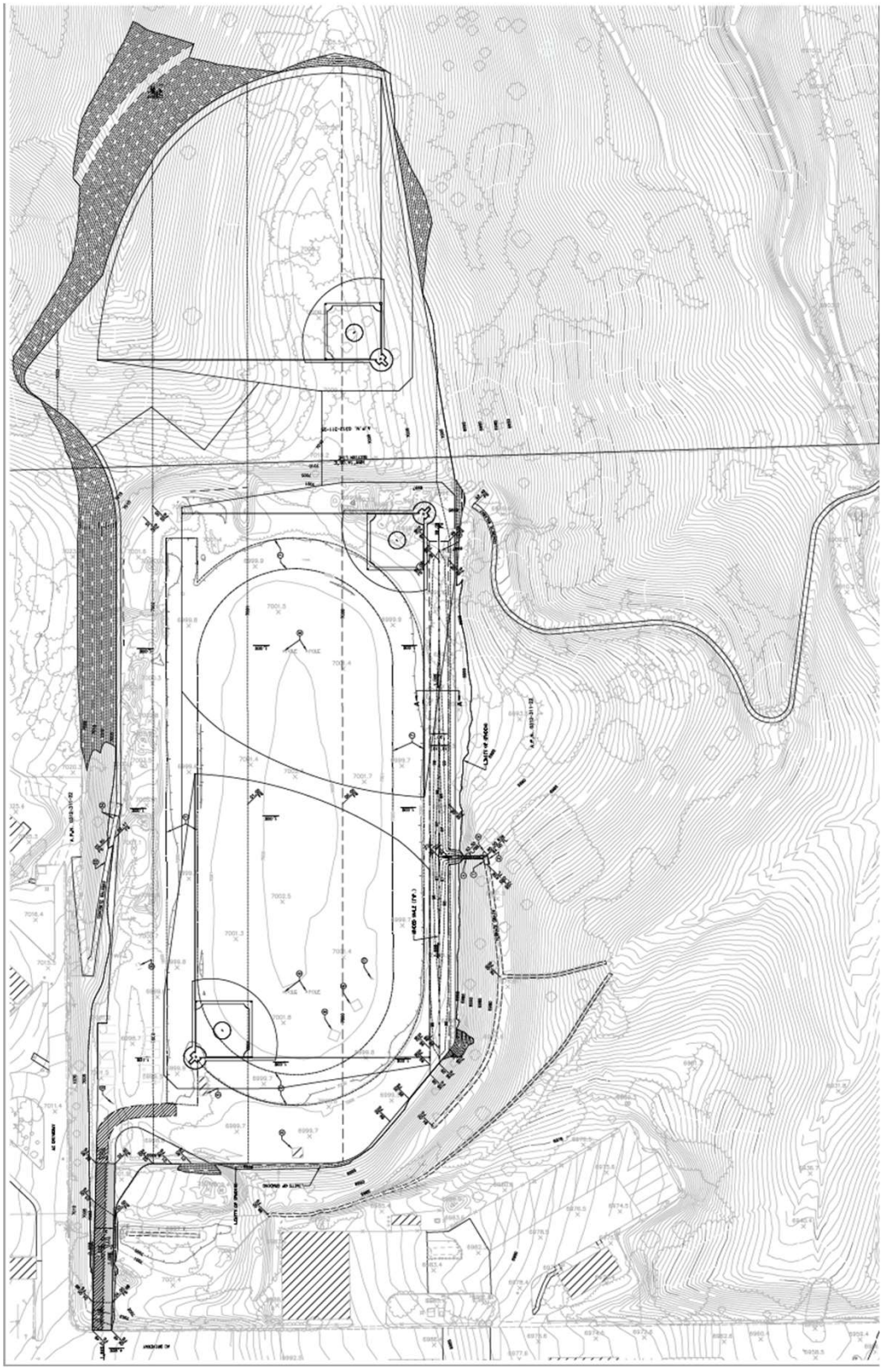
Project Location



N

Figure 3

Site Plan



II. Noise and Vibration Fundamentals

A. Sound and Noise

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound. Typical noise levels are shown in Table 1.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and the obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound, with associated factors summarized below.

Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness), with a low-frequency sound perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz). A frequency of 250 cycles per second, for example, is referred to as 250 Hz), with higher frequencies sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hz. The audible frequency range for humans is generally between 20 and 20,000 Hz (or 20 kHz).

Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa), with one mPa representing approximately one hundred billionth of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this huge range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels (dB). The threshold of audible sound is about 0 dB for a healthy human ear, which corresponds to 20 mPa.

Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of six dB for each doubling of distance from a point source. Sound levels from a line source attenuate at a rate of three dB for each doubling of distance.

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. Natural terrain features (e.g., hills and dense/deep woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receiver specifically to reduce noise. A barrier that breaks the line of sight between a source and a receiver

will typically result in at least five dB of noise reduction, with taller barriers providing increased noise reduction. Vegetation, such as highway landscaping, between the source and receiver is rarely effective in reducing noise, as it does not create a solid barrier.

Human Perception of Noise

The decibel scale alone does not adequately characterize how humans perceive noise, as the dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear. Human hearing is limited in the range of audible frequencies, as well as in the way it perceives the SPL within that range. In general, people are most sensitive to the frequency range of 1,000 to 8,000 Hz and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. An "A-weighted" sound level (expressed in units of dBA) can then be calculated from this information. Noise levels are typically reported in terms of A-weighted decibels or dBA. Table 1, Typical A-weighted Noise Levels, describes levels for various noise sources.

B. Noise Descriptors

Noise in the daily human environment fluctuates over time; these changes can be minor or substantial, depending on individual factors. Specifically, noise fluctuations can be influenced by conditions such as: (1) whether noise levels occur in regular or random patterns; (2) if noise level fluctuations are rapid or slow; and (3) if noise levels vary widely or are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels, with the following noise descriptors most commonly used in transportation noise analysis.

Equivalent Sound Level (Leq)

L_{eq} represents an average of the sound energy occurring over a specified period. In effect, Leq is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The one-hour A-weighted equivalent sound level (Leq[h]), for example, is the energy average of A-weighted sound levels occurring during a one-hour period. One hour is the normal (default) assumed time period for Leq unless stated otherwise.

Percentile-Exceeded Sound Level (LXX)

L_{XX} represents the sound level exceeded for a given percentage of a specified period. For example, L_{10} is the sound level exceeded 10 percent of the time, and L_{90} is the sound level exceeded 90 percent of the time.

Maximum Sound Level (Lmax)

L_{max} is the maximum sound level measured during a specified time period with "slow/1-second" time-averaging.

Table 1. Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet fly-over at 1,000 feet		
	100	
Gas lawn mower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph*		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower at 100 feet	70	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime		
	30	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20	
		Broadcast/recording studio
	10	
	0	

Source: California Department of Transportation's Technical Noise Supplement to the Traffic Noise Analysis Protocol (2013).

Day-Night Level (Ldn)

Ldn is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to A-weighted sound levels occurring during nighttime hours between 10 PM and 7 AM

Community Noise Equivalent Level (CNEL)

Similar to Ldn, CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to A-weighted sound levels occurring during the nighttime hours between 10 PM and 7 AM, and a 5-dB penalty applied to the A-weighted sound levels occurring during evening hours between 7 PM and 10 PM.

C. Vibration Fundamentals

The way in which vibration is transmitted through the earth is called propagation. Propagation of earthborn vibrations is complicated and difficult to predict because of the endless variations in the soil through which waves travel. There are three main types of vibration propagation: surface, compression, and shear waves. Surface waves, or Raleigh waves, travel along the ground's surface. These waves carry most of their3 energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. Compression waves, or P-waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. Shear waves, or S-waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or "side-to-side and perpendicular to the direction of propagation".

As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous peak of the vibration signal in inches per second. The RMS of a signal is the average of the squared amplitude of the signal in vibration decibels (VdB), ref one micro-inch per second. The Federal Railroad Administration uses the abbreviation "VdB" for vibration decibels to reduce the potential for confusion with sound decibel.

PPV is appropriate for evaluating the potential of building damage and VdB is commonly used to evaluate human response. Decibel notation acts to compress the range of numbers required in measuring vibration. Similar to the noise descriptors, L_{eq} and L_{max} can be used to describe the average vibration and the maximum vibration level observed during a single vibration measurement interval.

III. Existing Noise Environment

A. Existing Land Uses and Sensitive Receptors

The State of California defines sensitive receptors as those land uses that require serenity or are otherwise adversely affected by noise events or conditions. Schools, libraries, churches, hospitals, single and multiple family residential, including transient lodging, motels and hotel uses make up the majority of these areas. Existing sensitive receptors that may be affected by project construction noise include single-family residential dwelling units north and south of the project site Sugarloaf park to the east Balwin Elementary School to the west, and Big Bear High School to the northeast. The City has established stationary noise standards that protect residential, professional service, other commercial and industrial land uses from noise impacts. These land uses are considered sensitive for the purposes of analyzing project operational noise impacts.

B. Ambient Noise Measurements

An American National Standards Institute (ANSI Section SI4 1979, Type 1) Larson Davis model LxT sound level meter was used to document existing ambient noise levels at four locations in the project vicinity (see Figure 4). As shown in Table 2, measured short-term noise levels (15-minutes) in the project vicinity ranged between 40.1 and 69.0 dBA L_{eq} and measured long-term noise levels (one 24-hour noise measurement) ranged between 31.8 and 54.7 dBA Leq (See Table 3). Noise measurement field sheets and data are provided in Appendix A.

Table 2. Short-Term Noise Measurement Summary

Site Location	Time Started	Leq	Lmax	L(2)	L(8)	L(25)	L(50)
STNM1	10:35 AM	42.6	61.0	52.8	44.3	37.9	35.7
STNM2	11:51 AM	69.0	81.6	77.3	74.1	69.9	64.3
STNM3	11:17 AM	47.3	54.7	51.2	50.2	48.6	47.5
STNM4	12:40 PM	43.8	57.3	52.8	47.0	41.7	39.7
STNM5	2:40 PM	62.0	80.8	71.4	65.9	56.5	51.8
STNM6	3:10 PM	60.8	76.9	71.5	64.5	57.8	50.8
STNM7	3:48 PM	49.1	62.8	59.0	55.9	45.0	39.0
STNM8	4:25 PM	40.1	57.0	51.0	41.2	35.9	33.5

Notes:
(1) See Figure 4 for noise measurement locations. Each noise measurement was performed over a 15-minute duration.
(2) Noise measurements performed on July 22, 2024.

Table 3. Long-Term Noise Measurement Summary

24-Hour Ambient Noise[1,2]								
Hourly Measurements	**Time Started**	**Leq**	**Lmax**	**Lmin**	**L(2)**	**L(8)**	**L(25)**	**L(50)**
Overall Summary		49.6	74.9	30.3	58.1	54.3	48.2	41.4
1	7:00 AM	49.7	64.1	34.0	57.8	54.5	49.5	45.5
2	8:00 AM	54.7	74.9	37.9	61.3	58.1	54.3	50.2
3	9:00 AM	53.7	69.6	36.9	60.7	56.9	54.1	50.9
4	10:00 AM	54.6	70.2	37.6	60.7	57.8	55.3	52.9
5	11:00 AM	52.0	64.9	36.6	59.7	56.4	53.0	49.2
6	12:00 PM	50.5	65.8	35.6	58.4	55.4	50.4	45.9
7	1:00 PM	52.8	74.4	35.1	60.9	55.4	50.5	45.6
8	2:00 PM	51.1	74.5	34.1	59.2	56.1	50.2	44.0
9	3:00 PM	49.9	70.7	34.0	57.4	54.2	49.8	45.3
10	4:00 PM	49.6	65.5	34.1	58.2	54.0	48.9	43.2
11	5:00 PM	49.8	69.8	34.1	57.7	54.1	49.2	43.5
12	6:00 PM	46.6	62.2	31.7	55.8	51.6	45.4	39.4
13	7:00 PM	45.7	63.3	31.6	55.3	50.3	43.1	37.0
14	8:00 PM	47.8	70.9	32.4	56.3	50.6	44.0	38.1
15	9:00 PM	44.2	64.3	31.7	53.4	48.6	41.6	36.7
16	10:00 PM	44.7	65.7	31.4	54.2	47.8	41.1	36.9
17	11:00 PM	40.4	61.6	30.8	48.7	43.2	38.1	34.5
18	12:00 AM	40.7	57.7	30.6	50.4	44.8	38.3	33.5
19	1:00 AM	41.9	64.2	30.5	48.5	40.8	35.2	32.2
20	2:00 AM	31.8	46.1	30.3	35.7	33.4	31.3	30.9
21	3:00 AM	36.1	58.8	30.4	42.6	35.8	32.3	31.0
22	4:00 AM	39.1	61.6	30.4	47.4	40.4	34.7	31.9
23	5:00 AM	47.5	68.3	30.6	56.1	50.6	43.8	37.5
24	6:00 AM	49.5	67.1	36.3	58.1	53.3	48.2	44.8
CNEL	52.6							

Notes:

(1) See Figure 4 for noise measurement locations. Noise measurement was performed over a 24-hour duration.

(2) Noise measurement performed from July 22 to July 23, 2024.

Figure 4

Noise Measurement Location Map



IV. Regulatory Setting

The proposed project may impact sensitive receptors located within the jurisdiction of the City of El Cajon (single family residences located east of the project site) as well as sensitive receptors located within the County of San Diego (multiple family residences located north of the project site).

A. County of San Bernardino General Plan

The County of San Bernardino Countywide Plan (Policy Plan) serves as the County's General Plan and was adopted in October 2020. The County's Policy Plan's Hazards Element provides goals and policies that are intended to protect life, property, and commerce from impacts associated with natural hazards, human-generated hazards, and increased risk due to climate change. The noise related goals and policies from the Hazards Element that are applicable to the proposed project are presented below:

Goal HZ-2 Human-generated Hazards. People and the natural environment are protected from exposure to hazardous materials, excessive noise, and other human-generated hazards.

Policy HZ-2.9 Control sound at the source. We prioritize noise mitigation measures that control sound at the source before buffers, sound walls, and other perimeter measures.

B. County of San Bernardino Development Code

Nearby residential land uses may be affected by project-generated operational noise. Potential impacts related to project generated stationary noise sources are evaluated in light of Section 83.01.080 of the County of San Bernardino Development Code which establishes noise criteria (Table 4) not to be exceeded at the property line of the affected land uses.

Noise Standards for Stationary Noise Sources

Stationary noise sources regulated by County of San Bernardino Development Code Section 83.01.080(c)(1) (Table 4). For purposes of this analysis, project operational noise was evaluated in light of the L_{eq}(30-minute). It is highly unlikely that the other standards would be exceeded if the project is in compliance with the 30-minute L_{eq} standard which is referred to as "L_{eq}" throughout this document. The L_{eq} and L_{eq}(30-minute) are equivalent for the purposes of this analysis.

Project generated noise has the potential to affect single family homes north and south and east of the project site as well as school uses west and northeast of the project site. The City's noise standard for stationary noise impacts to residential land uses are 55 dBA L_{eq} during daytime hours and 45 dBA L_{eq} during nighttime hours. Per Development Code Section 83.01.080(e), the base standards may be adjusted such that the allowable noise exposure standard shall be increased to reflect the ambient noise level if the measured ambient level exceeds any of the first four noise limit categories. If the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level. The appropriate adjustments to the standards are also provided in Table 4.

Table 4. County of San Bernardino Stationary Noise Source Standards

Affected Land Use (Receiving Noise)	7:00 AM to 10:00 PM dBA L_{eq}	7:00 AM to 10:00 PM dBA L_{eq}
Residential	55	45
Professional Services	55	55
Other Commercial	60	60
Industrial	70	70

(1) Per County of San Bernardino Development Code Section 83.01.080(e), if the measured ambient level exceeds any of the first four noise limit categories, 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, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.

Noise Standards for Adjacent Mobile Noise Sources

The County of San Bernardino has adopted interior and exterior standards for noise emitted by mobile noise sources (San Bernardino Code Section 83.01.080(d)). As shown in Table 5, the applicable noise level criteria for impacts to residential land uses is an exterior noise level of 65 dBA CNEL and an interior noise level of 45 dBA CNEL. These standards are used in part to evaluate the project's potential to result in substantial increases in ambient noise levels. No other land uses are expected to be affected by project generated traffic noise.

If exterior noise levels do not exceed 65 dBA CNEL, it is assumed that interior noise levels do not exceed 45 dBA CNEL because typical residential construction provides approximately 20 dB of exterior to interior noise reduction when air circulation/air conditioning systems are provided.

Table 5. County of San Bernardino Noise Source Standards for Mobile Sources

Land Use		L_{dn} (or CNEL) dB(A)	
Category	**Type**	**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

Source: County of San Bernardino Development Code, Development Code Table 83-3.

(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.

Construction Noise

Temporary construction, maintenance, repair, and demolition activities between 7:00 AM and 7:00 PM, except Sundays and Federal holidays are exempt from Section 83.01.080(g)(3) the San Bernardino Development Code.

Groundborne Vibration

Section 83.01.090(a) of the County of San Bernardino Development Code prohibits the creation of ground vibration 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. Per Section 83.01.090(c), construction and demolition related ground vibration is exempt from this requirement as long as it occurs between 7:00 AM and 7:00 PM Mondays through Saturdays and not on Sundays or Federal holidays.

C. Federal Transit Administration

Construction Noise

In the absence of local quantitative construction noise thresholds, the Federal Transit Administration (FTA) provides guidelines (FTA 2018) that can be considered reasonable criteria for construction noise assessment. FTA construction noise standards are provided in Table 6.

Table 6. FTA Detailed Analysis Construction Noise Criteria

Land Use	$L_{eq,(8\ hr)}$, dBA	
	Day	Night
Residential	80	70
Commercial	85	85
Industrial	90	90

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

Groundborne Vibration

The Federal Transit Administration (FTA) provides reasonable criteria for addressing potential impacts related to groundborne vibration. As shown in Table 7, the threshold at which there is a risk to "architectural" damage to reinforced-concrete, steel or timber (no plaster) buildings is a peak particle

velocity (PPV) of 0.5, at engineered concrete and masonry (no plaster) buildings a PPV of 0.3, at non-engineered timber and masonry buildings a PPV of 0.2 and at buildings extremely susceptible to vibration damage a PPV of 0.1.

Table 7. FTA Construction Vibration Damage Criteria

Building/Structural Category	PPV, in/sec	Approximate Lv*
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.1	90

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

*RMS velocity in decibels, VdB re 1 micro-in/sec

VI. Methodology, Analysis and Findings

A. Construction Noise

Construction noise associated with the proposed project will vary depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work. Construction phases are anticipated to include site preparation, grading, and paving. A summary of typical noise level data for a variety of construction equipment compiled by the Federal Highway Administration is presented in Table 8. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings.

Construction noise associated with the proposed project was calculated at receptors located north, south, east, west and northeast of the project site utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each receptor, equipment usage, percent usage factor, and baseline parameters for the project site.

Assumptions regarding construction phases and construction equipment found in the Air Quality Study[1] that was prepared for the proposed project were also used for the construction noise analysis; and noise reference levels and typical usage factors collected by the Federal Highway Administration (FHWA) were used to model construction noise levels at nearby receptors (Table 8). Because most construction equipment will be moved and/or operated over the entire site, the construction equipment was modeled at the acoustical center of the project site to represent the average construction noise. Construction noise worksheets are provided in Appendix B.

Construction noise levels during the loudest phase of construction (site preparation) are expected to range between 56.2 and 64.9 dBA L_{eq} at nearby receptors north, south, east, west and northeast of the project site. Construction modeling worksheets are provided in Appendix B.

Table 8. Equipment Noise Emissions and Acoustical Usage Factors

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
Backhoe	No	40	80	78	372
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Dozer	No	40	85	82	55

[1] Youth Sports Center Air Quality & Greenhouse Gas Assessment. Urban Crossroads. August 29, 2024.

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Grader	No	40	85	-N/A-	0
Man Lift	No	20	85	75	23
Mounted Impact hammer (hoe ram)	Yes	20	90	90	212

Source: FHWA Roadway Construction Noise Model User's Guide January 2006.

As mentioned previously, Section 83.01.080(g)(3) the San Bernardino Development Code exempts temporary construction, maintenance, repair, and demolition activities from the County's stationary noise standards shown in Table 4, as long as it occurs between the hours 7:00 AM and 7:00 PM, and not at all on Sundays and Federal holidays. Construction activities that occur during periods that are not exempt from the County's nighttime stationary noise standards and exceed said standards would result in a significant impact. The following mitigation measure is provided to avoid such an impact.

Mitigation Measure 1:
Construction activities shall be limited to between the hours of 7:00 AM and 10:00 PM and shall not take place on Sundays or Federal holidays.

The County has not adopted any noise level thresholds for construction noise that occurs during the officially exempt periods outlined above and found in Section 83.01.080(g)(3) the San Bernardino Development Code. When this is the case, it has been industry standard to evaluate construction noise impacts in light of the FTA numerical construction noise thresholds for CEQA evaluation purposes. As shown in Table 6, the FTA standard for impacts to residential land uses, is an eight-hour L_{eq} of 80 dBA.

As stated above, noise levels during the loudest phase of construction would range between 56.2 and 64.9 dBA L_{eq} and would not exceed either the daytime FTA noise threshold. With implementation of Mitigation Measure 1 impacts related to construction noise would be less than significant. The following list of Best Management Practices (BMPs) can be implemented to further minimize construction noise.

Recommended Best Management Practices

1. Equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturer standards.

2. Place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

3. As applicable, shut off all equipment when not in use.

4. Locate equipment staging in areas that create the greatest distance between construction-related noise/vibration sources and sensitive receptors located east of the project site.

5. Direct away and shield jackhammers, pneumatic equipment, and all other portable stationary noise sources from existing residences east of the project site. Either one-inch plywood or sound blankets can be utilized for this purpose. They should reach up from the ground and block the line of sight between equipment and the residences located to the east. The shielding should be without holes and cracks. Entryways should be located on the west side.

6. Amplified music and/or voice will not be allowed on the project site.

7. Haul truck deliveries will not occur outside of the hours presented as exempt for construction per County of San Bernardino Municipal Code Section 83.01.080(g)(3).

B. Noise Impacts Due to Project Generated Traffic

Based on the County of San Bernardino mobile source noise standards (see Table 5), the noise level criteria of 60 dBA CNEL for exterior noise and 45 dBA CNEL for interior noise apply to residential land uses in the vicinity of the project site. It is widely accepted that the average healthy human ear can barely perceive changes of 3 dBA in an outdoor environment and that a change of 5 dBA is readily perceptible.[2] Accordingly, the project would result in a significant impact if the addition of project trips on surrounding roadways causes noise levels to increase at sensitive receptors by:

- 5 dBA in residential areas where the existing ambient noise level is within the County standard (60 dBA exterior or 45 dBA interior); or,
- 3 dBA in residential areas where the existing ambient noise level exceeds the County standard (60 dBA exterior or 45 dBA interior).

During operation, the proposed project is expected to generate a total of approximately 750 daily trips. It is anticipated that these vehicles will access the project site via Baldwin Lane. The measured existing noise level along Baldwin Lane is 52.6 dBA CNEL (Table 2); and the modeled existing plus project noise level is 55.4 dBA CNEL. Therefore, operation of the proposed project will result in an increase of 2.4 dBA CNEL at land uses adjacent to Baldwin Lane between the project site and SR-38. Considering that the existing measured noise level is below 60 dBA CNEL and that the increase in noise level due to project generated vehicle traffic would be less than 3 dB, noise impacts related to project generated vehicle traffic would be less than significant and no mitigation is required. Traffic noise modeling sheets are provided in Appendix C.

[2] California Department of Transportation's Technical Noise Supplement to the Traffic Noise Analysis Protocol (2013)

C. Noise Impacts Due to On-Site Project Operation

The SoundPLAN acoustical modeling software was utilized to model noise sources generated on the project site at nearby receptors (e.g., residential land uses and schools). It is capable of evaluating both mobile and stationary noise sources (e.g., vehicle traffic, rail, parking lots, parks, drive-thru menus, car wash equipment, vacuums, etc.) by utilizing algorithms (based on the inverse square law) to calculate noise level projections. The software allows the user to input specific noise sources, spectral content, sound barriers, building placement, topography, and sensitive receptor locations. In addition to the information provided below, noise modeling data is provided in Appendix D.

All field areas were modeled using a SoundPLAN noise reference level for public soccer grounds with a sound power level of 101 L_w, which includes ball play with loud voices, spectators and children screaming. Field noise was modeled approximately five feet higher than each field area and was applied over the entire play and spectator surface. The proposed dirt parking areas were modeled using an area source sound power level of 60 dBA L_w which results in an approximate sound level of 65 dBA L_{eq} spread over the entire parking area to represent conversation, occasional door slams and car horns. All noise sources were assumed to persist over the entire modeled hour. These assumptions result in a very conservative analysis.

As shown in Figure 5 and Figure 6, peak operational noise is expected to range between 19 and 55 dBA L_{eq} at nearby land uses. More specifically, exterior peak operational noise levels are expected to reach up to 50 dBA L_{eq} at nearby residential land uses and up to 55 at nearby school uses and therefore, will not exceed the 55 dBA L_{eq} residential daytime noise standard[3] at residential land uses presented in **Error! Reference source not found.**. Furthermore, although the County has not adopted a noise standard for school land uses, the State of California has adopted a background (ambient) noise level standard[4] for the interior of classrooms of 35 dBA L_{eq}. Considering that typical construction provides an exterior to interior noise reduction of 20 dB with a windows closed condition, this interior noise standard would not likely be exceeded if exterior noise levels do not exceed 55 dBA L_{eq}. Project operational noise levels would not exceed the County's noise standard for residential land uses or the State's noise standard for the interior of school classrooms. This impact would be less than significant.

D. Airport Noise

The closest airport to the project site is the Big Bear City Airport which is located approximately 1.1-mile northwest of the project site. It is a public airport and operates 24/7. Mountain Mutual Aid and the Emergency Operations Center for the entire Big Bear Valley are located at the airport and medical evacuations are possible at any time during operations. While the project site is not located within the 60 dBA CNEL noise contour associated with this airport, it is adjacent to an elementary school and near a high school that are protected from flyovers with notes that are protected by Noise Abatement

[3] Although County code (see Table 4) allows an adjustment if ambient noise levels exceed the standard, the standards were not adjusted due to the low level of operational noise at receptors.
[4] California Code Title 24, Section 1207.

Procedures to help pilots avoid noise-sensitive residential areas and schools (below). This impact would be less than significant.

- Extreme Noise Sensitive Area, Practice (Fly Quiet) procedures in the interest of noise abatement.
- Noise abatement procedures: avoid overflying of high school 1 mile east at all times.
- Avoid housing to the east and elementary school.

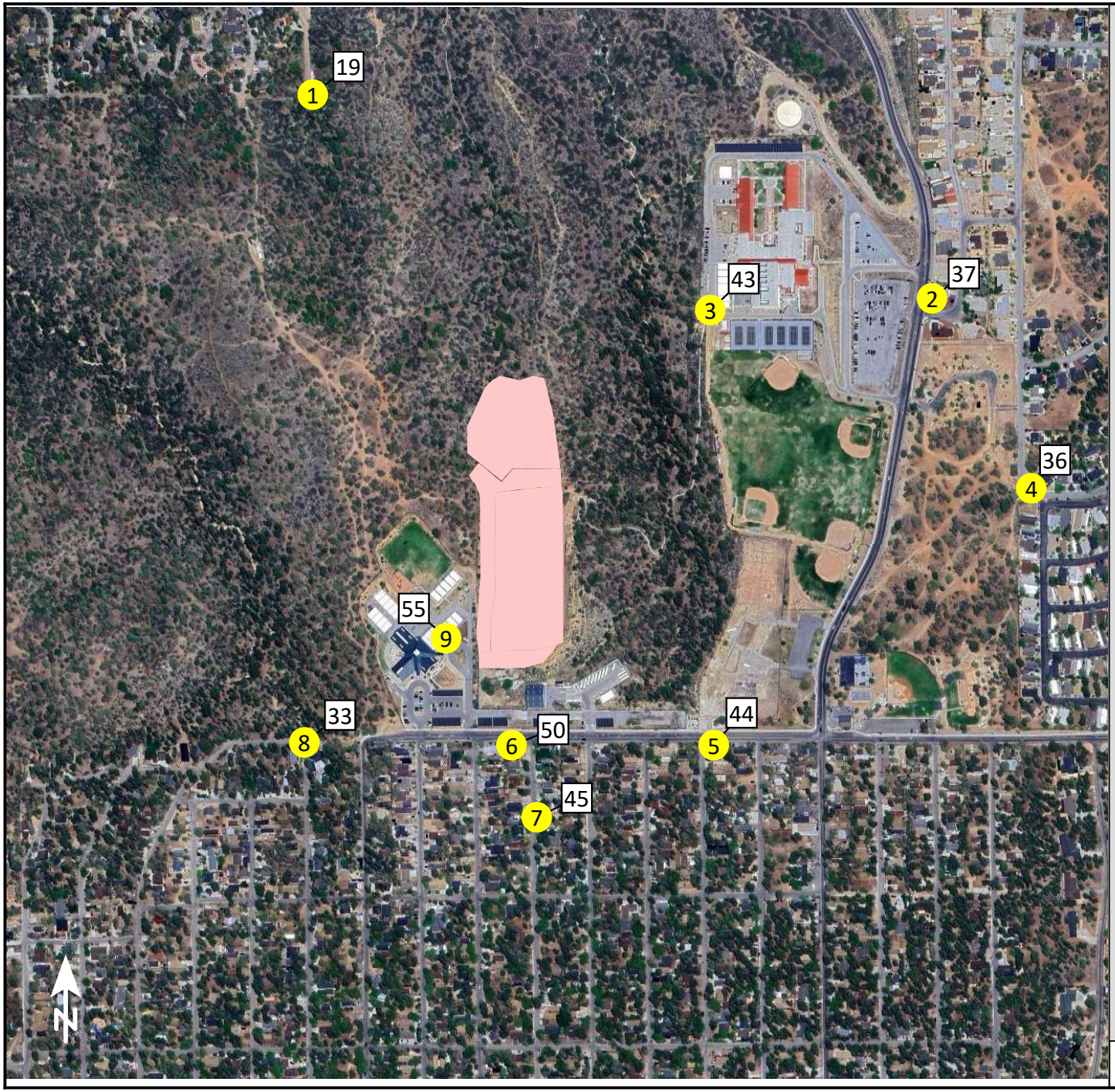


Figure 5

Operational Noise Levels

Signs and symbols

Receiver

Area sources (Field play, spectator areas and parking areas)

Noise Level Tables (dBA, Leq)

1 : 600

0 125 250 500 750 1000 feet

Roma Environmental



Figure 6

Operational Noise Contours

Signs and symbols

Area sources (Field play, spectator areas and parking areas)

Levels in dB(A) (Leq)

< 45
45 - 50
50 - 55
55 - 60
60 - 65
>= 65

1 : 600

0 125 250 500 750 1000 feet

Roma Environmental

E. Groundborne Vibration Impacts

The greatest potential sources of groundborne vibration expected to be utilized during construction of the project include a vibratory roller and a large bulldozer. As shown in Table 9, a vibratory roller can generate a vibration level of approximately 0.21 in/sec PPV at a distance of 25 feet, while a large bulldozer can generate a vibration level of 0.089 in/sec PPV at 25 feet.

Based on the provided site plan and aerial photographs, the closest onsite structures (School District facilities) are located approximately 65 feet to the south of the proposed construction area and the nearest off-site structures (single family residences) are located approximately 315 feet south of the proposed construction area. At these distances, vibration levels produced by a vibratory roller would attenuate to approximately 0.05 in/sec PPV and 0.005 respectively; and vibration levels produced by a large bulldozer would attenuate to approximately 0.021 in/sec PPV and 0.002 respectively. Therefore, use of vibratory equipment during project construction would not cause groundborne vibration that is likely to result in structural damage to nearby engineered masonry and concrete buildings according to the damage criteria of 0.3 PPV inches/second as presented in Table 7. This impact is less than significant. No mitigation is required. Groundborne vibration worksheets are provided in Appendix E.

Table 9. Equipment Noise Emissions and Acoustical Usage Factors

Equipment		PPV at 25 feet, inches/second
Pile Driver (impact)	Upper range	1.518
	Typical	0.644
Pile Driver (sonic)	Upper range	0.734
	Typical	0.17
Clam Shovel (slurry wall)		0.21
Hydromill (slurry wall)	In soil	0.08
	In rock	0.017
Vibratory Roller		0.21
How Ram		0.089
Large Bulldozer		0.089
Caisson Drilling		0.089
Loaded Trucks		0.076
Jackhammer		0.035
Small Bulldozer		0.003

Source: Federal Transit Administration, transit Noise and Vibration Impact Assessment Manual. Sept. 2018.

V. References

California Department of Transportation (Caltrans)
2013 Technical Noise Supplement to the Traffic Noise Analysis Protocol.

Cyril M. Harris.
1991 Handbook of Acoustical Measurement and Noise Control.

Environmental Protection Agency
1974 "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety," EPA/ONAC 550/9-74-004, March 1974.

Federal Transit Administration
2006 Transit Noise and Vibration Impact Assessment. Typical Construction Equipment Vibration Emissions. FTAVA-90-1003-06.

2018 Transit Noise and Vibration Impact Assessment Manual. Typical Construction Equipment Vibration Emissions.

Institute of Traffic Engineers (ITE)
Trip Generation Manual 10th Edition.

San Bernardino County
1992 Airport Comprehensive Land Use Plan Big Bear City Airport, February.

Urban Crossroads
2024 Youth Sports Center Air Quality & Greenhouse Gas Assessment. Urban Crossroads. August 29.

U.S. Department of Transportation
2006 FHWA Roadway Construction Noise Model User's Guide. January.

APPENDIX A

Larson Davis 820 Noise Measurement Data

Noise Measurement Field Data

Project Name: Sugarloaf Project **Date:** July 22-23, 2024

Project #:

Noise Measurement #: LTNM1 **Technician:** Ian Gallagher

Nearest Address or Cross Street: Building structure # 44548, 44500 Baldwin Lane, Big Bear City, CA 92314

Site Description (Type of Existing Land Use and any other notable features): On-site: Blocked access road running E-W, parallel to Baldwin Lane between elementary school W & school bus storage yard E. Adjacent: Residential to the S, trees & open land to the NW, Big Bear High School 1,000' NE of LTNM1.

Weather: Mostly cloudy, partial sun by day. Sunset/rise 7:56PM/5:52AM **Settings:** SLOW FAST

Temperature: 65-86 deg F **Wind:** 3-5 mph **Humidity:** 38-42% **Terrain:** Hilly

Start Time: 6:00 PM **End Time:** 6:00 PM **Run Time:** 24 x 1 hours

Leq: 49.6 dB

Lmax 74.9 dB

L2 58.1 dB

L8 54.3 dB

L25 48.2 dB

L50 41.4 dB

Primary Noise Source: Traffic noise from vehicles travelling along Baldwin Ln. Traffic ambiance from other roads. No children at Baldwin Lane Elementary or Big Bear High, summer break.

Secondary Noise Sources: Maintenance going on during the day at the school bus yard & Big Bear High school grounds, heavy equipment in use. Bird song by day, crickets at night. Air traffic.

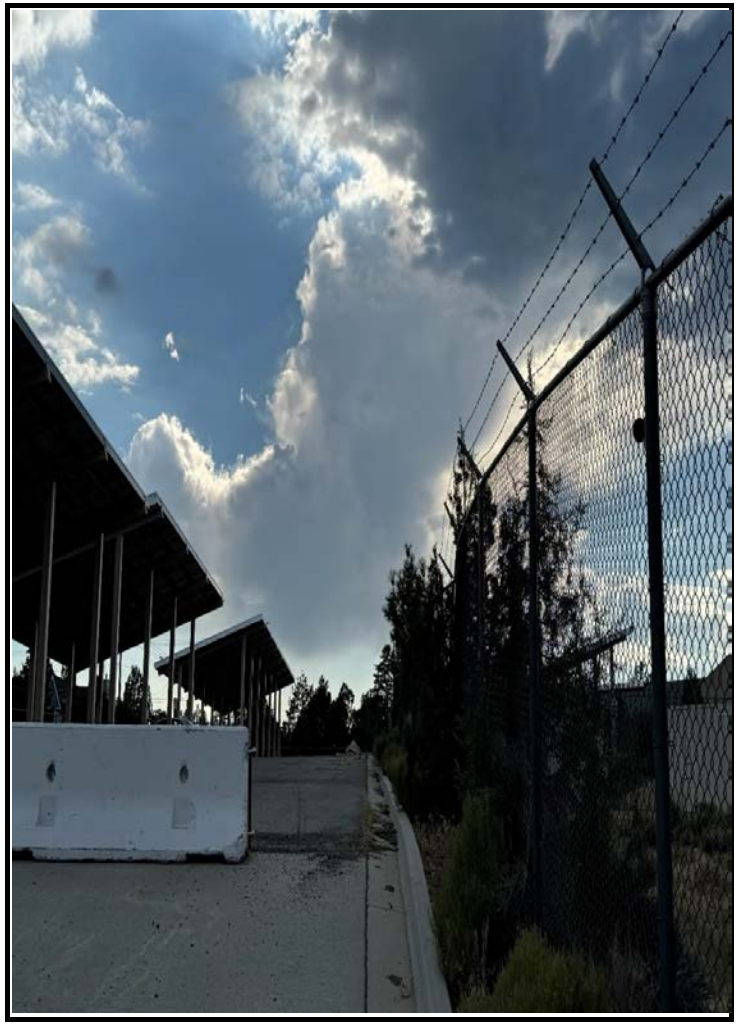
NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 200
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 200
SERIAL NUMBER:	3855	**SERIAL NUMBER:**	11178
FACTORY CALIBRATION DATE:	3/31/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	7/22/2024		

Noise Measurement Field Data

PHOTOS:



LTNM1 looking E along fenceline & access road towards building structure 44500 Baldwi
Lane, Big Bear (number on side of building 44548).



LTNM1 looking W along the fence line & blocked access road towards Baldwin Lane Elementary School, 44500 Baldwin Lane, Big Bear.

Measurement Report

Report Summary

Meter's File Name	LxT_Data.099.s	Computer's File Name	LxT_0003855-20240722 180000-LxT_Data.099.ldbin
Meter	LxT1 0003855		
Firmware	2.404		
User	Ian Edward Gallagher	Location	LTNM1 34°15'2.79"N 116°49'45.64"W
Job Description	24 hour noise measurement (24 x 1 hours)		
Note	Roma Environmental Sugarloaf Project		
Start Time	2024-07-22 18:00:00	Duration	24:00:00.0
End Time	2024-07-23 18:00:00	Run Time	24:00:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	49.6 dB		
LAE	99.0 dB	SEA	--- dB
EA	873.5 µPa²h	LAFTM5	54.0 dB
EA8	291.2 µPa²h		
EA40	1.5 mPa²h		
LA_{peak}	94.7 dB	2024-07-23 13:20:17	
LAS_{max}	74.9 dB	2024-07-23 08:37:21	
LAS_{min}	30.3 dB	2024-07-23 02:43:29	
LA_{eq}	49.6 dB		
LC_{eq}	61.4 dB	LC_{eq} - LA_{eq}	11.8 dB
LAI_{eq}	52.0 dB	LAI_{eq} - LA_{eq}	2.4 dB

Exceedances	Count	Duration
LAS > 65.0 dB	40	0:02:54.8
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

	LDEN	LDay	LEve	LNight
	--- dB	--- dB	--- dB	--- dB

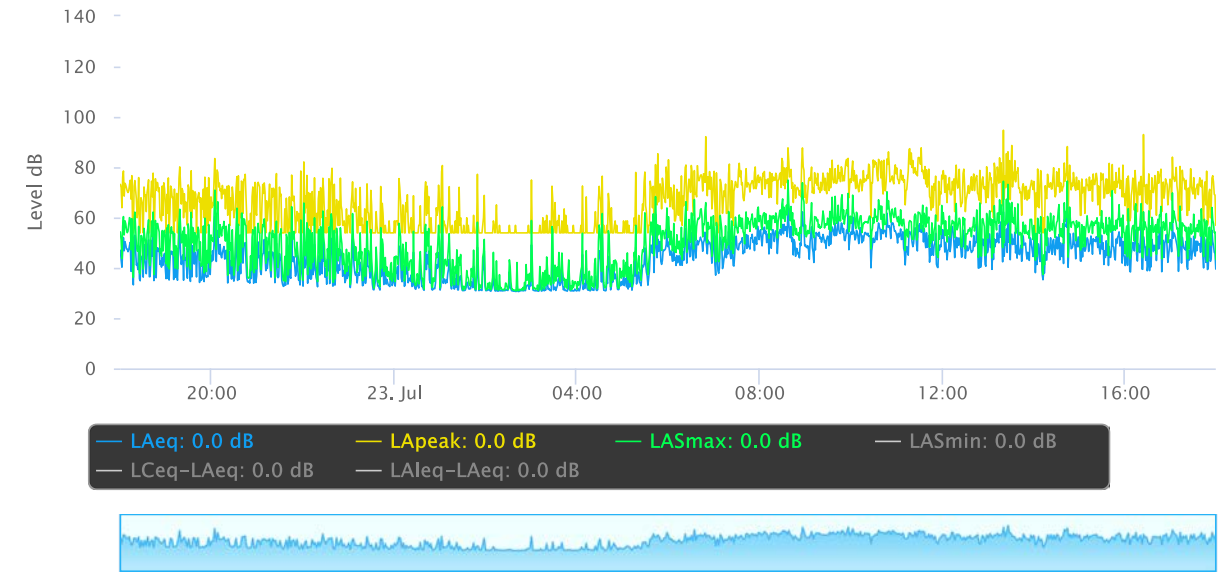
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	49.6 dB		61.4 dB		--- dB	
$L_{S(max)}$	74.9 dB	2024-07-23 08:37:21	--- dB		--- dB	
$L_{S(min)}$	30.3 dB	2024-07-23 02:43:29	--- dB		--- dB	
$L_{Peak(max)}$	94.7 dB	2024-07-23 13:20:17	--- dB		--- dB	

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

Statistics

LAS 2.0	58.1 dB
LAS 8.0	54.3 dB
LAS 25.0	48.2 dB
LAS 50.0	41.4 dB
LAS 90.0	31.4 dB
LAS 99.0	30.7 dB

Time History



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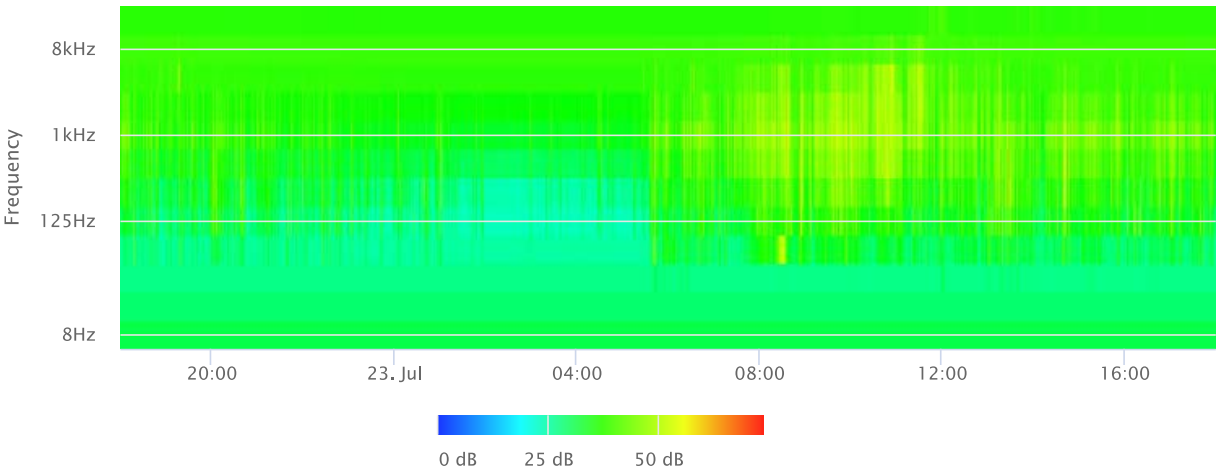

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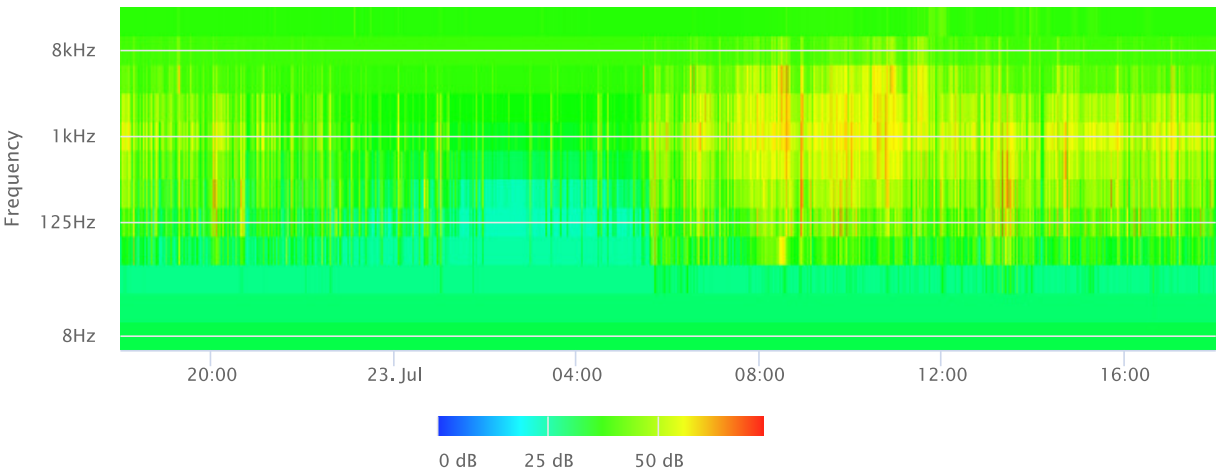

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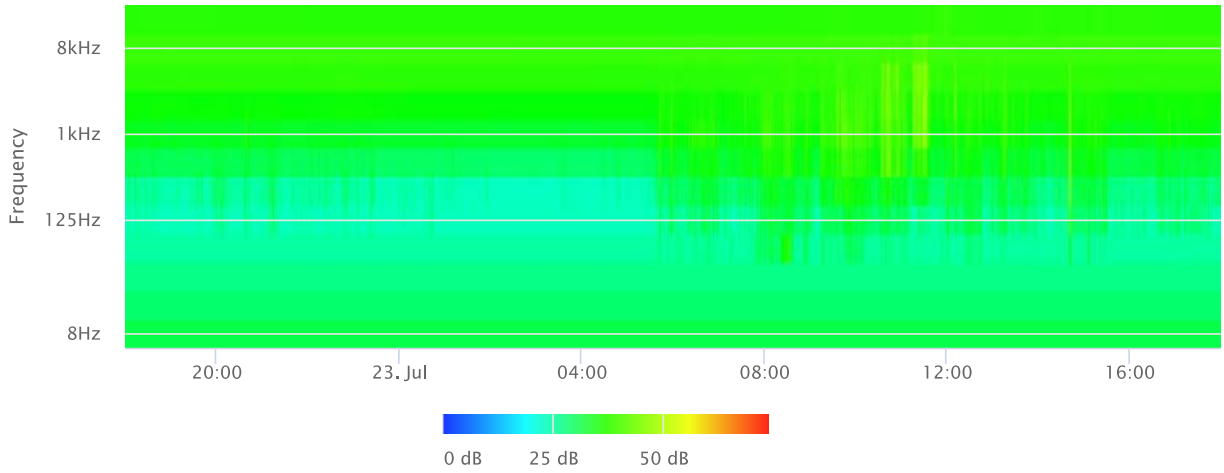
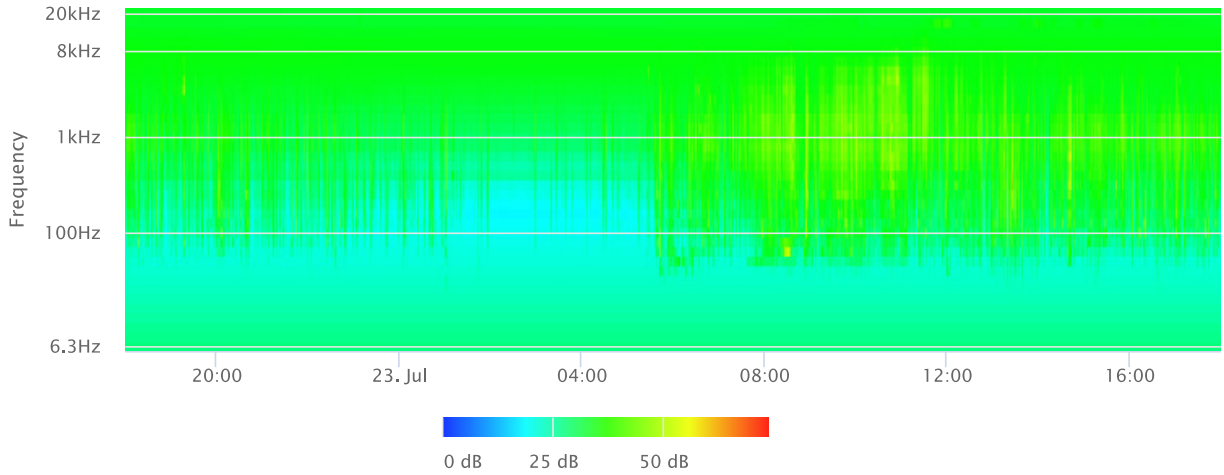
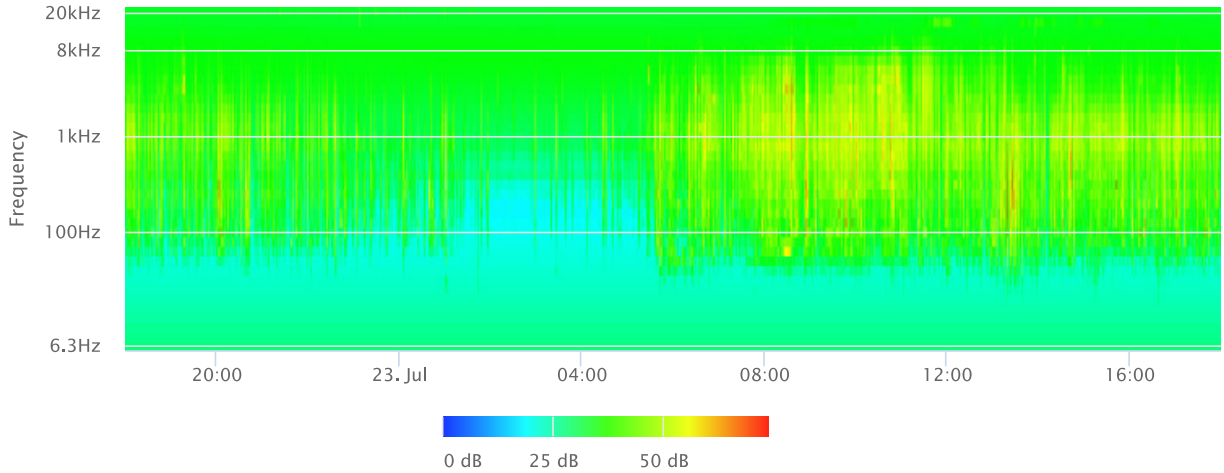


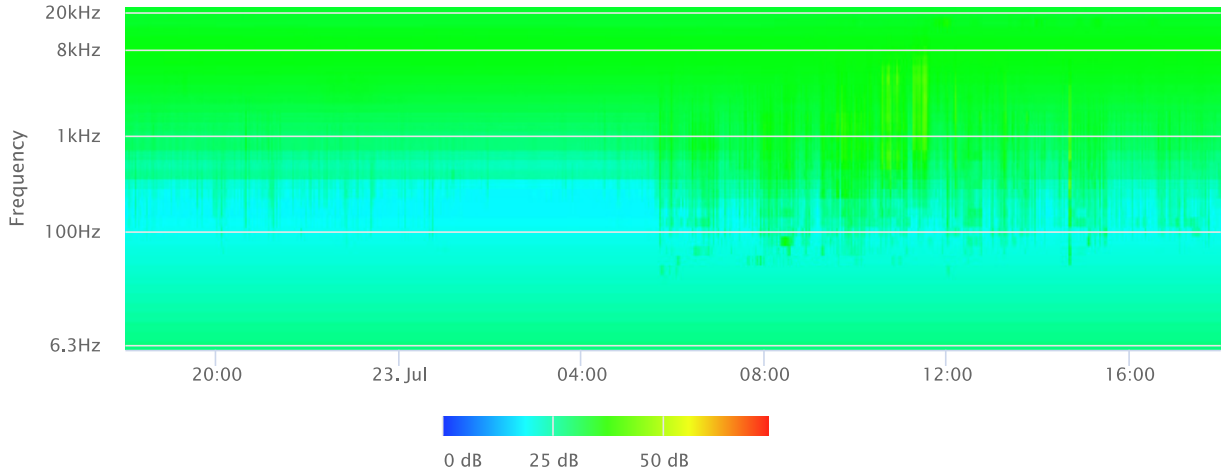
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
20:00
23. Jul
04:00
08:00
12:00
16:00
0 dB
25 dB
50 dB

Noise Measurement Field Data

Project Name: Sugarloaf Project **Date:** July 22, 2024

Project #:

Noise Measurement #: STNM1 **Technician:** Ian Gallagher

Nearest Address or Cross Street: 524 Adams Drive, Big Bear, CA 92314

Site Description (Type of Existing Land Use and any other notable features): On-site: South end of dirt terminal road, residences to the N & W, lots of space, elsewhere open space, hilly, rocky terrain with trees & mountain vegetation, wilderness. Adjacent: High school & Elementary school 2,000' SE of STNM1, over the hills.

Weather: Patchy clouds, partial sun. Sunset 7:56 PM. **Settings:** SLOW FAST

Temperature: 82 deg F **Wind:** 5 mph **Humidity:** 40% **Terrain:** Hilly

Start Time: 10:35 AM **End Time:** 10:50 AM **Run Time:** 1 x 15 minutes

Leq: 42.6 dB **Primary Noise Source:** Vehicle approaches and turns around at 10:41AM. Passing plane at 10:46 AM.

Lmax 61 dB

L2 52.8 dB **Secondary Noise Sources:** Bird Song, woodpecker, other wildlife. Breeze thru vegetation, mostly evergreen.

L8 44.3 dB Elevated potential for thunder.

L25 37.9 dB

L50 35.7 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 200
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 200
SERIAL NUMBER:	3855	**SERIAL NUMBER:**	11178
FACTORY CALIBRATION DATE:	3/31/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	7/22/2024		

Roma Environmental

Noise Measurement Field Data

PHOTOS:



STNM1 looking S from south end of S Adams Drive. Bottom of valley, rocks, trees, mountain vegetation and wildlife ahead. Baldwin Lane elementary school 1,900' SSE of STNM1 on other side of hill.



STNM1 looking N from S end of S Adams Drive. Residence 524 Adams Drive, Big Bear on the right.

Measurement Report

Report Summary

Meter's File Name	LxT_Data.091.s	Computer's File Name	LxT_0003855-20240722 103522-LxT_Data.091.ldbin
Meter	LxT1 0003855		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM1 34°15'27.18"N 116°49'55.80"W
Job Description	15 minute noise measurement		
Note	Roma Environmental Sugarloaf Project		
Start Time	2024-07-22 10:35:22	Duration	0:15:00.0
End Time	2024-07-22 10:50:22	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	42.6 dB		
LAE	72.2 dB	SEA	--- dB
EA	1.8 µPa²h	LAFTM5	49.0 dB
EA8	58.7 µPa²h		
EA40	293.5 µPa²h		
LA_{peak}	89.2 dB	2024-07-22 10:38:35	
LAS_{max}	61.0 dB	2024-07-22 10:41:21	
LAS_{min}	31.0 dB	2024-07-22 10:45:48	
LA_{eq}	42.6 dB		
LC_{eq}	58.3 dB	LC_{eq} - LA_{eq}	15.7 dB
LAI_{eq}	47.1 dB	LAI_{eq} - LA_{eq}	4.4 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	42.6 dB		58.3 dB		--- dB	
$L_{S(max)}$	61.0 dB	2024-07-22 10:41:21	--- dB		--- dB	
$L_{S(min)}$	31.0 dB	2024-07-22 10:45:48	--- dB		--- dB	
$L_{Peak(max)}$	89.2 dB	2024-07-22 10:38:35	--- dB		--- dB	

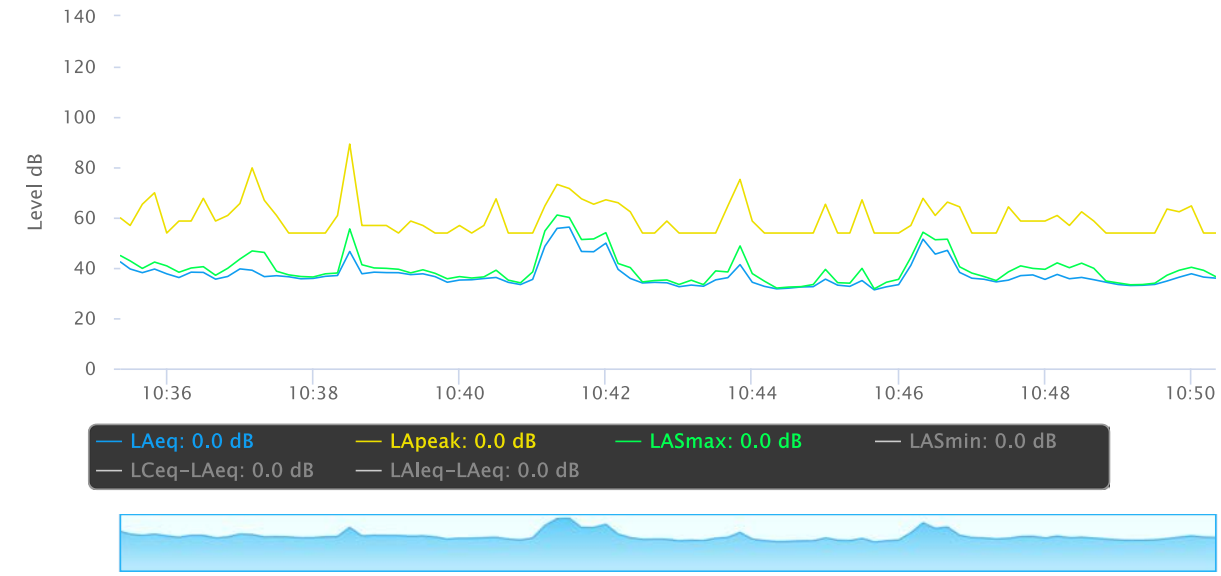
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

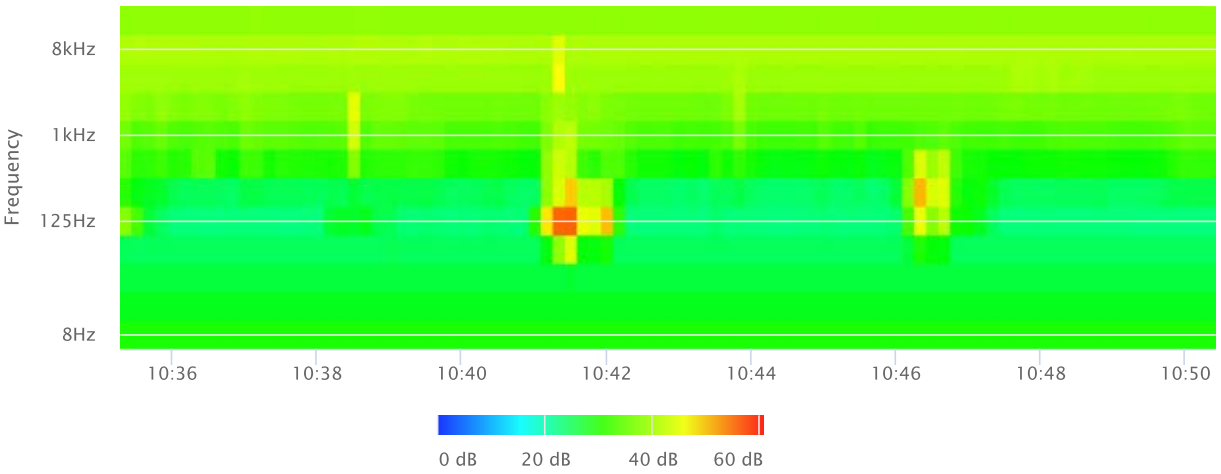
Statistics

LAS 2.0	52.8 dB
LAS 8.0	44.3 dB
LAS 25.0	37.9 dB
LAS 50.0	35.7 dB
LAS 66.6	34.4 dB
LAS 90.0	32.6 dB

Time History



OBA 1/1 Leq



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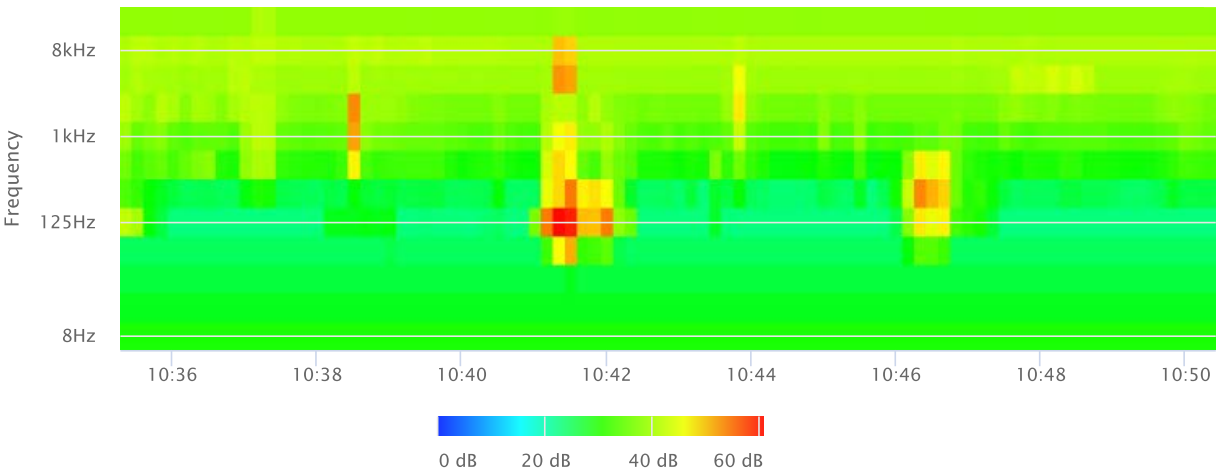
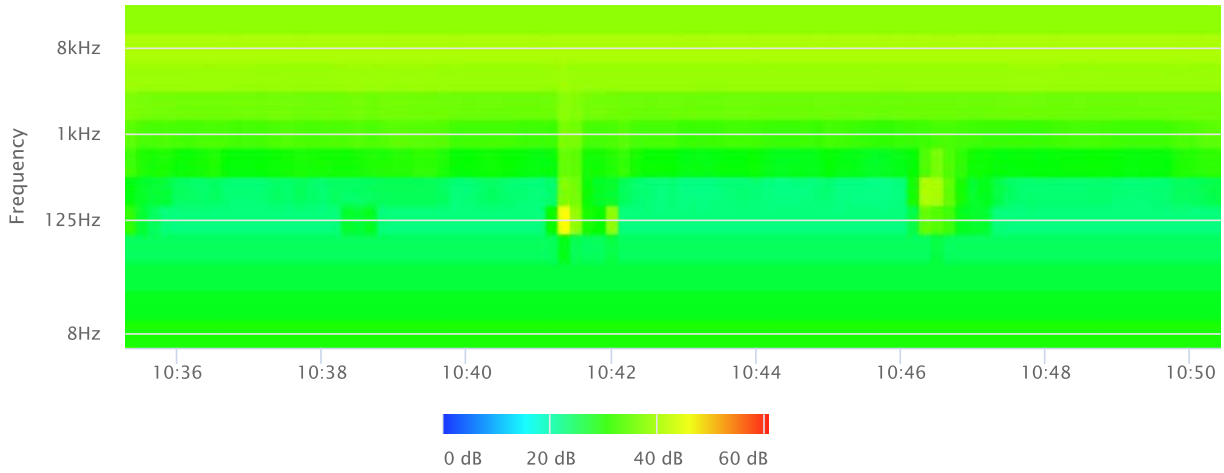
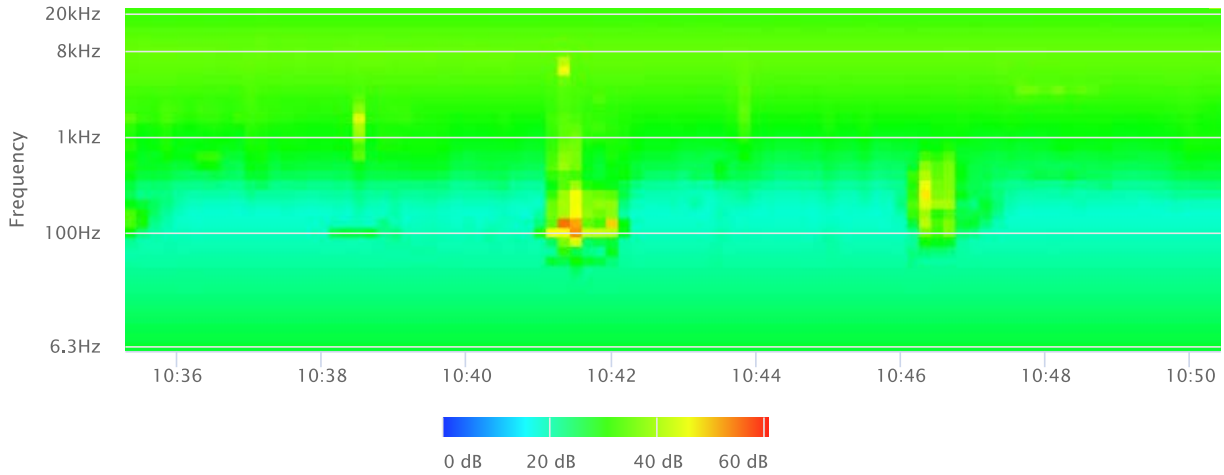


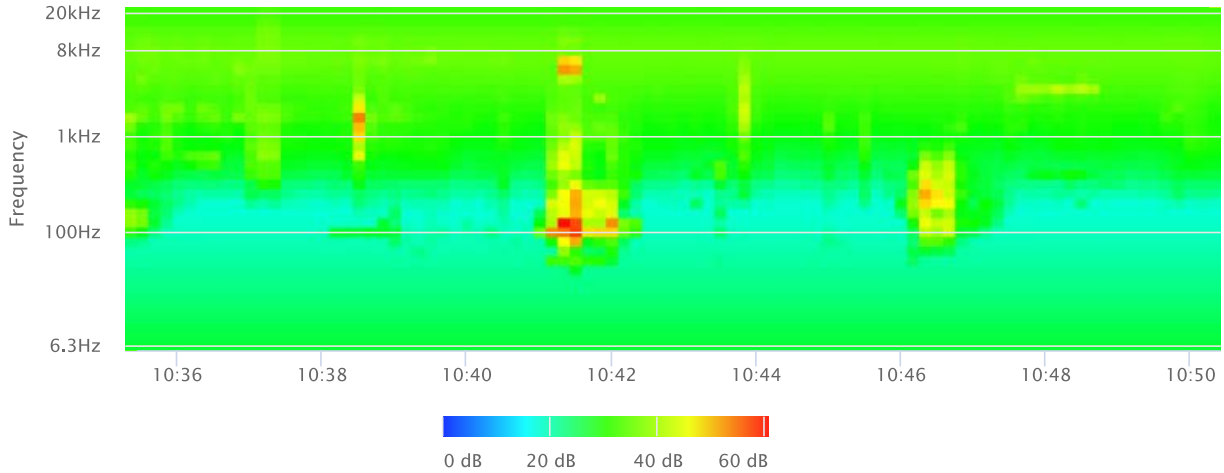
OBA 1/1 Lmin



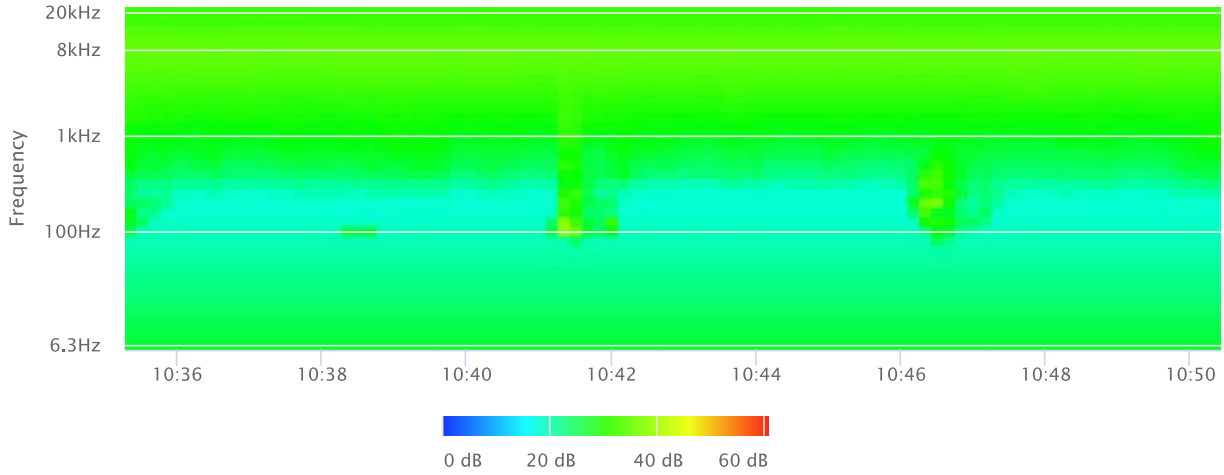
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
10:36
10:38
10:40
10:42
10:44
10:46
10:48
10:50

0 dB
20 dB
40 dB
60 dB

Noise Measurement Field Data

Project Name: Sugarloaf Project **Date:** July 22, 2024

Project #:

Noise Measurement #: STNM2 **Technician:** Ian Gallagher

Nearest Address or Cross Street: 374 Maple Ridge Drive, Big Bear, CA 92314

Site Description (Type of Existing Land Use and any other notable features): On-site: Maple Lane & Maple Ridge Drive intersection. Maple Lane running N-S & residential road, Maple Ridge Drive running E-W. Adjacent: Residential to the E, cemetery to the SE, student high school parking lot & school to the W.

Weather: Patchy clouds, partial sun. Sunset 7:56 PM. **Settings:** SLOW FAST

Temperature: 82 deg F **Wind:** 5 mph **Humidity:** 40% **Terrain:** Hilly

Start Time: 11:51 AM **End Time:** 12:06 PM **Run Time:** 1 x 15 minutes

Leq:	69	dB
Lmax	81.6	dB
L2	77.3	dB
L8	74.1	dB
L25	69.9	dB
L50	64.3	dB

Primary Noise Source: Traffic noise from the 98 vehicles passing STNM2 microphone travelling along Maple Lane during measurement.

Secondary Noise Sources: Maintenance work being done W side of student parking lot, maintence workers & concrete truck in action. Bird song. Pedestrians. Elevated potential for thunder.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 200
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 200
SERIAL NUMBER:	3855	**SERIAL NUMBER:**	11178
FACTORY CALIBRATION DATE:	3/31/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	7/22/2024		

Roma Environmental

Noise Measurement Field Data

PHOTOS:



STNM2 looking N along Maple Lane & across Maple Ridge Drive intersection.



STNM2 looking SE towards residence 374 Maple Ridge Drive, Big Bear.

Measurement Report

Report Summary

Meter's File Name	LxT_Data.093.s	Computer's File Name	LxT_0003855-20240722 115142-LxT_Data.093.ldbin
Meter	LxT1 0003855		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM2 34°15'18.40"N 116°49'26.17"W
Job Description	15 minute noise measurement		
Note	Roma Environmental Sugarloaf Project		
Start Time	2024-07-22 11:51:42	Duration	0:15:00.0
End Time	2024-07-22 12:06:42	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	69.0 dB		
LAE	98.6 dB	SEA	--- dB
EA	802.7 µPa²h	LAFTM5	75.0 dB
EA8	25.7 mPa²h		
EA40	128.4 mPa²h		
LA_{peak}	101.3 dB	2024-07-22 11:59:36	
LAS_{max}	81.6 dB	2024-07-22 11:59:36	
LAS_{min}	40.5 dB	2024-07-22 11:57:02	
LA_{eq}	69.0 dB		
LC_{eq}	72.9 dB	LC_{eq} - LA_{eq}	3.9 dB
LAI_{eq}	72.0 dB	LAI_{eq} - LA_{eq}	3.0 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	38	0:07:53.8
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	69.0 dB		72.9 dB		--- dB	
$L_{S(max)}$	81.6 dB	2024-07-22 11:59:36	--- dB		--- dB	
$L_{S(min)}$	40.5 dB	2024-07-22 11:57:02	--- dB		--- dB	
$L_{Peak(max)}$	101.3 dB	2024-07-22 11:59:36	--- dB		--- dB	

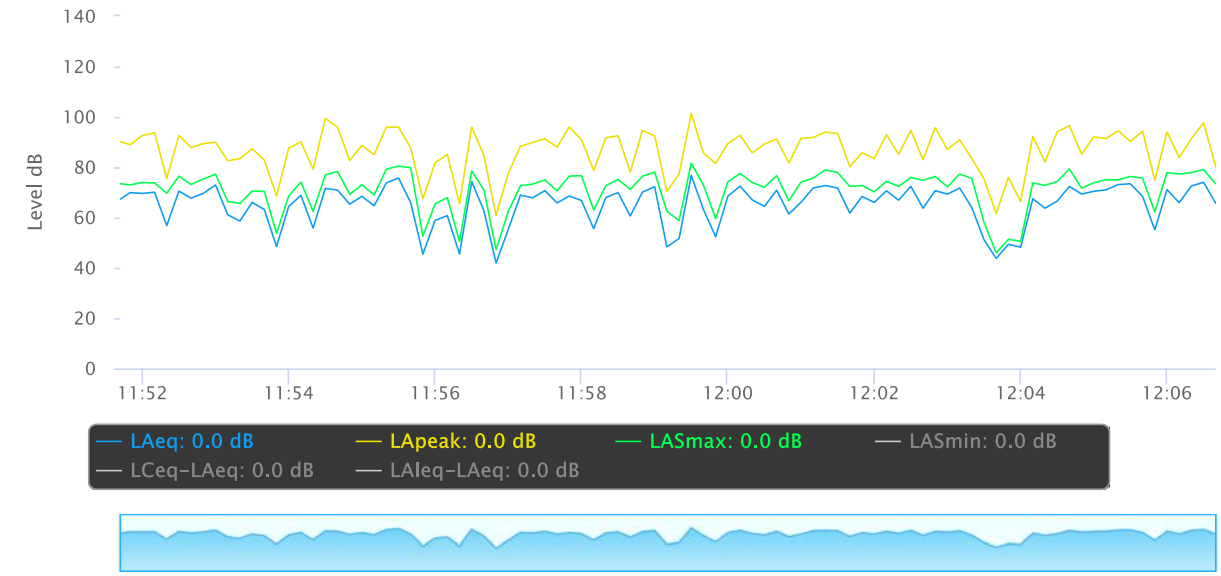
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

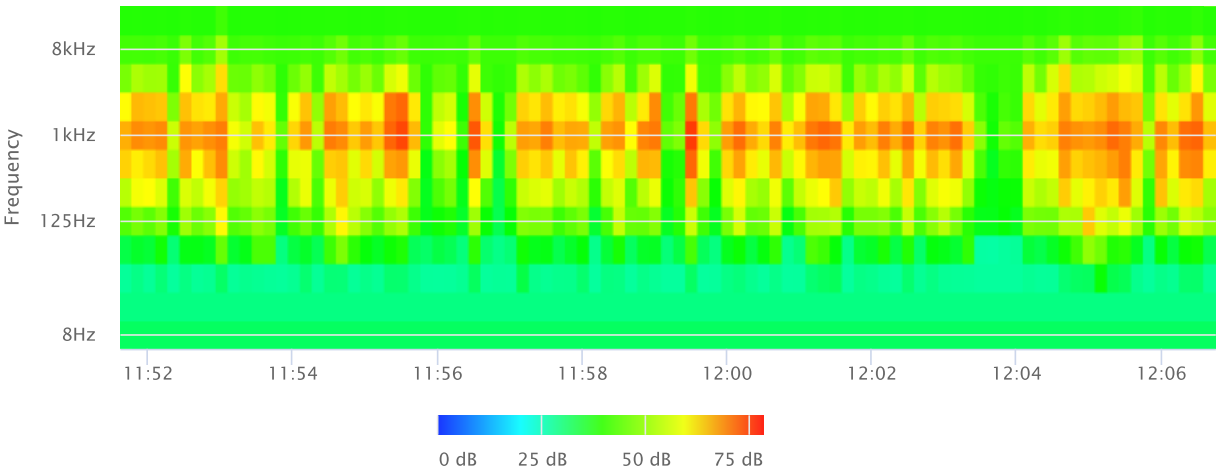
Statistics

LAS 2.0	77.3 dB
LAS 8.0	74.1 dB
LAS 25.0	69.9 dB
LAS 50.0	64.3 dB
LAS 66.6	58.5 dB
LAS 90.0	47.0 dB

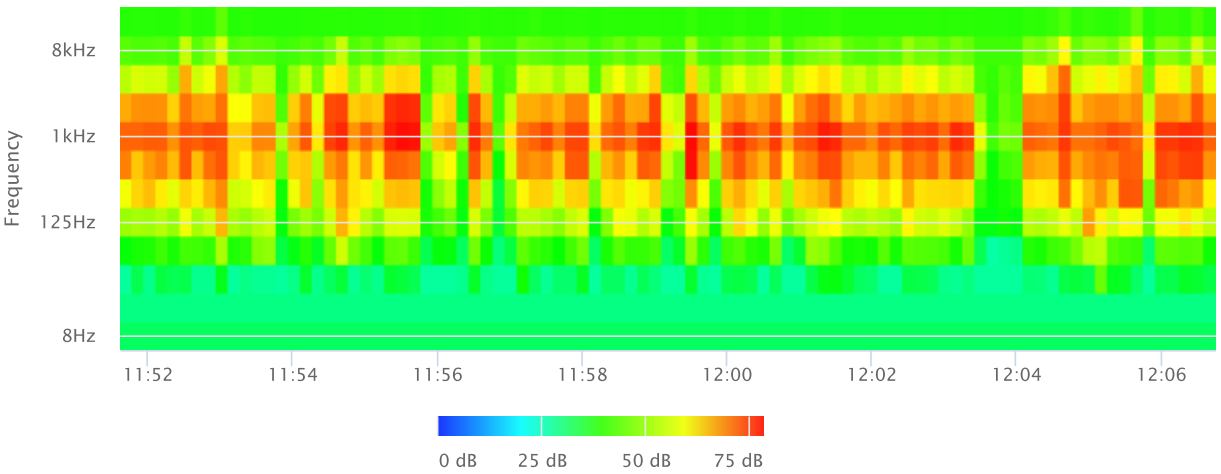
Time History



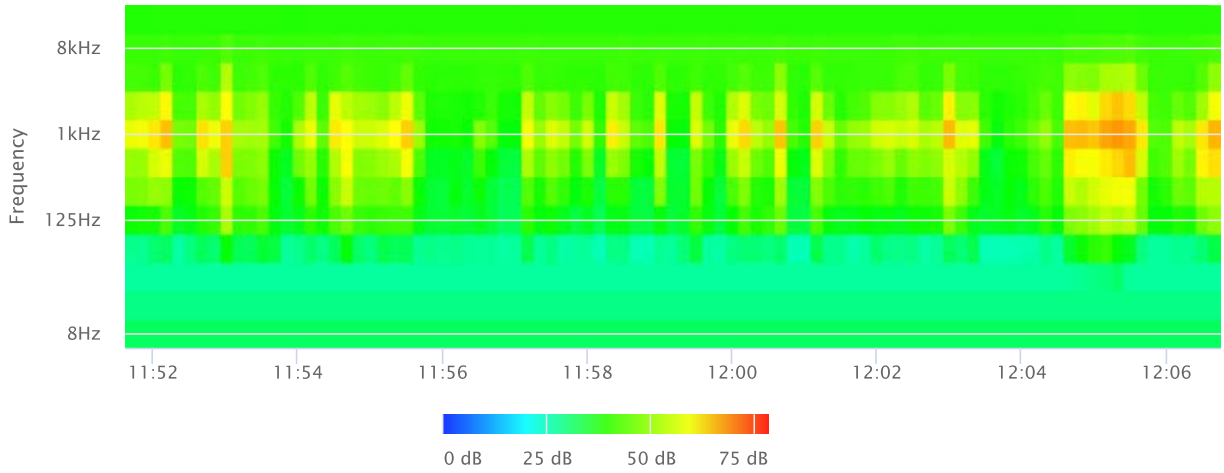
OBA 1/1 Leq



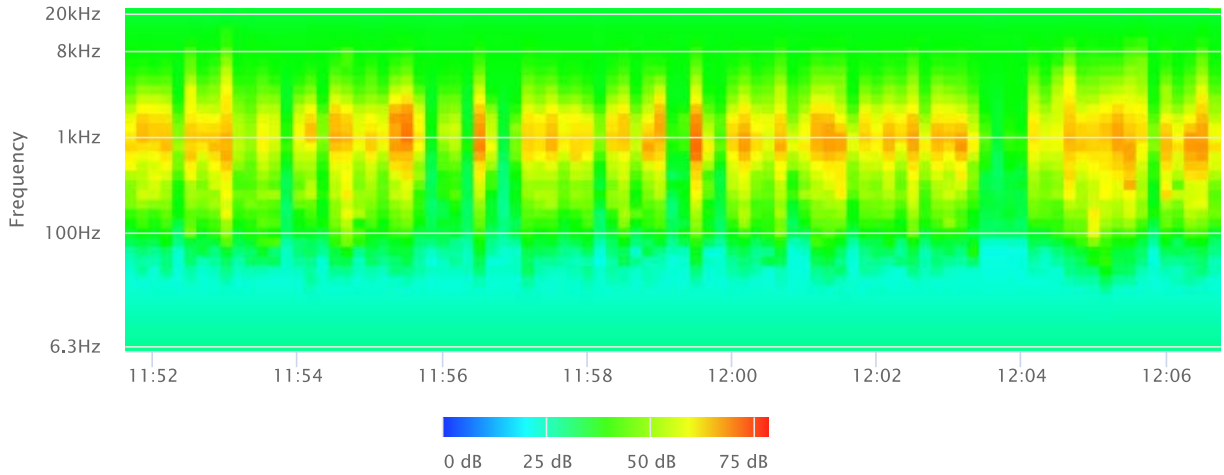
OBA 1/1 Lmax



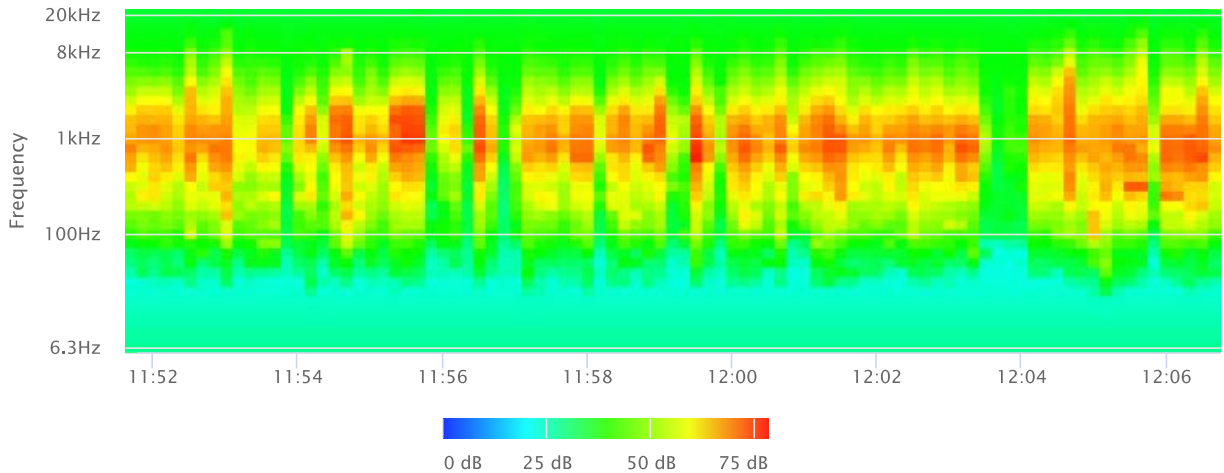
OBA 1/1 Lmin



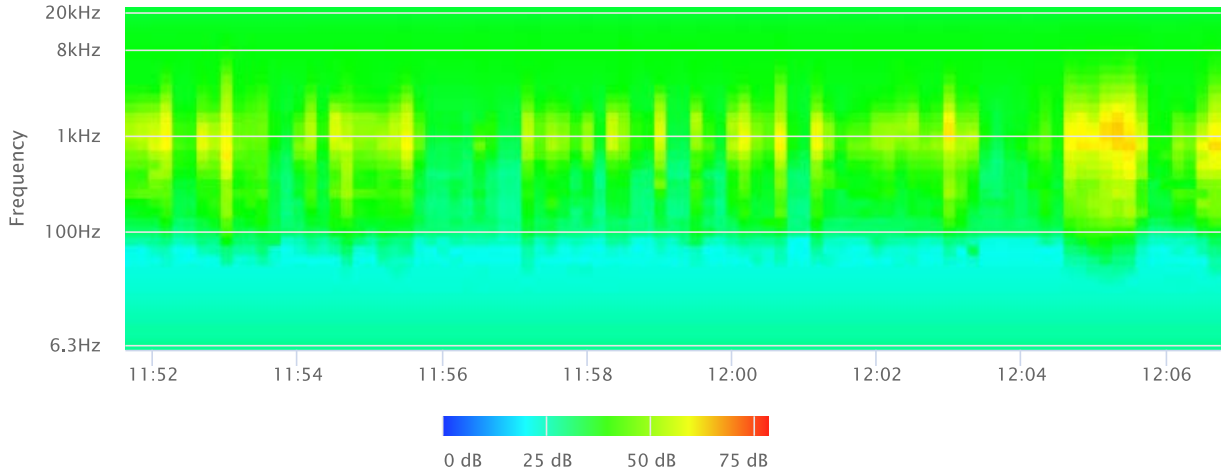
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
11:52
11:54
11:56
11:58
12:00
12:02
12:04
12:06

0 dB
25 dB
50 dB
75 dB

Noise Measurement Field Data

Project Name: Sugarloaf Project **Date:** July 22, 2024

Project #:

Noise Measurement #: STNM3 **Technician:** Ian Gallagher

Nearest Address or Cross Street: 351 Maple Lane, Big Bear, CA 92314

Site Description (Type of Existing Land Use and any other notable features): On-site: Far W side of high school, open hilly land with trees, rocks & wildlife to the W, classrooms with ac units running to the NE, tennis courts, storage area & baseball fields to the S. Adjacent: Maple Lane running N-S, 850' E of STNM3.

Weather: Patchy clouds, partial sun. Sunset 7:56 PM. **Settings:** SLOW FAST

Temperature: 82 deg F **Wind:** 5 mph **Humidity:** 40% **Terrain:** Hilly

Start Time: 11:17 AM **End Time:** 11:32 AM **Run Time:** 1 x 15 minutes

Leq: 47.3 dB

Lmax 54.7 dB

L2 51.2 dB

L8 50.2 dB

L25 48.6 dB

L50 47.5 dB

Primary Noise Source: Air conditioning window units left running on the W side of trailor style classrooms on campus, 70' NE of STNM3 microphone. No children (summer break).

Secondary Noise Sources: Traffic ambiance from Maple Lane, 850' E. Bird song. Breeze through vegetation. Occassional overhead aircraft. Maintenace on campus 200' NNE of STNM3.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 200
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 200
SERIAL NUMBER:	3855	**SERIAL NUMBER:**	11178
FACTORY CALIBRATION DATE:	3/31/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	7/22/2024		

Roma Environmental

Noise Measurement Field Data

PHOTOS:



STNM3 looking NE towards Big Bear high school classrooms



STNM3 looking SE across school storage area, towards school baseball playing fields.

Measurement Report

Report Summary

Meter's File Name	LxT_Data.092.s	Computer's File Name	LxT_0003855-20240722 111740-LxT_Data.092.ldbin
Meter	LxT1 0003855		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM3 34°15'18.40"N 116°49'36.77"W
Job Description	15 minute noise measurement		
Note	Roma Environmental Sugarloaf Project		
Start Time	2024-07-22 11:17:40	Duration	0:15:00.0
End Time	2024-07-22 11:32:40	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	47.3 dB		
LAE	76.9 dB	SEA	--- dB
EA	5.4 µPa²h	LAFTM5	51.0 dB
EA8	173.8 µPa²h		
EA40	868.9 µPa²h		
LA_{peak}	82.4 dB	2024-07-22 11:23:56	
LAS_{max}	54.7 dB	2024-07-22 11:18:13	
LAS_{min}	40.6 dB	2024-07-22 11:26:59	
LA_{eq}	47.3 dB		
LC_{eq}	58.3 dB	LC_{eq} - LA_{eq}	11.0 dB
LAI_{eq}	49.7 dB	LAI_{eq} - LA_{eq}	2.4 dB

Exceedances	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	--- dB	--- dB	0.0 dB

	LDEN	LDay	LEve	LNight
	--- dB	--- dB	--- dB	--- dB

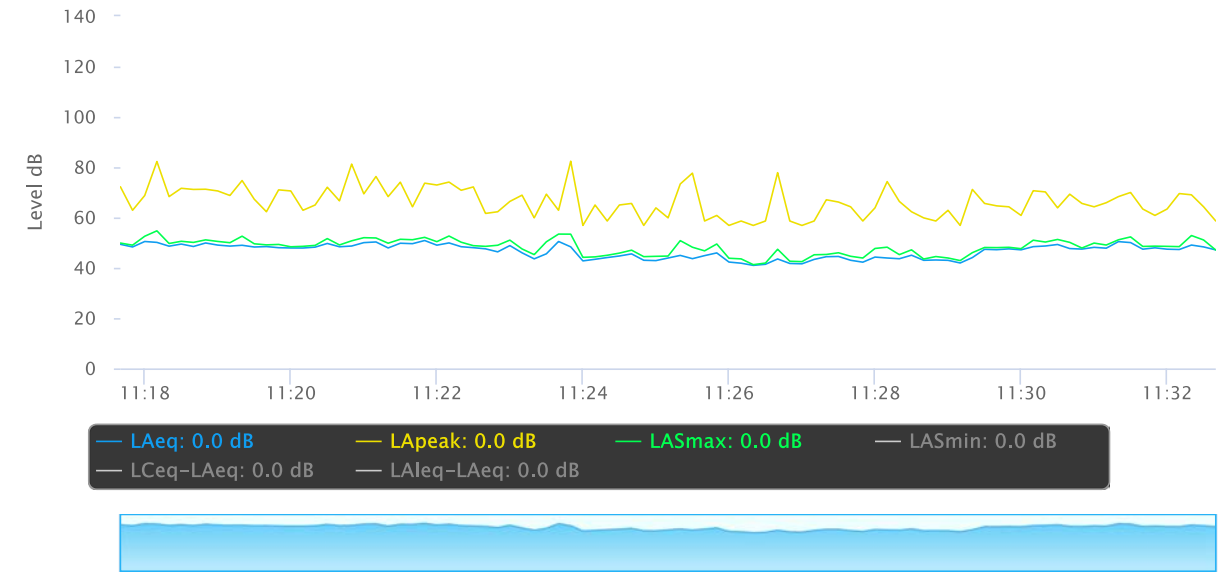
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	47.3 dB		58.3 dB		--- dB	
$L_{S(max)}$	54.7 dB	2024-07-22 11:18:13	--- dB		--- dB	
$L_{S(min)}$	40.6 dB	2024-07-22 11:26:59	--- dB		--- dB	
$L_{Peak(max)}$	82.4 dB	2024-07-22 11:23:56	--- dB		--- dB	

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

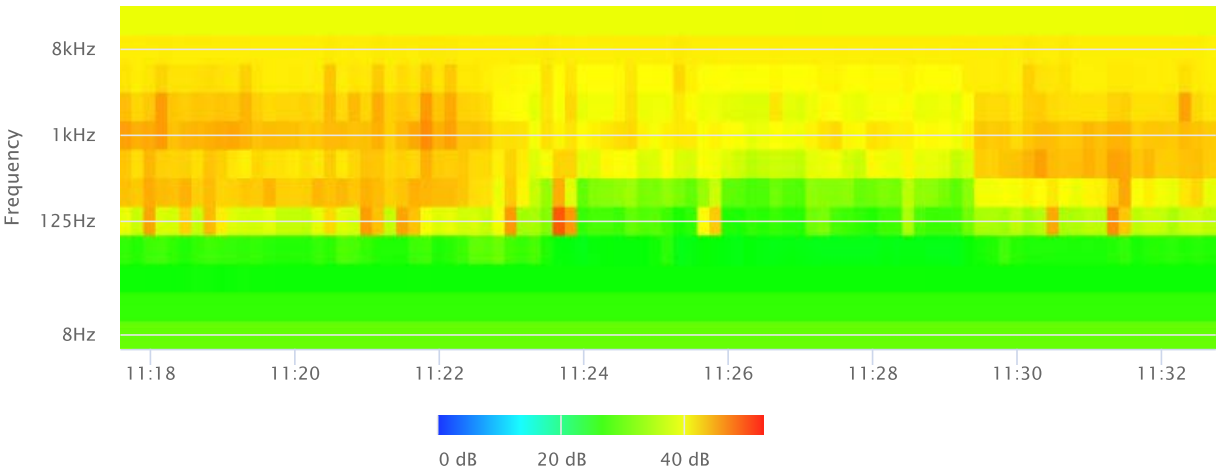
Statistics

LAS 2.0	51.2 dB
LAS 8.0	50.2 dB
LAS 25.0	48.6 dB
LAS 50.0	47.5 dB
LAS 66.6	44.6 dB
LAS 90.0	42.4 dB

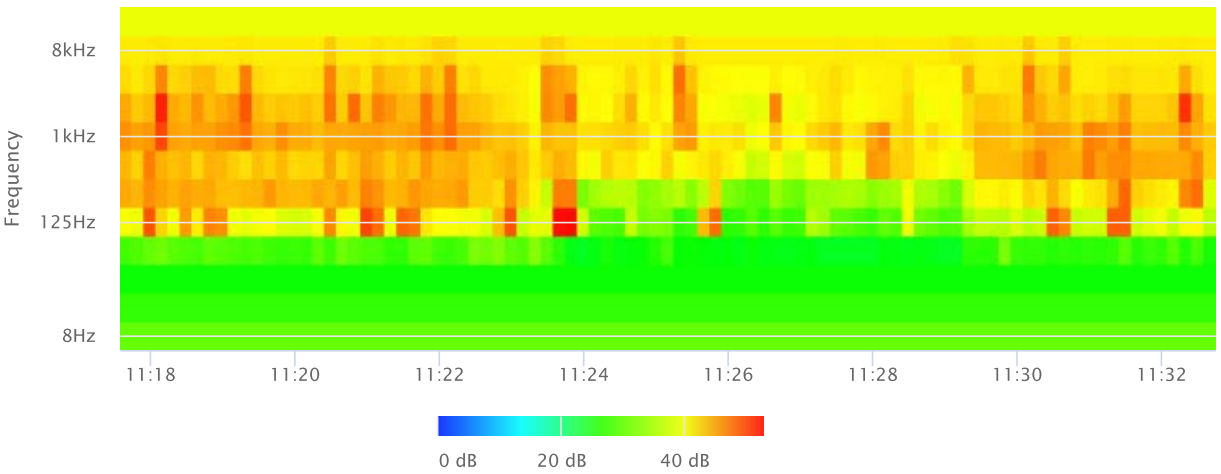
Time History



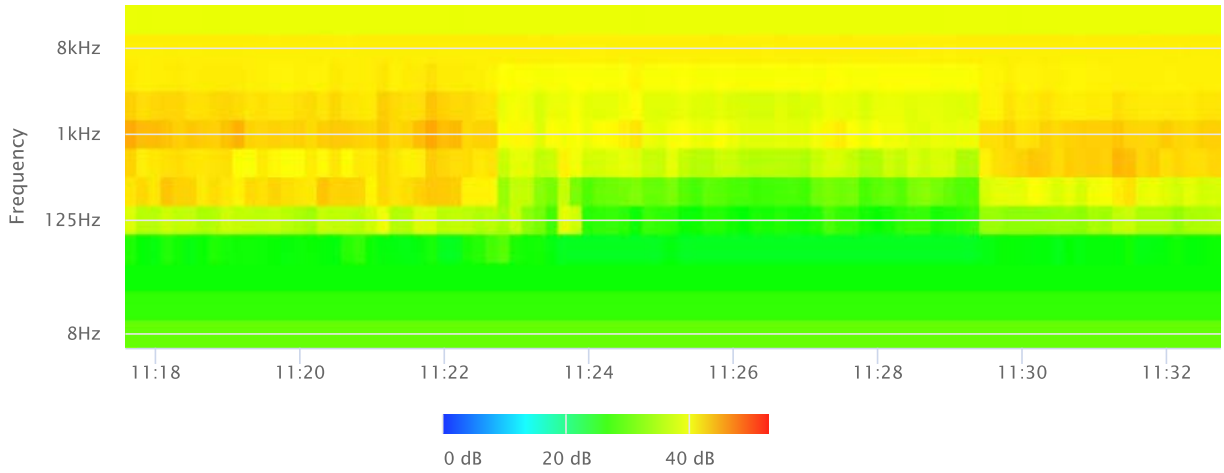
OBA 1/1 Leq



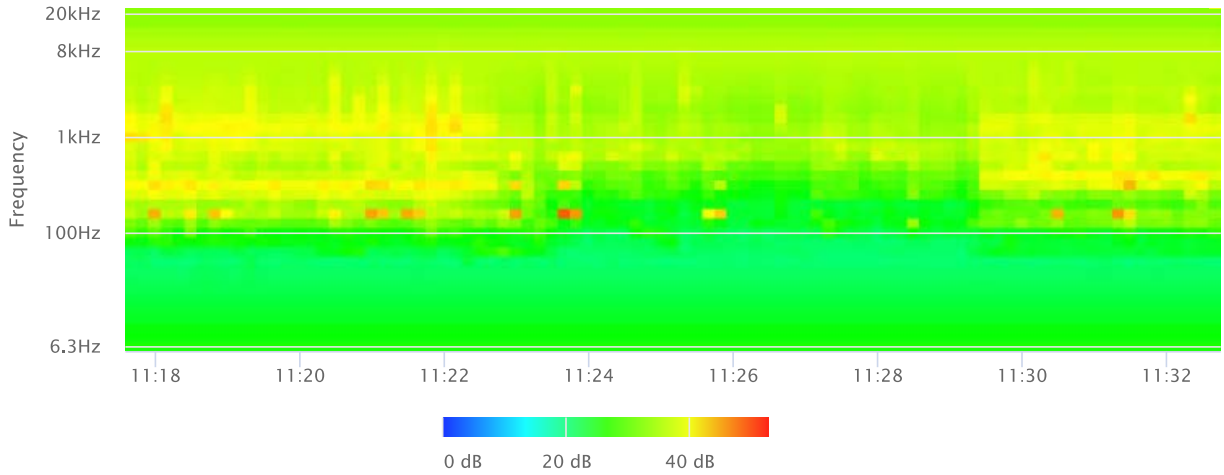
OBA 1/1 Lmax



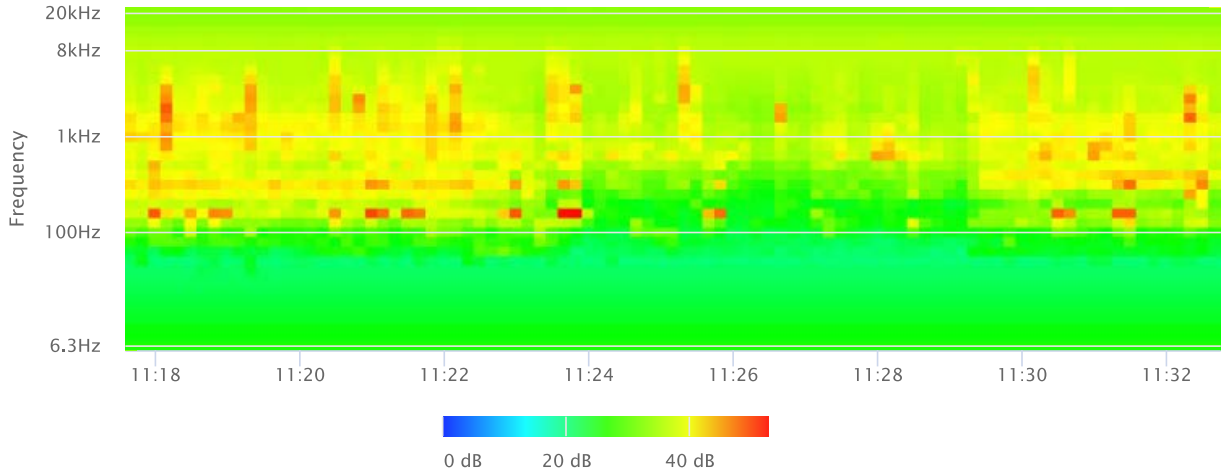
OBA 1/1 Lmin



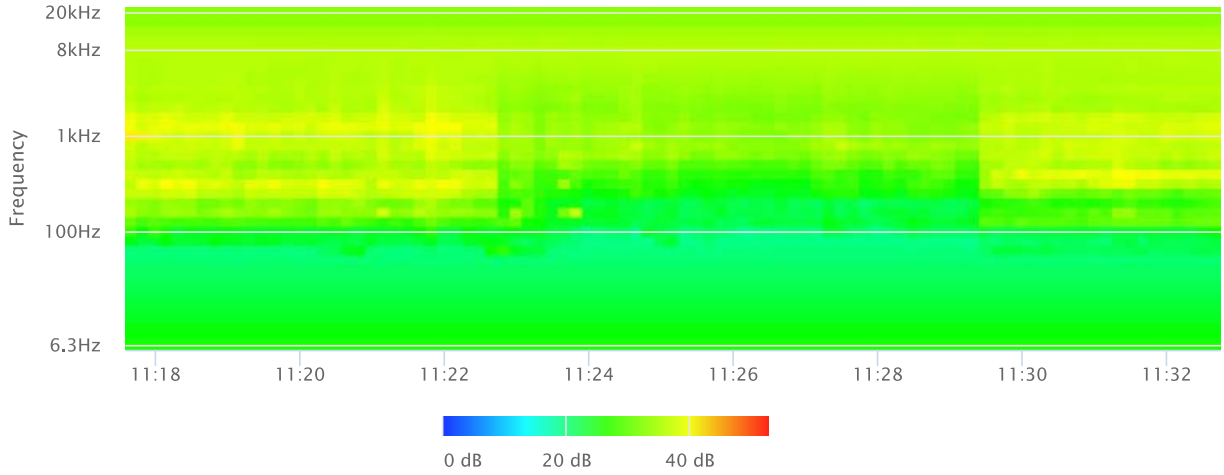
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
11:18
11:20
11:22
11:24
11:26
11:28
11:30
11:32

0 dB
20 dB
40 dB

Noise Measurement Field Data

Project Name: Sugarloaf Project **Date:** July 22, 2024

Project #:

Noise Measurement #: STNM4 **Technician:** Ian Gallagher

Nearest Address or Cross Street: 30 Dawson, Big Bear, CA 92314

Site Description (Type of Existing Land Use and any other notable features): On-site: SW corner of Pine Lane & San Martin Drive. Residential to the E, open hilly land with rocks, trees & mountain vegetation to the W. Adjacent: Maple Lane running N-S, 500' W of STNM4 and high school baseball fields 550' W of STNM4.

Weather: Patchy clouds, partial sun. Sunset 7:56 PM. **Settings:** SLOW FAST

Temperature: 82 deg F **Wind:** 5 mph **Humidity:** 40% **Terrain:** Hilly

Start Time: 12:40 PM **End Time:** 12:55 PM **Run Time:** 1 x 15 minutes

Leq:	43.8	dB
Lmax	57.3	dB
L2	52.8	dB
L8	47.0	dB
L25	41.7	dB
L50	39.7	dB

Primary Noise Source: Traffic noise from the 4 vehicles passing STNM4 microphone traversing the interection between Pine Lane & San Martin Drive.

Secondary Noise Sources: Traffic ambiance from Maple Lane running N-S 500' W of STNM4 microphone. Bird song. Elevated potential for distant thunder.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 200
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 200
SERIAL NUMBER:	3855	**SERIAL NUMBER:**	11178
FACTORY CALIBRATION DATE:	3/31/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	7/22/2024		

Roma Environmental

Noise Measurement Field Data

PHOTOS:



STNM4 looking NE across Pine Lane heading N (left) & San Martin Drive heading E (right
Looking NE towards residence 449 San Martin Drive, Big Bear on other side of intersectio
behind white picket fence & trees.



STNM4 looking SW, towards residence 30 Dawson, Big Bear on the left on oither side of fence.

Measurement Report

Report Summary

Meter's File Name	LxT_Data.094.s	Computer's File Name	LxT_0003855-20240722 124005-LxT_Data.094.ldbin
Meter	LxT1 0003855		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM4 34°15'11.30"N 116°49'21.49"W
Job Description	15 minute noise measurement		
Note	Roma Environmental Sugarloaf Project		
Start Time	2024-07-22 12:40:05	Duration	0:15:00.0
End Time	2024-07-22 12:55:05	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	43.8 dB		
LAE	73.3 dB	SEA	--- dB
EA	2.4 µPa²h	LAFTM5	48.0 dB
EA8	76.0 µPa²h		
EA40	380.0 µPa²h		
LA_{peak}	79.7 dB	2024-07-22 12:49:31	
LAS_{max}	57.3 dB	2024-07-22 12:50:28	
LAS_{min}	36.4 dB	2024-07-22 12:52:14	
LA_{eq}	43.8 dB		
LC_{eq}	57.3 dB	LC_{eq} - LA_{eq}	13.6 dB
LAI_{eq}	46.6 dB	LAI_{eq} - LA_{eq}	2.9 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	43.8 dB		57.3 dB		--- dB	
$L_{S(max)}$	57.3 dB	2024-07-22 12:50:28	--- dB		--- dB	
$L_{S(min)}$	36.4 dB	2024-07-22 12:52:14	--- dB		--- dB	
$L_{Peak(max)}$	79.7 dB	2024-07-22 12:49:31	--- dB		--- dB	

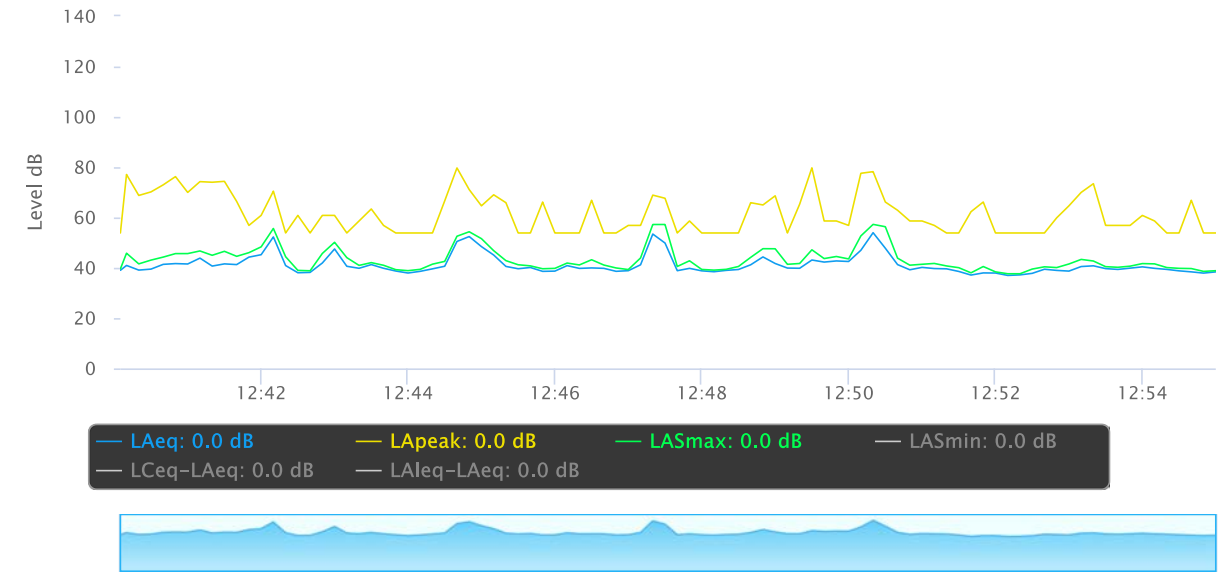
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

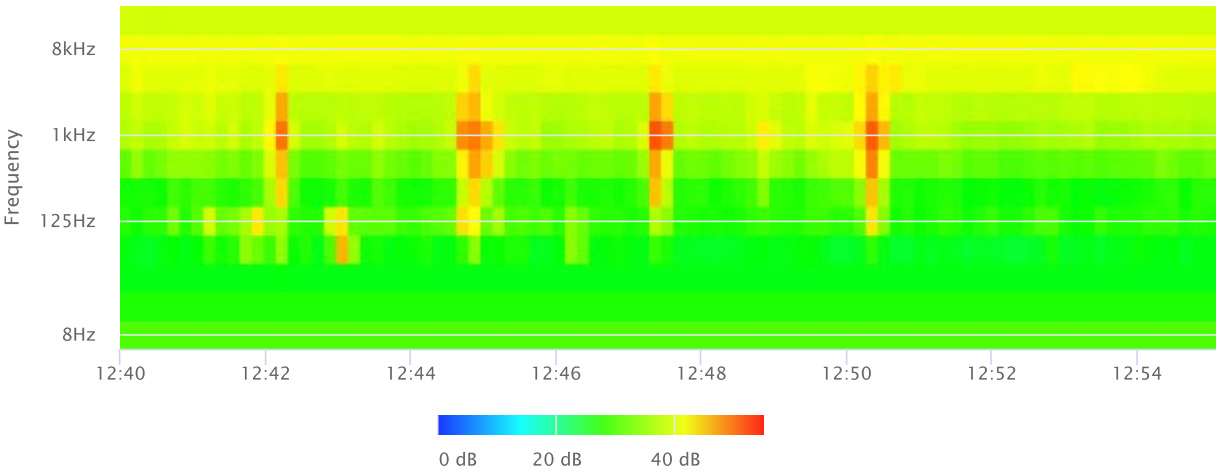
Statistics

LAS 2.0	52.8 dB
LAS 8.0	47.0 dB
LAS 25.0	41.7 dB
LAS 50.0	39.7 dB
LAS 66.6	39.0 dB
LAS 90.0	38.0 dB

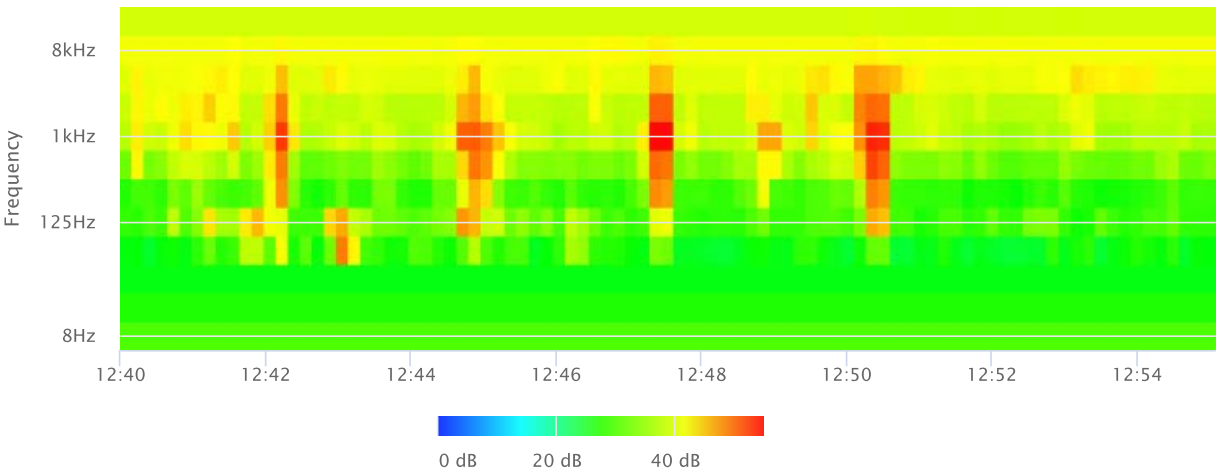
Time History



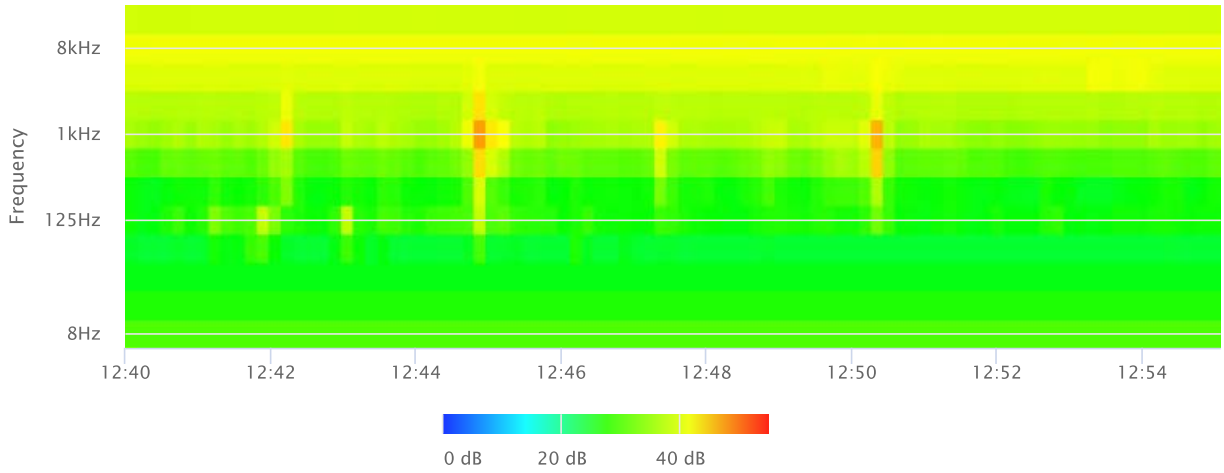
OBA 1/1 Leq



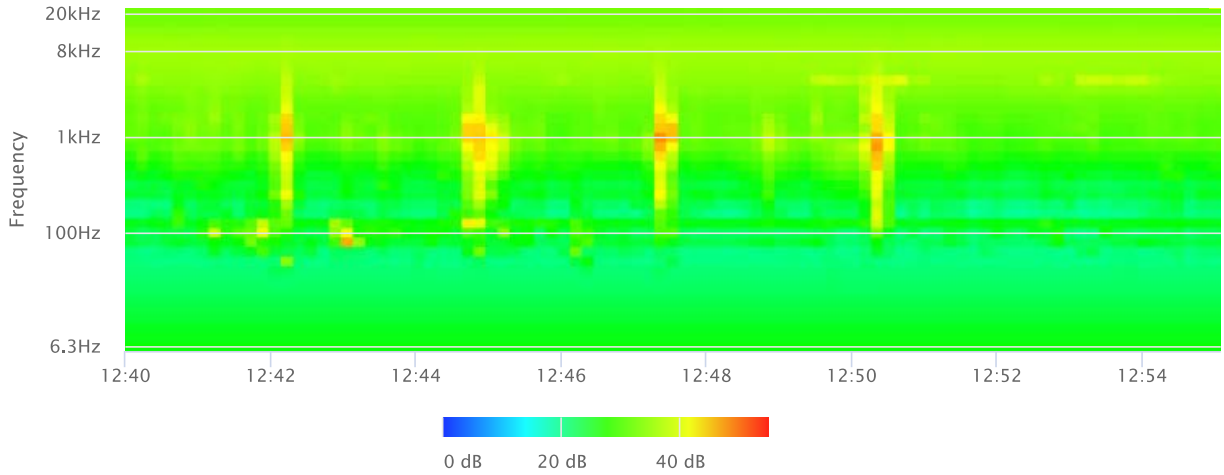
OBA 1/1 Lmax



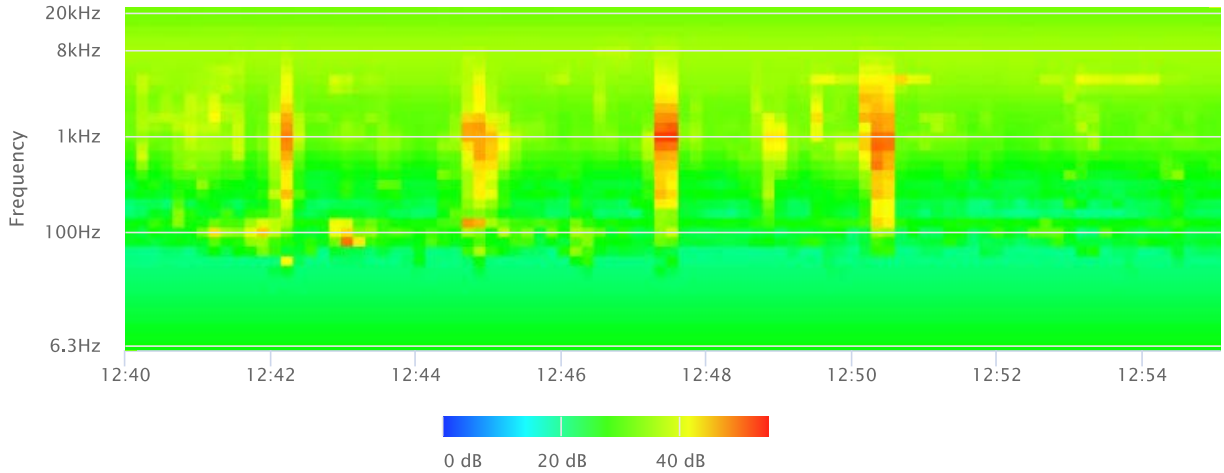
OBA 1/1 Lmin



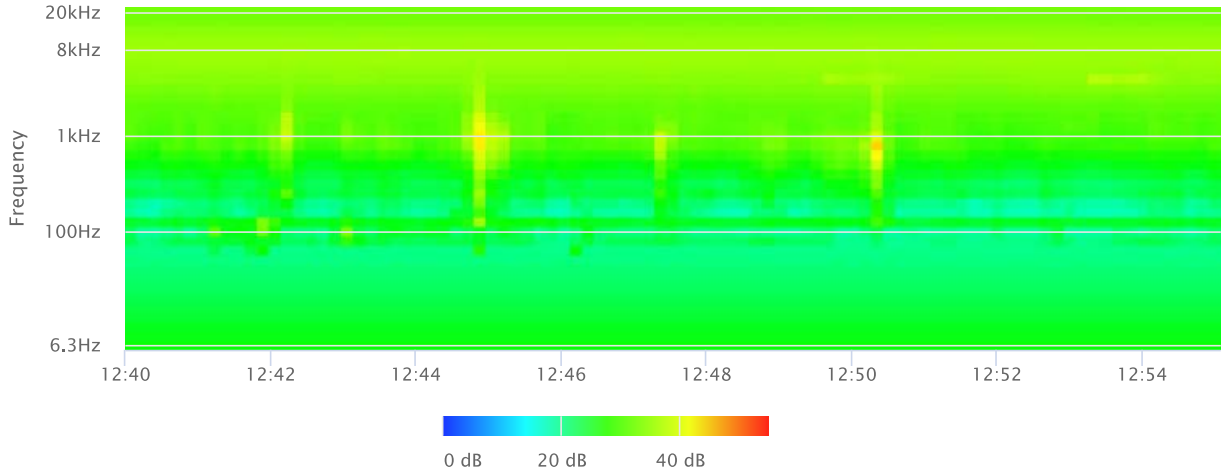
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
12:40
12:42
12:44
12:46
12:48
12:50
12:52
12:54

0 dB
20 dB
40 dB

Noise Measurement Field Data

Project Name: Sugarloaf Project **Date:** July 22, 2024

Project #:

Noise Measurement #: STNM5 **Technician:** Ian Gallagher

Nearest Address or Cross Street: 109 Moreno Lane, Big Bear, CA 92314

Site Description (Type of Existing Land Use and any other notable features): On-site: 70' E of Moreno Ln & Baldwin Ln intersection. Moreno Ln running N-S, Baldwin Ln running E-W. Adjacent: Residential to the S. High school football field to the N. Elementary school 1,200' WNW of STNM5 micophone. No children at schools.

Weather: Patchy clouds, partial sun. Sunset 7:56 PM. **Settings:** SLOW FAST

Temperature: 82 deg F **Wind:** 5 mph **Humidity:** 40% **Terrain:** Hilly

Start Time: 2:40 PM **End Time:** 2:55 PM **Run Time:** 1 x 15 minutes

Leq:	62	dB
Lmax	80.8	dB
L2	71.4	dB
L8	65.9	dB
L25	56.5	dB
L50	51.8	dB

Primary Noise Source: Traffic noise from the 30 vehicles passing STNM5 microphone travelling along Baldwin Lane. Traffic ambiance from vehicles on other roads.

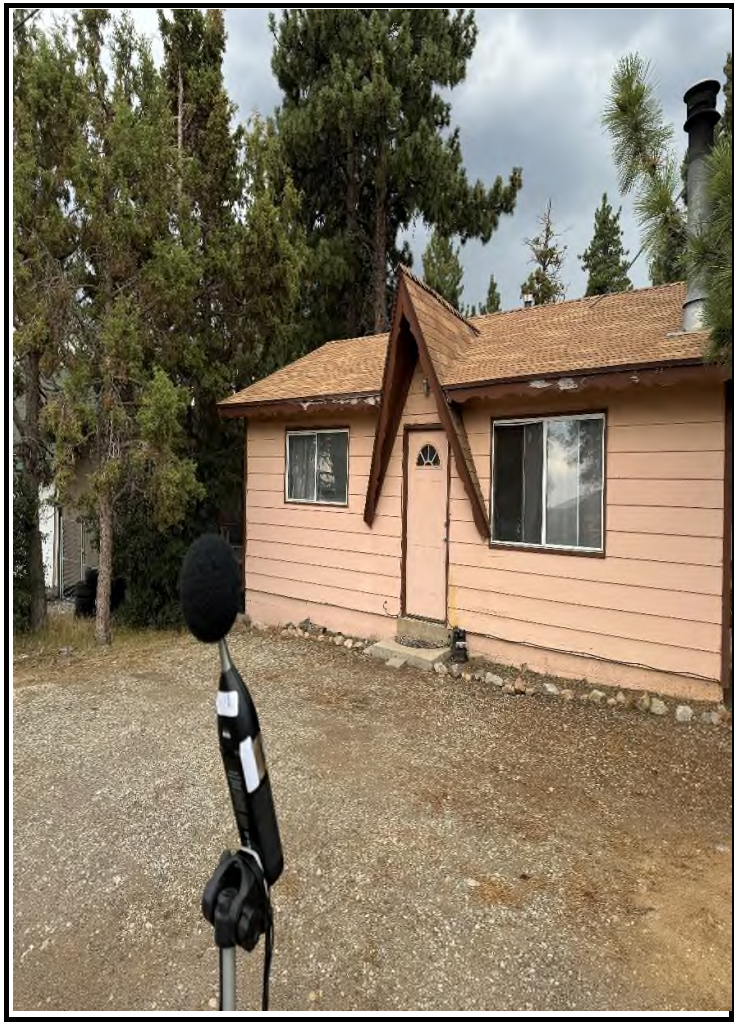
Secondary Noise Sources: Maintenace taking place on high school football fields on other side of Baldwin Lane, 200' NE of STNM5. Bird song. Elevated probability of distant thunder.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	.
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 200
SERIAL NUMBER:	3855	**SERIAL NUMBER:**	11178
FACTORY CALIBRATION DATE:	3/31/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	7/22/2024		

Roma Environmental

Noise Measurement Field Data

PHOTOS:



STNM5 looking SE across front yard to residence 109 Moreno Lane, Big Bear.



STNM5 looking W along Baldwin Lane towards Moreno Lane intersection (about 60' W

Measurement Report

Report Summary

Meter's File Name	LxT_Data.095.s	Computer's File Name	LxT_0003855-20240722 144048-LxT_Data.095.ldbin
Meter	LxT1 0003855		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM5 34°15'1.53"N 116°49'35.94"W
Job Description	15 minute noise measurement		
Note	Roma Environmental Sugarloaf Project		
Start Time	2024-07-22 14:40:48	Duration	0:15:00.0
End Time	2024-07-22 14:55:48	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	62.0 dB		
LAE	91.6 dB	SEA	--- dB
EA	159.6 µPa²h	LAFTM5	67.1 dB
EA8	5.1 mPa²h		
EA40	25.5 mPa²h		
LA_{peak}	94.8 dB	2024-07-22 14:46:50	
LAS_{max}	80.8 dB	2024-07-22 14:46:50	
LAS_{min}	44.2 dB	2024-07-22 14:55:14	
LA_{eq}	62.0 dB		
LC_{eq}	69.1 dB	LC_{eq} - LA_{eq}	7.1 dB
LAI_{eq}	64.5 dB	LAI_{eq} - LA_{eq}	2.5 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	17	0:01:37.6
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	62.0 dB		69.1 dB		--- dB	
$L_{S(max)}$	80.8 dB	2024-07-22 14:46:50	--- dB		--- dB	
$L_{S(min)}$	44.2 dB	2024-07-22 14:55:14	--- dB		--- dB	
$L_{Peak(max)}$	94.8 dB	2024-07-22 14:46:50	--- dB		--- dB	

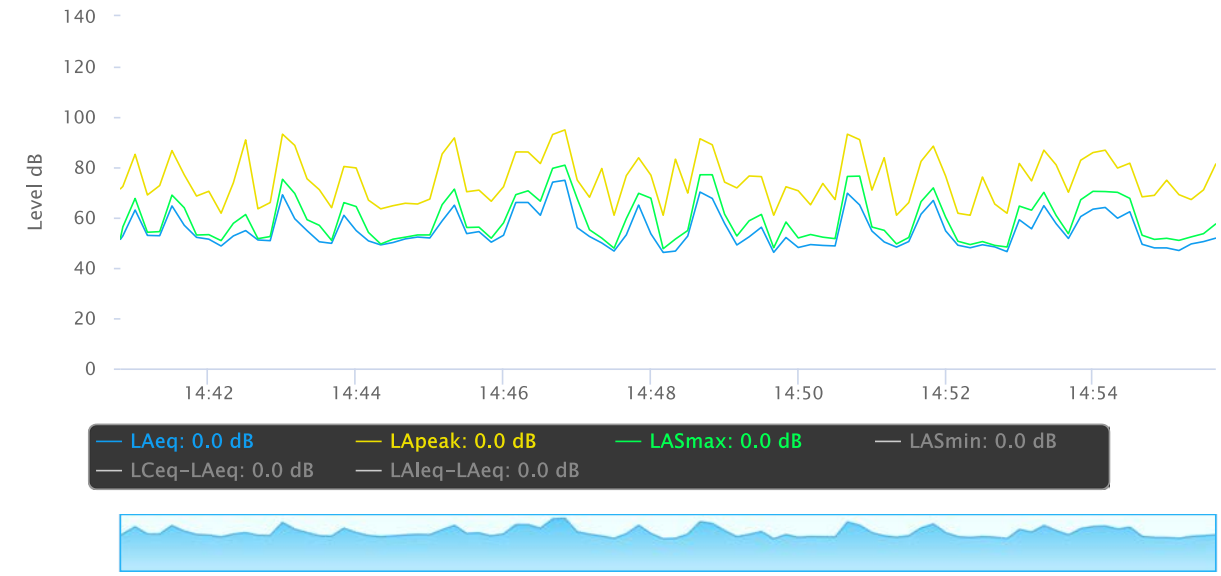
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

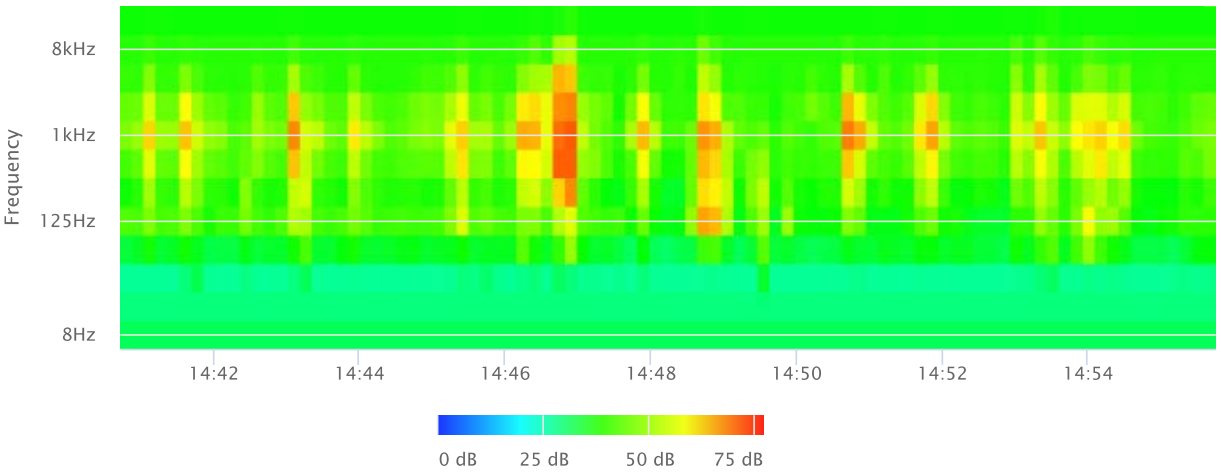
Statistics

LAS 2.0	71.4 dB
LAS 8.0	65.9 dB
LAS 25.0	56.5 dB
LAS 50.0	51.8 dB
LAS 66.6	50.0 dB
LAS 90.0	47.3 dB

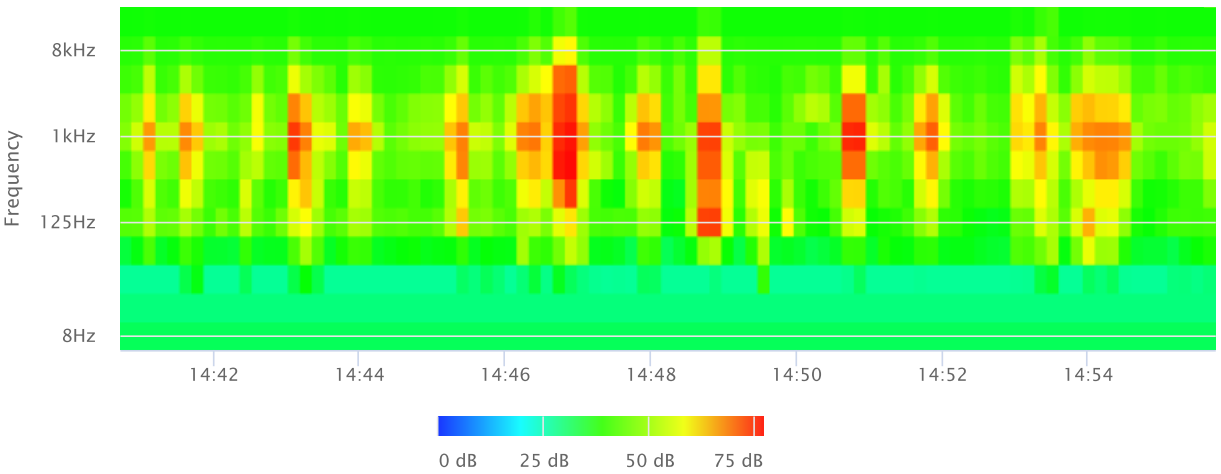
Time History



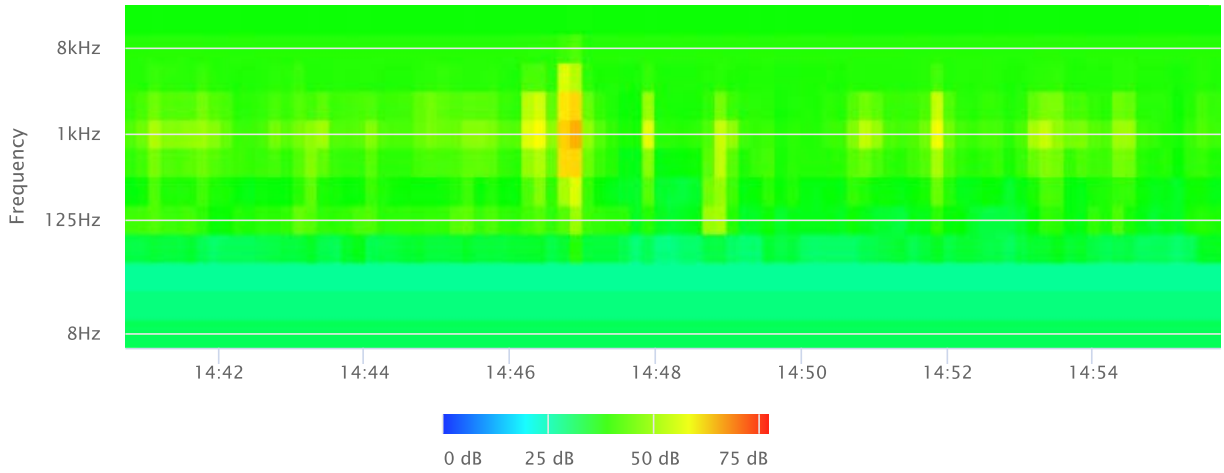
OBA 1/1 Leq



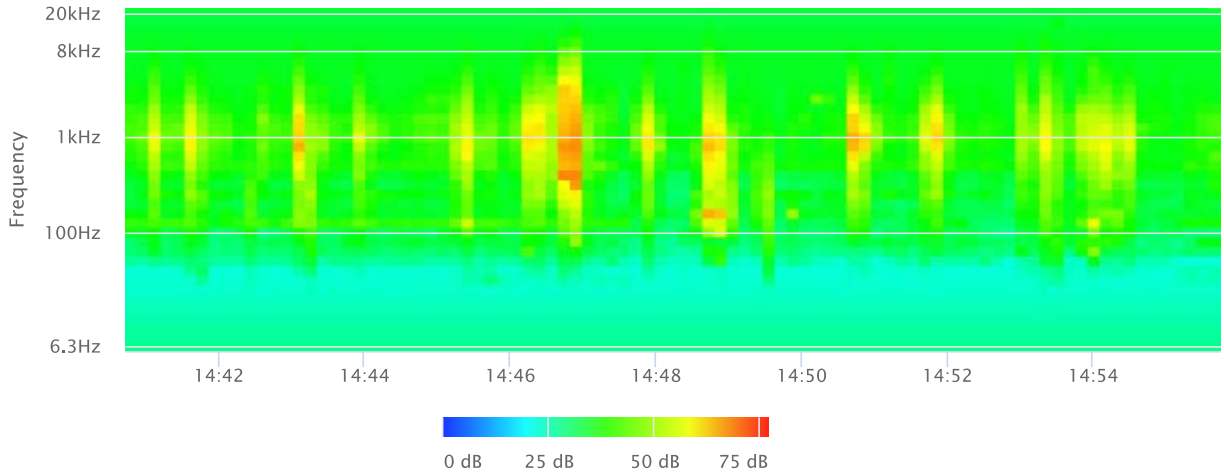
OBA 1/1 Lmax



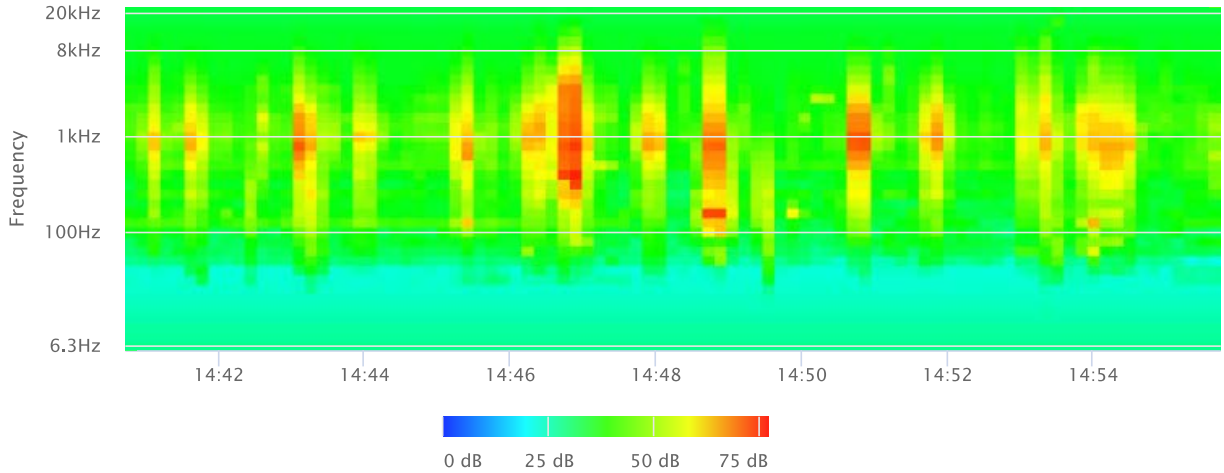
OBA 1/1 Lmin



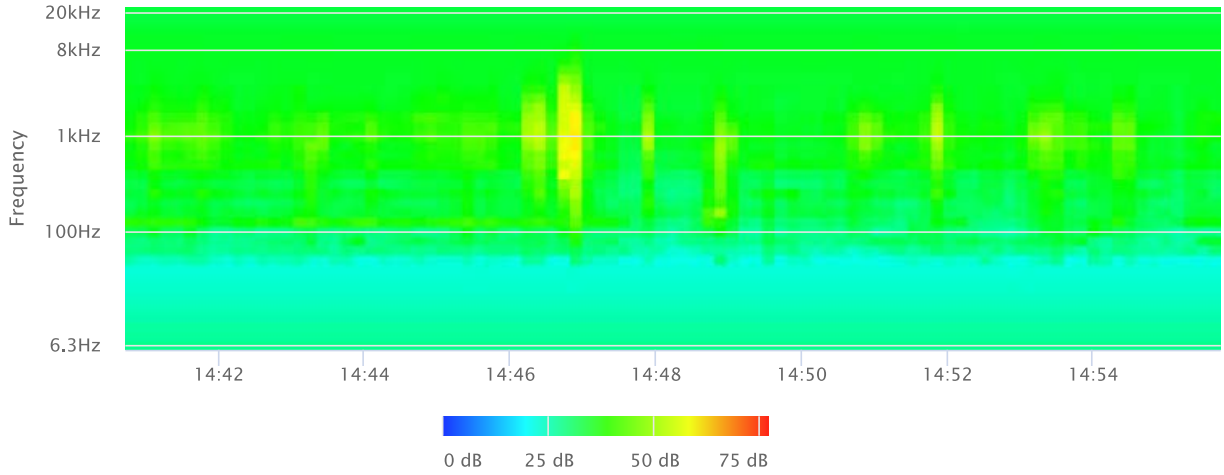
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
14:42
14:44
14:46
14:48
14:50
14:52
14:54

0 dB
25 dB
50 dB
75 dB

Noise Measurement Field Data

Project Name: Sugarloaf Project **Date:** July 22, 2024

Project #:

Noise Measurement #: STNM6 **Technician:** Ian Gallagher

Nearest Address or Cross Street: Leonard Lane & Baldwin Lane intersection

Site Description (Type of Existing Land Use and any other notable features): On-site: About 50' W of Leonard Ln & Baldwin Ln intersection. Leonard Ln running N-S & Baldwin Ln running E-W. Adjacent: Residential to the S, elementary school 400' NW of STNM6 & high school 1,800' NE of STNM6.

Weather: Patchy clouds, partial sun. Sunset 7:56 PM. **Settings:** SLOW FAST

Temperature: 82 deg F **Wind:** 5 mph **Humidity:** 40% **Terrain:** Hilly

Start Time: 3:10 PM **End Time:** 3:25 PM **Run Time:** 1 x 15 minutes

Leq:	60.8	dB
Lmax	76.9	dB
L2	71.5	dB
L8	64.5	dB
L25	57.8	dB
L50	50.8	dB

Primary Noise Source: Traffic noise from the 21 vehicles passing STNM6 microphone, travelling along Baldwin Lane during measuremnt. Traffic ambiance from vehicles on other roads.

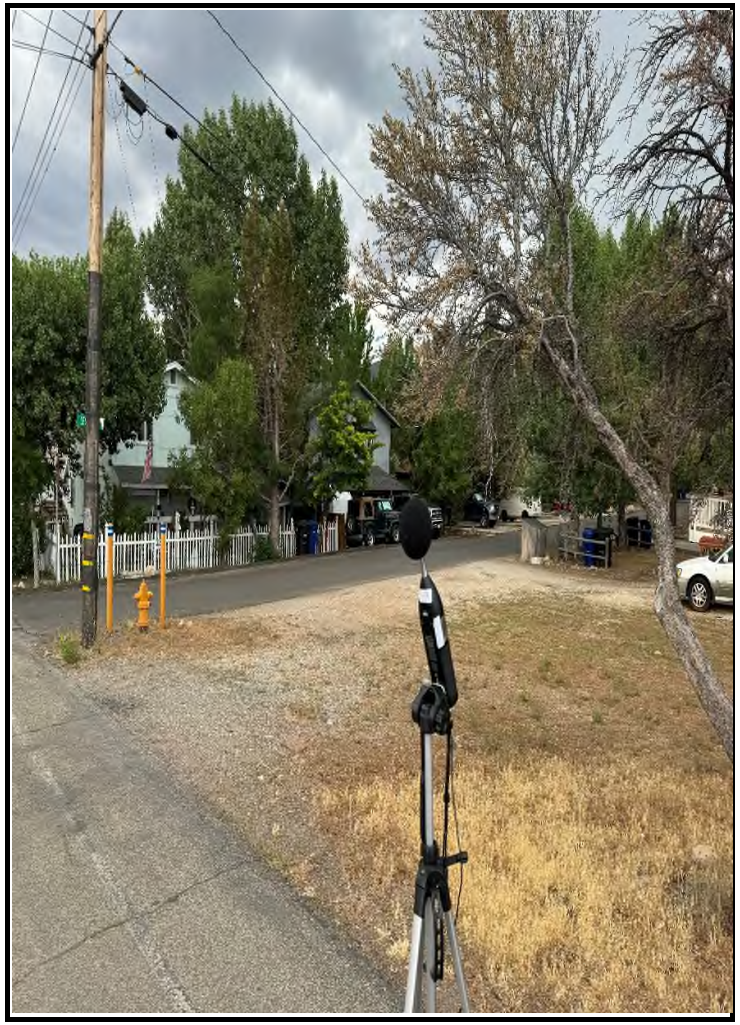
Secondary Noise Sources: Maintence work being done on school bus storage yard, 320' NE of STNM6 micro-phone, jack hammer in use. Bird song. Elevated probability of distant thunder.

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 200
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CA 200
SERIAL NUMBER:	3855	**SERIAL NUMBER:**	11178
FACTORY CALIBRATION DATE:	3/31/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	7/22/2024		

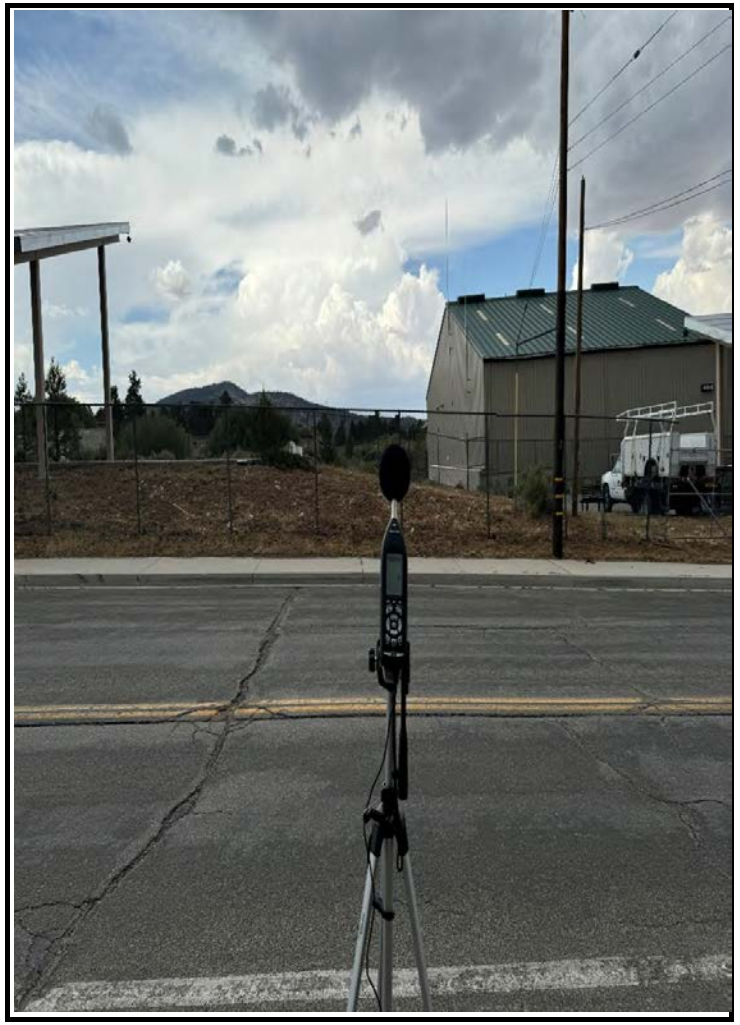
Roma Environmental

Noise Measurement Field Data

PHOTOS:



STNM6 looking ESE towards residence 109 Leonaed Lane (, light green house). Leonard Lane & Baldwin Lane intersection on the left by yellow fire hydrant.



STNM6 looking N across Baldwin Lane towards building 44500 Baldwin Lane (on the right

Measurement Report

Report Summary

Meter's File Name	LxT_Data.096.s	Computer's File Name	LxT_0003855-20240722 151043-LxT_Data.096.ldbin
Meter	LxT1 0003855		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM6 34°15'1.55"N 116°49'45.78"W
Job Description	15 minute noise measurement		
Note	Roma Environmental Sugarloaf Project		
Start Time	2024-07-22 15:10:43	Duration	0:15:00.0
End Time	2024-07-22 15:25:43	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	60.8 dB		
LAE	90.3 dB	SEA	--- dB
EA	120.0 µPa²h	LAFTM5	67.5 dB
EA8	3.8 mPa²h		
EA40	19.2 mPa²h		
LA_{peak}	97.0 dB	2024-07-22 15:18:23	
LAS_{max}	76.9 dB	2024-07-22 15:16:44	
LAS_{min}	41.5 dB	2024-07-22 15:20:17	
LA_{eq}	60.8 dB		
LC_{eq}	66.3 dB	LC_{eq} - LA_{eq}	5.5 dB
LAI_{eq}	64.8 dB	LAI_{eq} - LA_{eq}	4.0 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	15	0:01:21.10
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	60.8 dB		66.3 dB		--- dB	
$L_{S(max)}$	76.9 dB	2024-07-22 15:16:44	--- dB		--- dB	
$L_{S(min)}$	41.5 dB	2024-07-22 15:20:17	--- dB		--- dB	
$L_{Peak(max)}$	97.0 dB	2024-07-22 15:18:23	--- dB		--- dB	

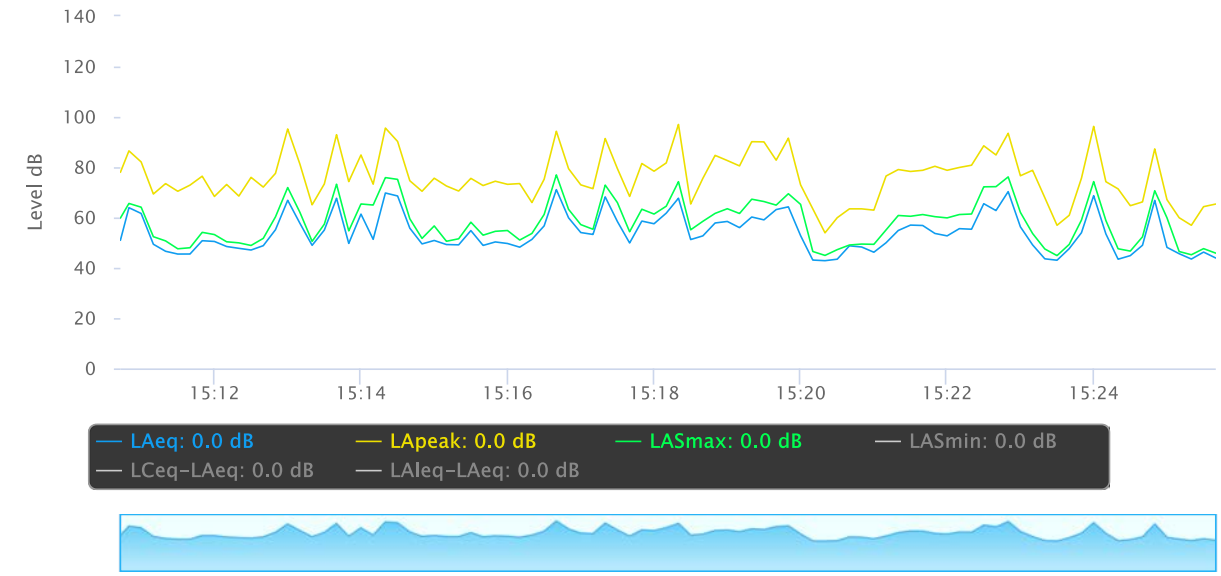
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

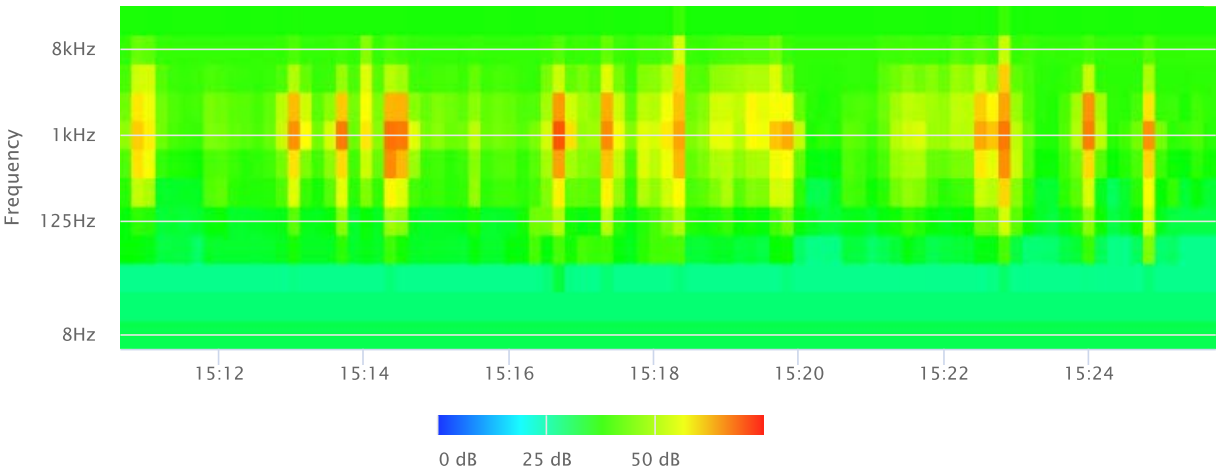
Statistics

LAS 2.0	71.5 dB
LAS 8.0	64.5 dB
LAS 25.0	57.8 dB
LAS 50.0	50.8 dB
LAS 66.6	48.6 dB
LAS 90.0	44.8 dB

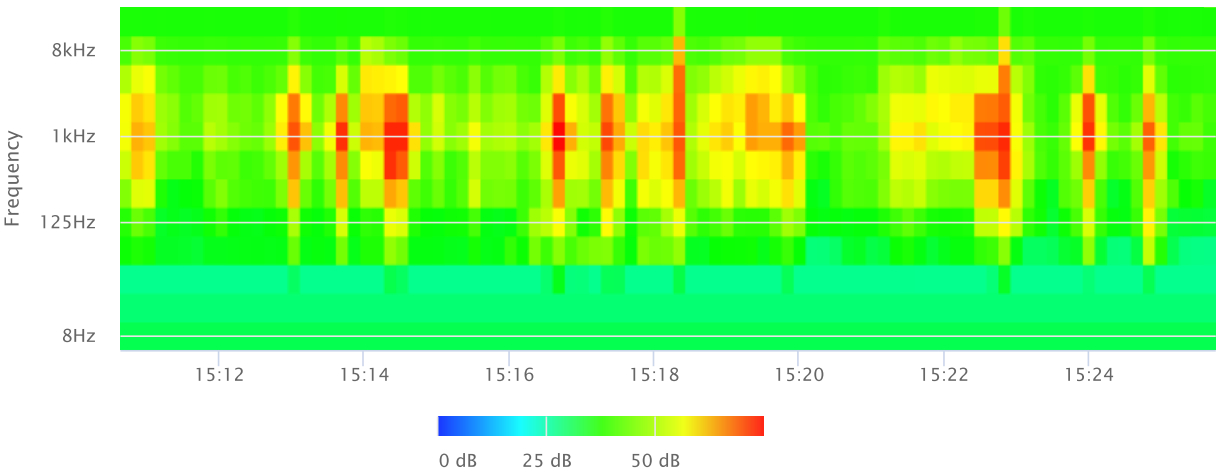
Time History



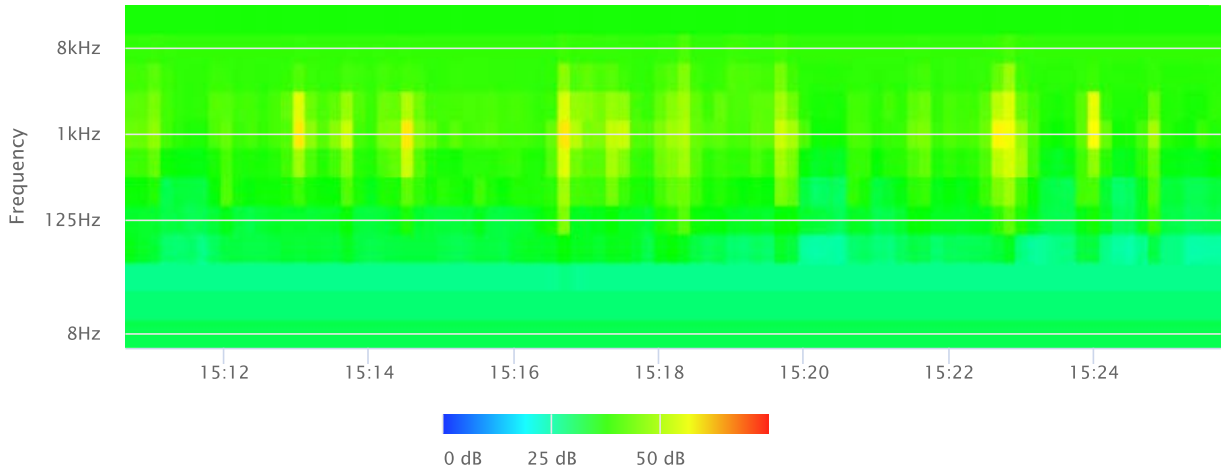
OBA 1/1 Leq



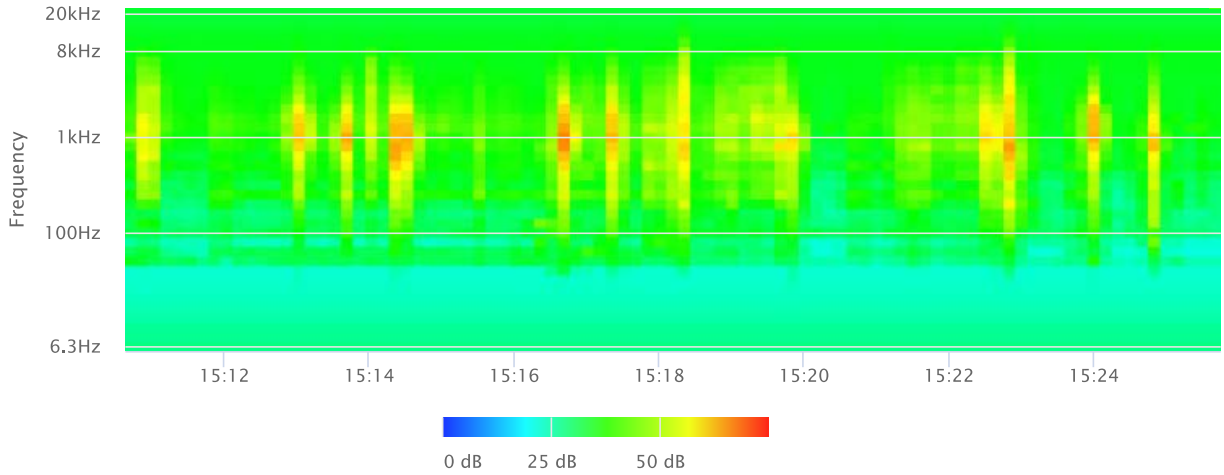
OBA 1/1 Lmax



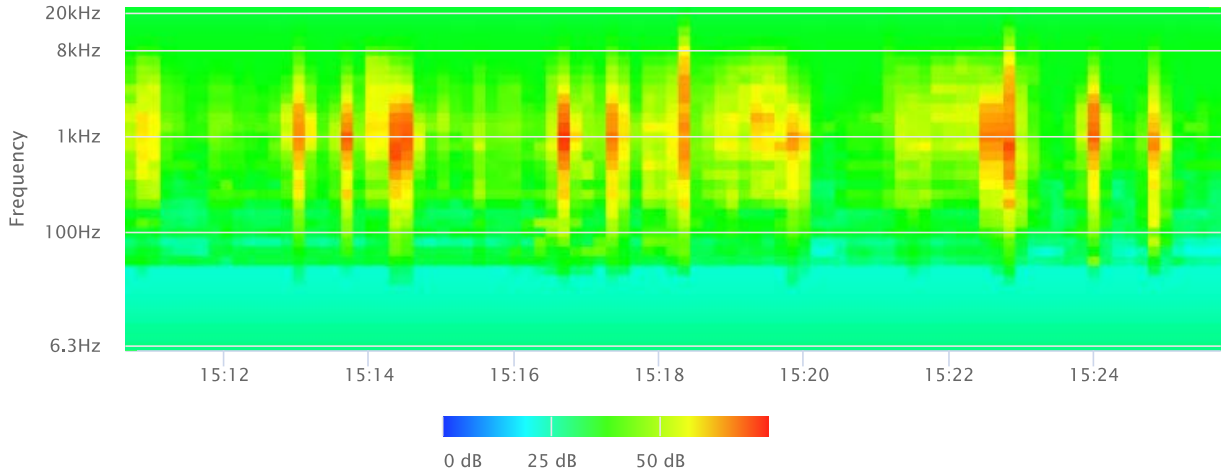
OBA 1/1 Lmin



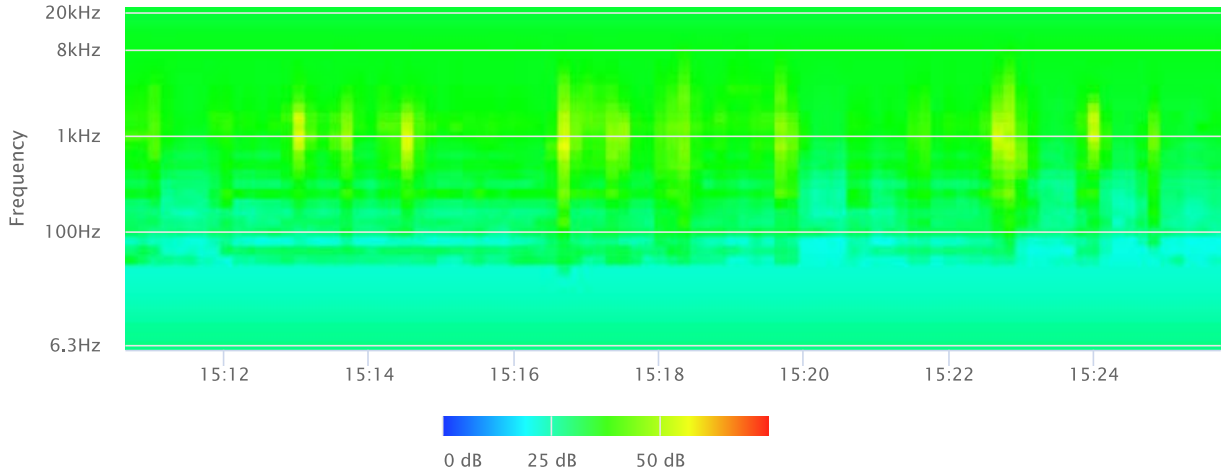
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
15:12
15:14
15:16
15:18
15:20
15:22
15:24

0 dB
25 dB
50 dB

Noise Measurement Field Data

Project Name: Sugarloaf Project **Date:** July 22, 2024

Project #:

Noise Measurement #: STNM7 **Technician:** Ian Gallagher

Nearest Address or Cross Street: 157 Leonard Lane, Sugarloaf, CA 92386

Site Description (Type of Existing Land Use and any other notable features): On-site: Just ouside residence 157 Leonard Lane on asphalt pavement.

Adjacent: Residential in all directions. Leonard Lane running N-S intersectinf with Baldwin Lane, 370' N & Eucalyptus Lane, 270' S of STNM7 microphone.

Weather: Patchy clouds, partial sun. Sunset 7:56 PM. **Settings:** SLOW FAST

Temperature: 82 deg F **Wind:** 5 mph **Humidity:** 40% **Terrain:** Hilly

Start Time: 3:48 PM **End Time:** 4:03 PM **Run Time:** 1 x 15 minutes

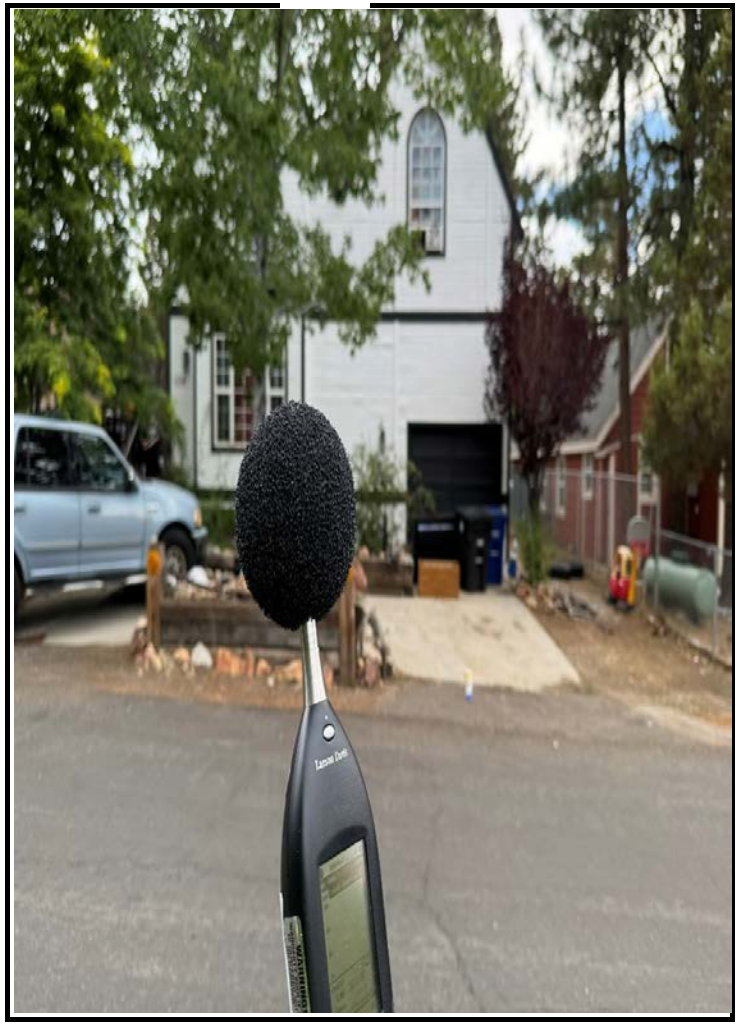
Leq:	49.1	dB	**Primary Noise Source:** Residential ambiance, in particular, numerous barking dogs in multiple directions
Lmax	62.8	dB	& various ranges. Closest dog about 100' away, ENE of STNM7.
L2	59.0	dB	**Secondary Noise Sources:** One vehicle passed by STNM7 microphone, travelling down Leonard Lane at
L8	55.9	dB	3:50PM. Bird song. Traffic ambiance from vehicles on other roads.
L25	45.0	dB	
L50	39.0	dB	

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 200
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 200
SERIAL NUMBER:	3855	**SERIAL NUMBER:**	11178
FACTORY CALIBRATION DATE:	3/31/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	7/22/2024		

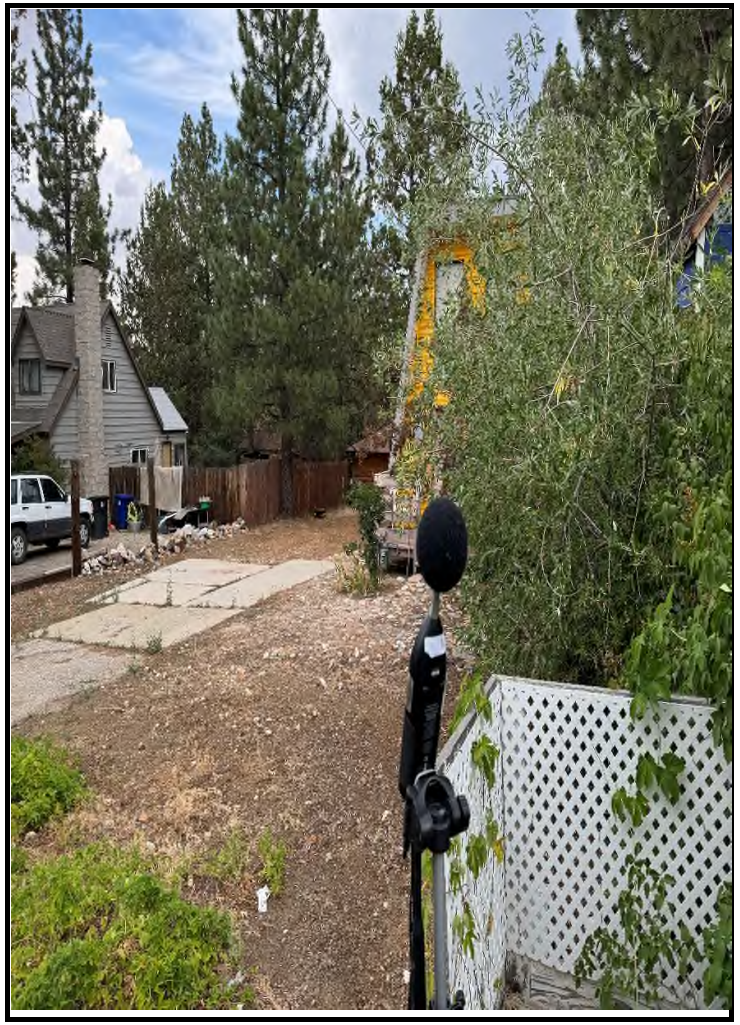
Roma Environmental

Noise Measurement Field Data

PHOTOS:



STNM7 looking WSW across Leonard Lane towards residence 158 Leonard Lane, Big Bear



STNM7 looking ENE from Leonard Lane towards residence 157 Leonard Lane, Sugarloaf.

Measurement Report

Report Summary

Meter's File Name	LxT_Data.097.s	Computer's File Name	LxT_0003855-20240722 154808-LxT_Data.097.ldbin
Meter	LxT1 0003855		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM7 34°14'58.05"N 116°49'44.89"W
Job Description	15 minute noise measurement		
Note	Roma Environmental Sugarloaf Project		
Start Time	2024-07-22 15:48:08	Duration	0:15:00.0
End Time	2024-07-22 16:03:08	Run Time	0:15:00.0
		Pause Time	0:00:00.0

Results

Overall Metrics

LA_{eq}	49.1 dB		
LAE	78.7 dB	SEA	--- dB
EA	8.2 µPa²h	LAFTM5	59.2 dB
EA8	261.5 µPa²h		
EA40	1.3 mPa²h		
LA_{peak}	79.3 dB	2024-07-22 15:57:16	
LAS_{max}	62.8 dB	2024-07-22 15:57:40	
LAS_{min}	32.2 dB	2024-07-22 15:58:27	
LA_{eq}	49.1 dB		
LC_{eq}	56.6 dB	LC_{eq} - LA_{eq}	7.5 dB
LAI_{eq}	57.7 dB	LAI_{eq} - LA_{eq}	8.6 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	49.1 dB		56.6 dB		--- dB	
$L_{S(max)}$	62.8 dB	2024-07-22 15:57:40	--- dB		--- dB	
$L_{S(min)}$	32.2 dB	2024-07-22 15:58:27	--- dB		--- dB	
$L_{Peak(max)}$	79.3 dB	2024-07-22 15:57:16	--- dB		--- dB	

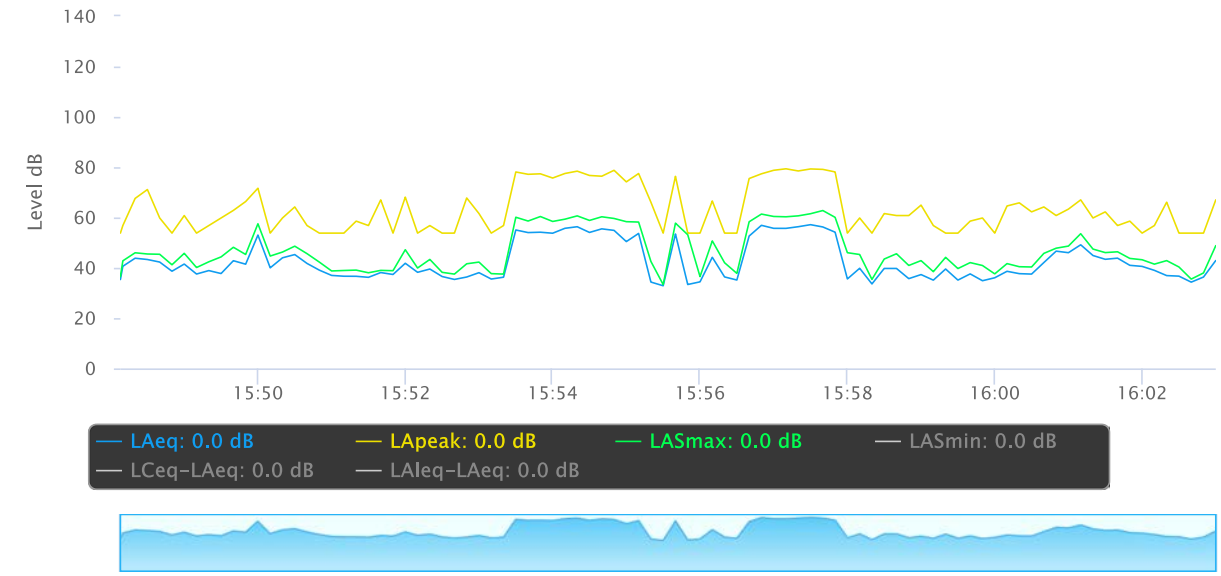
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

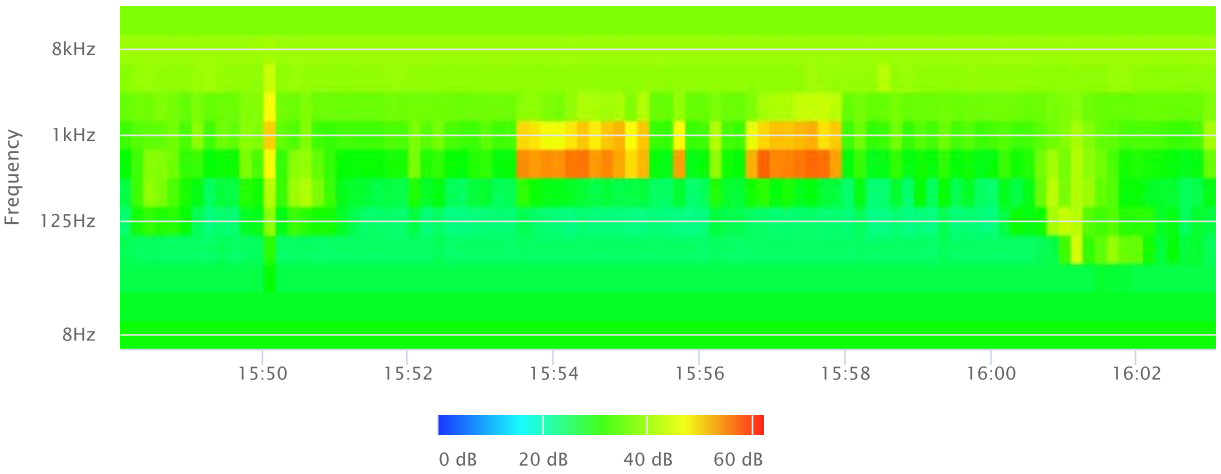
Statistics

LAS 2.0	59.0 dB
LAS 8.0	55.9 dB
LAS 25.0	45.0 dB
LAS 50.0	39.0 dB
LAS 66.6	37.0 dB
LAS 90.0	34.4 dB

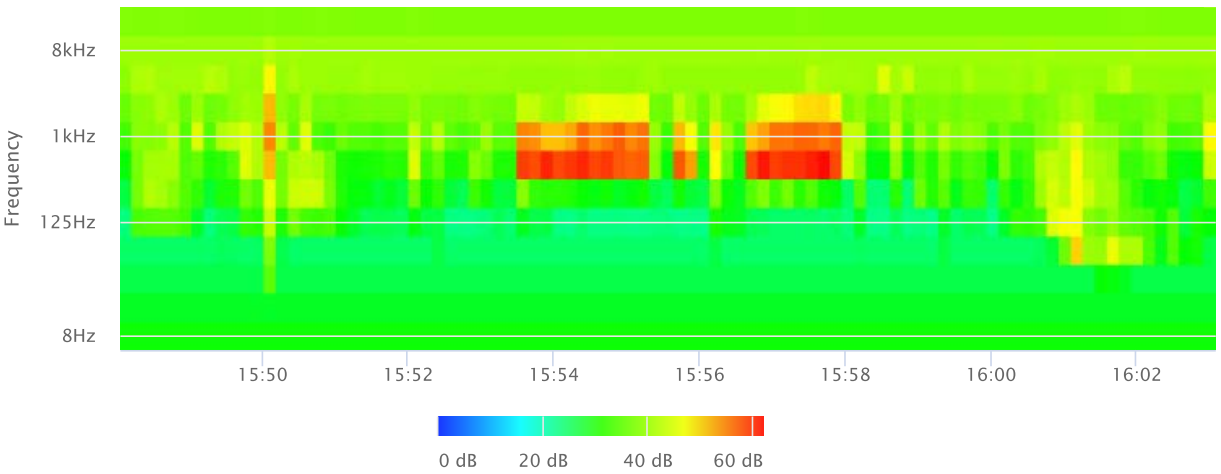
Time History



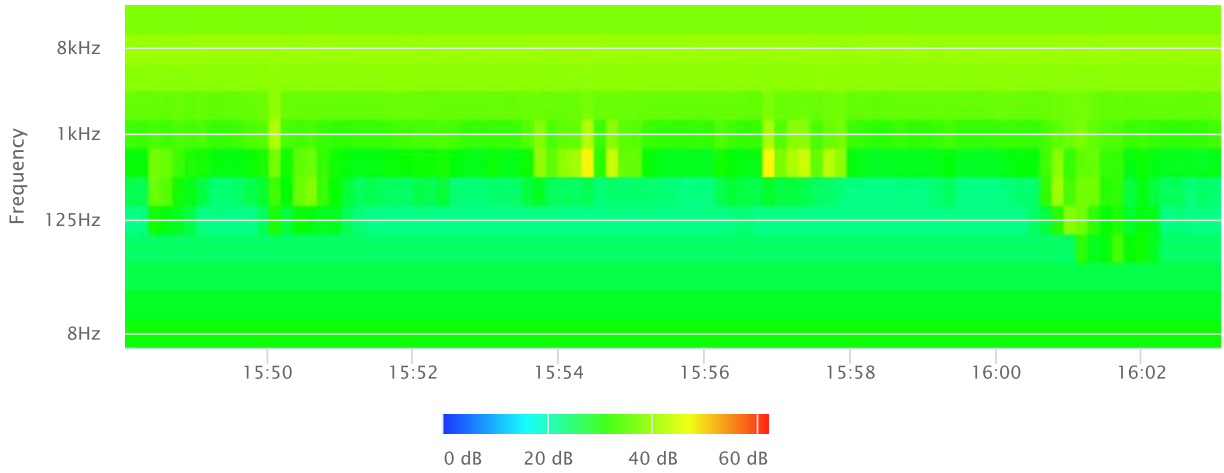
OBA 1/1 Leq



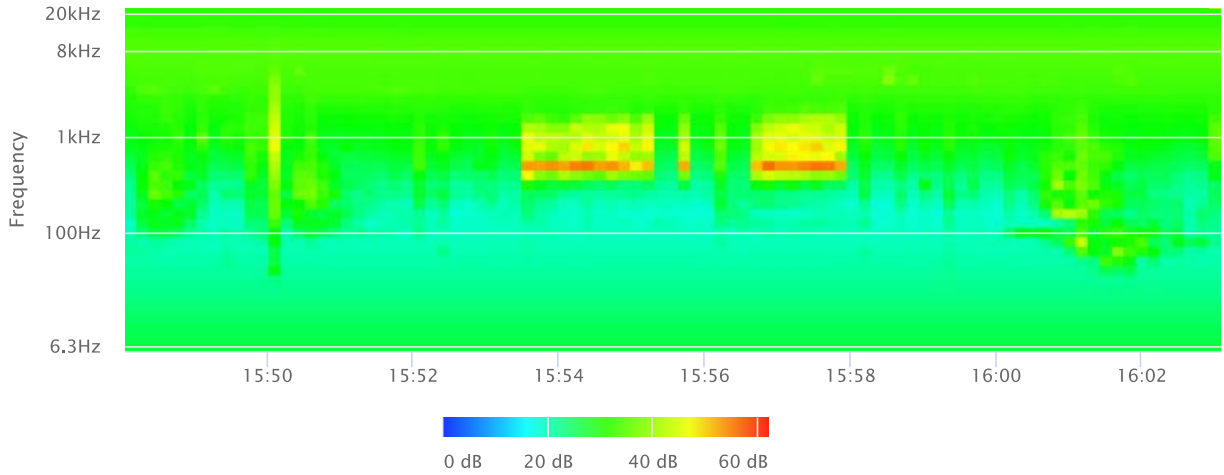
OBA 1/1 Lmax



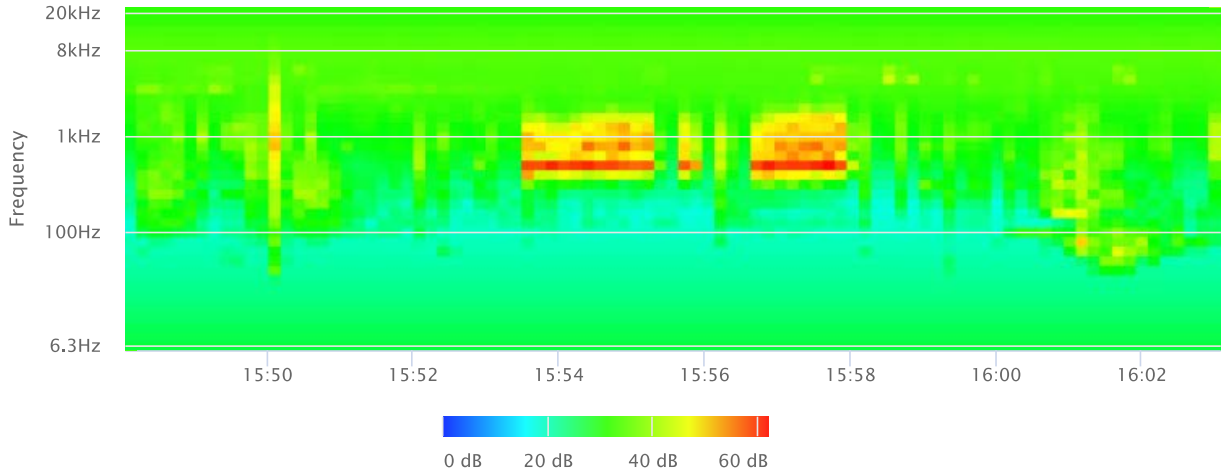
OBA 1/1 Lmin



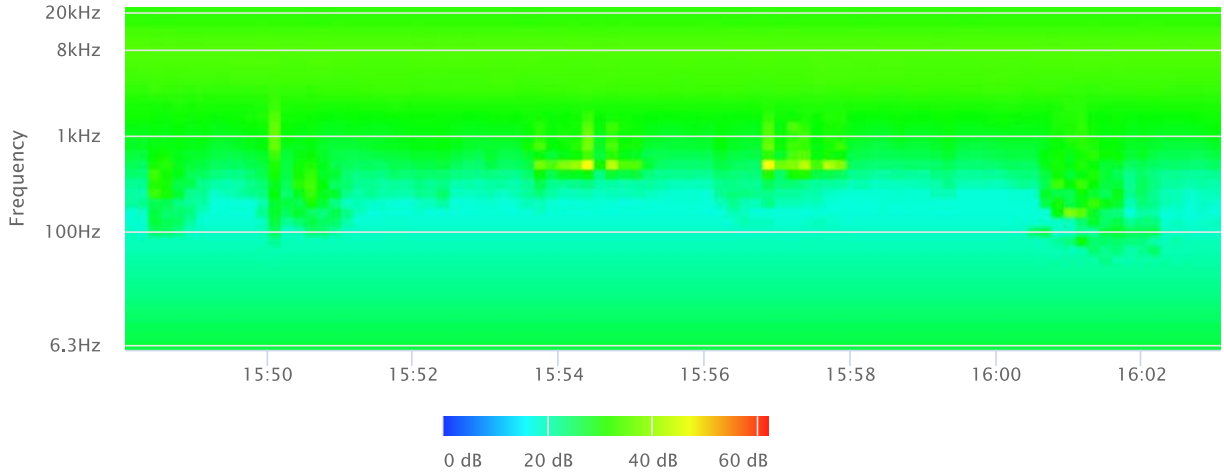
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
15:50
15:52
15:54
15:56
15:58
16:00
16:02

0 dB
20 dB
40 dB
60 dB

Noise Measurement Field Data

Project Name: Sugarloaf Project **Date:** July 22, 2024

Project #:

Noise Measurement #: STNM8 **Technician:** Ian Gallagher

Nearest Address or Cross Street: Imperial Avenue & Baldwin Lane intersection.

Site Description (Type of Existing Land Use and any other notable features): On-site: NE corner of intersection between Imperial Ave & Baldwin Ln. Imperial Ave running N-S & Baldwin Ln running E-W. Adjacent:Trees, rocks, mountain vegetation to the N & NW. Residential to the S of STNM8. Elemenary school, 460' NE of STNM8.

Weather: Patchy clouds, partial sun. Sunset 7:56 PM. **Settings:** SLOW FAST

Temperature: 82 deg F **Wind:** 5 mph **Humidity:** 40% **Terrain:** Hilly

Start Time: 4:25 PM **End Time:** 4:40 PM **Run Time:** 1 x 15 minutes

Leq: 40.1 dB **Primary Noise Source:** Bird Song

Lmax 57 dB

L2 51.0 dB **Secondary Noise Sources:** 60 cycle hum from transformer located up nearby power pole.

L8 41.2 dB Elevated potential for distant thunder. Some residential ambiance.

L25 35.9 dB

L50 33.5 dB

NOISE METER:	SoundTrack LXT Class 1	**CALIBRATOR:**	Larson Davis CAL 200
MAKE:	Larson Davis	**MAKE:**	Larson Davis
MODEL:	LXT1	**MODEL:**	CAL 200
SERIAL NUMBER:	3855	**SERIAL NUMBER:**	11178
FACTORY CALIBRATION DATE:	3/31/2021	**FACTORY CALIBRATION DATE:**	11/18/2021
FIELD CALIBRATION DATE:	7/22/2024		

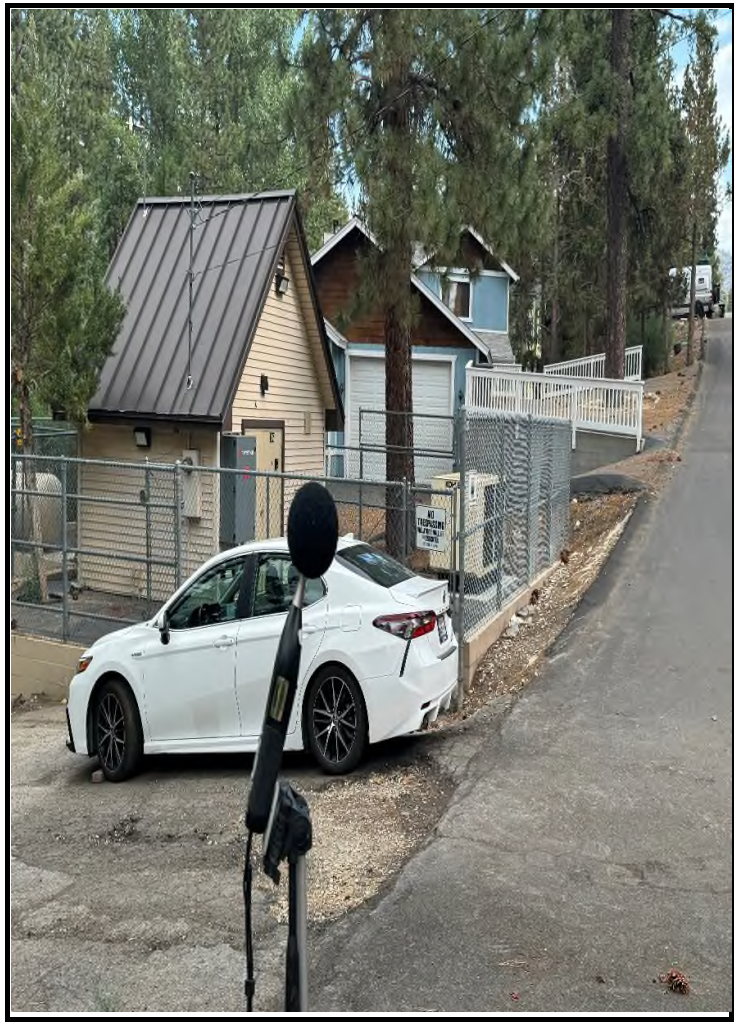
Noise Measurement Field Data

PHOTOS:



STNM8 looking SW across Imperial Avenue & Baldwin Lane intersection towards residen

44465 Baldwin Lane, Sugarloaf.



STNM8 looking SSE up Imperial Ave, past some housed utility featutre, towards residenc

107 Imperial Avenue, Sugarloaf (, blue house).

Measurement Report

Report Summary

Meter's File Name	LxT_Data.098.s	Computer's File Name	LxT_0003855-20240722 162548-LxT_Data.098.ldbin
Meter	LxT1 0003855		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM8 34°15'1.66"N 116°49'56.07"W
Job Description	15 minute noise measurement		
Note	Roma Environmental Sugarloaf Project		
Start Time	2024-07-22 16:25:48	Duration	0:15:00.0
End Time	2024-07-22 16:40:48	Run Time	0:15:00.0
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	40.1 dB		
LAE	69.6 dB	SEA	--- dB
EA	1.0 µPa²h	LAFTM5	45.8 dB
EA8	32.7 µPa²h		
EA40	163.5 µPa²h		
LA_{peak}	93.4 dB	2024-07-22 16:38:57	
LAS_{max}	57.0 dB	2024-07-22 16:37:50	
LAS_{min}	30.9 dB	2024-07-22 16:40:06	
LA_{eq}	40.1 dB		
LC_{eq}	54.6 dB	LC_{eq} - LA_{eq}	14.5 dB
LAI_{eq}	44.8 dB	LAI_{eq} - LA_{eq}	4.7 dB

Exceedances

	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB

LDEN	LDay	LEve	LNight
--- dB	--- dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	40.1 dB		54.6 dB		--- dB	
$L_{S(max)}$	57.0 dB	2024-07-22 16:37:50	--- dB		--- dB	
$L_{S(min)}$	30.9 dB	2024-07-22 16:40:06	--- dB		--- dB	
$L_{Peak(max)}$	93.4 dB	2024-07-22 16:38:57	--- dB		--- dB	

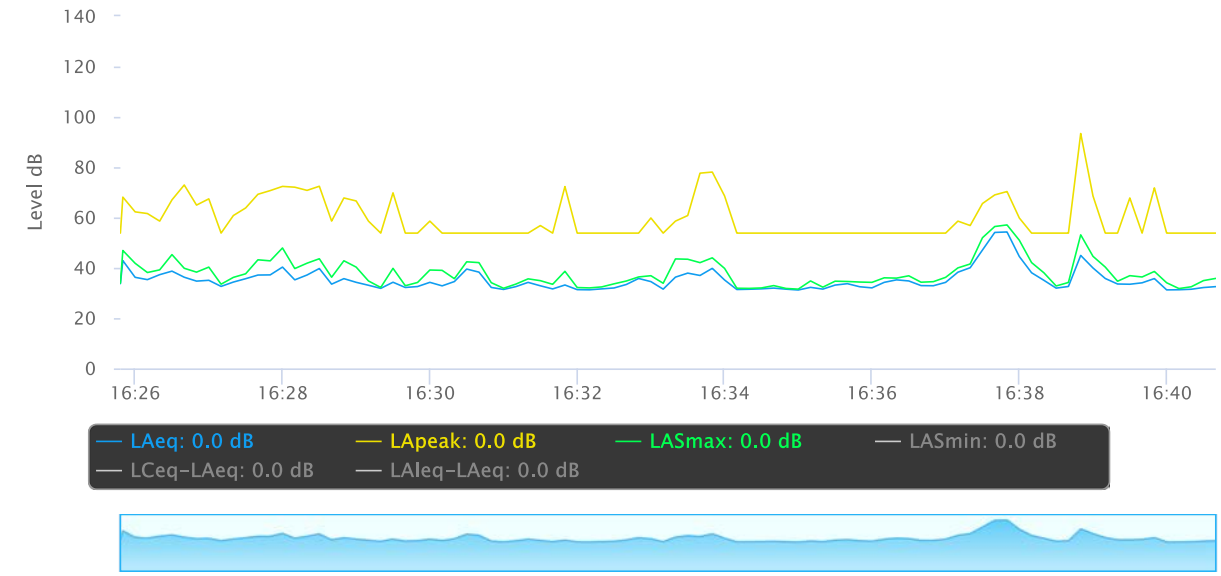
Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

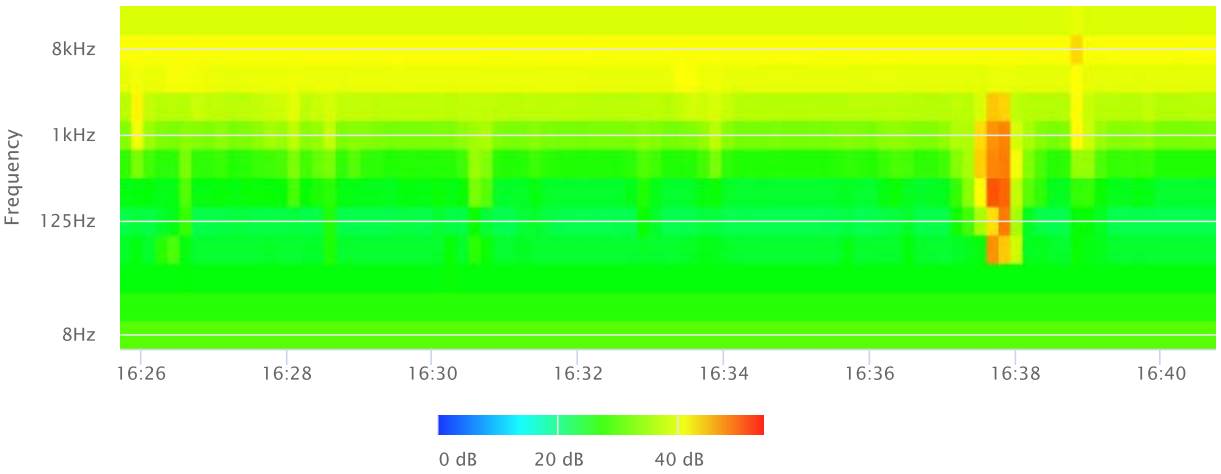
Statistics

LAS 2.0	51.0 dB
LAS 8.0	41.2 dB
LAS 25.0	35.9 dB
LAS 50.0	33.5 dB
LAS 66.6	32.3 dB
LAS 90.0	31.4 dB

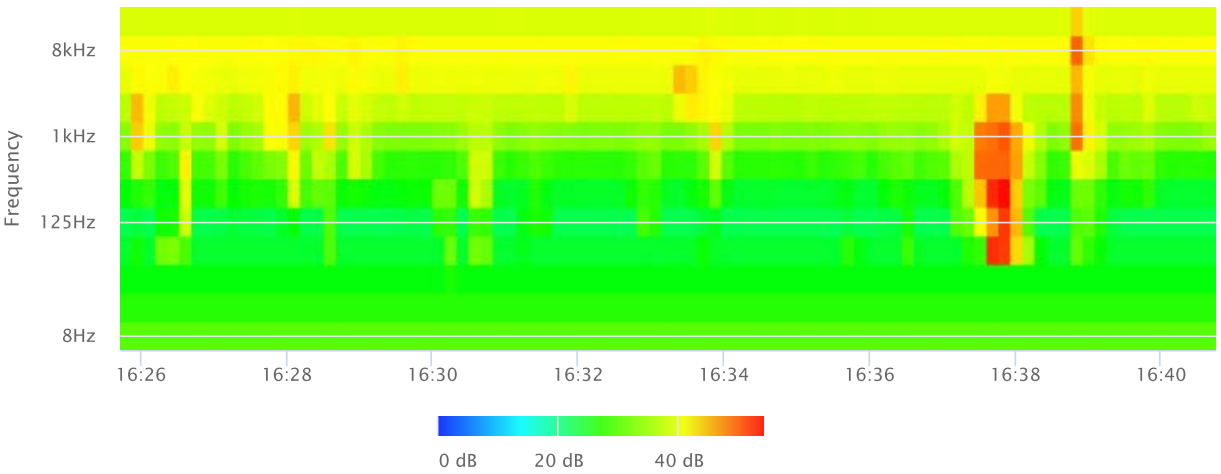
Time History



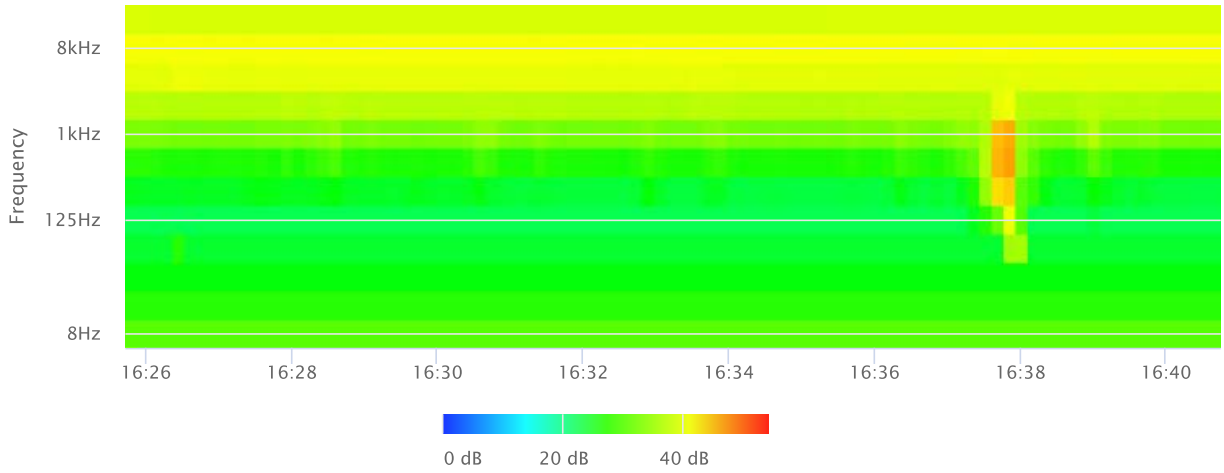
OBA 1/1 Leq



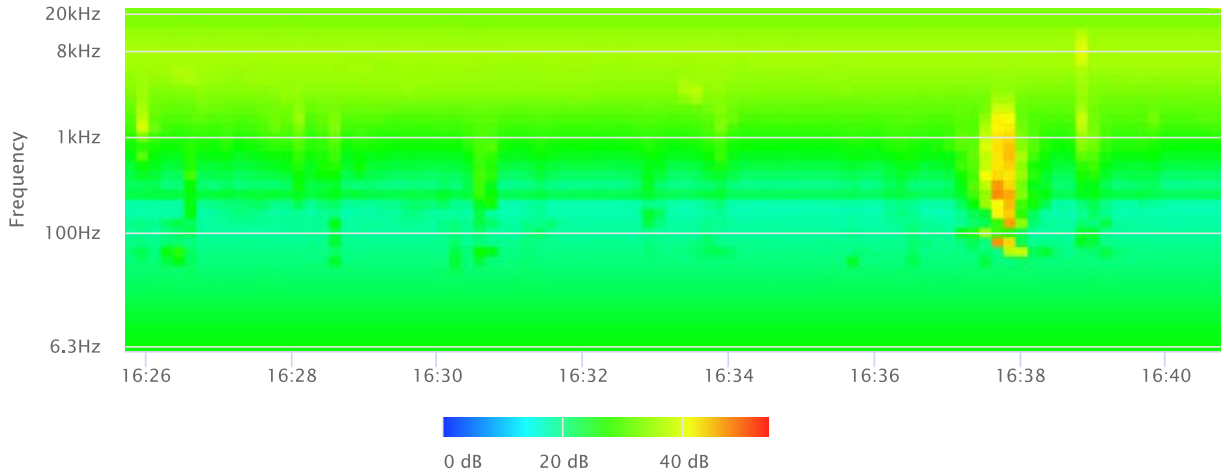
OBA 1/1 Lmax



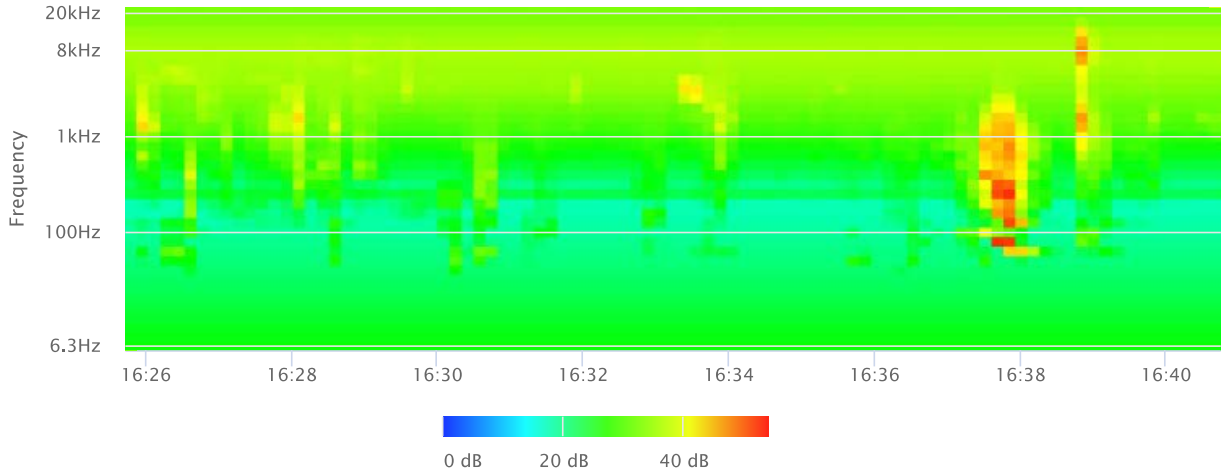
OBA 1/1 Lmin



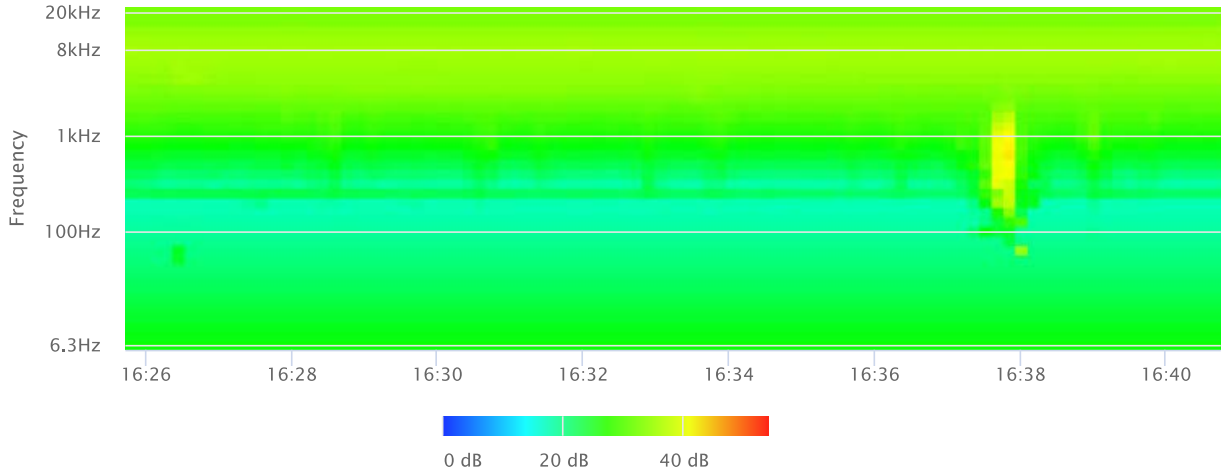
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin


20kHz
8kHz
1kHz
100Hz
6.3Hz
Frequency
16:26
16:28
16:30
16:32
16:34
16:36
16:38
16:40

0 dB
20 dB
40 dB

APPENDIX B

Construction Noise Calculations

Receptor - Residential to the South

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[2]	Item Usage Percent	Usage Factor	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation							
Tractors/Loaders/Backhoes	4	84	658	40	1.60	61.6	63.7
Rubber Tired Dozers	3	85	1376	40	1.20	56.2	57.0
						Log Sum	64.5
Grading							
Grader	1	85	1376	40	0.40	56.2	52.2
Excavators	2	85	1376	40	0.80	56.2	55.2
Rubber Tired Dozers	1	85	1376	40	0.40	56.2	52.2
Scrapers	2	85	1376	40	0.80	56.2	55.2
Tractors/Loaders/Backhoes	2	84	1376	40	0.80	55.2	54.2
						Log Sum	61.0
Paving							
Pavers	2	77	1376	50	1.00	48.2	48.2
Paving Equipment	2	85	1376	20	0.40	56.2	52.2
Rollers	2	80	1376	20	0.40	51.2	47.2
						Log Sum	54.6

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest property lines.

Receptor - Residential to the North

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[2]	Item Usage Percent	Usage Factor	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation							
Tractors/Loaders/Backhoes	4	84	2167	40	1.60	51.3	53.3
Rubber Tired Dozers	3	85	2167	40	1.20	52.3	53.1
						Log Sum	56.2
Grading							
Grader	1	85	2167	40	0.40	52.3	48.3
Excavators	2	85	2167	40	0.80	52.3	51.3
Rubber Tired Dozers	1	85	2167	40	0.40	52.3	48.3
Scrapers	2	85	2167	40	0.80	52.3	51.3
Tractors/Loaders/Backhoes	2	84	2167	40	0.80	51.3	50.3
						Log Sum	57.1
Paving							
Pavers	2	77	2167	50	1.00	44.3	44.3
Paving Equipment	2	85	2167	20	0.40	52.3	48.3
Rollers	2	80	2167	20	0.40	47.3	43.3
						Log Sum	50.6

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest property lines.

Receptor - High School Building to the Northeast

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[2]	Item Usage Percent	Usage Factor	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation							
Tractors/Loaders/Backhoes	4	84	1376	40	1.60	57.3	59.3
Rubber Tired Dozers	3	85	1376	40	1.20	58.3	59.1
						Log Sum	62.2
Grading							
Grader	1	85	1376	40	0.40	58.3	54.3
Excavators	2	85	1376	40	0.80	58.3	57.3
Rubber Tired Dozers	1	85	1376	40	0.40	58.3	54.3
Scrapers	2	85	1376	40	0.80	58.3	57.3
Tractors/Loaders/Backhoes	2	84	1376	40	0.80	57.3	56.3
						Log Sum	63.1
Paving							
Pavers	2	77	1376	50	1.00	50.3	50.3
Paving Equipment	2	85	1376	20	0.40	58.3	54.3
Rollers	2	80	1376	20	0.40	53.3	49.3
						Log Sum	56.6

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest property lines.

Receptor - Residential to the East

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[2]	Item Usage Percent	Usage Factor	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation							
Tractors/Loaders/Backhoes	4	84	1970	40	1.60	54.2	56.2
Rubber Tired Dozers	3	85	1970	40	1.20	55.2	56.0
						Log Sum	59.1
Grading							
Grader	1	85	1970	40	0.40	55.2	51.2
Excavators	2	85	1970	40	0.80	55.2	54.2
Rubber Tired Dozers	1	85	1970	40	0.40	55.2	51.2
Scrapers	2	85	1970	40	0.80	55.2	54.2
Tractors/Loaders/Backhoes	2	84	1970	40	0.80	54.2	53.2
						Log Sum	60.0
Paving							
Pavers	2	77	1970	50	1.00	47.2	47.2
Paving Equipment	2	85	1970	20	0.40	55.2	51.2
Rollers	2	80	1970	20	0.40	50.2	46.2
						Log Sum	53.6

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest property lines.

Receptor - Elementary School to the West

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA[1]	Distance to Receptor[2]	Item Usage Percent	Usage Factor	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
Site Preparation							
Tractors/Loaders/Backhoes	4	84	433	40	1.60	58.7	60.7
Rubber Tired Dozers	3	85	433	40	1.20	59.7	60.4
						Log Sum	63.6
Grading							
Grader	1	85	433	40	0.40	59.7	55.7
Excavators	2	85	433	40	0.80	59.7	58.7
Rubber Tired Dozers	1	85	433	40	0.40	59.7	55.7
Scrapers	2	85	433	40	0.80	59.7	58.7
Tractors/Loaders/Backhoes	2	84	433	40	0.80	58.7	57.7
						Log Sum	64.5
Paving							
Pavers	2	77	433	50	1.00	51.7	51.7
Paving Equipment	2	85	433	20	0.40	59.7	55.7
Rollers	2	80	433	20	0.40	54.7	50.7
						Log Sum	58.0

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construciton Noise Model User's Guide (January 2006)

(2) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest property lines.

APPENDIX C

Traffic Modeling Sheets

Existing Traffic Noise

1	:Id
Baldwin Lane	:Road
SR-38 to Project Site	:Segment

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

ADT	818
Speed	35
Distance	110
Left Angle	-90
Right Angle	90

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	50.17	0.61	0.24	37.07	0.11	0.11	9.29	0.82	0.32
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	11.26	-7.87	-11.97	9.94	-15.38	-15.37	3.93	-6.62	-10.72
Distance	-3.49	-3.49	-3.49	-3.49	-3.49	-3.49	-3.49	-3.49	-3.49
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	47.87	38.47	39.58	46.56	30.96	36.19	40.55	39.71	40.83
	DAY LEQ	48.89		EVENING LEQ	47.05		NIGHT LEQ	45.16	

F	CNEL	52.60	
	DAY LEQ	48.89	

Day hour	89.00
Absorptive?	no
Use hour?	no
GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

Existing Plus Project Traffic Noise

1	:Id					ADT	1568
Baldwin Lane	:Road					Speed	35
SR-38 to Project Site	:Segment					Distance	110
						Left Angle	-90
						Right Angle	90

Vehicle Distribution (Heavy Truck Mix)				
Motor-Vehicle Type	Daytime % (7 AM - 7 PM)	Evening % (7 PM - 10 PM)	Night % (10 PM - 7 AM)	Total % of Traffic Flow
Automobiles	75.56	13.96	10.49	97.40
Medium Trucks	48.91	2.17	48.91	1.84
Heavy Trucks	47.30	5.41	47.30	0.74

	Daytime			Evening			Night		
Noise Parameters	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks	Autos	Medium Trucks	Heavy Trucks
INPUT PARAMETERS									
Vehicles per hour	96.16	1.18	0.46	71.07	0.21	0.21	17.80	1.57	0.61
Speed in MPH	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Left angle	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00	-90.00
Right angle	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
NOISE CALCULATIONS									
Reference levels	65.11	74.83	80.05	65.11	74.83	80.05	65.11	74.83	80.05
ADJUSTMENTS									
Flow	14.08	-5.04	-9.14	12.77	-12.55	-12.54	6.76	-3.79	-7.89
Distance	-3.49	-3.49	-3.49	-3.49	-3.49	-3.49	-3.49	-3.49	-3.49
Finite Roadway	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barrier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00	-25.00
LEQ	50.70	41.29	42.41	49.39	33.78	39.01	43.37	42.54	43.66
	DAY LEQ	51.71		EVENING LEQ	49.88		NIGHT LEQ	47.99	

CNEL	55.42	Day hour	89.00
DAY LEQ	51.71	Absorptive?	no
		Use hour?	no
		GRADE dB	0.00

Notes:

(1) FHWA Traffic Noise Prediction Model FHWA-RD-77-108

(2) Vehicle percentages based on County of Riverside heavy truck mix.

APPENDIX D

SoundPLAN Input/Output

Noise emissions of industry sources

Source name	Reference	Level		Frequency spectrum [dB(A)] 500 Hz	Corrections Cwall dB	CI dB	CT dB
			dB(A)				
Field Area 1	Lw/unit	Day	101.0	101.0	-	-	-
Field Area 2	Lw/unit	Day	101.0	101.0	-	-	-
Field Area 3	Lw/unit	Day	101.0	101.0	-	-	-
Field Area 4	Lw/unit	Day	101.0	101.0	-	-	-

Receiver list

No.	Receiver name	Building side	Floor	Limit Day dB(A)	Level Day dB(A)	Conflict Day dB
1	3	-	EG	-	18.7	-
2	4	-	EG	-	37.5	-
3	5	-	EG	-	42.9	-
4	6	-	EG	-	36.3	-
5	7	-	EG	-	43.6	-
6	8	-	EG	-	49.9	-
7	9	-	EG	-	45.1	-
8	10	-	EG	-	32.8	-
9	11	-	EG	-	55.3	-

APPENDIX E

Groundborne Vibration Calculations

GROUNDBORNE VIBRATION ANALYSIS

Project:	Fleet Parking and Building - Rialto	Date:	9/10/24
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Property to the West of the Project Site		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	65.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.050	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	Fleet Parking and Building - Rialto	Date:	9/10/24
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Single-family residential to east		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type =	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	315.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.002	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	Fleet Parking and Building - Rialto	Date:	9/10/24
Source:	Vibratory Roller		
Scenario:	Unmitigated		
Location:	Property to the West of the Project Site		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment = Type	1	Vibratory Roller	INPUT SECTION IN GREEN
PPVref =	0.21	Reference PPV (in/sec) at 25 ft.	
D =	315.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.005	IN/SEC	OUTPUT IN BLUE

GROUNDBORNE VIBRATION ANALYSIS

Project:	Fleet Parking and Building - Rialto	Date:	9/10/24
Source:	Large Bulldozer		
Scenario:	Unmitigated		
Location:	Single-family residential to east		
Address:			

PPV = PPVref(25/D)^n (in/sec)

INPUT

Equipment Type	2	Large Bulldozer	INPUT SECTION IN GREEN
PPVref =	0.089	Reference PPV (in/sec) at 25 ft.	
D =	5.00	Distance from Equipment to Receiver (ft)	
n =	1.50	Vibration attenuation rate through the ground	

Note: Based on reference equations from Vibration Guidance Manual, California Department of Transportation, 2006, pgs 38-43.

RESULTS

PPV =	0.995	IN/SEC	OUTPUT IN BLUE

APPENDIX 7

TRIP GENERATION ASSESSMENT

URBAN CROSSROADS

urbanxroads.com

November 17, 2020

Ms. Kaitlyn Dodson-Hamilton
Tom Dodson & Associates
P.O. BOX 2307
San Bernardino, CA 92406-2307

SUBJECT: MAPLE HILL COMMUNITY FIELDS TRIP GENERATION ASSESSMENT

Dear Ms. Kaitlyn Dodson-Hamilton:

Urban Crossroads, Inc. is pleased to provide the following Trip Generation Assessment for Maple Hill Community Fields development (**Project**) which is located north of Baldwin Lane and west of Maple Lane in the County of San Bernardino within the unincorporated community of Sugarloaf in Big Bear, California.

PROPOSED PROJECT

The proposed Project includes the development of a sports complex that covers approximately 15 acres. The 15 acres is from the Bear Valley Unified School District (SVUSD) that has donated the property to the Bear Valley Unified School District Education Foundation for the purposes of developing outdoor recreation and educational opportunities for their students and the community. A four-field multi-use sports complex is proposed on the 15-acres that would accommodate baseball, softball, and soccer fields (with 250,000 square feet of turf area). The sports complex would be located north of the existing Baldwin Lane Elementary School.

TRIP GENERATION

The Project is proposing to develop a new 15-acre park with sports fields. Trip generation represents the amount of traffic that is attracted and produced by a development and is based upon the specific land uses planned for a given project. The Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition, 2017) does not have a suitable rate for park with sports fields. As such, trip generation rates for the Sports Park are based upon data collected by the San Diego Municipal Code in their published Land Development Code Trip Generation Manual, May 2003, for the purposes of this trip generation assessment. The May 2003 version is the most recent version of the San Diego Municipal Code Land Development Code Trip Generation Manual.

Based on the trip generation rates shown in Table 1, the Project trip generation has been calculated and is shown in Table 1. The proposed Project is anticipated to generate 750 trip-ends per day with 30 AM peak hour trips and 60 PM peak hour trips.

TABLE 1: PROPOSED PROJECT TRIP GENERATION SUMMARY

Land Use	ITE LU Code	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Project Trip Generation Rates									
Park (Developed; Sports Fields)	--[2]	AC	1.00	1.00	2.00	2.00	2.00	4.00	50.00

Project	Quantity	Units[1]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Project Trip Generation									
Park (Developed; Sports Fields)	15.0	AC	15	15	30	30	30	60	750

[1] AC = acres

[2] Trip Generation Source: San Diego Municipal Code Land Development Code Trip Generation Manual, May 2003.

CONCLUSION

The proposed Project is anticipated to generate fewer than 100 peak hour trips during both the AM and PM peak hours. As such, additional level of service-based analysis is not required per the County of San Bernardino's Transportation Impact Study Guidelines (dated July 9, 2019).

If you have any questions, please contact me directly at (949) 861-0177.

Respectfully submitted,

URBAN CROSSROADS, INC.

Charlene So

Charlene So, PE
Associate Principal