INITIAL STUDY

FOR THE

BIG BEAR CITY COMMUNITY SERVICES DISTRICT CINDERELLA AND PAN SPRINGS PIPELINE REPLACEMENT PROJECT

Prepared for:

Big Bear City Community Services District
139 East Big Bear Boulevard
Big Bear, CA 92314

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TABLE OF CONTENTS

APPENDICES

FIGURES

TABLES

LIST OF ABBREVIATIONS AND ACROYNMS

AAM	American Association of Museum
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ACLUP	Airport Comprehensive Land Use Plan
APE	Area of Potential Effect
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
AWWA	American Water Works Association
BBCCSD	Big Bear City Community Services District
BMPs	Best Management Practices
BRA	Biological Resources Assessment
BVES	Bear Valley Electric Service
BV/RS	Bear Valley / Single Residential
C&D	Construction and Demolition
CAA	Clean Air Act
CAAA	Clean Air Act Amendment
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAR	California Climate Action Registry (now called Climate Action Reserve)
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CRPR	California Rare Plant Rank
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DOI	Department of Interior
DTS	Department of Toxic Substances
DWR	Department of Water Resources
EO	Executive Orders
ESA	Environmentally Sensitive Area
EV	Electric Vehicle
FGC	Fish & Game Code
FTA	Federal Transit Association
GHG	Greenhouse Gas
GSAs	Groundwater Sustainable Agencies

LDR	Low Density Residential
LST	Localized Significance Thresholds
LUST	Leaking Underground Storage Tank
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendants
MM	Mitigation Measure
MND	Mitigated Negative Declaration
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
PF	Public Facility
ROW	Right-of-Way
RWQCB	Regional Water Quality Control Board
SBCOAE	San Bernardino County Operational Area Emergency Response Plan
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SGMA	Sustainable Groundwater Management Act
SPOW	California spotted owl
SR	State Route
SRA	State Responsibility Area
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
TCP	Timberland Conversion Permit
TCR	Tribal Cultural Resources
USACE	U.S. Army Corps of Engineers
UBC	Uniform Building Code
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
YSMN	Yuhaaviatam of San Manuel Nation
WOUS	Waters of the United States
WQMP	Water Quality Management Plan

ENVIRONMENTAL CHECKLIST

INTRODUCTION

1. Project Title: BBCCSD Cinderella and Pan Springs Pipeline Replacement Project

2. Lead Agency Name: Big Bear City Community Services District
   Address: 139 E Big Bear Blvd, Big Bear, CA 92314

3. Contact Person: Jerry Griffith
   Phone Number: (909) 584-4008
   Email: jgriffith@bbccsd.org

4. Project Location: The BBCCSD service area is located in southern California within the Big Bear Valley (Valley) in the San Bernardino Mountains of San Bernardino County, California. The project will occur within various roadways generally located south of State Route 18/East North Shore Drive, east of Sequoia Drive, west of Paradise Way and north of East Tiger Lily Drive. The roadways within which the proposed pipeline improvements will be located include:

   - Sequoia Drive
   - East Cinderella Drive
   - State Route 18/East North Shore Drive
   - Mount Doble Drive
   - Hugo Lane
   - East Tiger Lily Drive
   - Paradise Way
   - Pan Springs Lane

   The project is located within the USGS Topo 7.5-minute map for Big Bear City, CA, and is located in Section 11, Township 2 North and Range 1 East. The approximate GPS coordinates of the project area are 34.27071°, -116.84245°. Refer to Figures 1 and 2 for the regional and site location maps.

5. Project Sponsor Name: Big Bear City Community Services District
   Address: 139 E Big Bear Blvd, Big Bear, CA 92314

6. General Plan Designation: Low Density Residential (LDR)

7. Zoning: Bear Valley/Single Residential (BV/RS)

8. Project Description:

Introduction

The Big Bear City Community Services District (BBCCSD or District) Water Department provides potable drinking water within an 8 square mile service area in Big Bear City, California. The Department services about 6,000 connections, 24-hours per day, 365 days per year. Department operations are supported by four reservoirs with a total capacity of 6.25 million gallons, 81 miles of main lines, 418 fire hydrants and 1,600 gate valves. The water system also supports fire suppression activities with water flows that range from 500 gallons per minute to in excess of 1,500 gallons per minute. The District proposes to construct approximately 4,400 lineal feet (LF) of new pipelines to replace pipelines that are no longer efficient or effective, due to age or because they are undersized, improving water quality and fire flow capabilities.

Project Characteristics

As stated above, BBCCSD proposes to construct approximately 4,400 LF of new pipelines to replace pipelines that are no longer efficient or effective, due to age or because they are undersized, improving water quality and fire flow capabilities.

The project includes replacement of existing water mains with new 8-inch piping on North Shore Drive, Mount Doble Drive, Gold Mountain Drive, Cinderella Drive, Pan Springs Lane, and Tiger Lily Drive, which will be installed within the road rights-of-way along with new line side services, valves, fire hydrants, and customer service tie-ins. The existing mains and customer services will be disconnected from the water system and abandoned in place.

The project also includes abandonment of 1,390 LF of pipeline located within backyard easements between and parallel to: (1) Dumas Lane and Pan Springs Lane; and (2) Pan Springs Lane and Paradise Way (refer to Figure 2). The pipeline will be abandoned in place. Existing homes served by these backyard easement pipelines will have new services constructed from their homes to the existing water mains on Dumas Lane and Paradise Way or the new water main on Pan Springs Lane, as appropriate. BBCCSD will coordinate with the property owners to establish the least disruptive alignment for each of the new connections (approximately 50 parcels). The Contractor will be required to perform the following work:

1. Re-locate existing meter to new location at street right-of-way;
2. Tie-in new connection to existing stop & waste valve (if present) at back of house or intercept existing customer service lines. Service lines shall be 1" copper at an average depth of 36";
3. Remove old meter box and cap old service, turn off existing angle stop, fill and compact hole with dirt.

Construction Scenario

Construction is anticipated to begin in Spring of 2023 and is anticipated to require 5 months to complete.

It is assumed that an underground utility installation team can install approximately 200 to 300 lineal feet of water pipeline per day. A team consists of the following:

- 1 Excavator
- 1 Backhoe
- 1 Paver
- 1 Roller
- 1 Water truck
- Traffic Control Signage and Devices
- 10 Dump/delivery trucks (80 miles round trip distance)
- Employees (12 members per team)

It is assumed that installation of 4,400 LF of water pipeline will occur over 80 days of construction over a period of about 5 months. The proposed project will include abandonment of 1,390 LF of pipeline located within backyard easements, and installation of new services constructed from their homes to the existing water mains. Construction of the new services will occur within approximately 50 parcels covering an area of about 5.33 acres, and would connect these users to the existing water mains on Dumas Lane and Paradise Way or the new water main on Pan Springs Lane. This effort will require similar effort and equipment to the pipeline installation described above. The final activity associated with the pipeline installation is repaving of roads and recompacting surfaces disturbed by the installation of the pipeline. This effort is anticipated to occur over a 15 working day period.

The project will utilize open cut trenching techniques, if necessary. The depth to the invert of the pipe will be approximately 4.5 feet deep in the open cut trench areas and approximately 3 to 3.25 feet deep in the 50 parcels receiving new services and from the home to the relocated meters at street right-of-way identified on Figure 2 and the roadways within which the new service will connect to the existing or new water main.

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

The proposed project encompasses construction of pipeline within the Cinderella and Pan Hot Springs areas of Big Bear City within San Bernardino County. The project footprint is surrounded generally by residential uses.

- The uses to the north of the project area includes residential uses, with some open space forestland to the northwest of the residential neighborhoods. The land use to the north is: Low Density Residential (LDR), with Open Space uses farther to the northwest as described above.
- The uses to the east of the project area include residential uses, vacant land, and BBCCSD owned and operated land containing reservoirs and other water facilities. The land uses to the east include LDR and Public Facility (PF).
- The uses to the south of the project area include residential uses. The land use to the south is LDR.
- The uses to the west of the project area include residential uses. The land use to the south is LDR.

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

The whole of the project exceeds the threshold for a General Construction National Pollutant Discharge Elimination System (NPDES) permit. This requires notification to the State Water Board and preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The proposed project may require encroachment permits from San Bernardino County and California Department of Transportation (Caltrans) to construct the pipeline within existing road rights-of-way.

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

Native American tribe consultations are in process.

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

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

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 will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
☐	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

March 27, 2023
Date

Mary T. Reeves
Lead Agency (signature)

4-5-23
Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

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

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

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

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

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

   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

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

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

9) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and
   b) the mitigation measure identified, if any, to reduce the impact to less than significance.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
I. AESTHETICS: Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
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?	☐	☐	☐	☒

SUBSTANTIATION

a. *No Impact* – BBCCSD proposes to install 4,400 LF of new water pipelines within the Cinderella and Pan Springs Pipeline Replacement footprint of the District's service area, as shown on Figure 2, within an area that encompasses approximately 15 acres. The proposed project will install the new water pipeline and laterals belowground within existing roadways, with new services connecting to the water mains in Dumas Lane and Paradise Way or the new water main on Pan Springs Lane that will occur within 50 parcels covering an area of about 5.33 acres. The dominant landscape feature that can be viewed from the project footprint are the San Bernardino Mountains by which the Big Bear Valley is surrounded. Due to the project setting within the Big Bear Valley, views to the surrounding mountains from the ground level in this area are obscured as a result of the forestry vegetation that dominates the foreground views in the project area.

   The presence of construction equipment and related construction materials would be visible from public vantage points such as sidewalks and streets within the Cinderella and Pan Springs Pipeline Replacement footprint but it would not adversely affect any scenic views or vistas. Construction of the proposed pipeline would be temporary and therefore, would not permanently affect views or scenic vistas. Thus, construction impacts would be less than significant. The entirety of the proposed project will be constructed belowground within existing roadways, disturbed right-of-way (ROW), or within the parcels receiving new connections as a result of the proposed project. Once constructed, the roadways, ROW, and areas disturbed within the parcels receiving new connections as a result of the proposed project will be returned to their original condition, and roadways repaved. Given that the project would not degrade views to nearby scenic vistas and that the visual effects of pipeline installation and repaved sections of roadway would not substantially alter the views in the project footprint in the long-term, implementation of the proposed Pipeline Replacement Project is not expected to cause any substantial adverse effects on any important scenic vistas. No impacts are anticipated and no mitigation is required.

b. *Less Than Significant Impact* – The proposed project will install the new water pipeline and laterals belowground within existing roadways and within the parcels receiving new connections as a result of the proposed project. None of the roadways within which the proposed project will be installed are designated as a scenic highway by the State of California; however, as shown on Figure I-1, the San Bernardino Countywide Plan Scenic Routes & Highways Map, State Route (SR) 38 is a County of

San Bernardino designated Scenic Route and has been deemed an eligible State Scenic Highway. The proposed project would involve installation of pipeline within SR 38 ROW, once constructed, the roadways and ROW will be returned to their original condition, and would therefore have no potential to alter historic buildings or other scenic resources within SR 38. The proposed pipelines, once installed, would not be visible and therefore, no impacts to SR 38, a County designated Scenic Route and eligible State Scenic Highway, are anticipated. No rock outcroppings or historic buildings exist within the project footprint and as the proposed project would be constructed mostly within existing rights of way, no trees will be impacted by installation of the proposed water pipeline and laterals. Based on the lack of any intrinsic scenic resources within the project footprint, the proposed project is anticipated to have a less than significant potential to damage any such resources. Impacts are less than significant and no mitigation is required.

c. *No Impact* – The project site is located in a suburban area within unincorporated community of Big Bear City, within San Bernardino County. The project would replace existing connections within the Cinderella and Pan Springs area of BBCCSD's water service area through the installation of 4,400 LF of water pipeline and laterals. The proposed water pipelines would be placed underground and would not be visible once construction is complete. As the proposed pipelines will all be located belowground, and the roadways in which the pipelines are installed will be repaved and the ground will be recompacted and returned to its original condition as each segment of pipeline and laterals is installed, construction and operation of the proposed pipelines will have no potential to conflict with applicable zoning or other regulations governing scenic quality. No impacts are anticipated to occur under this issue and no mitigation is required.

d. *No Impact* – There will be no new lighting associated with the proposed project. The pipelines will be constructed underground, mostly within existing roadways. No reflective materials or coatings are associated with this project. The construction activities are limited to daylight hours unless an emergency occurs, and the amount of security lighting needed during construction will be minimal. Therefore, with no permanent aboveground features beyond the relocation of the existing meters at the relocated connections facilitated by this project, it is not anticipated that the project would create any new permanent sources of light or glare. No significant impact associated with lighting or glare can be identified and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
II. AGRICULTURE AND FORESTRY RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
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?	☐	☐	☐	☒

SUBSTANTIATION

a. *No Impact* – The proposed project footprint is located within the Big Bear Valley, which does not contain delineated agricultural lands. Neither the project footprint nor the adjacent and surrounding properties 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. Refer to the San Bernardino Countywide Plan Agricultural Resources Map, which confirms that no prime farmland, unique farmland, or farmland of statewide 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* – The project footprint is not included in a Williamson Act contract or an Agricultural Preserve. Based on these facts, the proposed project will not cause a significant direct impact or conflict with the Williamson Act or an existing agricultural use. The project footprint is does not

contain any agricultural uses and the land use designations in the vicinity of the proposed pipeline alignments support Low Density Residential (LDR) uses and the zoning classifications in the vicinity of the proposed pipeline alignments support Bear Valley/Single Residential (BV/RS) uses. Furthermore, the surrounding uses are not agricultural in nature and the Big Bear Valley does not contain delineated agricultural lands. Therefore, no potential for indirect effects on agricultural resources or values would occur due to implementation of the proposed Pipeline Replacement Project.

c. *No Impact* – There are no existing zoning ordinances that pertain to forest land, timberland, or timberland zoned Timberland Production. The land use designations in the vicinity of the proposed pipeline alignments support Low Density Residential (LDR) uses. This land use designation would not support forest land or timberland uses or designations. Furthermore, the surrounding uses are not related to forestry uses. Therefore, the proposed project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)). CAL FIRE stipulates that when a project will convert timberland to a use other than growing timber, a Timberland Conversion Permit (TCP) is required [PRC 4621(a)]. Also, when projects are converting timberland to another use, the operations are considered commercial timber operations even if the logs are not being sold [PRC 4527(a)(1) and (2)]. While trees are found in abundance in the project area, no defined timberland resources would be disturbed as a result of project implementation because the project consists of pipeline that would be installed underground within existing road ROWs. Thus, the proposed Pipeline Replacement Project would have a less than significant potential to conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).

d. *No Impact* – The proposed project would not result in the loss of forest land or conversion of forest land to non-forest use. The land use designations in the vicinity of the proposed pipeline alignments support Low Density Residential (LDR) uses, and no timberland designations exist within the project footprint. As the proposed project would consist of the installation of pipeline within road ROWs, and as no forest resources occur within the area of potential effects (APE), no impacts to forest resources are anticipated to be associated with the implementation of the proposed project.

e. *No Impact* – Because the project site and surrounding area do not support either agricultural or forestry uses and, furthermore, because the project site and environs are not designated for such uses, implementation of the proposed project would not cause or result in the conversion of farmland or forest land to alternative use. No adverse impact would occur. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
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?	☐	☐	☒	☐

SUBSTANTIATION: The following information utilized in this section of the Initial Study was obtained from the following technical study: *Air Quality and GHG Impact Analyses, WSC-096, Big Bear City Community Services District Cinderella and Pan Springs Pipeline Replacement Project, Big Bear (San Bernardino), California* dated December 29, 2022 prepared by Giroux & Associates. This technical study is provided as Appendix 1 to this document.

Background

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

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

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

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

before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in Table III-1. Sources and health effects of various pollutants are shown in Table III-2.

Table III-1
AMBIENT AIR QUALITY STANDARDS

Pollutant	Average Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		–		
Fine Particulate Matter (PM2.5)[9]	24 Hour	–	–	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15.0 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	–	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–	–	
Nitrogen Dioxide (NO2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	–	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	–	Ultraviolet Flourescense; Spectrophotometry (Paraosaniline Method)
	3 Hour	–		–	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[11]	–	
Lead 8[12,13]	30-Day Average	1.5 µg/m^3	Atomic Absorption	–	–	–
	Calendar Quarter	–		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Avg	–		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	**No Federal Standards**		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: California Air Resources Board 5/4/16

Footnotes:

1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter – PM10, PM2.5, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year, with a 24-hour average concentration above 150 $\mu g/m^3$, is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.

8 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9 On December 14, 2012, the national PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primarily and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primarily and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10 To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11 On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12 The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13 The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 j.tg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14 In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Table III-2
HEALTH EFFECTS OF MAJOR CRITERIA POLLUTANTS

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter.	• Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO_2)	• Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions.	• Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O_3)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	• Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	• Contaminated soil.	• Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Fine Particulate Matter (PM-10)	• Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions.	• Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM-2.5)	• Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NOx, sulfur oxides, and organics.	• Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO_2)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002

Baseline Air Quality

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

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

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

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

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

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

Table III-3
AIR QUALITY MONITORING SUMMARY
(Days Standards were Exceeded and Maximum Observed Concentrations 2015-2018)

Pollutant/Standard	2018	2019	2020	2021
Ozone[a]				
1-Hour > 0.09 ppm (S)	57	53	69	65
8-Hour > 0.07 ppm (S)	113	99	118	110
8- Hour > 0.075 ppm (F)	91	79	97	91
Max. 1-Hour Conc. (ppm)	0.142	0.129	0.159	0.148
Max. 8-Hour Conc. (ppm)	0.125	0.112	0.139	0.120
Carbon Monoxide[b]				
8- Hour > 9. ppm (S,F)	0	0	0	0
Max 8-hour Conc. (ppm)	2.0	1.2	1.4	1.6
Nitrogen Dioxide[b]				
1-Hour > 0.18 ppm (S)	0	0	0	0
Max 1-hour Conc. (ppm)	0.055	0.056	0.054	0.056
Respirable Particulates (PM-10)[a]				
24-hour > 50 $\mu g/m^3$ (S)	1/59	0/54	1/40	0/59
24-hour > 150 $\mu g/m^3$ (F)	0/59	0/54	0/40	0/59
Max. 24-Hr. Conc. ($\mu g/m^3$)	78.	38.	51.	33.
Ultra-Fine Particulates (PM-2.5)[a]				
24-Hour > 35 $\mu g/m^3$ (F)	0/54	0/46	0/58	0/59
Max. 24-Hr. Conc. ($\mu g/m^3$)	17.3	31.0	24.3	24.5

(S) = state standard, (F) = federal standard; data: WWW.ARB.CA.GOV/ADAM/
Source: South Coast Air Quality Management District;
Crestline Monitoring Station for Ozone and PM-10.
San Bernardino 4th Street Monitoring Station for CO and NO2.
Big Bear City Monitoring Station for PM-2.5.

Air Quality Planning

The United State Environmental Protection Agency (U.S. EPA) is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for O3, CO, NOx, SO2, PM10, PM2.5, and lead. The U.S. EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the California Air Resources Board (CARB).

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

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

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

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

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

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

AQMPs are required to be updated every three years. The 2012 AQMP was adopted in early 2013. An updated 2016 AQMP was adopted by the SCAQMD Board in March 2017. The 2016 AQMD demonstrated the emissions reductions shown in Table III-4 compared to the 2012 AQMP.

Table III-4
COMPARISON OF EMISSIONS BY MAJOR SOURCE CATEGORY FROM 2012 AQMP

Pollutant	Stationary Sources	Mobile Sources
VOC	-12%	-3%
NOx	-13%	-1%
SOx	-34%	-23%
PM2.5	-9%	-7%

*source 2016 AQMP

SCAQMD has initiated the development of the 2022 AQMP to address the attainment of the 2015 8-hour ozone standard (70 ppb) for South Coast Air Basin (SCAB)and Coachella Valley which will focus on attaining the 70 ppb 8-hour ozone National Ambient Air Quality Standard (NAAQS) by 2037. On-road vehicles and off-road mobile sources represent the largest categories of NOx emissions. Accomplishment of attainment goals requires an approximate 70% reduction in NOx emissions. Large scale transition to zero emission technologies is a key strategy. To this end, Governor Executive Order N-79-20 requires 100 percent EV sales by 2035 for automobiles and short haul drayage trucks. A full transition to EV buses and heavy-duty long-haul trucks is required by 2045.

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

Impact Thresholds

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

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

Primary Pollutants

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

Secondary Pollutants

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

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

Table III-5
DAILY EMISSIONS THRESHOLDS

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

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

Additional Indicators

In its CEQA Handbook, the SCAQMD also states that additional indicators should be used as screening criteria to determine the need for further analysis with respect to air quality. The additional indicators are as follows:

- Project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation
- Project could result in population increases within the regional statistical area which would be in excess of that projected in the AQMP and in other than planned locations for the project's build-out year.
- Project could generate vehicle trips that cause a CO hot spot.

Impact Analysis

a. *Less Than Significant Impact* – Projects such as the proposed installation of new water pipeline (4,400 LF) does not directly relate to the AQMP in that there are no specific air quality programs or regulations governing general development. This is because, once installed, the water pipeline would not generate new emissions. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use are the primary yardsticks by which impact significance of planned growth is determined. The propose project will be fully consistent with both the General Plan designation and Zone classification for the project site, mainly because the project involves water infrastructure, and such projects are considered land use independent. Thus, the proposed project is consistent with regional planning forecasts maintained by the Southern California

Association of Governments (SCAG) regional plans.. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less than significant only because of consistency with regional growth projections. Air quality impact significance for the proposed project has therefore been analyzed on a project-specific basis. As the analysis of project-related emissions provided below indicates, the proposed project will not cause or be exposed to significant air pollution, and is, therefore, consistent with the applicable air quality plan.

b. *Less Than Significant With Mitigation Incorporated* – Air pollution emissions associated with the proposed project would occur over both a short and long-term time period. Short-term emissions include fugitive dust from construction activities (i.e., site prep, demolition, grading) and exhaust emissions at the project site. Long-term emissions generated by future operation of the proposed pipeline are negligible as future operation will not require a new source of energy to operate. Energy is not anticipated to be required, though the proposed operations and maintenance activities in the future include energy consumption and trips generated by the future development. It is anticipated that existing conveyance systems (pump stations and/or other appurtenances) will require no additional energy to accommodate the new pipeline alignments, as the project would replace existing pipelines and connections. Furthermore, given that the pipelines will be upsized, it is likely that the pipelines will require less energy to operate.

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

The Big Bear City Community Services District (BBCCSD) proposes to construct approximately 4,400 LF of new pipelines to replace pipelines that are no longer efficient or effective, due to age or because they are undersized, improving water quality and fire flow capabilities.

Construction is anticipated to begin in Spring of 2023 and is anticipated to require 5 months to complete. The project will utilize open cut trenching and jack and bore techniques, if necessary. It is assumed that installation of 4,400 LF of water pipeline will occur over 80 days of construction over a period of about 5 months. The final activity associated with the pipeline installation is repaving roads and recompacting surfaces disturbed by the construction of the pipeline. This effort is anticipated to occur over a 15 working day period.

The project encompasses construction of pipeline within the Cinderella and Pan Hot Springs areas of Big Bear City within San Bernardino County. The project footprint is surrounded generally by residential uses. It is assumed that an underground utility installation team can install approximately 200 to 300 lineal feet of water pipeline per day. A team consists of the following:

- 1 Excavator
- 1 Backhoe
- 1 Paver
- 1 Roller
- 1 Water truck
- Traffic Control Signage and Devices
- 10 Dump/delivery trucks (80 miles round trip distance)
- Employees (12 members per team)

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

Table III-6
CONSTRUCTION ACTIVITY EMISSIONS
MAXIMUM DAILY EMISSIONS (pounds/day)

Maximal Construction Emissions	ROG	NOx	CO	SO_2	PM-10	PM-2.5
2023	1.4	4.5	11.6	0.0	2.7	1.6
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**

*Assumes SCAQMD Rule 403 Fugitive Dust applied (watering at least twice daily).

SCAQMD Rules 402 and 403 (prohibition of nuisances, watering of inactive and perimeter areas, track out requirements, etc.), are applicable to the project and were applied in CalEEMod to minimize fugitive dust emissions. With this measure, peak daily construction activity emissions are estimated to be below SCAQMD CEQA thresholds without the need for added mitigation. Construction activities are not anticipated to cause dust emissions to exceed SCAQMD CEQA thresholds with active dust suppression. Nevertheless, mitigation through enhanced dust control measures is recommended for use because of the proximity of residential uses. Recommended mitigation includes:

AQ-1 ***Fugitive Dust Control. The following measures shall be incorporated into project plans and specifications for implementation during construction:***

- ***Apply soil stabilizers to inactive areas.***
- ***Prepare a high wind dust control plan and implement plan elements and terminate soil disturbance when winds exceed 25 mph.***
- ***Stabilize previously disturbed areas if subsequent construction is delayed.***
- ***Apply water to disturbed surfaces and haul roads 3 times/day.***
- ***Replace ground cover in disturbed areas quickly.***
- ***Reduce speeds on unpaved roads to less than 15 mph.***
- ***Trenches shall be left exposed for as short a time as possible.***
- ***Identify proper compaction for backfilled soils in construction specifications.***

This measure shall be implemented during construction, and shall be included in the construction contract as a contract specification.

AQ-2 ***Exhaust Emissions Control. The following measures shall be incorporated into Project plans and specifications for implementation:***

- ***Utilize off-road construction equipment that has met or exceeded the maker's recommendations for vehicle/equipment maintenance schedule.***
- ***Contactors shall utilize Tier 4 or better heavy equipment.***
- ***Enforce 5-minute idling limits for both on-road trucks and off-road equipment.***

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

Operational Emissions
The operation of the pipelines will not require a new source of energy to operate. This is because the new water pipelines will replace existing connections within the Cinderella and Pan Springs area of BBCCSD's service area. It is anticipated that existing conveyance systems (lift stations and/or other appurtenances) will require some additional energy to accommodate the sewage conveyed by the new pipelines, but this increase in energy demand can be accommodated by existing systems. No additional energy demand is anticipated because the proposed water would operate solely by gravity and will continue via gravity to the treatment plant. Therefore, no significant operational air quality emissions are anticipated to be generated by the proposed project.

Conclusion
With the implementation of MM **AQ-1** and **AQ-2**, the development of the Cinderella and Pan Springs Pipeline Replacement Project would have a less than significant potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

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

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

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

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

The SCAQMD has issued guidance on applying CalEEMod to LSTs. LST pollutant screening level concentration data is currently published for 1, 2- and 5-acre sites for varying distances. For this project the most stringent standards for a 1-acre site were used.

The following thresholds and emissions in Table III-7 are therefore determined (pounds per day):

Table III-7
LST AND PROJECT EMISSIONS (pounds/day)

LST Coachella Valley	CO	NOx	PM-10	PM-2.5
LST Threshold	775	118	4	4
Max On-Site Emissions				
2023	12	4	3	2
Exceeds Threshold?	**No**	**No**	**No**	**No**

CalEEMod Output in Appendix

LSTs were compared to the maximum daily construction activities. As seen in Table III-7, LST impacts are less than significant.

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

associated with such a brief exposure. Therefore, the proposed project would have a less than significant potential to expose sensitive receptors to substantial pollutant concentrations.

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 propose any such uses or activities that would result in potentially significant operational-source odor impacts particularly given that the water pipeline will be located below ground. Project operations (pumping) are an essentially closed system with negligible odor potential. Therefore, impacts under this issue are considered less than significant. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
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?	☐	☐	☒	☐

SUBSTANTIATION: The following information is provided based on a Biological Resources Assessment and Jurisdictional Delineation prepared for the proposed project. The assessment is titled "*Biological Resources Assessment and Jurisdictional Delineation for the Proposed Big Bear City Community Services District Cinderella and Pan Springs Pipeline Replacement Project, in the City of Big Bear Lake, California*", prepared by Jennings Environmental dated January 2023. The following information is abstracted from the Biological Resources Assessment (BRA) provided as Appendix 2.

General Site Conditions

The project footprint is within an established neighborhood within the existing paved roads. There are some native pines [Jeffery pine (*Pinus jeffreyi*) and sugar pine (*Pinus lambertiana*)] mixed in between the houses. However, all potions of the road and properties are currently maintained and do not contain any habitat for any sensitive species.

A few birds were seen or heard during the survey. Species observed or otherwise detected on or in the vicinity of the project footprint during the surveys included; common raven (*Corvus corax*), pygmy nuthatch (*Sitta pygmaea*), and Steller's jay (*Cyanocitta stelleri*).

The project footprint is located within a developed area of Big Bear. As mentioned above the project footprint is currently a paved roadway within an existing single-family residential neighborhood. There is no habitat within the proposed project footprint, as well as the immediate surrounding area, that is suitable for the sensitive species identified in the CNDDB search, refer to Table IV-1, provided at the end of this subchapter, below.

After a review of the United States Department of Agriculture (USDA) Soil Conservation Service and by referencing the USDA Web Soil Survey, it was determined that the project footprint is located within the San Bernardino County National Forest Area, California area CA777. Based on the results of the database search, one soil type is documented in the area:

- Moonridge-caribou creek-urban land complex, 0 to 4 percent slopes (306). This soil is well drained with a moderately high to high capacity to transmit water. This soil consists of alluvium derived from granitoid bedrock, typically ranges in elevation from 6,690 to 6,920 feet above mean sea level (amsl), and is considered prime farmland if irrigated.

Conclusion

Based on the literature review and personal observations made on-site and in the immediate vicinity, no State and/or federally listed threatened or endangered species are documented/or expected to occur within the project footprint. Additionally, no plant species with the California Rare Plant Rank (CRPR) of 1 or 2 were observed on-site. No other sensitive species were observed within the project area or buffer area.

Sensitive Biological Resources

Of the 104 species found within the Big Bear Lake, Fawnskin, Big Bear City, and Moonridge quads, 20 have a special designation of either: federally listed, state listed, or a species of special concern (SSC) under California Fish and Game Code. The discussion below provides the background information on those species that have the potential to occur within the project footprint or vicinity, and also discusses in detail habitat within the project footprint specifically.

Southern rubber boa (*Charina umbratical*) – Threatened (State)

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

Typical habitat for this species is mixed conifer-oak forest or woodland dominated by two or more of the following species: Jeffrey pine (*Pinus jeffreyi*), yellow pine (*P. ponderosa*), sugar pine (*P. lambertiana*), incense cedar (*Calocedrus decurrens*), white fir (*Abies concolor*), and black oak (*Quercus kelloggii*). Rubber boas are usually found near streams or wet meadows or within or under surface objects with good moisture retaining properties such as rotting logs . Much of the literature suggests that the rubber boa prefers mixed conifer-oak forests and woodlands between 5,000 and 8,000 feet in elevation, especially in canyons and on cool, north facing slopes. However, the factors of overriding importance seem to be access to hibernation sites below the frost line and access to damp soil.

Although this species has been observed within 5 miles of the project footprint, there is no suitable habitat within the project boundary. The project footprint is disturbed with concrete, asphalt, or structures, and the small dirt-landscaped areas are exposed to direct sunlight most of the year and do not retain moisture. Additionally, the project footprint does not contain any fallen debris for hibernacula and there are no south-facing slopes to provide any rock outcrops. The project footprint is also separated from the occupied habitat

by multiple development projects. Therefore, this species is considered absent from the project footprint and the proposed project will not affect rubber boa.

Bald eagle (*Haliaeetus leucocephalus*) – Delisted (Federal)/Endangered (State)

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

The project is not within or adjacent to any suitable BAEA foraging or nesting habitat. The nearest suitable habitat for this species is the Big Bear shoreline, which is approximately 2.6 miles west of the project footprint. Additionally, the proposed project does not require the removal of large old-growth vegetation. Therefore, the proposed project will not affect BAEA and no further investigation relative to this species is warranted or required.

California spotted owl (*Strix occidentalis*) – SSC

The California spotted owl (SPOW) is considered a Species of Special Concern (SSC) by the California Department of Fish and Wildlife (CDFW) and is listed as a Sensitive Species by the U.S. Forest Service. The SPOW breeds and roosts in forests and woodlands with large old trees and snags, high basal areas of trees and snags, dense canopies (≥70% canopy closure), multiple canopy layers, and downed woody debris. Large, old trees are the key component; they provide nest sites and cover from inclement weather and add structure to the forest canopy and woody debris to the forest floor. These characteristics typify old-growth or late-seral-stage habitats. Because the SPOW selects stands that have higher structural diversity and significantly more large trees than those generally available, it is considered a habitat specialist. In southern California, SPOW principally occupy montane hardwood and montane hard-wood-conifer forests, especially those with canyon live oak (*Quercus chrysolepis*) and bigcone Douglas-fir (*Pseudotsuga macrocarpa*), at mid- to high elevations .

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

According to LaHaye and Gutierrez (2005), urbanization in the form of primary and vacation homes has degraded or consumed some forests in most mountain ranges. The results of spotted owl surveys conducted between 1987 and 1998 in the San Bernardino Mountains indicated that a large area of

potentially-suitable spotted owl habitat, enough to support 10-15 pairs, existed between Running Springs and Crestline. However, only four pairs have been found in this area, and owls were found only in undeveloped sites. Thus, residential development within montane forests may preclude spotted owl occupancy, even when closed-canopy forest remains on developed sites.

The project footprint is within an already disturbed area and the immediate vicinity has been subject to ongoing human disturbances associated with the existing commercial and residential developments in the area for a long time. Therefore, it is unlikely that the immediate surrounding area would be utilized by SPOW for nesting or roosting. Additionally, the project footprint lacks the basic habitat requirements for this species. Furthermore, this species has not been documented within the project area. Although the U.S. Forest Service does not survey for SPOW on private property, the surrounding San Bernardino National Forest areas have been surveyed extensively by the Forest Service since the late 1980s. For the reasons discussed, the project area is not occupied by SPOW, and the proposed project will not affect this species.

San Bernardino flying squirrel (*Glaucomys oregonensis californicus*) – SSC

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

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

The project footprint and surrounding area do not provide habitat suitable to support flying squirrels. The surrounding area is a residential development with sparse tree canopy cover. Although, this species has been documented within approximately 0.33 miles of the project footprint, in mixed conifer forest habitat. The habitat within the project footprint and surrounding vicinity are not suitable to support flying squirrels and the proposed project would not result in impacts to this species. Additionally, the project does not propose to remove large old-growth vegetation. Therefore, the proposed project will not have an effect on this species.

Nesting Birds

There is vegetation throughout the project area that is suitable to support nesting birds. 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." Then in April 2018, the United States Fish and Wildlife Service (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 15th in southern California, and March 15th through August 31st for migratory passerine birds. However, if all work cannot be conducted outside of nesting season, mitigation is recommended.

Jurisdictional Waters
In addition to the BRA, Jennings Environmental also assessed the project area for the presence of any state and/or federal jurisdictional waters.

Waters of the United States and Waters of the State

The United States Army Corps of Engineers (USACE) has the authority to permit the discharge of dredged or fill material in Waters of the United States (WOUS) under Section 404 Clean Water Act (CWA). While the Regional Water Quality Board has authority over the discharge of dredged or fill material in Waters of the State under Section 401 CWA as well as the Porter-Cologne Water Quality Control Act. The project area was surveyed with 100 percent visual coverage and no drainage features were present on site that met the definition for WOUS. As such, the subject parcel does not contain any wetlands, Waters of the U.S., or Waters of the State.

Fish and Game Code Section 1602 - State Lake and/or Streambed

The CDFW asserts jurisdiction over any drainage feature that contains a definable bed and bank or associated riparian vegetation. The project area was surveyed with 100 percent visual coverage and no definable bed or bank features exist on the project footprint. As such, the subject project area does not contain any areas under CDFW jurisdiction..

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 U.S. Fish and Wildlife Service. The project area lies within the range of several sensitive species including several that have been documented in the project vicinity (approximately 3 miles), listed in Table IV-1, provided at the end of this subchapter. As stated above, due to the environmental conditions within the project footprint—the project footprint consists of paved roadway and disturbed residential front yards, the project area is likely not suitable to support any of the special status wildlife species that have been documented in the project vicinity (within approximately 3 miles), including the state listed as threatened southern rubber boa, the federally delisted and state listed as endangered bald eagle, and the California SSC San Bernardino flying squirrel and California spotted owl. This is specifically due to the past disturbance within the project footprint as roadways and disturbances from residential development have rendered the project footprint, as well as the immediate surrounding area unsuitable for the sensitive species identified in the CNDDB search (Table IV-1, below). 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 any jurisdictional waters and no state or federal jurisdictional waters permitting will be required. Given that no other riparian habitat or sensitive natural communities have been identified within the project area, the proposed project would have a less than significant potential to have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

c. *No Impact* – According to the data gathered by Jennings Environmental in Appendix 2, no federally protected wetlands occur within the project footprint. Therefore, implementation of the proposed project will have no potential to impact state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. No mitigation is required.

d. *Less Than Significant With Mitigation Incorporated* – Based on the field survey of the project site, the project will not substantially interfere with the movement of any native resident or migratory species or with established native or migratory wildlife corridors, or impede the use of native nursery sites. The proposed project footprint traverses roadways and the surrounding residential neighborhoods, which limits any migration from nearby forested areas. Once the new water pipeline and laterals are installed belowground within existing roadways, with new services connecting to the water mains in Dumas Lane and Paradise Way or the new water main on Pan Springs Lane that will occur within 50 parcels covering an area of about 5.33 acres, no greater potential for the project footprint to support migration would occur. 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 footprint contains some trees, the project area may include locations that function as nesting locations for native birds nesting birds exists within and adjacent to the site. To avoid impacting nesting birds as required by the MBTA and California FGC, the following mitigation measure shall be implemented:

BIO-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 15).***

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

e. *Less Than Significant Impact* – Development of the proposed project would have a less than significant potential to conflict with any local policies or ordinances protecting biological resources. Impacts to biological resources have been addressed above under issues IV(a-d). Therefore, the potential for the project to conflict with local policies or ordinances pertaining to biological resources would be considered less than significant.

f. *No Impact* – Please refer to the discussion under response IV(a) above. The project has not been identified as being located within an area within a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, and implementation of the project will therefore not result in a significant impact to any such plans. No further mitigation is necessary.

Table IV-1
CNDDB POTENTIAL TO OCCUR FOR THE BIG BEAR LAKE, FAWNSKIN, BIG BEAR CITY, AND MOONRIDGE USGS 7.5 MINUTE QUADRANGLES

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Acanthoscyphus parishii var. cienegensis	Cienega Seca oxytheca	None, None	G4?T2, S2, 1B.3	Upper montane coniferous forest, pinyon and juniper woodland, Joshua tree woodland. Dry gravelly banks and granitic sand. 1920-2560 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Acanthoscyphus parishii var. goodmaniana	Cushenbury oxytheca	Endangered, None	G4?T1, S1, 1B.1	Pinyon and juniper woodland. On limestone talus and rocky slopes. 1400-2350 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Accipiter cooperii	Cooper's hawk	None, None	G5, S4, CDFW-WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Anniella stebbinsi	Southern California legless lizard	None, None	G3, S3, CDFW-SSC	Generally, south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally, in moist, loose soil. They prefer soils with a high moisture content.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Antennaria marginata	white-margined everlasting	None, None	G4G5, S1, 2B.3	Lower montane coniferous forest, upper montane coniferous forest. Dry woods. 2070-3355 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Aquila chrysaetos	golden eagle	None, None	G5, S3, CDFW-WL	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Arenaria lanuginosa var. saxosa	rock sandwort	None, None	G5T5, S2, 2B.3	Subalpine coniferous forest, upper montane coniferous forest. Mesic, sandy sites. 1920-2935 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Astragalus albens	Cushenbury milk-vetch	Endangered, None	G1, S1, 1B.1	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Sandy or stony flats, rocky hillsides, canyon washes, and fans, on carbonate or mixed granitic-calcareous debris. 1185-1950 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Astragalus bernardinus	San Bernardino milk-vetch	None, None	G3, S3, 1B.2	Joshua tree woodland, pinyon and juniper woodland. Granitic or carbonate substrates. 290-2290 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Astragalus lentiginosus var. sierrae	Big Bear Valley milk-vetch	None, None	G5T2, S2, 1B.2	Mojavean desert scrub, meadows and seeps, pinyon and juniper woodland, upper montane coniferous forest. Stony meadows and open pinewoods; sandy and gravelly soils in a variety of habitats. 1710-3230 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Astragalus leucolobus	Big Bear Valley woollypod	None, None	G2, S2, 1B.2	Lower montane coniferous forest, pebble plain, pinyon and juniper woodland, upper montane coniferous forest. Dry pine woods, gravelly knolls among sagebrush, or stony lake shores in the pine belt. 1460-2895 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Astragalus tidestromii	Tidestrom's milk-vetch	None, None	G4, S2, 2B.2	Mojavean desert scrub. Washes, in sandy or gravelly soil. On limestone. 765-1575 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Atriplex parishii	Parish's brittlescale	None, None	G1G2, S1, 1B.1	Vernal pools, chenopod scrub, playas. Usually on drying alkali flats with fine soils. 4-1420 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Berberis fremontii	Fremont barberry	None, None	G5, S3, 2B.3	Pinyon and juniper woodland, Joshua tree woodland. Rocky, sometimes granitic. 1140-1770 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Boechera dispar	pinyon rockcress	None, None	G3, S3, 2B.3	Joshua tree woodland, pinyon and juniper woodland, Mojavean desert scrub. Granitic, gravelly slopes and mesas. Often under desert shrubs which support it as it grows. 1005-2805 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Boechera lincolnensis	Lincoln rockcress	None, None	G4G5, S3, 2B.3	Chenopod scrub, Mojavean desert scrub. On limestone. 880-2410 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Boechera parishii	Parish's rockcress	None, None	G2, S2, 1B.2	Pebble plain, pinyon and juniper woodland, upper montane coniferous forest. Generally found on pebble plains on clay soil with quartzite cobbles; sometimes on limestone. 1825-2805 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Boechera shockleyi	Shockley's rockcress	None, None	G3, S2, 2B.2	Pinyon and juniper woodland. On ridges, rocky outcrops and openings on limestone or quartzite. 875-2515 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Bombus caliginosus	obscure bumble bee	None, None	G2G3, S1S2	Coastal areas from Santa Barbara County north to Washington state. Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Bombus crotchii	Crotch bumble bee	None, Candidate Endangered	G2, S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Bombus morrisoni	Morrison bumble bee	None, None	G3, S1S2	From the Sierra-Cascade ranges eastward across the intermountain west. Food plant genera include Cirsium, Cleome, Helianthus, Lupinus, Chrysothamnus, and Melilotus.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Botrychium crenulatum	scalloped moonwort	None, None	G4, S3, 2B.2	Bogs and fens, meadows and seeps, upper montane coniferous forest, lower montane coniferous forest, marshes and swamps. Moist meadows, freshwater marsh, and near creeks. 1185-3110 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Calochortus palmeri var. palmeri	Palmer's mariposa-lily	None, None	G3T2, S2, 1B.2	Meadows and seeps, chaparral, lower montane coniferous forest. Vernally moist places in yellow-pine forest, chaparral. 195-2530 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Calochortus plummerae	Plummer's mariposa-lily	None, None	G4, S4, 4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60-2500 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Calochortus striatus	alkali mariposa-lily	None, None	G3, S2S3, 1B.2	Chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps. Alkaline meadows and ephemeral washes. 70-1600m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Calyptridium pygmaeum	pygmy pussypaws	None, None	G1G2, S1S2, 1B.2	Upper montane coniferous forest, subalpine coniferous forest. Sandy or gravelly sites. 2145-3415 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Carex occidentalis	western sedge	None, None	G4, S3, 2B.3	Lower montane coniferous forest, meadows and seeps. 1645-2320 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Castilleja cinerea	ash-gray paintbrush	Threatened, None	G1G2, S1S2, 1B.2	Pebble plains, upper montane coniferous forest, Mojavean desert scrub, meadows and seeps, pinyon and juniper woodland. Endemic to the San Bernardino Mountains, in clay openings; often in meadow edges. 725-2860 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Castilleja lasiorhyncha	San Bernardino Mountains owl's-clover	None, None	G2?, S2?, 1B.2	Meadows and seeps, pebble plain, upper montane coniferous forest, chaparral, riparian woodland. Mesic to drying soils in open areas of stream and meadow margins or in vernally wet areas. 1140-2320 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Chaetodipus fallax pallidus	pallid San Diego pocket mouse	None, None	G5T3T4, S3S4	Desert border areas in eastern San Diego County in desert wash, desert scrub, desert succulent scrub, pinyon-juniper, etc. Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Charina umbratica	southern rubber boa	None, Threatened	G2G3, S2S3,	Found in a variety of montane forest habitats. Previously considered morphologically intermediate, recent (2022) genomic analysis clarifies individuals from Mt Pinos, Tehachapi Mts, and southern Sierra Nevada are southern rubber boa. Found in vicinity of streams or wet meadows; requires loose, moist soil for burrowing; seeks cover in rotting logs, rock outcrops, and under surface litter.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Claytonia peirsonii ssp. bernardinus	San Bernardino spring beauty	None, None	G2G3T1, S1, 1B.1	Pinyon and juniper woodland, upper montane coniferous forest. Rocky, talus slopes, carbonate, usually openings. 2360-2465 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Claytonia peirsonii ssp. californacis	Furnace spring beauty	None, None	G2G3T1, S1, 1B.1	Pinyon and juniper woodland, upper montane coniferous forest. Rocky, talus slopes, carbonate, usually openings. 2300 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Corynorhinus townsendii	Townsend's big-eared bat	None, None	G4, S2, CDFW-SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Cymopterus multinervatus	purple-nerve cymopterus	None, None	G4G5, S2, 2B.2	Mojavean desert scrub, pinyon and juniper woodland. Sandy or gravelly places. 765-2195 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Drymocallis cuneifolia var. cuneifolia	wedgeleaf woodbeauty	None, None	G2T1, S1, 1B.1	Upper montane coniferous forest, riparian scrub. Sometimes on carbonate. 1520-2220 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Dryopteris filix-mas	male fern	None, None	G5, S2, 2B.3	Upper montane coniferous forest. In granite crevices. 1855-3075 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Dudleya abramsii ssp. affinis	San Bernardino Mountains dudleya	None, None	G4T2, S2, 1B.2	Pebble (pavement) plain, upper montane coniferous forest, pinyon and juniper woodland. Outcrops, granite or quartzite, rarely limestone. 1200-2425 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Empidonax traillii extimus	southwestern willow flycatcher	Endangered, Endangered	G5T2, S1	Riparian woodlands in Southern California.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Ensatina eschscholtzii klauberi	large-blotched salamander	None, None	G5T2?, S3, CDFW-WL	Found in conifer and woodland associations. Found in leaf litter, decaying logs and shrubs in heavily forested areas.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Eremogone ursina	Big Bear Valley sandwort	Threatened, None	G1, S1, 1B.2	Pebble plain, pinyon and juniper woodland, meadows and seeps. Mesic, rocky sites. 1795-2895 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Erigeron parishii	Parish's daisy	Threatened, None	G2, S2, 1B.1	Mojavean desert scrub, pinyon and juniper woodland. Often on carbonate; limestone mountain slopes; often associated with drainages. Sometimes on grainite. 1050-2245 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Eriogonum evanidum	vanishing wild buckwheat	None, None	G2, S1, 1B.1	Chaparral, cismontane woodland, lower montane coniferous forest, pinyon and juniper woodland. Sandy sites. 975-2240 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Eriogonum kennedyi var. alpigenum	southern alpine buckwheat	None, None	G4T3, S3, 1B.3	Alpine boulder and rock fields, subalpine coniferous forest. Dry granitic gravel. 2500-3415 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Eriogonum kennedyi var. austromontanum	southern mountain buckwheat	Threatened, None	G4T2, S2, 1B.2	Pebble (pavement) plain, lower montane coniferous forest. Usually found in pebble plain habitats. 1765-3020 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Eriogonum microthecum var. johnstonii	Johnston's buckwheat	None, None	G5T2, S2, 1B.3	Subalpine coniferous forest, upper montane coniferous forest. Slopes and ridges on granite or limestone. 1795-2865 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Eriogonum microthecum var. lacus-ursi	Bear Lake buckwheat	None, None	G5T1, S1, 1B.1	Lower montane coniferous forest, Great Basin scrub. Clay outcrops. 2000-2100 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Eriogonum ovalifolium var. vineum	Cushenbury buckwheat	Endangered, None	G5T1, S1, 1B.1	Mojavean desert scrub, pinyon and juniper woodland, Joshua tree woodland. Limestone mountain slopes. Dry, usually rocky places. 1430-2440 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Erythranthe exigua	San Bernardino Mountains monkeyflower	None, None	G2, S2, 1B.2	Meadows and seeps, pebble plains, upper montane coniferous forest. Seeps and sandy sometimes disturbed soil in moist drainages of annual streams; clay soils. 2060-2630 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Erythranthe purpurea	little purple monkeyflower	None, None	G2, S2, 1B.2	Meadows and seeps, pebble plain, upper montane coniferous forest. Dry clay or gravelly soils under Jeffrey pines, along annual streams or vernal springs and seeps. 2045-2290 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Euchloe hyantis andrewsi	Andrew's marble butterfly	None, None	G4G5T1, S1	Inhabits yellow pine forest near Lake Arrowhead and Big Bear Lake, San Bernardino Mtns, San Bernardino Co, 5000-6000 ft. Hostplants are Streptanthus bernardinus and Arabis holboellii var pinetorum; larval foodplant is Descurainia richardsonii.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Euphydryas editha quino	quino checkerspot butterfly	Endangered, None	G5T1T2, S1S2	Sunny openings within chaparral and coastal sage shrublands in parts of Riverside and San Diego counties. Hills and mesas near the coast. Need high densities of food plants Plantago erecta, P. insularis, and Orthocarpus purpurescens.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	Endangered, Endangered	G5T1, S1, CDFW-FP	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small Southern California streams. Cool (<24 C), clear water with abundant vegetation.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Gentiana fremontii	Fremont's gentian	None, None	G4, S2, 2B.3	Meadows and seeps, upper montane coniferous forest. Wet mountain meadows. 2400-2700 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Gilia leptantha ssp. leptantha	San Bernardino gilia	None, None	G4T2, S2, 1B.3	Lower montane coniferous forest. Sandy or gravelly sites. 1520-2595 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Glaucomys oregonensis californicus	San Bernardino flying squirrel	None, None	G5T1T2, S1S2, CDFW-SSC	Known from black oak or white fir dominated woodlands between 5200 - 8500 ft in the San Bernardino and San Jacinto ranges. May be extirpated from San Jacinto range. Needs cavities in trees/snags for nests and cover. Needs nearby water.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Haliaeetus leucocephalus	bald eagle	Delisted, Endangered	G5, S3, CDFW-FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Heuchera parishii	Parish's alumroot	None, None	G3, S3, 1B.3	Lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest, alpine boulder and rock field. Rocky places. Sometimes on carbonate. 1340-3505 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Horkelia wilderae	Barton Flats horkelia	None, None	G1, S1, 1B.1	Lower montane coniferous forest, upper montane coniferous forest, chaparral. On rocky, north aspects in openings that hold persistent snowdrifts. 1980-2895 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Hulsea vestita ssp. pygmaea	pygmy hulsea	None, None	G5T1, S1, 1B.3	Alpine boulder and rock field, subalpine coniferous forest. Gravelly sites; on granite. 2860-3502 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Hydroporus simplex	simple hydroporus diving beetle	None, None	G1?, S1S3	Known from aquatic habitats in Tuolumne and San Bernardino counties.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Icteria virens	yellow-breasted chat	None, None	G5, S3, CDFW-SSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Ivesia argyrocoma var. argyrocoma	silver-haired ivesia	None, None	G2T2, S2, 1B.2	Meadows and seeps, pebble plains, upper montane coniferous forest. In pebble plains and meadows with other rare plants. 1490-2960 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Lewisia brachycalyx	short-sepaled lewisia	None, None	G4, S2, 2B.2	Lower montane coniferous forest, meadows and seeps. Dry to moist meadows in rich loam. 1400-2290 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Lilium parryi	lemon lily	None, None	G3, S3, 1B.2	Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest. Wet, mountainous terrain; generally in forested areas; on shady edges of streams, in open boggy meadows and seeps. 625-2930 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Linanthus killipii	Baldwin Lake linanthus	None, None	G1, S1, 1B.2	Alkaline meadows, pebble plain, pinyon and juniper woodland, Joshua tree woodland. Usually on pebble plains with other rare species. 1645-2645 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Malaxis monophyllos var. brachypoda	white bog adder's-mouth	None, None	G5T4T5, S1, 2B.1	Meadows and seeps, bogs and fens, upper montane coniferous forest. Hillside bogs and mesic meadows. 2375-2560 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Myotis evotis	long-eared myotis	None, None	G5, S3	Found in all brush, woodland and forest habitats from sea level to about 9000 ft. Prefers coniferous woodlands and forests. Nursery colonies in buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Myotis thysanodes	fringed myotis	None, None	G4, S3	In a wide variety of habitats, optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer. Uses caves, mines, buildings or crevices for maternity colonies and roosts.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Myotis volans	long-legged myotis	None, None	G4G5, S3	Most common in woodland and forest habitats above 4000 ft. Trees are important day roosts; caves and mines are night roosts. Nursery colonies usually under bark or in hollow trees, but occasionally in crevices or buildings.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Myotis yumanensis	Yuma myotis	None, None	G5, S4	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Navarretia peninsularis	Baja navarretia	None, None	G3, S2, 1B.2	Lower montane coniferous forest, chaparral, meadows and seeps, pinyon and juniper woodland. Wet areas in open forest. 1150-2365 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Neotamias speciosus speciosus	lodgepole chipmunk	None, None	G4T3T4, S2	Summits of isolated Piute, San Bernardino, and San Jacinto mountains. Usually found in open-canopy forests. Habitat is usually lodgepole pine forests in the San Bernardino Mts and chinquapin slopes in the San Jacinto Mts.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	Endangered, Candidate Endangered	G5T1Q, S1	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Oreonana vestita	woolly mountain-parsley	None, None	G3, S3, 1B.3	Subalpine coniferous forest, upper montane coniferous forest, lower montane coniferous forest. High ridges; on scree, talus, or gravel. 800-3370 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Oxytropis oreophila var. oreophila	rock-loving oxytrope	None, None	G5T4T5, S2, 2B.3	Alpine boulder and rock field, subalpine coniferous forest. Gravelly or rocky sites. 2615-3505 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Packera bernardina	San Bernardino ragwort	None, None	G2, S2, 1B.2	Meadows and seeps, pebble plains, upper montane coniferous forest. Mesic, sometimes alkaline meadows, and dry rocky slopes. 1615-2470 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Pebble Plains	Pebble Plains	None, None	G1, S1.1	Pavement plain	This habitat type is **absent** from the Project site.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Perideridia parishii ssp. parishii	Parish's yampah	None, None	G4T3T4, S2, 2B.2	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest. Damp meadows or along streambeds-prefers an open pine canopy. 1470-2530 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Phlox dolichantha	Big Bear Valley phlox	None, None	G2, S2, 1B.2	Pebble plains, upper montane coniferous forest. Sloping hillsides, in shade under pines and Quercus kelloggii, with heavy pine litter; also in openings. 1980-2805 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Phrynosoma blainvillii	coast horned lizard	None, None	G3G4, S4, CDFW-SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Physaria kingii ssp. bernardina	San Bernardino Mountains bladderpod	Endangered, None	G5T1, S1, 1B.1	Pinyon and juniper woodland, lower montane coniferous forest, subalpine coniferous forest. Dry sandy to rocky carbonate soils. 1980-2590 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Piranga rubra	summer tanager	None, None	G5, S1, CDFW-SSC	Summer resident of desert riparian along lower Colorado River, and locally elsewhere in California deserts. Requires cottonwood-willow riparian for nesting and foraging; prefers older, dense stands along streams.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Poa atropurpurea	San Bernardino blue grass	Endangered, None	G2, S2, 1B.2	Meadows and seeps. Mesic meadows of open pine forests and grassy slopes, loamy alluvial to sandy loam soil. 1255-2655 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Poliomintha incana	frosted mint	None, None	G5, SH, 2A	Lower montane coniferous forest. In boggy soil. 1600-1700 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Psychomastax deserticola	desert monkey grasshopper	None, None	G1G2, S1	Occurs in very arid environments in the vicinity of the San Bernardino Mtns. Known to occur on chamise (Adenostoma fasciculatum).	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Pyrrocoma uniflora var. gossypina	Bear Valley pyrrocoma	None, None	G5T1, S1, 1B.2	Pebble plain, meadows and seeps. Meadows, meadow edges, and along streams in or near pebble plain habitat. 2040-2280 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Rana muscosa	southern mountain yellow-legged frog	Endangered, Endangered	G1, S1, CDFW-WL	Disjunct populations known from southern Sierras (northern DPS) and San Gabriel, San Bernardino, and San Jacinto Mtns (southern DPS). Found at 1,000 to 12,000 ft in lakes and creeks that stem from springs and snowmelt. May overwinter under frozen lakes. Often encountered within a few feet of water. Tadpoles may require 2 - 4 yrs to complete their aquatic development.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Rosa woodsii var. glabrata	Cushenbury rose	None, None	G5T1, S1, 1B.1	Mojavean desert scrub. Springs. 1095-1220 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Saltugilia latimeri	Latimer's woodland-gilia	None, None	G3, S3, 1B.2	Chaparral, Mojavean desert scrub, pinyon and juniper woodland. Rocky or sandy substrate; sometimes in washes, sometimes limestone. 120-2200 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Sidalcea hickmanii ssp. parishii	Parish's checkerbloom	None, Rare	G3T1, S1, 1B.2	Chaparral, cismontane woodland, lower montane coniferous forest. Disturbed burned or cleared areas on dry, rocky slopes, in fuel breaks and fire roads along the mountain summits. 1095-2135 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Sidalcea malviflora ssp. dolosa	Bear Valley checkerbloom	None, None	G5T2, S2, 1B.2	Meadows and seeps, riparian woodland, lower montane coniferous forest, upper montane coniferous forest. Known from wet areas within forested habitats. Affected by hydrological changes. 1575-2590 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Sidalcea pedata	bird-foot checkerbloom	Endangered, Endangered	G1, S1, 1B.1	Meadows and seeps, pebble plains. Vernally mesic sites in meadows or pebble plains. 1840-2305 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Sisyrinchium longipes	timberland blue-eyed grass	None, None	G3, S1, 2B.2	Meadows and seeps. Mesic areas in meadows; seeps. 2060 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Southern California Threespine Stickleback Stream	Southern California Threespine Stickleback Stream	None, None	GNR, SNR,	Southern California Threespine Stickleback Stream	This habitat type is **absent** from the Project site.
Sphenopholis obtusata	prairie wedge grass	None, None	G5, S2, 2B.2	Cismontane woodland, meadows and seeps. Open moist sites, along rivers and springs, alkaline desert seeps. 15-2625 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Streptanthus bernardinus	Laguna Mountains jewelflower	None, None	G3G4, S3S4, 4.3	Chaparral, lower montane coniferous forest. Clay or decomposed granite soils; sometimes in disturbed areas such as streamsides or roadcuts. 1440-2500 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Streptanthus campestris	southern jewelflower	None, None	G3, S3, 1B.3	Chaparral, lower montane coniferous forest, pinyon and juniper woodland. Open, rocky areas. 605-2590 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Streptanthus juneae	June's jewelflower	None, None	G2, S2, 1B.2	Lower montane coniferous forest, chaparral (montane). Openings. 2155-2370 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Symphyotrichum defoliatum	San Bernardino aster	None, None	G2, S2, 1B.2	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. 3-2045 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Taraxacum californicum	California dandelion	Endangered, None	G1G2, S1S2, 1B.1	Meadows and seeps. Mesic meadows, usually free of taller vegetation. 1620-2590 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Thamnophis hammondii	two-striped gartersnake	None, None	G4, S3S4, CDFW-SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Thelypodium stenopetalum	slender-petaled thelypodium	Endangered, Endangered	G1, S1, 1B.1	Meadows and seeps. Seasonally moist alkaline clay soils; associated with seeps and springs in the pebble plains. 2045-2240 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.
Viola pinetorum ssp. grisea	grey-leaved violet	None, None	G4G5T3, S3, 1B.2	Subalpine coniferous forest, upper montane coniferous forest, meadows and seeps. Dry mountain peaks and slopes. 1580-3700 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project site.

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

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

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

Global Rankings (Species or Natural Community Level):

G1 = Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2 = Imperiled – At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
G3 = Vulnerable – At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
G4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5 = Secure – Common; widespread and abundant.
? = Uncertainty in the exact status of an element (could move up or down one direction from current rank)

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur

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

State Ranking:

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

California Rare Plant Rankings (CNPS List):

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

Threat Ranks:

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

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
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?	☐	☐	☒	☐

SUBSTANTIATION: The information utilized in this section of the Initial Study was obtained from the following technical study: "*Historical/Archaeological Resources Survey Report Big Bear City Community Services District Cinderella And Pan Springs Pipeline Replacement Project, Big Bear City Area, San Bernardino County, California*" prepared by CRM TECH dated March 17, 2023 (Appendix 3).

Summary of the Finding

The purpose of the study is to provide BBCCSD 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 conducted a historical/archaeological resources records search, initiated a Native American Sacred Lands File search, pursued historical background research, and carried out a systematic field survey.

As a result of these research procedures, four previously recorded historical/archaeological sites were identified as lying partially within or adjacent to the project area. One of these, a historic-period structural foundation designated Site 36-014403 (CA-SBR-12916H), is no longer extant today. Two other sites, 36-024054 (CA-SBR-15239H) and 36-024552 (CA-SBR-15593H), represent two of the streets within or adjacent to the project area, namely Mount Doble Drive and Sequoia Drive. As minor roadways of standard construction and utilitarian character, and with their historic integrity compromised by frequent upgrading and maintenance in the modern era, neither of them appears to meet CEQA definition of a "historical resource." Similarly, the other streets of historical origin in the project area do not demonstrate the potential to meet that definition either, and none of them require further consideration under CEQA provisions.

The fourth and most notable site within or adjacent to the project area is 36-000935 (CA-SBR-935/H), a large prehistoric (i.e. Native American) site likely associated with the Serrano village of Kayah-pia-t (or Kajavpeat), which was previously found to be eligible for listing in the National Register of Historic Places. During this study, no features or artifacts of prehistoric origin were observed at the portion of the site in and near the project area. Since most of the 137-acre site is located well outside the project area, a comprehensive evaluation or re-evaluation of the site as a potential "historical resource" is beyond the scope of this study. However, as the significance of 36-000935 as a whole is almost beyond question, the primary concern in CEQA compliance regarding this site becomes whether any cultural remains associated with it may be present within the horizontal and vertical extents of the project area.

The bulk of the project area is located within the rights-of-way for various paved roads, where the proposed project seeks to replace existing underground water mains. Given the extent of past ground disturbance at these locations from road construction and underground utility work, the pipeline replacement is expected to occur entirely within previously disturbed soil, or essentially artificial fill. Outside the public rights-of-way, the laterals to be replaced on private properties are also situated in previously disturbed setting. As a result, these project activities are unlikely to encounter any intact cultural deposits associated with 36-000935.

In the portions of the project area where new laterals will be installed on private properties to replace existing laterals elsewhere, in comparison, the ground surface appears to be less disturbed. In the absence of sufficient data, the archaeological sensitivity of subsurface soil at these locations is currently unknown. While the excavation of shovel test pits and/or mechanical trenches, commonly known as Extended Phase I procedures, is often used to assess the sensitivity level in similar conditions, that approach has been determined to be less feasible for this project due to the number of property owners involved. Instead, archaeological monitoring has been determined to be a more practical alternative.

Meanwhile, the State of California Native American Heritage Commission reported the presence of unspecified Native American cultural resource(s) in the project vicinity, which may be related to Site 36-000935 as well, and referred further inquiry to the Yuhaaviatam of San Manuel Nation and other local tribal groups. According to CEQA guidelines, the identification of potential "tribal cultural resources," as defined by PRC §21074, is beyond the scope of this study and needs to be addressed through government-to-government consultations between the BBCCSD and the pertinent Native American groups, especially the Yuhaaviatam of San Manuel Nation, pursuant to AB 52. Mitigation is required and presented in the analysis below to ensure that cultural resources are protected.

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 summary provided above, as well as the information contained in Appendix 3, four historical/archaeological sites were previously recorded as lying partially within or adjacent to the project area. One of these, a historic-period structural foundation designated Site 36-014403, is no longer extant today. Two other sites, 36-024054 and 36-024552, represent two of the streets within or adjacent to the project area, namely Mount Doble Drive and Sequoia Drive. As minor roadways of standard construction and utilitarian character, neither of them exhibits any special quality in design, engineering, or aesthetics, nor are they known to be closely associated with any persons or events of recognized historic significance.

Furthermore, both roads are working components of the modern transportation infrastructure, subject to frequent upgrading and maintenance, and consequently their appearance today is essentially indistinguishable from similar features of modern origin. As such, they do not appear to meet any of the criteria, nor the historic integrity requirement, for listing in the California Register of Historical Resources. Similarly, the other streets in the project area do not demonstrate the potential for California Register eligibility either, and none of them require further consideration in this study.

Site 36-000935, an expansive prehistoric archaeological site likely associated with the Serrano village of Kayah-pia-t (or Kajavpeat), was previously found to be eligible for listing in the National Register of Historic Places (McKenna 2016:3), for which the criteria are effectually the same as those for the California Register. Since most of the 137-acre site is located well outside the project area, and since no features or artifacts of the site were found within or adjacent to the project boundaries, a comprehensive evaluation or re-evaluation of the site for California Register eligibility is beyond the scope of this study. However, as the significance of 36-000935 as a whole is almost beyond question, the primary concern in CEQA compliance regarding this site becomes whether any cultural remains associated with it may be present within the horizontal and vertical extents of the project area.

The bulk of the project area is located within the rights-of-way for various paved roads, where the proposed project seeks to replace existing underground water mains. Given the extent of past ground disturbance at these locations from road construction and underground utility work, the pipeline replacement is expected to occur entirely within previously disturbed soil, or essentially artificial fill.

Outside the public rights-of-way, the laterals to be replaced on private properties are also situated in previously disturbed setting. As a result, these project activities are unlikely to encounter any intact cultural deposits associated with 36-000935.

In the portions of the project area where new laterals will be installed on private properties to replace existing laterals elsewhere, in comparison, the ground surface appears to be less disturbed. In the absence of sufficient data, the archaeological sensitivity of subsurface soil at these locations is currently unknown. While the excavation of shovel test pits and/or mechanical trenches, commonly known as Extended Phase I procedures, is often used to assess the sensitivity level in similar conditions, that approach appears less feasible for this project due to the number of property owners involved. Instead, archaeological monitoring appears to be a more practical alternative.

Thus, the following mitigation measure shall be implemented to ensure that the archaeological monitoring is undertaken:

CUL-1 ***Archaeological Monitoring Protocol***

Archaeological monitoring shall be required, at a minimum, during trenching operations for the installation of new service laterals across relatively undisturbed land. The monitoring program shall be coordinated with Yuhaaviatam of San Manuel Nation, per Mitigation Measure CUL-2, TCR-1 and TCR-2.

If any prehistoric cultural remains associated with Site 36-000935 are discovered during the monitoring program, additional excavations using standard Phase II archaeological testing procedures shall be required to evaluate the significance of the finds.

No further cultural resources investigations will be necessary for the pipeline replacement operations, including the water mains in public rights-of-way and the laterals on private land where the replacement will be installed along the existing pipeline/lateral alignment.

Final determinations on the proposed project's potential to impact "historical resources" will be made upon the completion of the monitoring program and AB 52 consultations between the BBCCSD and the local Native American groups regarding potential "tribal cultural resource(s)."

Additionally, as part of the AB 52 consultation process, BBCCSD received a response from the Yuhaaviatam of San Manuel Nation (YSMN) requesting the following additional archaeological monitoring and testing as mitigation in addition to mitigation measures **TCR-1** and **TCR-2** identified under Section XVIII, Tribal Cultural Resources below:

CUL-2 ***Tribal Archaeological Monitoring and Testing***

Due to the heightened cultural sensitivity of the proposed project area, an archaeological monitor with at least 3 years of regional experience in archaeology shall be present for all ground-disturbing activities that occur within the proposed project area (which includes, but is not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation [benches, signage, boulders, walls, seat walls, fountains, etc.], and archaeological work). A sufficient number of archaeological monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. A Monitoring and Treatment Plan that is reflective of the project mitigation ("Cultural Resources" and "Tribal Cultural

Resources") shall be completed by the archaeologist and submitted to the Lead Agency for dissemination to the Yuhaaviatam of San Manuel Nation (YSMN). Once all parties review and approve the plan, it shall be adopted by the Lead Agency – the plan must be adopted prior to permitting for the project. Any and all findings will be subject to the protocol detailed within the Monitoring and Treatment Plan.

With the above mitigation measures incorporated, as well as MMs **TCR-1** and **TCR-2**, 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.

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

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 stated in Section XIII, Noise, the construction of the proposed Pipeline Replacement Project would require implementation of a mitigation measure to minimize noise from construction equipment (refer to MM **NOI-4**). This mitigation measure also applies to energy resources as they require equipment not in use for 5 minutes to be turned off. Additionally, MM **AQ-1** would ensure that electrical construction equipment is utilized where available. This 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.

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 (refer to MM **UTIL-1**). 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.

BBCCSD's water service area is currently, and will continue to be supplied power by Bear Valley Electric Service (BVES) (a division of Golden State Water Company) through the power distribution system at existing BBCCSD pump stations. BVES will be able to supply sufficient electricity, as the proposed use would likely utilize no additional energy beyond that which is presently required to service the customers within the project footprint and overall project area. In fact, as stated under Air Quality, above, given that the pipelines will be upsized, it is likely that the pipelines will require less energy to operate. The project will not require natural gas to operate. Energy use by BBCCSD in support of the proposed project and the District's water distribution system would require 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 the Building Energy Efficiency Standards (CBSC) would ensure that the building energy use associated with the proposed project would not be wasteful or unnecessary.
- Compliance with diversion of construction and demolition materials from landfills.
- Compliance with AQMD Mandatory use of low-pollutant emitting finish materials.
- Compliance with AQMD Rules 431.1 and 431.2 to reduce the release of undesirable emissions.
- Compliance with diesel exhaust emissions from diesel vehicles and off-road diesel vehicle/equipment operations.

Compliance with these regulatory requirements for operational energy use and construction energy use would not be wasteful or unnecessary use of energy. Under both the operational and construction scenarios for the proposed project, with implementation of MMs **AQ-1**, **AQ-2**, **NOI-1** and **UTIL-1**, the proposed project will not result in wasteful, inefficient, or unnecessary energy consumption that could result in a significant adverse impact to energy issues based on compliance with the referenced laws, regulations and guidelines.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VII. GEOLOGY AND SOILS: Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
(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 onsite 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 waters are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

SUBSTANTIATION:

a. ii. Ground Rupture

Less Than Significant Impact – The project site is located within the community of Big Bear City within the Big Bear Valley in the County of San Bernardino to the east of Big Bear Lake. California as a whole is a seismically active state, though the proposed project footprint is not located on a fault or within a fault zone. According to the San Bernardino Countywide Plan Earthquake Fault Zone Map (Figure VII-1), the proposed project is not located within a delineated Alquist-Priolo fault zone or other active fault zone. The project site is located at a distance from several fault zones, as delineated on Figure VII-1; however, given that the project footprint is located greater than 6 miles from the nearest 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, and that underground pipelines are not typically susceptible to severe damage from fault

rupture, the risk for ground rupture within the project footprint is low; therefore, it is not likely that proposed pipeline would be subject to 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 pipeline 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, as shown on Figure VII-1. 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. In the event of an earthquake in Southern California, some seismic ground shaking would likely be experienced in the project area sometime during the operational life of the proposed pipeline alignments. Underground pipelines are not typically susceptible to severe damage from seismic ground shaking, and furthermore, are subject to industry standards that will minimize the potential risk of damage or pipeline rupture. The primary and secondary effects of ground shaking would be damage to the pipeline alignment. The structural elements of the proposed pipeline alignment would be required to comply with the CBC local codes while applying standard engineering practice and the appropriate standard of care required for projects in the San Bernardino County area. The California Professional Engineers Act (Building and Professions Code Sections 6700-6799) and the Codes of Professional Conduct, as administered by the California Board of Professional Engineers and Land Surveyors, provide the basis for regulating and enforcing engineering practice in California. In addition, the pipelines would be constructed according to industry standards using American Water Works Association (AWWA) guidelines. Compliance with these construction and building safety design standards would reduce potential impacts associated with ground shaking to a level of less than significant.

iii. Seismic-Related Ground Failure Including Liquefaction

Less Than Significant Impact – The three factors determining whether a site is likely to be subject to liquefaction include seismic shaking, type and consistency of earth materials, and groundwater level. Liquefaction of saturated cohesionless soils can be caused by strong ground motion resulting from earthquakes. Soil liquefaction is a phenomenon in which saturated, cohesionless soils lose their strength due to the build-up of excess pore water pressure during cyclic loading such as that induced by earthquakes. According to the recently updated Liquefaction and Landslide Map prepared for the San Bernardino Countywide Plan (Figure VII-2), the proposed project is located within an area suspected to be susceptible to liquefaction. As with other ground failure potential, pipelines are not susceptible to significant adverse effects associated with liquefaction. Damage to pipelines can occur, but can be repaired and placed back into operation with no loss of human life. Therefore, potential impacts associated with seismic-related ground failure would be considered less than significant. No mitigation is required.

iv. Landslides

Less Than Significant Impact – The proposed project footprint is located in the Big Bear Valley, which is situated in a valley within and surrounded by the San Bernardino Mountains. The project footprint mildly slopes from west to east, and contains roadways, residences, trees and other vegetation commensurate with the Mountain Region setting. According to the recently updated Liquefaction and Landslide Map prepared for the San Bernardino Countywide Plan (Figure VII-2), the project site consists of land that has been not identified as being susceptible to landslides. The proposed project footprint is therefore assumed to be located within an area of negligible susceptibility to landslides. Furthermore, pipelines are not typically susceptible to significant adverse effects associated with landslides. Damage to pipelines can occur, but can be repaired and placed back into operation with

no loss of human life. Therefore, no significant impacts under this issue are anticipated, and no mitigation is required.

b. *Less Than Significant With Mitigation Incorporated* – The majority of the project area has been graded, compacted, and paved with asphalt because the proposed pipeline installation project will occur mostly within existing roadways. The proposed pipeline replacement project will result in land disturbance in the areas that will require construction within roadways and adjacent parcels receiving new connections as a result of the proposed project to accommodate the trenching required to install the water pipeline. Adequate drainage facilities exist to accommodate existing drainage flows, and no change in drainage will result once the roadways are repaved, the ground is recompacted and returned to its original condition, and the pipelines are in place belowground.

Construction activities for proposed conveyance and ancillary facility projects such as excavation and grading could result in soil erosion during rain or high wind events. As stated above, development of the proposed wells would result in construction activities that would need to comply with SCAQMD Rule 403 for dust control to ensure the prevention and/or management of wind erosion and subsequent topsoil loss. Compliance with SCAQMD Rule 403 would ensure that construction activities that generate wind-induced soil erosion are below significance thresholds.

This project will result in the disturbance of more than one acre of land and to prevent erosion associated with runoff from the proposed project, will require filing a Notice of Intent (NOI), securing a National Pollutant Discharge Elimination System (NPDES), general construction stormwater discharge permit, and preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will include but not be limited to the following measures to mitigate potential impacts associated with erosion and surface water quality degradation during construction:

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 Excavated areas shall be backfilled and compacted such that erosion does not occur. Paved areas disturbed by this project shall be repaved in such a manner that roadways and other disturbed areas are returned to the pre-project conditions or better.

GEO-3 All exposed, disturbed soil (trenches, stored backfill, etc.) will 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 pipelines are being installed.

GEO-4 The length of trench which can be left open at any given time will be limited to that needed to reasonably perform construction activities. This will serve to reduce the amount of backfill stored onsite at any given time.

Compliance with the NPDES, required SWPPP, and identified BMPs would ensure soil erosion and loss of topsoil impacts would be reduced to a level of less than significant. With implementation of the above mitigation measures, any impacts are considered less than significant. No further mitigation is necessary.

c. *Less Than Significant Impact* – As stated under issues VII(a[iii]) and VII(a[iv]) above, the project footprint traverses through areas that are susceptible to liquefaction but not to landslides. This indicates that the project footprint and general area may be underlain by unstable soils, or be affected by subsidence, lateral spreading, or collapse. However, the proposed project consists of the

installation of pipelines within existing roadways and within the parcels receiving new connections as a result of the proposed project, and pipelines are generally not susceptible to significant adverse effects associated with unstable soils. As stated under issues VII(a[iii]) above, damage to pipelines can occur, but can be repaired and placed back into operation with no loss of human life. According to the County's General Plan, land subsidence in the Mountain Region is known to occur in basins containing aquifer systems that at least in part consist of fine-grained sediments and that have undergone extensive groundwater development. Generally, subsidence is not considered a significant geologic hazard in the Mountain Region as it is underlain predominantly by bedrock, which is not subject to movement like fine-grained sediments. Furthermore, according to the County's General Plan, collapsible soils are less likely in the Mountain Region, which typically receives more precipitation than other areas of the County. However, the California Geological Survey has detected small amounts of land deformation (uplift and subsidence) in the area near Big Bear Lake and Sugarloaf. The proposed project is not located in the areas identified by the County as being susceptible 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— water pipelines—is such that expansive soils would not cause substantial risks to life or property. Based on the above, the proposed project would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

e. *No Impact* – The proposed project proponent is BBCCSD, and the overall purpose of the proposed Pipeline Replacement Project is to replace pipeline that is no longer efficient or effective, due to age or because they are undersized, improving water quality and fire flow capabilities. No septic systems or alternative wastewater disposal systems are proposed as part of the project. Thus, no impacts related to the use of septic tanks or alternative water disposal systems will occur.

f. *Less Than Significant With Mitigation Incorporated* – The San Bernardino County General Plan for the project area indicates that the it is located in a low-to-high sensitivity area for paleontological resources (Figure VII-3). Previously unknown and unrecorded paleontological resources may be unearthed during excavation and grading activities of the proposed project. If previously unknown potentially unique paleontological resources are uncovered during excavation or construction, significant impacts could occur. The vast majority of the pipeline alignments are contained within the rights-of-way of existing public roadways, where typically the top five to six feet of soils are practically engineered fill that has been greatly disturbed by road construction and the installation of subsurface utility lines. Because the project area has been identified as being located within a low-to-high sensitivity area for paleontological resources, and that these resources are located beneath the surface and can only be discovered as a result of ground disturbance activities, the following contingency mitigation measure shall be implemented:

GEO-5 Should any paleontological resources be accidentally encountered during construction of these facilities, 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 BBCCSD'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.

With incorporation of this contingency mitigation, the potential for impact to paleontological resources will be reduces to a less than significant level. No additional mitigation is required.

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

SUBSTANTIATION: The following information utilized in this section of the Initial Study was obtained from the following technical study: *Air Quality and GHG Impact Analyses, WSC-096, Big Bear City Community Services District Cinderella and Pan Springs Pipeline Replacement Project, Big Bear (San Bernardino), California* dated December 29, 2022 prepared by Giroux & Associates. This technical study is provided as Appendix 1 to this document.

a&b. *Less Than Significant Impact* – California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. GHG statues and executive orders (EO) include AB 32, SB 1368, EO S-03-05, EO S-20-06 and EO S-01-07. AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California's reputation as a "national and international leader on energy conservation and environmental stewardship." A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions, are the short time frames within which it must be implemented. Major components of the AB 32 include:

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

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Maximum GHG reductions are expected to derive from increased vehicle fuel efficiency, from greater use of renewable energy and from increased structural energy efficiency. Additionally, through the California Climate Action Registry (CCAR now called the Climate Action Reserve), general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized into direct sources (i.e., company owned) and indirect sources (i.e., not company owned).

Thresholds of Significance

In response to the requirements of SB 97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March 2010. The CEQA Appendix G guidelines were modified to include GHG as a required analysis element. A project would have a potentially significant impact if it:

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

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

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

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

On December 5, 2008 the SCAQMD Governing Board adopted an Interim quantitative GHG Significance Threshold for industrial projects where the SCAQMD is the lead agency (e.g., stationary source permit projects, rules, plans, etc.) of 10,000 Metric Tons (MT) CO_2 equivalent/year. In September 2010, the SCAQMD CEQA Significance Thresholds GHG Working Group released revisions which recommended a threshold of 3,000 MT CO_2e for all land use projects. This 3,000 MT/year recommendation has been used as a guideline for this analysis. In the absence of an adopted numerical threshold of significance, project related GHG emissions in excess of the guideline level are presumed to trigger a requirement for enhanced GHG reduction at the project level.

Construction Activity GHG Emissions

The project is assumed to require less than one year for construction. During project construction, the CalEEMod2016.3.2 computer model predicts that the construction activities will generate the annual CO_2 emissions identified in Table VIII-1.

Table VIII-1
CONSTRUCTION EMISSIONS (Metric Tons CO_2e)

	CO_2e
Year 2023	101.8
Amortized	**3.4**

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

Operational GHG Emissions

The operation of the pipelines will not require a new source of energy to operate. This is because the new water pipelines will replace existing connections within the Cinderella and Pan Springs area of BBCCSD's service area. It is anticipated that existing conveyance systems (lift stations and/or other appurtenances) will require some additional energy to accommodate the water conveyed by the new pipelines, but this increase in energy demand can be accommodated by existing systems. No additional energy demand is anticipated because the proposed water would operate solely by gravity and will continue via gravity to the treatment plant. Therefore, no significant operational GHG emissions are anticipated to be generated by the proposed project.

Consistency with GHG Plans, Programs, and Policies

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

Projects that demonstrate consistency with the strategies, actions, and emission reduction targets contained in the Reduction Plan would have a less than significant impact on climate change. The Project consists of installation of 4,400 linear feet of water distribution pipeline. There are no actions that relate to such a use. Construction will be brief and there are no operational impacts. The Project results in GHG emissions significantly below the recommended SCAQMD 3,000-ton threshold. Therefore, the Project would not conflict with any applicable plan, policy, or regulation to reduce GHG emissions.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
IX. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
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?	☐	☐	☒	☐

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. 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 SWPPP prepared for the project and it can reduce such a 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 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.

Additionally, roadways adjacent to and within the project footprint are public roads that can be used by any common carrier to or from the local area. For such transporters, the existing regulatory mandates ensure that the hazardous materials and any hazardous wastes transported to and from the project site will be properly managed. These regulations are codified in Titles 8, 22, and 26 of the California Code of Regulations. For example, maintenance trucks for construction equipment must transport their hazardous materials in appropriate containers, such as tanks or other storage devices. In addition, the haulers must comply with all existing applicable federal, state and local laws and regulations regarding transport, use, disposal, handling and storage of hazardous wastes and material, including storage, collection and disposal. Compliance with these laws and regulations related to transportation will minimize potential exposure of humans or the environment to significant hazards from transport of such materials and wastes.

The proposed project will install 4,400 LF of new water pipeline. The proposed pipeline will be installed underground within existing roadways and within the parcels receiving new connections as a result of the proposed project; once constructed, the roadways will be repaved the ground will be recompacted and to their original condition. Thus, once constructed, the pipelines will not require or result in transport, use, or disposal of hazardous materials. Therefore, with implementation of the identified mitigation measure, impacts are considered less than significant.

c. *Less Than Significant Impact* – The proposed project footprint is not located in close proximity to any schools, as such, all schools are located more than one quarter mile from the project footprint. The nearest schools are Big Bear High School and Baldwin Lane Elementary, which are located in the community of Sugarloaf to the south/southeast of the project footprint. As previously stated, the project will involve the use of petroleum products and will generate exhaust emissions associated with construction activities, but no significant impacts thereof have been identified, as stated under the Air Quality Section of this document. The handling of all hazardous or potentially hazardous materials during construction would comply with all applicable federal, state, and local agencies and regulations pertaining to the handling and use of hazardous materials. Adherence to these policies and regulations, as well as the implementation of the above mitigation measures will ensure that 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 during either construction, and during operation no potential exists to handle such hazardous materials as the proposed water pipelines are located belowground. Any impacts under this issue are considered less than significant, and no mitigation is required.

d. *Less Than Significant Impact* – The proposed project footprint is not located in an area that has been included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result it will not create a significant hazard to the public or environment. According to the California State Waterboard's GeoTracker, which provides information regarding Leaking Underground Storage Tanks, there are no locations within a 2,500 foot radius of any of the proposed project facilities that is identified as Leaking Underground Storage Tank (LUST) site or Department of Toxic Substances (DTS) site (see Figure IX-1). However, there is one remediated LUST cleanup site located to the east and just outside of the project footprint at the intersection of Paradise Way and Greenfall Lane. This site has been remediated since 1993, and the media of concern was soil contamination from a gasoline leak. As the site has been deemed remediated for nearly 30 years, it is not anticipated that the pipeline alignment trenching and ground disturbing activities will result in encountering any hazardous soils or materials. Furthermore, the nature of the proposed project is not such that persons working or residing in the area would be exposed to any hazards from any nearby contaminated sites, particularly as the proposed pipeline will be installed within existing, disturbed roadways and within the residential parcels receiving new connections as a result of the proposed project. Therefore, the proposed pipeline replacement project is not anticipated to create a

significant hazard to the population or to the environment from their implementation. Impacts are considered less than significant. No mitigation is required.

e. *Less Than Significant Impact* – The Big Bear Airport is the closest airport to the proposed project and is located about one half mile south/southwest of the proposed project. According to the Big Bear City Airport Comprehensive Land Use Plan[1] (ACLUP), the project is located within the Safety Area 3 (AR3) overlay, within which utilities and the construction thereof is normally acceptable (Figure IX-4). The ACLUP indicates that all projects within the ACLUP, within which the project footprint falls, are subject to development standards including:

- Height limitations provided by Federal Aviation Regulations, PART 77, Objects Affecting Navigable Airspace;
- Interior and exterior noise standards must be met;
- No glare or reflection is allowed, nor are uses that would emit electronic interference or smoke;
- No storage or dispensing of volatile or otherwise hazardous substances;
- Must comply with the San Bernardino County Development Code Standards specified by each official land use district;
- Must fall within the specified maximum gross density; and,
- Shall not attract large concentrations of birds.

Given that the proposed project would meet the above development standards, where applicable, and that the whole of the pipeline installation project will ultimately be located below ground, the potential for the proposed Pipeline Replacement 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 within the identified project footprint would result in less than significant potential safety hazard for people residing or working in the project area as a result of proximity to a public airport or private airstrip. No mitigation is required.

f. *Less Than Significant With Mitigation Incorporated* – The proposed project will be located within existing roadways and adjacent parcels within the unincorporated community of Big Bear City in San Bernardino County. The proposed Pipeline Replacement Project will not interfere within emergency response or an identified evacuation route. According to the San Bernardino Countywide Plan Evacuation Route Map (Figure IX-5), the identified emergency routes within the Big Bear Valley region are SR 38 and SR 18. The proposed pipeline replacement alignment is generally not located within these identified evacuation routes, with the exception of a small 500 LF segment of pipeline that will be replaced within East North Short Drive which is a part of SR 18 at this location. At no time during the installation of pipeline will the entirety of this roadway be closed. The project would require one lane to be closed, which would allow for through-traffic so long as a traffic management plan is developed and implemented. As such, please refer to the Transportation Section of this document, Section XVII. Mitigation to address traffic disruption and emergency access issues are included in the Transportation Section. Therefore, with the implementation of MMs **TRAN-1** and **TRAN-2** identified in the Transportation Section of this document, there is a less than significant potential for the development of the project to physically interfere with any adopted emergency response plans, or evacuation plans.

g. *Less Than Significant Impact* – The proposed project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. The proposed project footprint is located in the Big Bear Valley, which is situated in a valley within and surrounded by the San Bernardino Mountains. As such, the project is located within a very high fire hazard severity zone within a State Responsibility Area (SRA) (Figure IX-6). The project is also located within a County Fire Safety Overlay as shown on the San Bernardino Countywide Plan Fire Hazard Severity Zone

[1] San Bernardino County Planning Department, Airport Comprehensive Land Use Plan, Big Bear City Airport, February 1992. http://www.sbcounty.gov/Uploads/lus/Airports/BigBear.pdf (accessed 04/06/23).

Map provided as Figure IX-7. However, project will not construct any habitable structures. The proposed project will install 4,400 LF of pipeline within existing roadways or otherwise underground. Pipelines are not susceptible to wildfire hazards and the development of the proposed pipeline will not increase the risk of wildland fires to nearby residences and structures. Therefore, though the proposed project is located adjacent to an area considered susceptible to wildfire hazards, because the entirety of the project will be installed belowground and enhance fire flow in the project area, the proposed project would have a less than significant expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
X. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☒	☐	☐
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 onsite or offsite?	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite 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?	☐	☐	☐	☒

SUBSTANTIATION

a. *Less Than Significant With Mitigation Incorporated* – The project proposes to install 4,400 LF of water pipeline. The area of disturbance from the construction of the pipeline will occur within existing rights-of-way including paved roadways, and within the yards of parcels receiving new connections as a result of the proposed project. Three main sources of potential violation of water quality standards or waste discharge requirements are as follows: from generation of municipal wastewater; from

stormwater runoff; and potential discharges of pollutants, such as accidental spills. 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 and a Water Quality Management Plan (WQMP) to ensure that project-related surface runoff meets discharge requirements over the short- and long-term. In the short term, construction activities will have some potential to affect the quality of stormwater discharged from the project sites. Land disturbance activities could result in erosion and sedimentation immediately adjacent to the disturbed project alignment. Spills or leaks of petroleum products used by construction equipment could also potentially affect the quality of surface water. The project will be required to obtain a general construction National Pollutant Discharge Elimination System (NPDES) stormwater discharge permit prior to the start of construction. Obtaining coverage under the General Construction NPDES permit requires the preparation and implementation of the SWPPP, which specifies Best Management Practices (BMPs) that must be implemented during construction of this specific project. Compliance with the terms and conditions of the NPDES and the SWPPP, as well as the WQMP, 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 ***BBCCSD shall require that the construction contractor prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving offsite into receiving waters. The SWPPP shall include a Spill Prevention and Cleanup Plan that identifies the methods of containing, cleanup, transport and proper disposal of hazardous chemicals or materials released during construction activities that are compatible with applicable laws and regulations. BMPs to be implemented in the SWPPP may include but not be limited to:***

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

Once constructed, the proposed pipeline will operate underground within existing road rights-of-way that will be repaved to their original or better condition, as will the area of compacted dirt within which a small portion of the alignment will be installed. Therefore, with no anticipated operational impacts or substantial change in the environment from implementation of the proposed project, implementation of these mandatory Plans and their BMPs, as well as MMs **HYD-1** and **HAZ-1** above, will prevent 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. The proposed project will install a water pipeline that will replace pipelines that are no longer efficient or effective, due to age or because they are undersized, improving water quality and fire flow capabilities. Construction of the new water pipeline alignment

would require approximately 5,000 gallons of potable water each day for a maximum of about 80 days, which equates to the construction of the conveyance pipeline requiring about 400,000 gallons of water (1.23-acre feet) to support the pipeline installation within existing roadways and within the parcels receiving new connections as a result of the proposed project. This amount is considered nominal when compared to the availability of supply from the project proponent, BBCCSD based on a review of their 2020 Urban Water Management Plan (UWMP). Once the pipeline has been installed, the roadways and ground will return to their original condition with no new impervious area resulting from this effort that would interfere with groundwater recharge in the area. No aboveground features are proposed as part of this project that would require the use of potable water beyond that the proposed pipeline would replace existing water conveyance pipeline. As no new connections are proposed, no additional water resources are anticipated to be necessary once the pipeline alignment is operational. Therefore, the proposed project is not anticipated to substantially deplete groundwater supplies such that there would be a net deficit in aquifer volume or lowering of the groundwater table. Impacts under this issue are considered less than significant and no mitigation is required.

c
(i-iii). *Less Than Significant Impact* – No substantial impact to drainage patterns or structures will result from implementing this project. The roadways within which the pipeline will be installed will be returned to their original condition upon completion of the placement of each section of water pipeline. Additionally, the ground disturbed within the parcels receiving new connections as a result of the proposed project will be recompacted and returned to its original condition upon completion of the placement of each section of lateral pipeline. The roadways will generate essentially the same amount of stormwater as they do at present because no expansion of roadway or change in drainage patterns are anticipated. Conveyance of stormwater to drainage alignments and storm drains within these roadways will remain intact and unchanged once construction has been completed. No substantial change to the existing drainage pattern will result from project implementation. Adequate drainage facilities exist to accommodate pre- and post-project drainage flows, and will therefore result in a less than significant impact. Based on the data outlined above, this project will not substantially alter the existing drainage pattern of the site or area; will not substantially alter the course of a stream or river in such a manner that will result in substantial erosion or siltation either on or off the project footprint; or contribute runoff water that could exceed the capacity of the existing drainage facilities. No additional sources of polluted runoff will result and impacts are considered less than significant. No additional mitigation is required.

c
(iv). *No Impact* – According to the San Bernardino Countywide Plan Flood Hazards Map (Figure X-1), the proposed project is located within Zone X (areas of 0.2% annual change flood (500-year flood); and areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual flood chance. There is also a portion of the project footprint that is not mapped as being located within a flood hazard zone. The proposed project would install pipeline underground within existing roadways or within the area of compacted dirt within which a small portion of the alignment will be installed. This project will not substantially alter the existing drainage pattern of the site or area because the roadway and compacted alignment will be returned to their original condition once the pipeline has been installed. As such, once installed underground, the existing drainage pattern will be maintained, and given that no project components will be installed aboveground, the proposed project would have no potential to impede or redirect flows. No mitigation is required.

d. *Less Than Significant Impact* – As stated above under issue X(c[iv]), the proposed project footprint is not located within a flood hazard zone, though there is a 1% annual chance flood hazard (100 Year Flood), which is common for communities adjacent to Big Bear Lake and Baldwin Lake. The proposed pipeline will be located underground; underground pipelines within floodplains are common and are often constructed further underground to avoid future negative impacts in the event of flood events. No housing or structures are proposed as part of this pipeline replacement project. Therefore, given that pipelines are generally not susceptible to significant adverse effects associated with flooding, and though damage to pipelines can occur, a pipeline can be repaired and placed back into operation with no loss of human life. Additionally, once constructed, the roadways within which the pipeline will

be installed will be returned to their original condition, as will the ground within the parcels receiving new connections as a result of the proposed project, and therefore the project would not impede or redirect flows. The proposed project is located more than 60 miles from the Pacific Ocean at an elevation of over 6,740 feet. Based on the distance from the Pacific Ocean, and the location of the project in the mountains, the proposed project is not anticipated to be exposed to inundation by tsunami. Impacts from seiche may occur due to the proximity of Big Bear Lake, but are not easily anticipated as they occur concurrent with earthquakes. However, as previously stated, pipelines are not generally susceptible to significant impacts from event such as seiche, and though damage to pipeline can occur, a pipeline can be repaired and placed back into service without loss of human life. Thus, with no aboveground structures proposed, the development of the proposed Pipeline Replacement Project would not risk release of pollutants due to project inundation. Impacts under this issue are considered less than significant. No mitigation is required.

e. *No 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.[2] 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."[3] Even though the Bear Valley Groundwater Basin is considered very low priority, the Bear Valley Basin Groundwater Sustainability Plan has been prepared. No conflict or obstruction of a water quality control plan or sustainable groundwater management plan is anticipated. As the proposed project would not require additional water supply to operate, and would facilitate the safe conveyance of potable water to BBCCSD customers, and that BBCCSD is a partner in the GSP implementation, the project would not conflict with a sustainable groundwater management plan. Furthermore, by controlling water quality during construction and operations through implementation of both short-term (SWPPP) and long-term (WQMP) best management practices at the site, no potential for conflict or obstruction of the Regional Board's water quality control plan has been identified.

[2] Big Bear Area Regional Wastewater Agency, Bear Valley Basin Groundwater Sustainability Agency. https://www.bbarwa.org/bear-valley-basin-groundwater-sustainability-agency/ (accessed 04/06/23).
[3] California Department of Water Resources, Sustainability Groundwater Management Act (SGMA). https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management (accessed 04/06/23).

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XI. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☐	☒

SUBSTANTIATION

a. *No Impact* – The proposed Pipeline Replacement Project footprint is located within the unincorporated community of Big Bear City in San Bernardino County and will occur within developed roadway segments and within the parcels receiving new connections as a result of the proposed project. The project footprint has no General Plan Land Use Designation because pipelines and the roadways in which the new pipeline will be installed are considered essential infrastructure. A small portion of construction will occur within the parcels receiving new lateral connections as a result of the proposed project. These parcels are all designated for Low Density Residential (LDR). Once in operation the project the new water pipelines will be located underground and therefore, no aboveground operations beyond the maintenance of the new aboveground meters are anticipated. The proposed project is considered a benefit to BBCCSD's service area because it would replace pipelines that are no longer efficient or effective, due to age or because they are undersized, improving water quality and fire flow capabilities. Therefore, the project would not result in physically dividing an established community, particularly because the entirety of the project will occur within existing road rights-of-way and within the parcels receiving new connections as a result of the proposed project, and once constructed, the roadways will continue to function as they do at present, as will the aforementioned affected parcels. No impacts are anticipated and no mitigation is required.

b. *No Impact* – Please refer to the discussion under issue X(a) above. The project will occur mostly within existing roadways and within the parcels receiving new lateral connections as a result of the proposed project, generally within an area surrounded by residential land use designations. The project will install new water pipeline within BBCCSD's service area in the community of Big Bear City within San Bernardino County. The project footprint consists of existing road rights-of-way that will be returned to their original condition and function as they do at present once the new water pipeline has been installed, in addition to installation of pipeline laterals within the parcels receiving new connections as a result of the proposed project, the ground within which the pipeline is installed would be returned to its original condition as well. As stated above, the entirety of the project will occur within existing road rights-of-way and within the parcels receiving new connections as a result of the proposed project, and once constructed, the roadways will continue to function as they do at present, as will the aforementioned affected parcels. No aboveground operations beyond the maintenance of the replacement aboveground meters are anticipated, and thus no land use conflicts would occur from the installation of the pipeline laterals within the residential parcels receiving new connections as a result of the proposed project. Thus, the development of the proposed project within the proposed alignment will be compatible with existing land uses and land use plan, and no conflict or impact to land use can been identified. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XII. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

SUBSTANTIATION

a&b. *No Impact* – The proposed pipeline alignment is located within the community of Big Bear City within San Bernardino County, and the project will be installed within existing roadways and within the parcels receiving new connections as a result of the proposed project. The project is located adjacent in the Big Bear Valley in the San Bernardino Mountains, and the pipeline alignment would be installed in a residential area. According to the San Bernardino Countywide Plan Mineral Resource Zones Map (Figure XII-1), no known mines or mineral resources are known to occur on or within the project footprint. As no current mining operations exist within the proposed pipeline alignment or have been identified by the County, implementation of the proposed project will not result in in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state or a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. No impacts are anticipated under this issue and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIII. NOISE: Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of a project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
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?	☐	☐	☒	☐

SUBSTANTIATION

Background

Noise is generally described as unwanted sound. The proposed project would result in the construction of pipeline within the Cinderella and Pan Hot Springs areas of Big Bear City within San Bernardino County. The existing uses in the project area includes residential uses, with some open space forestland to the northwest of the residential neighborhoods. The background noise within the project footprint would be minimal to moderate, given that the majority of the pipeline alignment traverses through residential areas. However, moderate traffic-related background noise can be found in the portion of the project footprint that is located within SR 18.

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.

San Bernardino County Development Code

83.01.080 Noise.

B. Noise Impacted Areas. Areas within the County shall be designated as “noise-impacted” if exposed to existing or projected future exterior noise levels from mobile or stationary sources exceeding the standards listed in Subdivision (d) (Noise Standards for Stationary Noise Sources) and Subdivision (e) (Noise Standards for Adjacent Mobile Noise Sources), below. New development of residential or other noise-sensitive land uses shall not be allowed in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to these standards. Noise-sensitive land uses shall include residential uses, schools, hospitals, nursing homes, religious institutions, libraries, and similar uses.
C. Noise Standards for Stationary Noise Sources.
   1. Noise Standards. Table 83-2 (reproduced herein as **Table XIII-1**) describes the noise standard for emanations from a stationary noise source, as it affects adjacent properties.

Table XIII-1
COUNTY OF SAN BERNARDINO NOISE STANDARDS FOR STATIONARY NOISE SOURCES (dBA L_{eq})

Affected Land Uses (Receiving Noise)	7:00 a.m. – 10:00 p.m.	10:00 p.m. – 7:00 a.m.
Residential	55	45
Professional Services	55	55
Other Commercial	60	60
Industrial	70	70

dBA = A-weighted decibel; Leq = equivalent noise level
Source: San Bernardino County Development Code, Table 83-2

   2. Noise Limit Categories. No person shall operate or cause to be operated a source of sound at a location or allow the creation of noise on property owned, leased, occupied, or otherwise controlled by the person, which causes the noise level, when measured on another property, either incorporated or unincorporated, to exceed any one of the following:
      a. The noise standard for the receiving land use as specified in Subdivision (b) (Noise-Impacted Areas), above, for a cumulative period of more than 30 minutes in any hour.
      b. The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour.
      c. The noise standard plus 10 dBA for a cumulative period of more than five minutes in any hour.
      d. The noise standard plus 15 dBA for a cumulative period of more than one minute in any hour.
      e. The noise standard plus 20 dBA for any period of time.
D. Noise Standards for Adjacent Mobile Noise Sources. Noise from mobile sources may affect adjacent properties adversely. When it does, the noise shall be mitigated for any new development to a level that shall not exceed the standards described in the following Table 83-3 (reproduced herein as **Table XIII-2**).

Table XIII-2
COUNTY OF SAN BERNARDINO NOISE STANDARDS FOR ADJACENT MOBILE NOISE SOURCES

Land Use		**dBA L_{dn} (or CNEL)**	
Categories	**Uses**	**Interior[1]**	**Exterior[2]**
Residential	Single and multi-family, duplex, mobile homes	45	60[3]
Commercial	Hotel, motel, transient housing	45	60[3]
	Commercial retail, bank, restaurant	50	N/A
	Office building, research and development, professional offices	45	65
	Amphitheater, concert hall, auditorium, movie theater	45	N/A
Institutional/Public	Hospital, nursing home, school classroom, religious institution, library	45	65
Open Space	Park	N/A	65

dBA = A-weighted decibel; Ldn = Day-Night Average Level; CNEL = Community Noise Equivalent Level
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 dBA (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 dBA (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.
Source: San Bernardino County Development Code, Table 83-3

E. Increases in Allowable Noise Levels. If the measured ambient level exceeds any of the first four noise limit categories in Subsection (d)(2), above, the allowable noise exposure standard shall be increased to reflect the ambient noise level. If the ambient noise level exceeds the fifth noise limit category in Subsection (d)(2), above, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.
F. Reductions in Allowable Noise Levels. If the alleged offense consists entirely of impact noise or simple tone noise, each of the noise levels in Table 83-2 (reproduced herein as **Table XIII-2**) shall be reduced by 5 dBA.
G. Exempt Noise. The following sources of noise shall be exempt from the regulations of this Section:
   1. Motor vehicles not under the control of the commercial or industrial use.
   2. Emergency equipment, vehicles, and devices.
   3. Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays.

83.01.090 Vibration.

A. Vibration Standard. No ground vibration shall be allowed that can be felt without the aid of instruments at or beyond the lot line, nor shall any vibration be allowed which produces a particle velocity greater than or equal 0.2 in/sec measured at or beyond the lot line.
C. Exempt Vibrations. The following sources of vibration shall be exempt from the regulations of this Section.
   1. Motor vehicles not under the control of the subject use.
   2. Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays.

Impact Analysis

a. *Less Than Significant With Mitigation Incorporated* – The proposed project will install water pipelines within existing road rights-of-way and within the yards of parcels receiving new lateral connections as a result of the proposed project. Sensitive receptors are located adjacent to the roadways within which the pipeline will be installed and within the parcels within which the lateral connecting pipelines will be installed. However, once installed, the pipelines will be located underground; no aboveground features are proposed, and no noise sources will affect adjacent land uses. The background noise in this area is moderate to low because it is mostly residential in nature, though SR 18, within which about 500 LF of pipeline will be installed, is a major east-west roadway in the Big Bear Valley that generates moderate background traffic noise in the vicinity of the project footprint. Please review the San Bernardino Countywide Plan Existing Noise Contour Map (Figure XIII-1) and the Future Noise Contour Map (Figure XIII-2), which indicates that roadway noise greater than 60 CNEL does not extend much farther than 50 feet on either side of the roadway.

Short Term Construction Noise

Short-term construction noise impacts associated with the proposed project will occur over a period of about 80 days and may impact nearby residential dwellings. These activities will include noise generated by construction activities, movement of construction materials to and from the site, and grading, paving, trenching, and excavation within the road rights-of-way and within the parcels receiving new connections as a result of the proposed project. The noise of each of these construction activities varies depending on the type of construction equipment and the location within the footprint within which the construction takes place. The earth-trenching sources are the noisiest type of equipment typically ranging from 82 to 85 dB at 50 feet from the source. Temporary construction noise is exempt from the County Noise Performance Standards between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays. The proposed project would be constructed in compliance with the County's Noise Performance Standards, and therefore construction of the project would be less than significant. However, to minimize the noise generated within the construction alignment to the extent feasible, the following mitigation measures shall be implemented:

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

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

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

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

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

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

NOI-7 Construction staging areas shall be located as far from adjacent sensitive receptor locations as possible, for example north or west of the existing reservoir.

Long-Term Operational Noise
The proposed project will not cause any measurable permanent increase in ambient noise levels in the vicinity of the project above levels existing without the project, in particular because this project would install pipeline belowground. Operation of the new water pipeline will not generate any new sources of noise within the project footprint.

Conclusion
With the implementation of the mitigation measures 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 With Mitigation Incorporated* – 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 (dB) 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 FTA Assessment states that in contrast to airborne noise, ground-borne vibration is not a common environmental problem. Although the motion of the ground may be noticeable to people outside structures, without the effects associated with the shaking of a structure, the motion does not provoke the same adverse human reaction to people outside. Within structures, the effects of ground-borne vibration include noticeable movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. FTA Assessment further states that it is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. However, some common sources of vibration are trains, trucks on rough roads, and construction activities, such as blasting, pile driving, and heavy earth-moving equipment. The Federal Transit Association (FTA) guidelines identify a level of 80 VdB for sensitive land uses. This threshold provides a basis for determining the relative significance of potential project related vibration impacts. This threshold provides a basis for determining the relative significance of potential project related vibration impacts.

In the short term, it is possible that groundbreaking construction equipment and other equipment required to construct the whole of the project may have some potential to create some vibration to the nearest sensitive receptors at some sites within the project footprint. Background vibration within the project footprint would generally be mixed given that the traffic along the roadways in which the pipeline will be installed varies widely from somewhat-heavily traveled to lightly traveled residential roads. Groundborne vibration is normally perceptible to humans at approximately 65 VdB, while 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible. Construction activity can result in varying degrees of groundborne vibration; in the short term, construction from installing the pipeline has the potential to create some groundborne vibration to the nearest sensitive receptors at some sites within the project footprint. The San Bernardino County Development Code offers guidance on Vibration. San Bernardino County Development Code 83.01.090 provides guidance regarding how vibration should be measured and offers the following Standard:

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

Additionally, according to the San Bernardino County Development Code, vibration generated by construction is exempt from regulations during the hours of 7 AM and 7 PM. As such, vibration related to construction activities will be less than significant because the project will limit construction to these hours. With implementation of the above mitigation measure, the project would comply with the San Bernardino County Development Code, and would prevent significant vibration impacts from occurring within the project area. Therefore, impacts from project related vibration would be considered less than significant with implementation of mitigation. No further mitigation is required.

c. *Less Than Significant Impact* – The Big Bear Airport is the closest airport to the proposed project and is located about one half mile south/southwest of the proposed project. According to the Big Bear City ACLUP[4], the project is located within the AR3 overlay. The proposed project is located outside of the delineated noise contours for the Airport, as shown on Figure IX-4. Given that the proposed project is located outside of the 65 CNEL dBA airport noise contour, the project area has a less than significant potential to expose people residing or working in the project area to excessive noise levels as a result of the site's proximity to the airport. No mitigation is required.

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

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). The project is considered a vital infrastructure project because it proposes to install new water pipeline to replace existing older lines. The proposed project will require a temporary work force; however, this is short-term and with a maximum of about 12 employees will not induce substantial population growth. Furthermore, according to the Southern California Association of Governments (SCAG), the total population of Unincorporated San Bernardino in 2020 was 304,589 persons[5]. According to the Countywide Plan, the total population within unincorporated San Bernardino County was about 13.8% of the overall County population. 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 only a temporary workforce of about 12 persons during construction. Given that no additional employees will be required once the pipeline has been replaced and is in operation, the proposed project would have a less than significant potential to induce substantial population growth in an area, either directly or indirectly. No mitigation is required.

[4] San Bernardino County Planning Department, Airport Comprehensive Land Use Plan, Big Bear City Airport, February 1992. http://www.sbcounty.gov/Uploads/lus/Airports/BigBear.pdf (accessed 04/06/23).
[5] Southern California Association Governments (SCAG), Local Profiles. https://scag.ca.gov/sites/main/files/file-attachments/2021_local_profiles_dataset.xlsx?1661892901 (accessed 04/06/23).

b. *No Impact* – The proposed Pipeline Replacement Project will occur within roadways and within the parcels receiving new lateral connections as a result of the proposed project. No new housing is proposed as part of the project and while the proposed project would install connecting lateral pipelines within the parcels receiving new connections as a result of the proposed project, no persons residing within the residences within these parcels would be displaced as a part of this project as no construction within residential interiors is anticipated. Therefore, implementation of the project as a whole will not displace any existing housing or displace a substantial number of people that would necessitate the construction of replacement housing elsewhere. No impacts will occur as a result of project implementation. No mitigation is required.

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

SUBSTANTIATION

a. *Less Than Significant Impact* – The community of Big Bear City is currently served by the Big Bear Fire Department, and the nearest Fire Station to the proposed project is Station #282, located less than a mile south/southwest of the project footprint at 301 W Big Bear Blvd, Big Bear, CA 92314. Station #282 provides fire protection, fire prevention, and emergency medical services to the Big Bear Lake area. The proposed project will not include the use or storage of highly flammable materials. The proposed project would install 4,400 LF of water pipeline belowground within existing roadways and within the parcels receiving new connections as a result of the proposed project. Though there may be some need for fire protection services during construction of the pipeline, existing fire protection services within the area are considered adequate protection in such instances. Once construction of each segment has been completed there will be no potential for the operation of the pipeline to require fire protection services as these pipelines will be located belowground. Therefore, any impact to the existing fire protection system is considered random and less than significant. No additional mitigation is required.

b. *Less Than Significant Impact* – The proposed project site is located within the community of Big Bear City, which 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 (Station) is located at 477 Summit Boulevard, Big Bear Lake, California 92315, which is approximately 2 miles to the southwest 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 project is not anticipated to generate growth within the project area that would create a new demand for police protection because no additional employees will be required once the pipeline is installed and is in operation. The construction of the water pipeline will require only a temporary work force. The proposed project will not include the kind of use that would likely attract criminal activity, except for random trespass and theft; however, construction equipment will be stored in such a manner that public will not have access to it, and once in operation, the project will not include any aboveground components. Thus, due to the type of project proposed, 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 project is located within the Bear Valley Unified School District boundary. The proposed project is anticipated to temporarily employ a maximum of 25 persons during construction. The project is not anticipated to generate any new direct demand for the area schools. As discussed under Chapter XIV, Population and Housing, above, the project would not induce population growth within the County or project area, as it will neither construct housing, nor result in a growth in employment opportunities within the area. Because the project would develop infrastructure through the replacement of 4,400 LF of water pipeline and would not develop any aboveground facilities that are commercial, residential, or industrial in nature, the proposed project is not required to pay any fees to offset impacts to school facilities. As the proposed project will not generate an increase in elementary, middle, or high school population, any impacts under this issue are considered less than significant. No mitigation is required.

d. *No Impact* – Because the project would develop infrastructure through the installation of 4,400 LF of water pipeline and would not develop any aboveground facilities that are commercial, residential, or industrial in nature, the proposed project is not required to pay any fees to offset impacts to park facilities. As stated in the preceding sections, the proposed project is not anticipated to create a substantial increase in population because it does require additional BBCCSD staff to operate this pipeline alignment, particularly given that the pipeline alignment would replace existing deficient alignments, thereby not connecting any new customers to its service area. Implementation of the proposed project will not impact any current or planned park use, as it will be constructed within existing roadways and within the residential parcels receiving new connections as a result of the proposed project. Thus, implementation of the proposed project would not cause a substantial adverse physical impact to any parks within the Big Bear Valley. No impacts are anticipated, and no mitigation is required.

e. *No 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. Thus, any impacts under this issue are considered less than significant, and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVI. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
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?	☐	☐	☐	☒

SUBSTANTIATION

a. *No Impact* – As previously discussed in Section XIV, Population and Housing and Section XV, Public Services, this project will not contribute to an increase in the population beyond that already allowed or planned for by local and regional planning documents. Therefore, this project will not result in an increase in the demand for parks and other recreational facilities and implementation of the proposed project would not increase the use of any parks within the area, now would it result in the physical deterioration of other surrounding facilities. No impacts are anticipated. No mitigation is required.

b. *No Impact* – The proposed project does not include recreational facilities, nor does it require the construction or expansion of recreational facilities. The proposed project will install 4,400 LF of new water pipeline within BBCCSD's service area in the community of Big Bear City within San Bernardino County. The Pipeline Replacement Project will occur mostly within existing roadways and within the residential parcels receiving new connections as a result of the proposed project. Thus, the project does not include the construction or expansion of recreational facilities. There will be no adverse effects on the recreational facilities from implementing this project. No mitigation is required.

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

SUBSTANTIATION

a. *Less Than Significant With Mitigation Incorporated* — The proposed project would install 4,400 LF of water pipeline within existing roadways and within the parcels receiving new connections as a result of the proposed project in the community of Big Bear City within San Bernardino County. The entirety of the project will occur within existing roadway segments and within the parcels receiving new connections as a result of the proposed project as outlined in the project description. The majority of the segments of roadway in which the water pipeline will be constructed are local/residential roadways and will not impact major routes of circulation within the area. However, the proposed project will require construction of a segment of pipeline within SR 18, which is a major east-west highway within the Big Bear Valley. The pipeline installation will require one lane to be closed to complete the installation of the water pipeline within roadways; this will ensure that each roadway can still operate during construction. However, the project will require implementation of a traffic management plan in order to ensure adequate traffic flow. The installation of new water collection pipelines would temporarily reduce the capacity of roadways along the pipeline alignment(s) due to open-trenching within existing roadway rights-of-way (ROWs) and the resulting temporary lane closures on the affected roadways. The impact of the lane closures would vary based on the number of lanes needed to be closed (a function of pipeline diameter and trench width) and the width (number of lanes) of the affected roads. Multi-lane roads (four or more lanes) would be better able to accommodate two-way traffic than two-lane roadways. Two lane roads would likely require active traffic control (flaggers) to allow alternate one-way traffic flow on the available road width, and could possibly require full road closure (with detour routing around the construction work zone). MM **TRAN-1**—addressed below—would be required to reduce potential impacts to traffic and transportation conditions. Implementation of this measure, in conjunction with the temporary character of the construction impacts, is considered sufficient to ensure adequate flow of traffic in a safe manner for pipeline installation.

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

- ***Develop circulation and detour plans, if necessary, to minimize impacts to local street circulation. Use haul routes minimizing truck traffic on local roadways to the extent possible.***
- ***To the extent feasible, and as needed to avoid adverse impacts on traffic flow, schedule truck trips outside of peak morning and evening commute hours.***
- ***Install traffic control devices as specified in Caltrans' Manual of Traffic Controls for Construction and Maintenance Work Zones where needed***

to maintain safe driving conditions. Use flaggers and/or signage to safely direct traffic through construction work zones.

- ***For roadways requiring lane closures that would result in a single open lane, maintain alternate one-way traffic flow and utilize flagger-controls.***
- ***Coordinate with facility owners or administrators of sensitive land uses such as police and fire stations, hospitals, and schools. Provide advance notification to the facility owner or operator of the timing, location, and duration of construction activities.***

During construction, an estimated 15 roundtrips from construction workers per day will occur to install the proposed new water pipeline. A maximum of 20 roundtrips per day would occur to support construction efforts (i.e., delivery or removal of construction materials), though the average would be about 10 roundtrips per day. Thus, the project construction will generate about 25 trips per day for the approximately 80-day duration of construction. Once constructed, no traffic would be generated by this project other than visits to the pipeline alignment by BBCCSD personnel to inspect and maintain facilities when necessary, resulting in minimal vehicle miles traveled once the pipelines are operational. Implementation of the project has the potential to conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. However, with implementation of the above mitigation measure requiring a construction traffic management plan, and the following MM **TRAN-2** requiring disturbances within public roadways to be returned to their original or better condition, the proposed project would result in a less than significant impact pertaining to the circulation system, particularly given that impacts to transit, bicycle, and pedestrian facilities will be temporary, and will not permanently disrupt circulation thereof.

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

b. *Less Than Significant Impact* – The proposed project would install 4,400 LF of water pipeline within the community of Big Bear City within San Bernardino County in BBCCSD's service area. The proposed project will require minimal vehicle miles traveled to accomplish once constructed. In the short term, construction of the proposed facilities will result in the generation of an average of about 25 roundtrips per day on the adjacent roadways by construction personnel and trucks removing any excavated materials and remains of the structures on site. The vehicle miles traveled in these instances would likely average less than 80 miles round trip. The number of temporary truck trips will be minimized by using 15 cubic yard material haulers instead of smaller 10 cubic yard trucks to haul material onto and off of the site. Additionally, the same trucks that haul material onto the site would also carry material off of the site. A VMT calculation is typically conducted on a daily or annual basis, for long-range planning purposes. As discussed above, construction vehicles on local roadways would be temporarily increased during project construction due to the presence of construction vehicles and equipment. Increases in VMT from construction would be short-term, minimal, and temporary. The duration of the potential significant impacts would be limited to the period of time needed to construct the project. As such, VMT standards, which are intended to monitor and address long-term transportation impacts resulting from future development, do not apply to temporary impacts associated with construction activities. Therefore, no construction impact associated with VMT per CEQA Guidelines Section 15064.3 would occur. Once constructed, no traffic would be generated by this project other than visits to the pipeline alignment by BBCCSD personnel to inspect and maintain facilities when necessary, resulting in minimal vehicle miles traveled once the pipelines are in operation. As such, implementation of the Pipeline Replacement Project is not anticipated to result in a significant impact related to vehicle miles travelled, and thus would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). Impacts under this issue are considered less than significant.

c. *Less Than Significant With Mitigation Incorporated* – The project will temporarily alter existing roadways during construction of the proposed pipeline. However, this alteration will not create any hazards due to design features of incompatible uses. The proposed project will install approximately 4,400 LF of pipeline within existing rights-of-way within the community of Big Bear City within San Bernardino County. As stated under issue XVII(a) above, with the implementation of mitigation measures **TRAN-1** and **TRAN-2**, which require implementation of a construction traffic management plan and requiring disturbances within public roadways to be returned to their original or better condition, any potential increase in hazards due to design features or incompatible use will be considered less than significant in the short term. In the long term, no impacts to any hazards or incompatible uses in existing roadways are anticipated because once the pipeline is constructed, the roadway and ground disturbed within the parcels receiving new connections as a result of the proposed project will be returned to its original condition, or better. Thus, any impacts are considered less than significant with implementation of mitigation. No additional mitigation is required.

d. *Less Than Significant With Mitigation Incorporated* – Please refer to the discussions under issue XVII(a) and XVII(c) above. The proposed project will require closure of one lane within the roadway in which each pipeline segment is installed. The Pipeline Replacement Project will install water pipeline within the Cinderella and Pan Springs area of BBCCSD's service area in the unincorporated community of Big Bear City. The roadways within which the pipeline installation will occur vary from local residential roadways to collector streets to highways. As discussed under issue IX(f), according to the San Bernardino Countywide Plan Evacuation Route Map (Figure IX-5), the identified emergency routes within the Big Bear Valley region are SR 38 and SR 18. The proposed pipeline replacement alignment is generally not located within these identified evacuation routes, with the exception of a small 500 LF segment of pipeline that will be replaced within East North Short Drive which is a part of SR 18 at this location. At no time during the installation of pipeline will the entirety of this roadway be closed. The project would require one lane to be closed, which would allow for through-traffic so long as a traffic management plan is developed and implemented. Adequate emergency access will be provided along these routes throughout construction. Though closure of one lane will impact traffic, the implementation of mitigation measures **TRAN-1** and **TRAN-2** will ensure that impacts are reduced to a level of less than significant. No additional mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVIII. TRIBAL CULTURAL RESOURCES: Would the project cause a substantial change in the significance of tribal cultural resources, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to the California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
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 sub-division (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.	☐	☒	☐	☐

SUBSTANTIATION

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 project site is located within the community of Big Bear City, which is part of San Bernardino County. Big Bear Community Services District has been contacted pursuant to Public Resources Code section 21080.3.1 by the one California Native American tribes that is traditionally and culturally affiliated with the area: Yuhaaviatam of San Manuel Nation. The AB 52 consultation letter was received by the tribe on December 7, 2023. During the initial 30-day consultation period, the Yuhaaviatam of San Manuel

Nation (YSMN) requested consultation, and that that the following standard mitigation be included as part of the project to prevent impacts to tribal cultural resources:

TCR-1 ***Tribal Monitoring***

Due to the heightened cultural sensitivity of the proposed project area, Tribal monitors representing the Yuhaaviatam of San Manuel Nation (YSMN) shall be present for all ground-disturbing activities that occur within the proposed project area (which includes, but is not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation [benches, signage, boulders, walls, seat walls, fountains, etc.], and archaeological work). A sufficient number of Tribal monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. A Monitoring and Treatment Plan that is reflective of the project mitigation ("Cultural Resources" and "Tribal Cultural Resources") shall be completed by the archaeologist, as detailed within CUL-1, and submitted to the Lead Agency for dissemination to the YSMN Cultural Resources Department (YSMN). Once all parties review and agree to the plan, it shall be adopted by the Lead Agency – the plan must be adopted prior to permitting for the project. Any and all findings will be subject to the protocol detailed within the Monitoring and Treatment Plan.

Treatment of Cultural Resources

If a pre-contact cultural resource is discovered during archaeological presence/absence testing, the discovery shall be properly recorded and then reburied in situ. A research design shall be developed by the archaeologist that shall include a plan to evaluate the resource for significance under CEQA criteria. Representatives from the YSMN Cultural Resources Department, the archaeologist/applicant, and the Lead Agency shall confer regarding the research design, as well as any testing efforts needed to delineate the resource boundary. Following the completion of evaluation efforts, all parties shall confer regarding the archaeological significance of the resource, its potential as a Tribal Cultural Resource (TCR), avoidance (or other appropriate treatment) of the discovered resource, and the potential need for construction monitoring during project implementation. Should any significant resource and/or TCR not be a candidate for avoidance or preservation in place, and the removal of the resource(s) is necessary to mitigate impacts, the research design shall include a comprehensive discussion of sampling strategies, resource processing, analysis, and reporting protocols/obligations. Removal of any cultural resource(s) shall be conducted with the presence of a Tribal monitor representing the Tribe, unless otherwise decided by YSMN. All plans for analysis shall be reviewed and approved by the applicant and YSMN prior to implementation, and all removed material shall be temporarily curated on-site. It is the preference of YSMN that removed cultural material be reburied as close to the original find location as possible. However, should reburial within/near the original find location during project implementation not be feasible, then a reburial location for future reburial shall be decided upon by YSMN, the landowner, and the Lead Agency, and all finds shall be reburied within this location. Additionally, in this case, reburial shall not occur until all ground-disturbing activities associated with the project have been completed, all monitoring has ceased, all cataloguing and basic recordation of cultural resources have been completed, and a final monitoring report has been issued to Lead Agency, California Historical Resources Information System (CHRIS)

(CHRIS), and YSMN. All reburials are subject to a reburial agreement that shall be developed between the landowner and YSMN outlining the determined reburial process/location, and shall include measures and provisions to protect the reburial area from any future impacts (vis a vis project plans, conservation/preservation easements, etc.).

Should it occur that avoidance, preservation in place, and on-site reburial are not an option for treatment, the landowner shall relinquish all ownership and rights to this material and confer with YSMN to identify an American Association of Museums (AAM)-accredited facility within the County that can accession the materials into their permanent collections and provide for the proper care of these objects in accordance with the 1993 CA Curation Guidelines. A curation agreement with an appropriate qualified repository shall be developed between the landowner and museum that legally and physically transfers the collections and associated records to the facility. This agreement shall stipulate the payment of fees necessary for permanent curation of the collections and associated records and the obligation of the Project developer/applicant to pay for those fees.

All draft records/reports containing the significance and treatment findings and data recovery results shall be prepared by the archaeologist and submitted to the Lead Agency and YSMN for their review and comment. After approval from all parties, the final reports and site/isolate records are to be submitted to the local CHRIS Information Center, the Lead Agency, and YSMN

TCR-2 ***<u>Inadvertent Discoveries of Human Remains/Funerary Objects</u>***
In the event that any human remains are discovered within the project area, ground disturbing activities shall be suspended 100 feet around the resource(s) and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed. The on-site lead/foreman shall then immediately who shall notify YSMN, the applicant/developer, and the Lead Agency. The Lead Agency and the applicant/developer shall then immediately contact the County Coroner regarding the discovery. If the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner shall ensure that notification is provided to the NAHC within twenty-four (24) hours of the determination, as required by California Health and Safety Code § 7050.5 (c). The NAHC-identified Most Likely Descendant (MLD), shall be allowed, under California Public Resources Code § 5097.98 (a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and funerary objects shall be treated and disposed of with appropriate dignity. The MLD, Lead Agency, and landowner agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes. The MLD shall complete its inspection and make recommendations within forty-eight (48) hours of the site visit, as required by California Public Resources Code § 5097.98.

Reburial of human remains and/or funerary objects (those artifacts associated with any human remains or funerary rites) shall be accomplished in compliance with the California Public Resources Code § 5097.98 (a) and (b). The MLD in consultation with the landowner, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains and funerary objects. All parties are aware that the MLD may wish to rebury the human remains and associated funerary

objects on or near the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The applicant/developer/land-owner should accommodate on-site reburial in a location mutually agreed upon by the Parties.

It is understood by all Parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code § 6254 (r).

No further mitigation beyond the above measures, as well as MM **CUL-2** are required to minimize impacts to Tribal Cultural Resources. Therefore, with implementation of the above 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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIX. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
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?	☐	☒	☐	☐

SUBSTANTIATION

a. Water

No Impact – The proposed project will construct new water facilities in the form of 4,400 LF of new water pipeline within the Cinderella and Pan Springs areas of the Big Bear Valley in BBCCSD's service area to replace pipelines that are no longer efficient or effective, due to age or because they are undersized, improving water quality and fire flow capabilities. As demonstrated throughout this Initial Study, the proposed project will not result in any significant impacts from the installation of the replacement water pipelines that will replace existing connections within the Cinderella and Pan Springs area of BBCCSD's service area. No increase in demand for water is anticipated to be created by the proposed project, as the proposed project would replace existing infrastructure and would not result in any new connections to BBCCSD's service area. Therefore, while the proposed project would construct new water conveyance facilities, development of the Pipeline Replacement 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.

Wastewater

Less Than Significant Impact – The proposed project will not develop any housing or human-occupied structures that would require connection to BBCCSD's wastewater collection system. The project proposes to install 4,400 LF of wastewater collection pipeline. Therefore, with no connections to BBCCSD's wastewater collection system required, site improvements are not forecast to require or result in the construction of new wastewater facilities or expansion of existing facilities in order to serve the project.

Stormwater
Less Than Significant Impact – As stated under issue XI(c[i-iii]), implementation the proposed project is not forecast to significantly alter the volume of surface/stormwater runoff that will be generated from the project footprint. The roadways and ground disturbance within the parcels receiving new connections as a result of the proposed project within which the pipeline will be installed will be returned to their original condition upon completion of the placement of each section of water pipeline. The roadways and parcels will generate essentially the same amount of stormwater as they do at present because no expansion of roadway or change in drainage patterns are anticipated. Given that no new stormwater collection facilities are required to implement the proposed project, and that the existing stormwater collection facilities will remain in place under the proposed project, development of the project will not require or result in the construction of new or expansion of existing stormwater drainage facilities. Any impacts under this issue are considered less than significant. No mitigation is required.

Electric Power
No Impact – Development of the proposed Pipeline Replacement Project would not require the installation of electrical services or substantial additional energy beyond that which is currently required to operate BBCCSD's water distribution system. The proposed project would install 4,400 LF of water pipeline that will be connected to BBCCSD's existing water distribution system. As the project would not result in additional connections to BBCCSD's service area, no additional energy beyond that which is presently needed to convey water is anticipated to be required. Therefore, the project would not result in a significant environmental effect related to the relocation or construction of new or expanded electric power facilities. No impacts are anticipated.

Natural Gas
No Impact – Development of the Pipeline Replacement Project would not require installation of 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 Pipeline Replacement Project would not 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. *No Impact* – Please refer to the discussion under issues X(b) and XIX(a) above. As discussed above, the project will result in the construction of replacement potable water pipelines within BBCCSD's service area. The project will not increase the amount in length of potable water pipeline within BBCCSD's service area. The proposed replacement pipeline alignment within BBCCSD's service area will not increase demand or production of water over the long term. The amount of water for construction purposes is considered less than significant because the project will be conducted within the existing BBCCSD entitlements to potable water. Based on the limited and short-term demand for potable water during construction of the proposed pipeline replacement project, sufficient water supplies are available to serve the project, as indicated in BBCCSD's 2020 Urban Water Management Plan (UWMP).

c. *Less Than Significant Impact* – Please refer to the discussion under X(b) and XIX(a) above. The proposed project will install 4,400 LF of new water conveyance pipeline that will replace existing connections within the Cinderella and Pan Springs area of BBCCSD's service area. The proposed project will not require connection to BBCCSD's wastewater collection service, because the project does propose any physical structures that would require wastewater infrastructure connections. The proposed project is a potable water pipeline replacement project that would replace pipelines that are no longer efficient or effective, due to age or because they are undersized, improving water quality and fire flow capabilities and once constructed the pipeline will have no operational maintenance

requirements. Therefore, no potential exists to adversely impact a wastewater treatment provider. No mitigation is required.

d&e. *Less Than Significant With Mitigation Incorporated* – The project will generate construction waste from the removal of asphalt, concrete, and similar materials. The inert wastes can be disposed of at existing municipal solid waste facilities, which have adequate capacity to accept inert wastes generated by this project, or can be recycled onsite. Any construction and demolition (C & D) waste will be recycled to the maximum extent feasible and any residual materials will be delivered to one of several C & D disposal sites in the area surrounding the project site. Many of these C & D materials can be reused or recycled, thus prolonging our supply of natural resources and potentially saving money in the process.

In accordance with CALGreen code 5.408.4, 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing must be reused or recycled. As this is a mandatory requirement, no mitigation is required to ensure compliance by BBCCSD for this project.

Because of increased construction recycling efforts resulting from CalGreen and other regulations, opportunities for construction recycling are becoming easier to find, such as one of the facilities that accept C&D materials located in the surrounding area,[6] including facilities in the Big Bear Valley within San Bernardino County as listed in the County of San Bernardino Construction & Demolition Waste Recycling Guide.

The facilities that accept C&D materials, combined with the landfills in the surrounding area, have adequate capacity to serve the proposed project. BBCCSD collects approximately 6,800 tons of trash and over 80 tons of household recyclables from 11,000 residences within a service area of 11.4 square miles. A fleet of 7 refuse-hauling trucks and 3 support vehicles sustain department operations. BBCCSD offer monthly dumpster rentals with timely and flexible pickups. The nearest landfill to the project area is the Big Bear Transfer Station, at 38550 Holcomb Valley Road in Big Bear City, which can receive 400 tons per day. Beyond the Transfer Station, the nearest landfills are either the Landers Landfill or the Victorville Landfill. The Landers Landfill has a maximum permitted capacity of 1,200 tons per day, and a remaining capacity of 11,148,100 cubic yards (CY), with a maximum permitted capacity of 13,983,500 CY according to CalRecycle.[7] The Victorville Landfill has a maximum permitted capacity of 3,000 tons per day, and a remaining capacity of 81,510,000 CY, with a maximum permitted capacity of 83,200,000 CY according to CalRecycle.[8] Both landfills permit thousands of tons of waste per day, which is beyond what the expected amount of waste would be generated by the construction of the proposed pipeline alignments. Furthermore, the proposed project is not anticipated to generate any operational waste as the project will install pipelines belowground. As such, the proposed project would comply with all federal, State, and local statues related to solid waste disposal.

Any hazardous materials collected within the project footprint during either construction or operation of the project will be transported and disposed of by a permitted and licensed hazardous materials service provider. Therefore, the project is expected to comply with all regulations related to solid waste under federal, state, and local statutes. To further reduce potential impacts to solid waste facilities due to the scale of the materials that may require disposal or recycling, the following mitigation measure will be implemented:

[6] The County of San Bernardino County, Construction & Demolition Waste Recycling Guide. https://www.sbcounty.gov/uploads/DPW/docs/RecyclingGuide-2021.pdf (accessed 04/06/23).
[7] CalRecycle, SWIS Facility/Site Activity Details, Landers Sanitary Landfill. https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1882?siteID=2664 (accessed 04/06/23).
[8] CalRecycle, SWIS Facility/Site Activity Details, Victorville Sanitary Landfill. https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1870?siteID=2652 (accessed 04/06/23).

UTIL-1 ***The contract with demolition and construction contractors shall include the requirement that all materials that can be recycled shall be salvaged and recycled. This includes, but is not limited to, wood, metals, concrete, road base, and asphalt. The contractor shall submit a recycling plan to BBCCSD for review and approval prior to the start of demolition/construction activities to accomplish this objective.***

Therefore, with the above mitigation measure, the project is expected to comply with all regulations related to solid waste under federal, state, and local statutes and be served by a landfill(s) with sufficient permitted capacity to accommodate the project's solid waste disposal needs. No further mitigation is necessary.

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

SUBSTANTIATION

a. *Less Than Significant With Mitigation Incorporated* – The proposed project footprint is within an area susceptible to wildland fires, and is located within an area delineated as a Very High Fire Hazard Severity Zone (VHFHSZ) in a State Responsibility Area (SRA); the majority of the area surrounding Big Bear Lake and Baldwin Lake are located within a VHFHSZ, as shown on Figure IX-7, the Countywide Plan Policy Map of Fire Hazard Severity Zones, and on the CALFIRE FHSZ Map provided as Figure IX-6. The construction of the pipelines would occur within public roadways and within the parcels receiving new lateral connections as a result of the proposed project, which could interfere with adopted emergency response plans or emergency evacuation plans because the pipeline installation could potentially block access to roadways and driveways for emergency vehicles for short periods. The construction-related impacts, although temporary, could potentially impair implementation of or physically interfere with an adopted emergency response plan and/or emergency evacuation plan. Impacts could be potentially significant. Mitigation Measure (MM) **WF-1**, which requires consistency with the San Bernardino County Operational Area Emergency Response Plan (SBCOAE), as well as review and approval by the local agency with authority over construction within the public ROW, would be required to reduce these potential temporary significant impacts to a less than significant level. The SBCOAE provides wildfire mitigation efforts that include the goal of

continuing to reduce fire hazards in the County, and generally coordinates evacuation in the event of an area emergency, which includes area wildfires. The implementation of MM **WF-1**, below, would require the preparation of a Traffic Control Plan with comprehensive strategies to reduce disruption to traffic in general, but particularly to maintain emergency access or evacuation capabilities.

WF-1 ***Prior to initiating construction within public rights-of-way (ROW), BBCCSD shall prepare and implement a Traffic Control Plan that contains comprehensive strategies for maintaining emergency access during construction. Strategies shall include, but are not limited to, maintaining steel trench plates at the construction sites to restore access across open trenches, flag persons and related assets to manage the flow of traffic, and identification of alternate routing around construction zones, where necessary. In addition, police, fire, and other emergency service providers (local agencies, Caltrans, and other service providers) shall be notified of the timing, location, and duration of the construction activities and the location of detours and lane closures. BBCCSD shall ensure that the Traffic Control Plan and other construction activities are consistent with the San Bernardino County Operational Area Emergency Response Plan, and are reviewed and approved by the local agency with authority over construction within the public ROW.***

Following construction, operation of the pipelines would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan as they would be located underground. Thus, impacts related to adopted emergency plans and emergency evacuation plans would be considered less than significant during operation of the proposed pipeline alignment. Overall, impacts under this issue are considered less than significant with mitigation incorporated.

b. *Less Than Significant With Mitigation Incorporated* – The proposed project footprint is located within an area delineated as a Very High Fire Hazard Severity Zone (VHFHSZ) in a State Responsibility Area (SRA)(refer to Figure IX-6 and IX-7). Due to the character of the facilities (low potential to cause ignition of a wildland fire and their location, well outside of the severe FHSZ), the proposed Pipeline Replacement Project would not contribute substantially to the uncontrolled spread of a wildfire. The proposed project is footprint is located in a relatively flat area (elevations ranging between about 6,740' to 6,765') situated in the Big Bear Valley within the San Bernardino Mountains. During construction, wildfire risk may be exacerbated temporarily as a result of accidental sparks generated by spark-producing equipment. As such, the proposed project requires MM **WF-2**, which would minimize fire risk during activities that would utilize spark-producing equipment by requiring spark arrestors for construction equipment that could create a spark, and requiring construction crews and vehicles to have access to functional fire extinguishers and fire prevention equipment at all times during construction.

WF-2 ***Prior to construction, fire hazard reduction measures shall be incorporated into a fire management plan/fuel modification plan for the proposed facility, and shall be implemented during construction and over the long-term for protection of the site. These measures shall address all staging areas, welding areas, or areas slated for development that are planned to use spark-producing equipment. These areas shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that can include a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the pipeline alignment, all vehicles and crews working at the project site shall have access to functional fire extinguishers and related fire prevention equipment (such as emergency sand bags, etc.) at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks. This plan shall be reviewed by the BBCCSD and provided to CAL FIRE for review***

and comment, where appropriate, and approved prior to construction within high and very high FHSZs and implemented once approved.

The implementation of MM **WF-2** would require the preparation of a fire management plan/fuel modification plan with comprehensive strategies to reduce the potential to exacerbate wildfire risks or cause a wildfire to occur, and thereby expose project occupants (there would be no occupants as part of the project) to pollutant concentrations from a wildfire or contribute to the uncontrolled spread of wildfire. Project operation would not have a potential to bring new project occupants into a high or very high FHSZs because the pipeline would be located belowground. Therefore, potential significant impacts to the spread of wildfires would be reduced to a less than significant level.

c. *Less Than Significant With Mitigation Incorporated* – Please refer to the analysis provided under issue XX(b), above. The project will install infrastructure in the form of a replacement pipeline alignment. Installation of the pipeline would occur within a VHFHSZ, which could exacerbate fire risk in these areas as a result of spark-producing equipment use during operations and construction, and could therefore result in both temporary and ongoing impacts on the environment. However, the implementation of MM **WF-2** under such circumstances would be available to reduce any contribution to greater fire risk to a less than significant impact level. Thus, the proposed project would not result in any significant adverse wildfire impacts with implementation of mitigation.

d. *Less Than Significant With Mitigation Incorporated* – As noted in the preceding discussion, the entirety of the proposed project would be installed within a VHFHSZ. The proposed project is located within an area that is relatively flat, and is entirely developed with roadways and residences. The project footprint elevations ranging between about 6,740’ to 6,765’ amsl. 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 outside of flood zones, and runoff associated with the proposed project will be discharged in the same or similar manner to that which occurs at present once the pipelines are installed and the roadways and ground disturbed as a result of lateral pipeline installation within the parcels receiving new connections as a result of the proposed project are returned to their original condition or better. Pipelines have a small surface footprint that can be constructed to minimize potential fire hazards (as required by MM **WF-2**) and would not cause significant damage downstream from their location. Thus, based on this evaluation, construction and operation of the proposed Pipeline Replacement Project can be accomplished without causing potentially significant impacts through the implementation of MM **WF-2**. Thus, based on the above discussion, implementation of MM **WF-2** is required to minimize the potential for project installation 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 to a level of less than significant.

	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?	☐	☒	☐	☐

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 following this section.

a. *Less Than Significant With Mitigation Incorporated* – The project has no potential to cause a significant impact any biological or cultural resources. No sensitive species were observed within the project area during the reconnaissance-level field survey and due to the environmental conditions on site, none are expected to occur. The project area is completely disturbed, consisting of paved roadways and residential neighborhoods and 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. As such, 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; however, mitigation is required to minimize impacts to nesting birds. The project requires mitigation to prevent significant impacts from occurring as a result of implementation of the project. Mitigation to address the adjacent sensitive cultural resources is required through an archaeological monitor present during construction, which will ensure that these sensitive resources are protected and will not be impacted by the proposed project. Additionally, because it is not known what could be unearthed upon any excavation activities, mitigation measures are provided to ensure that, in the event that any resources are found, they are protected from any potential impacts. These measures include a requirement that archaeological/Native American monitoring occur during ground disturbing activities, and treatment of any resources that are found. Please see biological, cultural, and tribal cultural resource sections of this Initial Study.

b. *Less Than Significant With Mitigation Incorporated* – Based on the analysis in this Initial Study, the proposed Pipeline Replacement Project has the potential to cause impacts that are individually or cumulatively considerable. There are no other projects in the vicinity to which this project would make a cumulatively considerable impact, furthermore the provision of water conveyance infrastructure is generally viewed as a benefit to the community. The issues of Air Quality, Biology, Cultural Resources, Energy, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, Tribal Cultural Resources, Utilities and Service Systems, and Wildfire require the implementation of mitigation measures to reduce impacts to a less than significant level 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, less than significant impacts.

c. *Less Than Significant With Mitigation Incorporated* – The proposed project includes activities that have a potential to cause direct substantial adverse effects on humans. 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 Initial Study Checklist form. The evaluation determined that either no impact or less than significant impacts would be associated with the issues of Aesthetics, Agricultural and Forestry Resources, Greenhouse Gas Emissions, Land Use and Planning, Mineral Resources, Population/Housing, Public Services, and Recreation. The issues of Air Quality, Biology, Cultural Resources, Energy, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, Tribal Cultural Resources, Utilities and Service Systems, and Wildfire require the implementation of mitigation measures to reduce impacts to a less than significant level. The required mitigation has been proposed in this Initial Study to reduce impacts for these issues to a less than significant impact and the BBCCSD will implement these measures.

Based on the findings in this Initial Study, the BBCCSD proposes to adopt a Mitigated Negative Declaration (MND) for the Big Bear City Community Services District Cinderella and Pan Springs Pipeline Replacement Project. A Notice of Intent to Adopt a Mitigated Negative Declaration (NOI) will be issued for this project by the BBCCSD. The Initial Study and NOI will be circulated for 30 days of public comment. At the end of the 30-day review period, a final MND package will be prepared and it will be reviewed by BBCCSD for possible adoption at a future Board meeting, the date for which has yet to be determined. If you or your agency comments on the MND/NOI for this project, you will be notified about the meeting dates in accordance with the requirements in Section 21092.5 of CEQA (statute).

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

Revised 2019
Authority: Public Resources Code sections 21083 and 21083.09
Reference: Public Resources Code sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3/ 21084.2 and 21084.3

SUMMARY OF MITIGATION MEASURES

Air Quality

AQ-1 Fugitive Dust Control. The following measures shall be incorporated into project plans and specifications for implementation during construction:

- Apply soil stabilizers to inactive areas.
- Prepare a high wind dust control plan and implement plan elements and terminate soil disturbance when winds exceed 25 mph.
- Stabilize previously disturbed areas if subsequent construction is delayed.
- Apply water to disturbed surfaces and haul roads 3 times/day.
- Replace ground cover in disturbed areas quickly.
- Reduce speeds on unpaved roads to less than 15 mph.
- Trenches shall be left exposed for as short a time as possible.
- Identify proper compaction for backfilled soils in construction specifications.

This measure shall be implemented during construction, and shall be included in the construction contract as a contract specification.

AQ-2 Exhaust Emissions Control. The following measures shall be incorporated into Project plans and specifications for implementation:

- Utilize off-road construction equipment that has met or exceeded the maker's recommendations for vehicle/equipment maintenance schedule.
- Contactors shall utilize Tier 4 or better heavy equipment.
- Enforce 5-minute idling limits for both on-road trucks and off-road equipment.

Biological Resources

BIO-1 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 15).

Cultural Resources

CUL-1 Archaeological Monitoring Protocol
Archaeological monitoring shall be required, at a minimum, during trenching operations for the installation of new service laterals across relatively undisturbed land. The monitoring program shall be coordinated with Yuhaaviatam of San Manuel Nation, per Mitigation Measure CUL-2, TCR-1 and TCR-2.

If any prehistoric cultural remains associated with Site 36-000935 are discovered during the monitoring program, additional excavations using standard Phase II archaeological testing procedures shall be required to evaluate the significance of the finds.

No further cultural resources investigations will be necessary for the pipeline replacement operations, including the water mains in public rights-of-way and the laterals on private land where the replacement will be installed along the existing pipeline/lateral alignment.

Final determinations on the proposed project's potential to impact "historical resources" will be made upon the completion of the monitoring program and AB 52 consultations between the BBCCSD and the local Native American groups regarding potential "tribal cultural resource(s)."

CUL-2 Tribal Archaeological Monitoring and Testing
Due to the heightened cultural sensitivity of the proposed project area, an archaeological monitor with at least 3 years of regional experience in archaeology shall be present for all ground-disturbing activities that occur within the proposed project area (which includes, but is not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation [benches, signage, boulders, walls, seat walls, fountains, etc.], and archaeological work). A sufficient number of archaeological monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. A Monitoring and Treatment Plan that is reflective of the project mitigation ("Cultural Resources" and "Tribal Cultural Resources") shall be completed by the archaeologist and submitted to the Lead Agency for dissemination to the Yuhaaviatam of San Manuel Nation (YSMN). Once all parties review and approve the plan, it shall be adopted by the Lead Agency – the plan must be adopted prior to permitting for the project. Any and all findings will be subject to the protocol detailed within the Monitoring and Treatment Plan.

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 Excavated areas shall be backfilled and compacted such that erosion does not occur. Paved areas disturbed by this project shall be repaved in such a manner that roadways and other disturbed areas are returned to the pre-project conditions or better.

GEO-3 All exposed, disturbed soil (trenches, stored backfill, etc.) will 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 pipelines are being installed.

GEO-4 The length of trench which can be left open at any given time will be limited to that needed to reasonably perform construction activities. This will serve to reduce the amount of backfill stored onsite at any given time.

GEO-5 Should any paleontological resources be accidentally encountered during construction of these facilities, 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 BBCCSD'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.

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

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

Noise

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

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

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

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

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

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

NOI-7 Construction staging areas shall be located as far from adjacent sensitive receptor locations as possible, for example north or west of the existing reservoir.

Transportation

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

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

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

Tribal Cultural Resources

TCR-1 Tribal Monitoring

Due to the heightened cultural sensitivity of the proposed project area, Tribal monitors representing the Yuhaaviatam of San Manuel Nation (YSMN) shall be present for all ground-disturbing activities that occur within the proposed project area (which includes, but is not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation [benches, signage, boulders, walls, seat walls, fountains, etc.], and archaeological work). A sufficient number of Tribal monitors shall be present each work day to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. A Monitoring and Treatment Plan that is reflective of the project mitigation ("Cultural Resources" and "Tribal Cultural Resources") shall be completed by the archaeologist, as detailed within CUL-1, and submitted to the Lead Agency for dissemination to the YSMN Cultural Resources Department (YSMN). Once all parties review and agree to the plan, it shall be adopted by the Lead Agency – the plan must be adopted prior to permitting for the project. Any and all findings will be subject to the protocol detailed within the Monitoring and Treatment Plan.

Treatment of Cultural Resources

If a pre-contact cultural resource is discovered during archaeological presence/absence testing, the discovery shall be properly recorded and then reburied in situ. A research design shall be developed by the archaeologist that shall include a plan to evaluate the resource for significance under CEQA criteria. Representatives from the YSMN Cultural Resources Department, the archaeologist/applicant, and the Lead Agency shall confer regarding the research design, as well as any testing efforts needed to delineate the resource boundary. Following the completion of evaluation efforts, all parties shall confer regarding the archaeological significance of the resource, its potential as a Tribal Cultural Resource (TCR), avoidance (or other appropriate treatment) of the discovered resource, and the potential need for construction monitoring during project implementation. Should any significant resource and/or TCR not be a candidate for avoidance or preservation in place, and the removal of the resource(s) is necessary to mitigate impacts, the research design shall include a comprehensive discussion of sampling strategies,

resource processing, analysis, and reporting protocols/obligations. Removal of any cultural resource(s) shall be conducted with the presence of a Tribal monitor representing the Tribe, unless otherwise decided by YSMN. All plans for analysis shall be reviewed and approved by the applicant and YSMN prior to implementation, and all removed material shall be temporarily curated on-site. It is the preference of YSMN that removed cultural material be reburied as close to the original find location as possible. However, should reburial within/near the original find location during project implementation not be feasible, then a reburial location for future reburial shall be decided upon by YSMN, the landowner, and the Lead Agency, and all finds shall be reburied within this location. Additionally, in this case, reburial shall not occur until all ground-disturbing activities associated with the project have been completed, all monitoring has ceased, all cataloguing and basic recordation of cultural resources have been completed, and a final monitoring report has been issued to Lead Agency, California Historical Resources Information System (CHRIS) (CHRIS), and YSMN. All reburials are subject to a reburial agreement that shall be developed between the landowner and YSMN outlining the determined reburial process/location, and shall include measures and provisions to protect the reburial area from any future impacts (vis a vis project plans, conservation/preservation easements, etc.).

Should it occur that avoidance, preservation in place, and on-site reburial are not an option for treatment, the landowner shall relinquish all ownership and rights to this material and confer with YSMN to identify an American Association of Museums (AAM)-accredited facility within the County that can accession the materials into their permanent collections and provide for the proper care of these objects in accordance with the 1993 CA Curation Guidelines. A curation agreement with an appropriate qualified repository shall be developed between the landowner and museum that legally and physically transfers the collections and associated records to the facility. This agreement shall stipulate the payment of fees necessary for permanent curation of the collections and associated records and the obligation of the Project developer/applicant to pay for those fees.

All draft records/reports containing the significance and treatment findings and data recovery results shall be prepared by the archaeologist and submitted to the Lead Agency and YSMN for their review and comment. After approval from all parties, the final reports and site/isolate records are to be submitted to the local CHRIS Information Center, the Lead Agency, and YSMN

TCR-2 Inadvertent Discoveries of Human Remains/Funerary Objects

In the event that any human remains are discovered within the project area, ground disturbing activities shall be suspended 100 feet around the resource(s) and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed. The on-site lead/foreman shall then immediately who shall notify YSMN, the applicant/developer, and the Lead Agency. The Lead Agency and the applicant/developer shall then immediately contact the County Coroner regarding the discovery. If the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner shall ensure that notification is provided to the NAHC within twenty-four (24) hours of the determination, as required by California Health and Safety Code § 7050.5 (c). The NAHC-identified Most Likely Descendant (MLD), shall be allowed, under California Public Resources Code § 5097.98 (a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and funerary objects shall be treated and disposed of with appropriate dignity. The MLD, Lead Agency, and landowner agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes. The MLD shall complete its inspection and make recommendations within forty-eight (48) hours of the site visit, as required by California Public Resources Code § 5097.98.

Reburial of human remains and/or funerary objects (those artifacts associated with any human remains or funerary rites) shall be accomplished in compliance with the California Public Resources Code § 5097.98 (a) and (b). The MLD in consultation with the landowner, shall make the final discretionary determination regarding the appropriate disposition and treatment of

human remains and funerary objects. All parties are aware that the MLD may wish to rebury the human remains and associated funerary objects on or near the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The applicant/developer/landowner should accommodate on-site reburial in a location mutually agreed upon by the Parties.

It is understood by all Parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code § 6254 (r).

Utilities and Service Systems

UTIL-1 The contract with demolition and construction contractors shall include the requirement that all materials that can be recycled shall be salvaged and recycled. This includes, but is not limited to, wood, metals, concrete, road base, and asphalt. The contractor shall submit a recycling plan to BBCCSD for review and approval prior to the start of demolition/construction activities to accomplish this objective.

Wildfire

WF-1 Prior to initiating construction within public rights-of-way (ROW), BBCCSD shall prepare and implement a Traffic Control Plan that contains comprehensive strategies for maintaining emergency access during construction. Strategies shall include, but are not limited to, maintaining steel trench plates at the construction sites to restore access across open trenches, flag persons and related assets to manage the flow of traffic, and identification of alternate routing around construction zones, where necessary. In addition, police, fire, and other emergency service providers (local agencies, Caltrans, and other service providers) shall be notified of the timing, location, and duration of the construction activities and the location of detours and lane closures. BBCCSD shall ensure that the Traffic Control Plan and other construction activities are consistent with the San Bernardino County Operational Area Emergency Response Plan, and are reviewed and approved by the local agency with authority over construction within the public ROW.

WF-2 Prior to construction, fire hazard reduction measures shall be incorporated into a fire management plan/fuel modification plan for the proposed facility, and shall be implemented during construction and over the long-term for protection of the site. These measures shall address all staging areas, welding areas, or areas slated for development that are planned to use spark-producing equipment. These areas shall be cleared of dried vegetation or other material that could ignite. Any construction equipment that can include a spark arrestor shall be equipped with a spark arrestor in good working order. During the construction of the pipeline alignment, all vehicles and crews working at the project site shall have access to functional fire extinguishers and related fire prevention equipment (such as emergency sand bags, etc.) at all times. In addition, construction crews shall have a spotter during welding activities to look out for potentially dangerous situations, including accidental sparks. This plan shall be reviewed by the BBCCSD and provided to CAL FIRE for review and comment, where appropriate, and approved prior to construction within high and very high FHSZs and implemented once approved.

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FIGURES

FIGURE 1

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Environmental Consultants

Regional Location

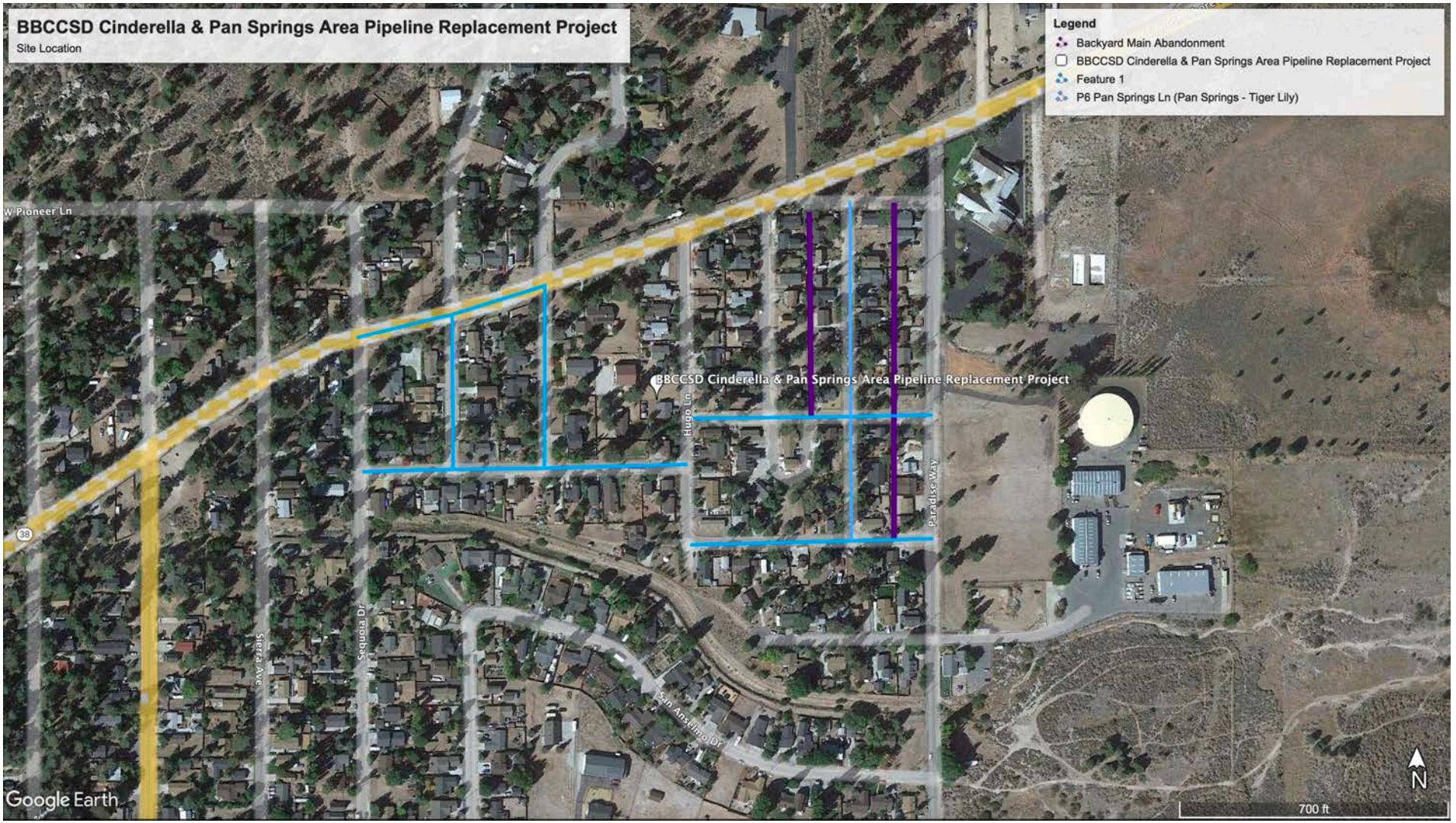

FIGURE 2

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Site Location

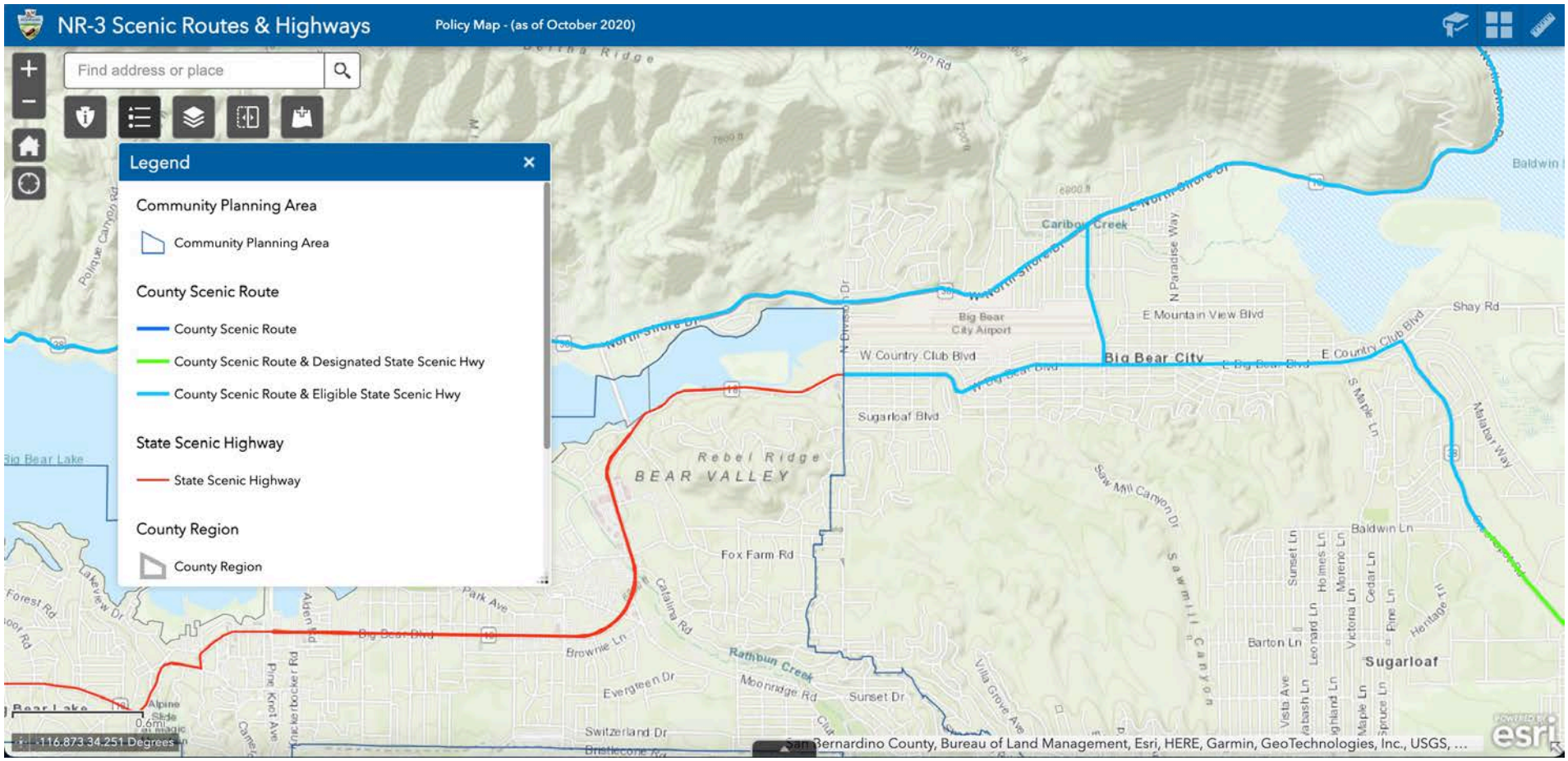

FIGURE I-1

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Scenic Routes & Highways

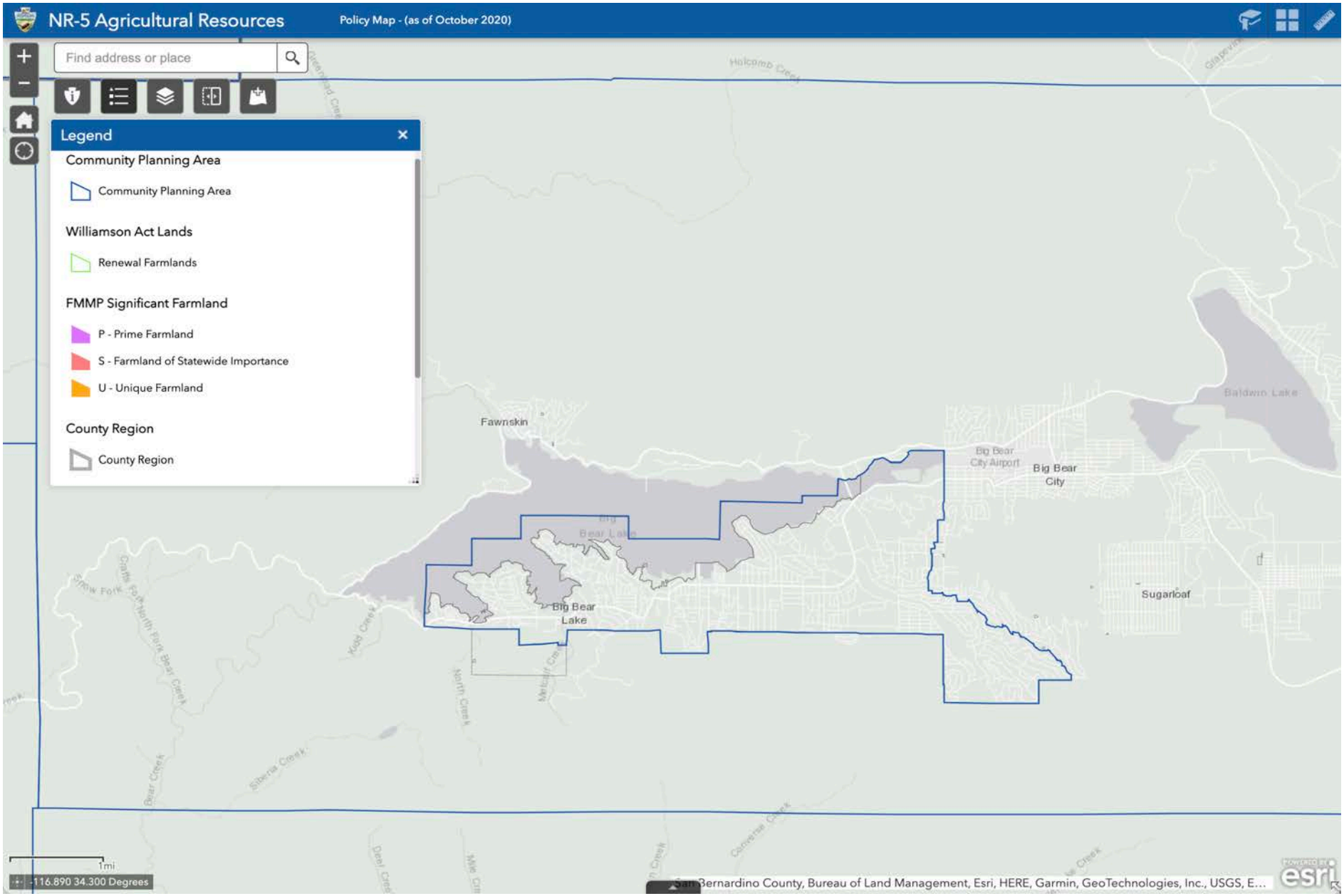

FIGURE II-1

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Agricultural Resources

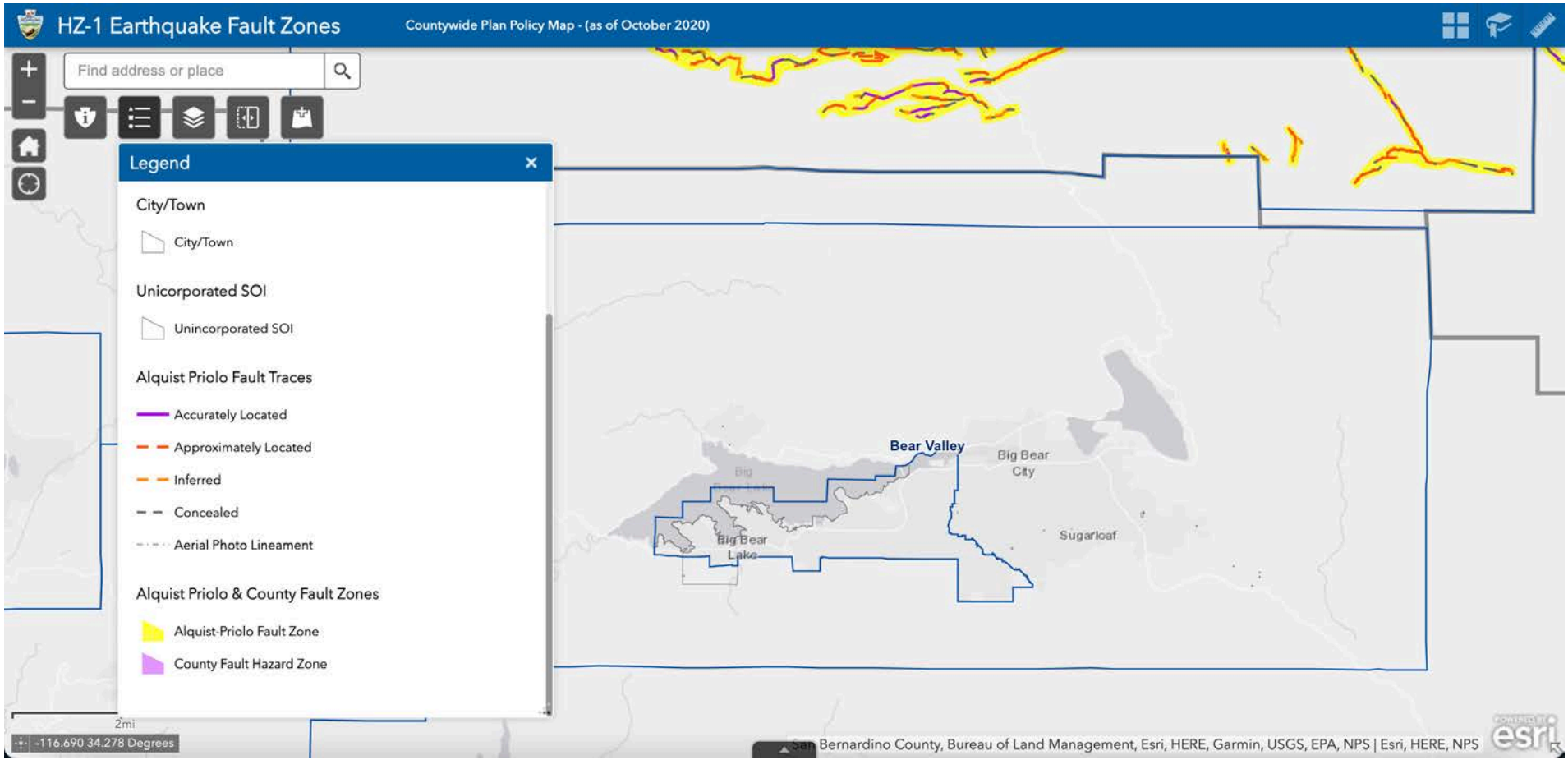

FIGURE VII-1

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Earthquake Fault Zones

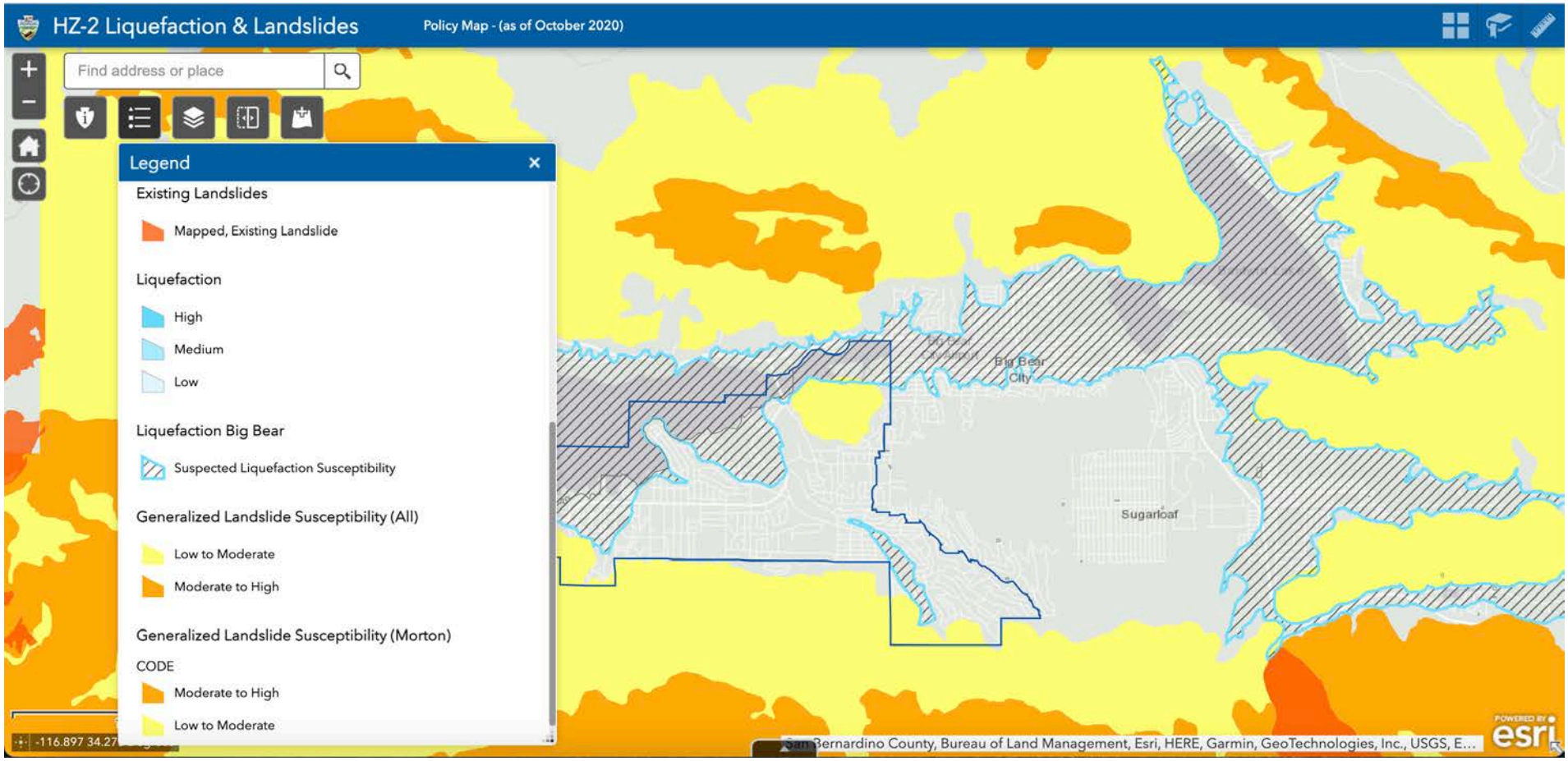

FIGURE VII-2

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Liquefaction & Landslides

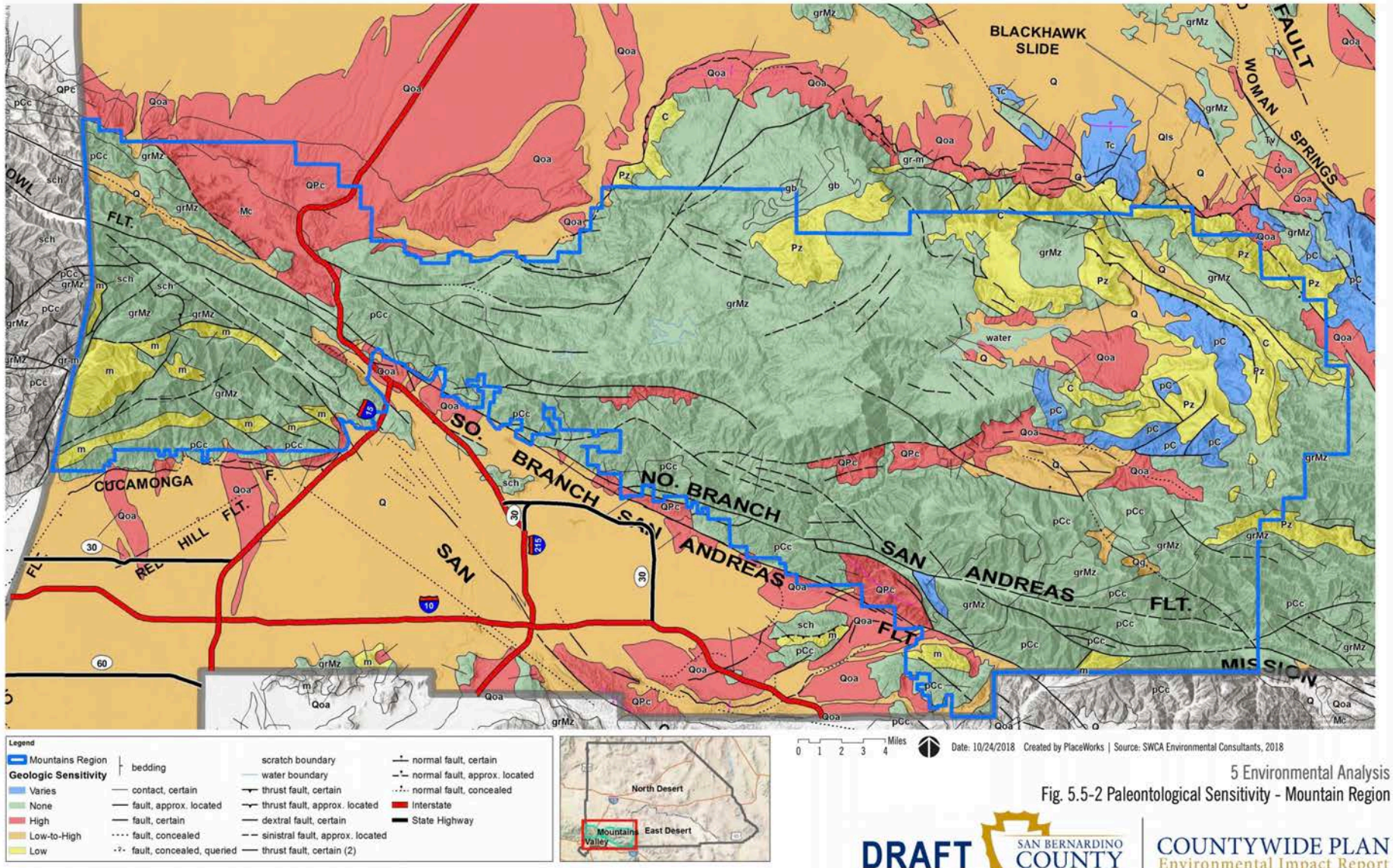

FIGURE VII-3

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Paleontological Sensitivity

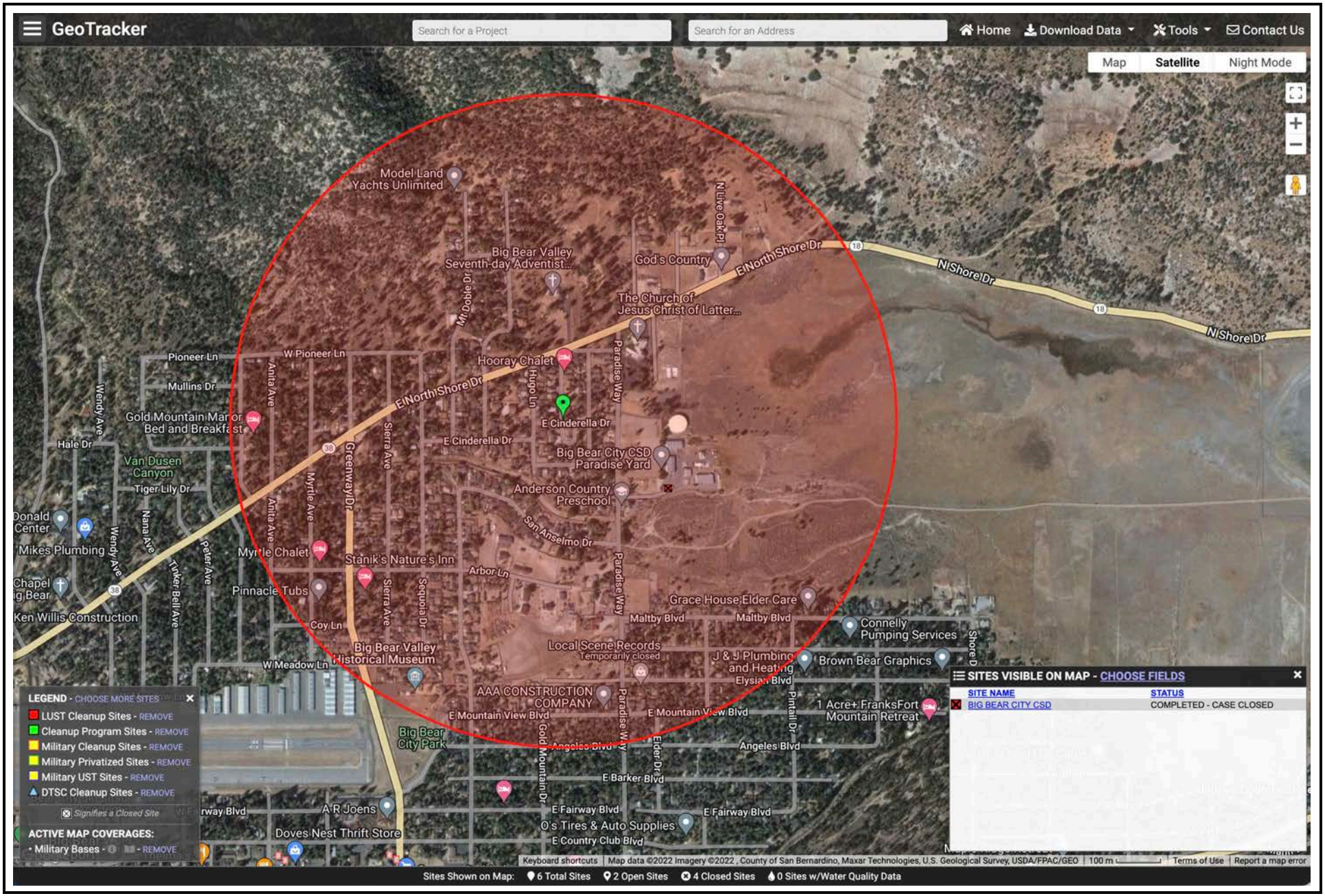
GeoTracker
Search for a Project
Search for an Address
Home
Download Data
Tools
Contact Us
Map
Satellite
Night Mode
Model Land Yachts Unlimited
Big Bear Valley Seventh-day Adventist...
God's Country
The Church of Jesus Christ of Latter...
E North Shore Dr
N Shore Dr
Hooray Chalet
E Cinderella Dr
Big Bear City CSD Paradise Yard
Anderson Country Preschool
Gold Mountain Manor Bed and Breakfast
Van Dusen Canyon
Tiger Lily Dr
Mullins Dr
Pioneer Ln
W Pioneer Ln
Hale Dr
Myrtle Chalet
Stanik's Nature's Inn
Pinnacle Tubs
Arbor Ln
San Anselmo Dr
Coy Ln
Big Bear Valley Historical Museum
W Meadow Ln
Local Scene Records
Temporarily closed
Grace House Elder Care
Maltby Blvd
Connelly Pumping Services
J & J Plumbing and Heating
Brown Bear Graphics
AAA CONSTRUCTION COMPANY
E Mountain View Blvd
1 Acre+ FranksFort Mountain Retreat
Big Bear City Park
Angeles Blvd
E Barker Blvd
E Fairway Blvd
A'R Joens
Doves Nest Thrift Store
O's Tires & Auto Supplies
E Country Club Blvd
Mikes Plumbing
Ken Willis Construction
Donald Center
Chapel
LEGEND - CHOOSE MORE SITES
LUST Cleanup Sites - REMOVE
Cleanup Program Sites - REMOVE
Military Cleanup Sites - REMOVE
Military Privatized Sites - REMOVE
Military UST Sites - REMOVE
DTSC Cleanup Sites - REMOVE
Signifies a Closed Site
ACTIVE MAP COVERAGES:
Military Bases - REMOVE
SITES VISIBLE ON MAP - CHOOSE FIELDS
SITE NAME
STATUS
BIG BEAR CITY CSD
COMPLETED - CASE CLOSED
Keyboard shortcuts
Map data ©2022 Imagery ©2022 , County of San Bernardino, Maxar Technologies, U.S. Geological Survey, USDA/FPAC/GEO
Terms of Use
Report a map error
Sites Shown on Map:
6 Total Sites
2 Open Sites
4 Closed Sites
0 Sites w/Water Quality Data

FIGURE IX-1

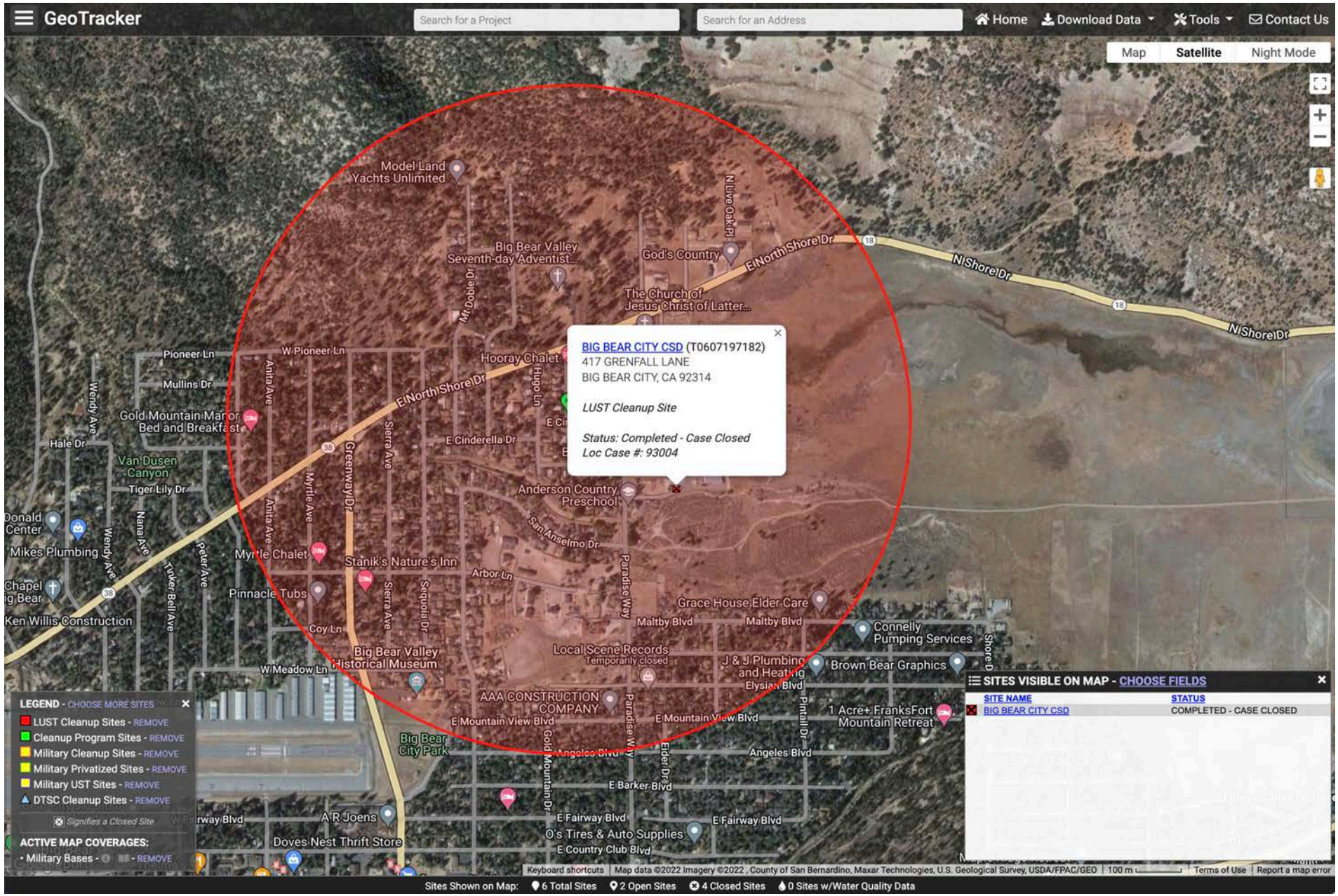

FIGURE IX-2

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GeoTracker, page 2

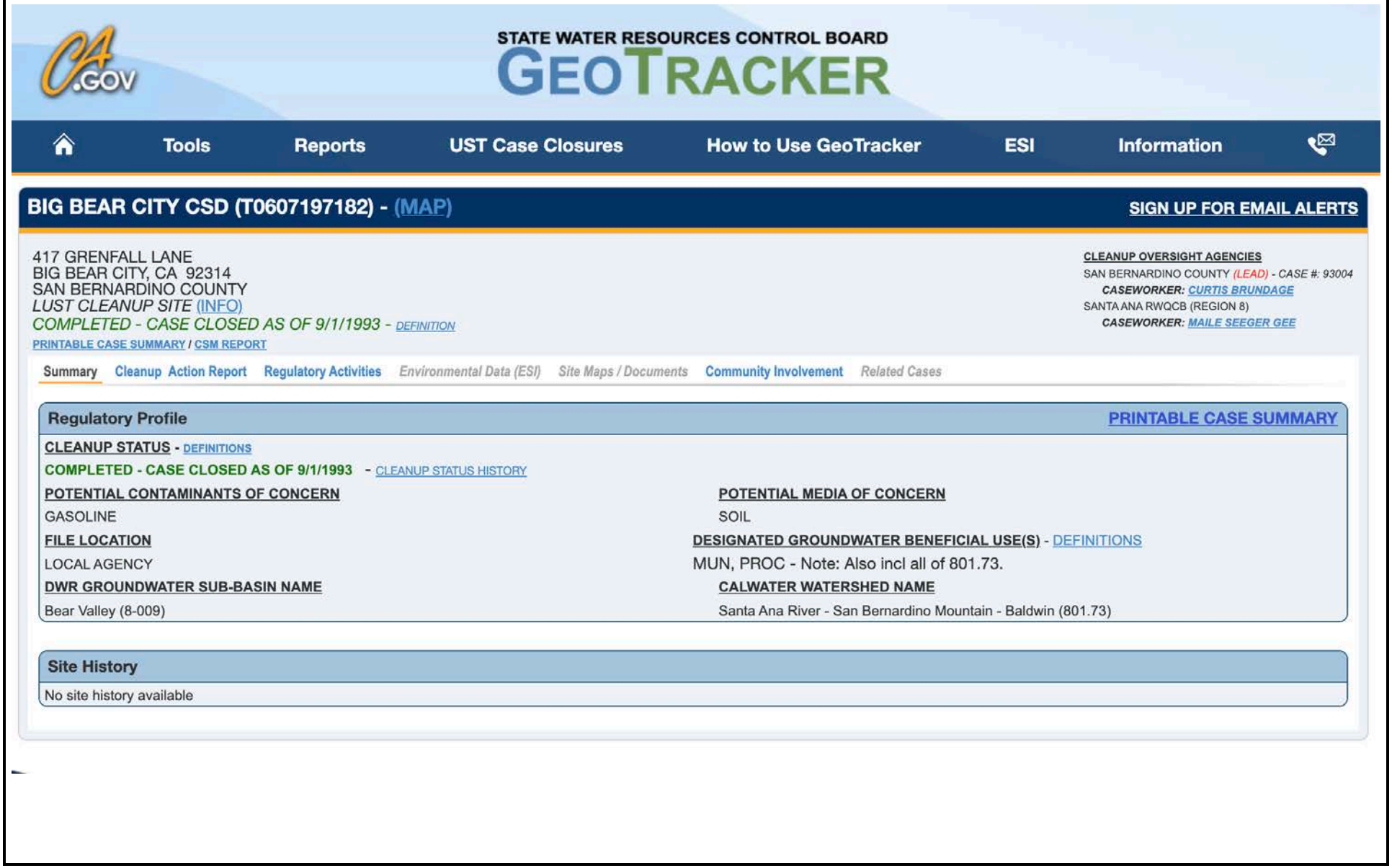
STATE WATER RESOURCES CONTROL BOARD
GEOTRACKER
Tools
Reports
UST Case Closures
How to Use GeoTracker
ESI
Information
BIG BEAR CITY CSD (T0607197182) - (MAP)
SIGN UP FOR EMAIL ALERTS
417 GRENFALL LANE
BIG BEAR CITY, CA 92314
SAN BERNARDINO COUNTY
LUST CLEANUP SITE (INFO)
COMPLETED - CASE CLOSED AS OF 9/1/1993 - DEFINITION
PRINTABLE CASE SUMMARY / CSM REPORT
CLEANUP OVERSIGHT AGENCIES
SAN BERNARDINO COUNTY (LEAD) - CASE #: 93004
CASEWORKER: CURTIS BRUNDAGE
SANTA ANA RWQCB (REGION 8)
CASEWORKER: MAILE SEEGER GEE
Summary
Cleanup Action Report
Regulatory Activities
Environmental Data (ESI)
Site Maps / Documents
Community Involvement
Related Cases
Regulatory Profile
PRINTABLE CASE SUMMARY
CLEANUP STATUS - DEFINITIONS
COMPLETED - CASE CLOSED AS OF 9/1/1993 - CLEANUP STATUS HISTORY
POTENTIAL CONTAMINANTS OF CONCERN
GASOLINE
POTENTIAL MEDIA OF CONCERN
SOIL
FILE LOCATION
LOCAL AGENCY
DESIGNATED GROUNDWATER BENEFICIAL USE(S) - DEFINITIONS
MUN, PROC - Note: Also incl all of 801.73.
DWR GROUNDWATER SUB-BASIN NAME
Bear Valley (8-009)
CALWATER WATERSHED NAME
Santa Ana River - San Bernardino Mountain - Baldwin (801.73)
Site History
No site history available

FIGURE IX-3

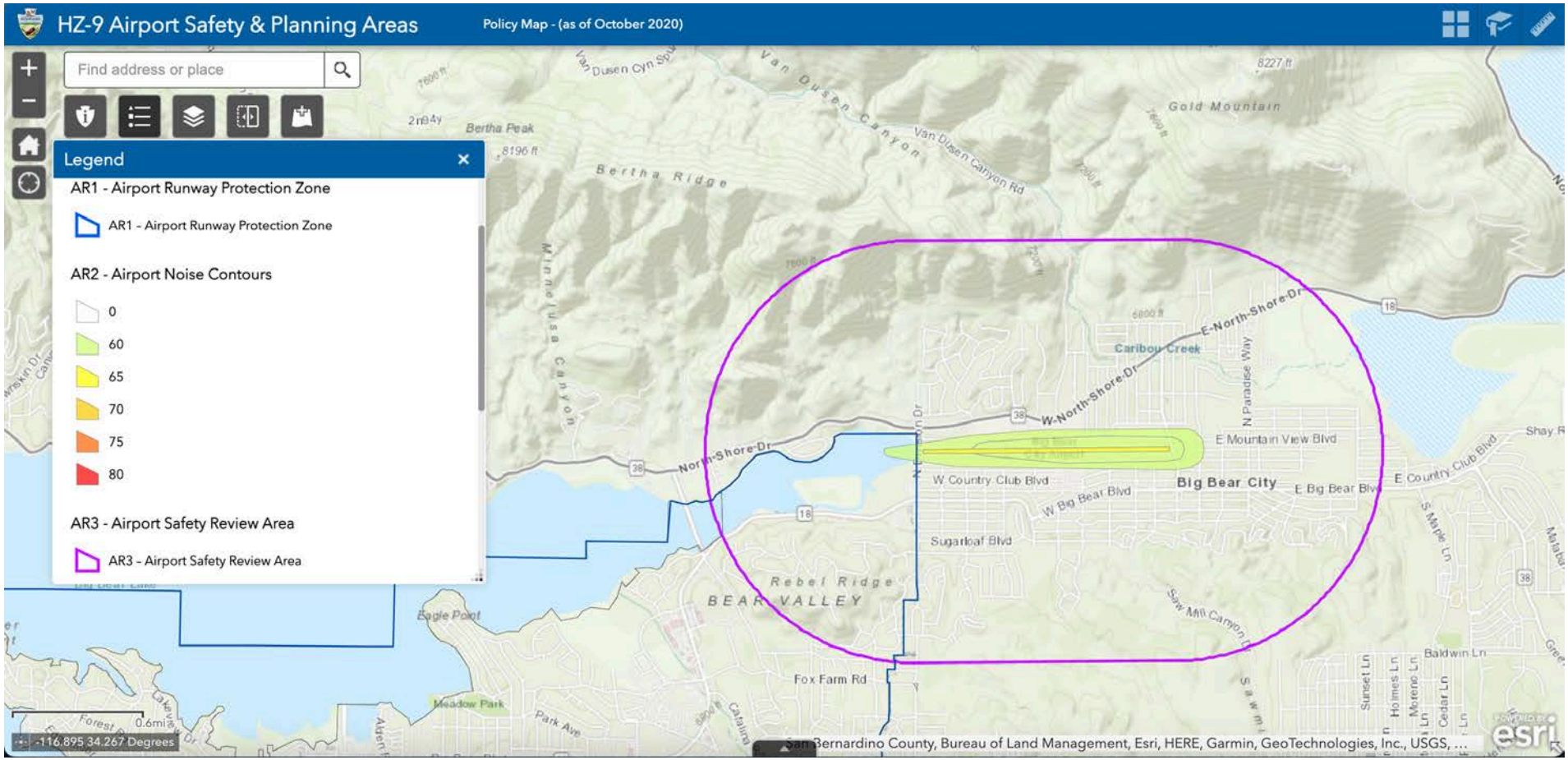

FIGURE IX-4

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Airport Safety & Planning Areas

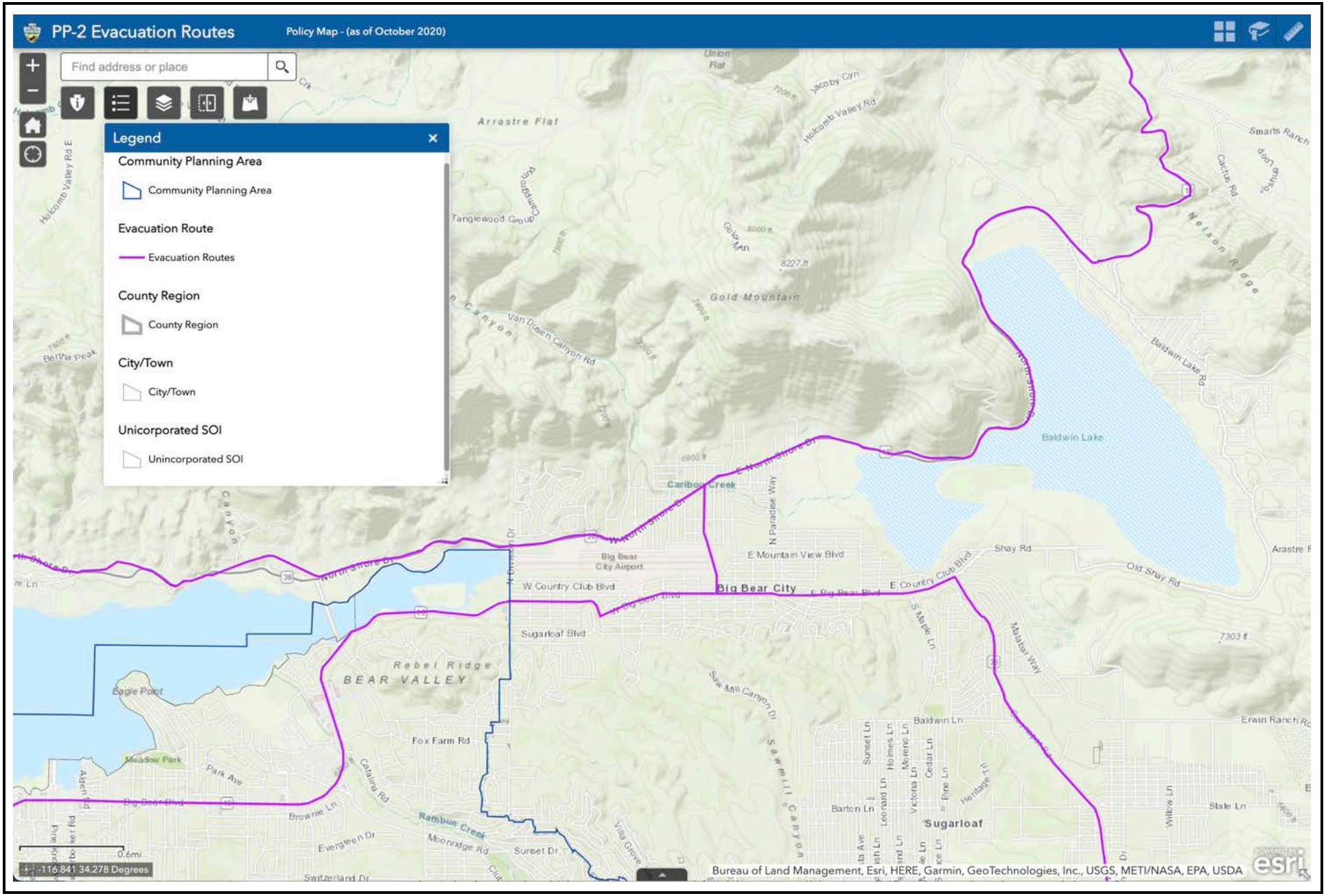

FIGURE IX-5

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Evacuation Routes

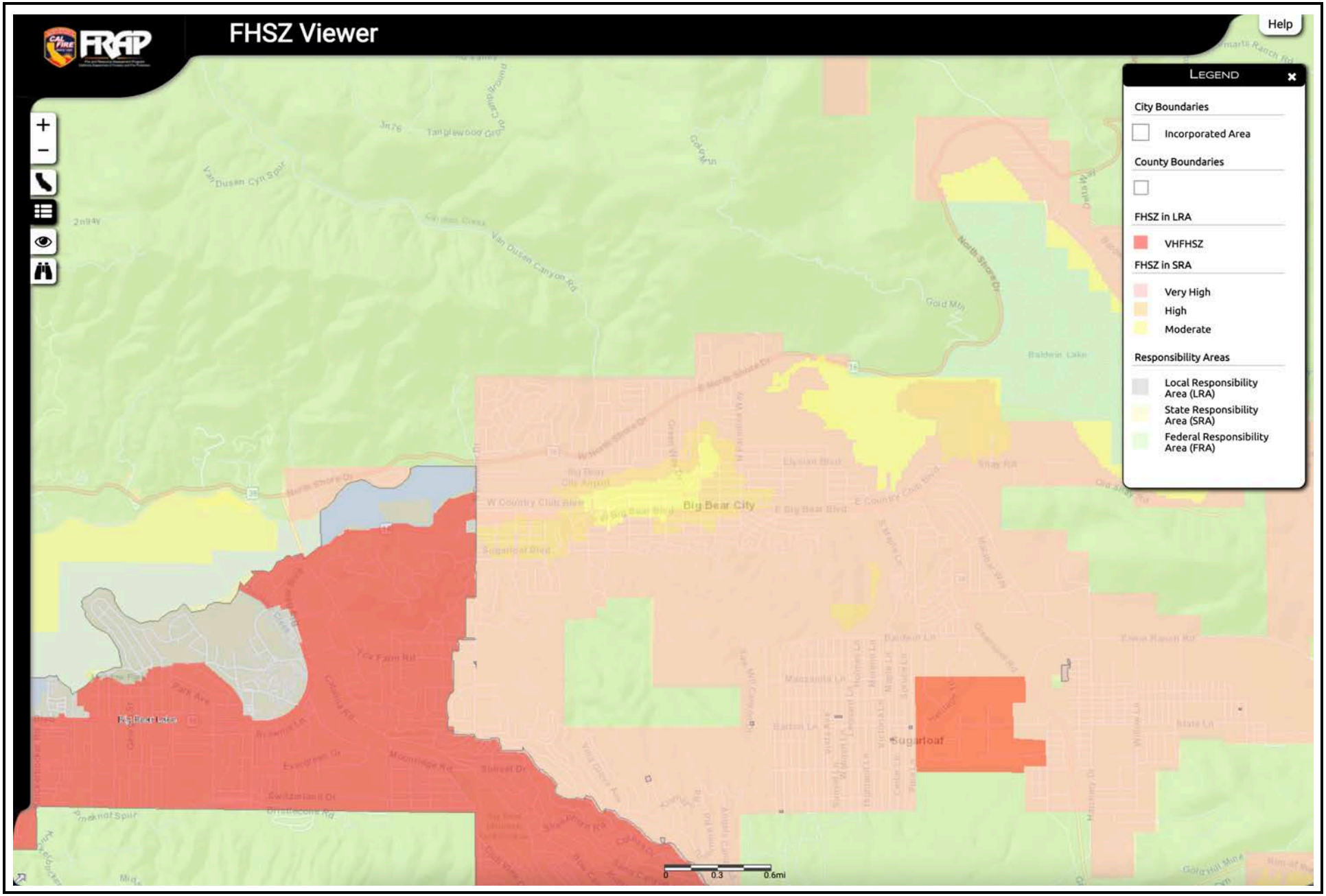

FIGURE IX-6

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FHSZ Viewer

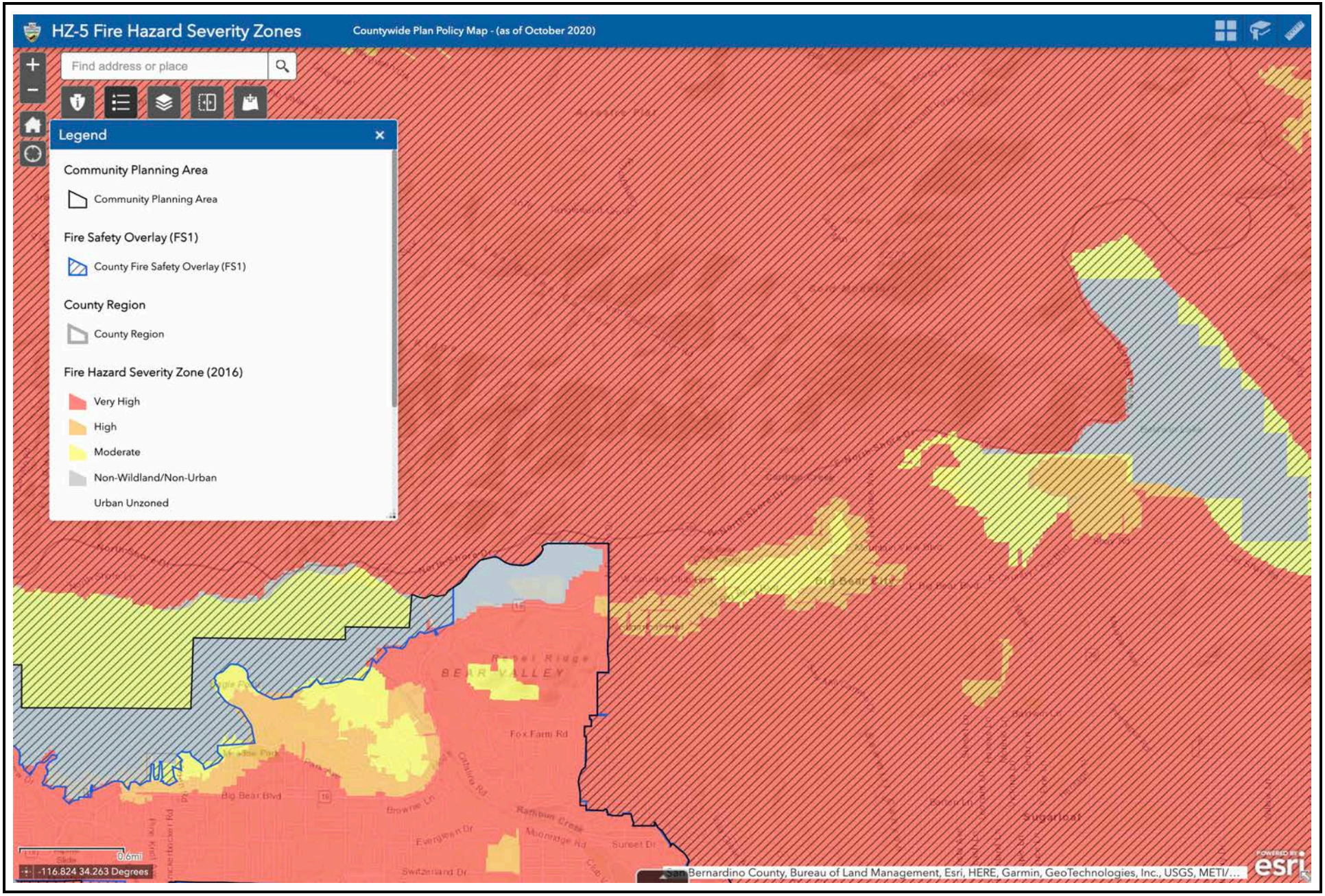

FIGURE IX-7

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Fire Hazard Severity Zones

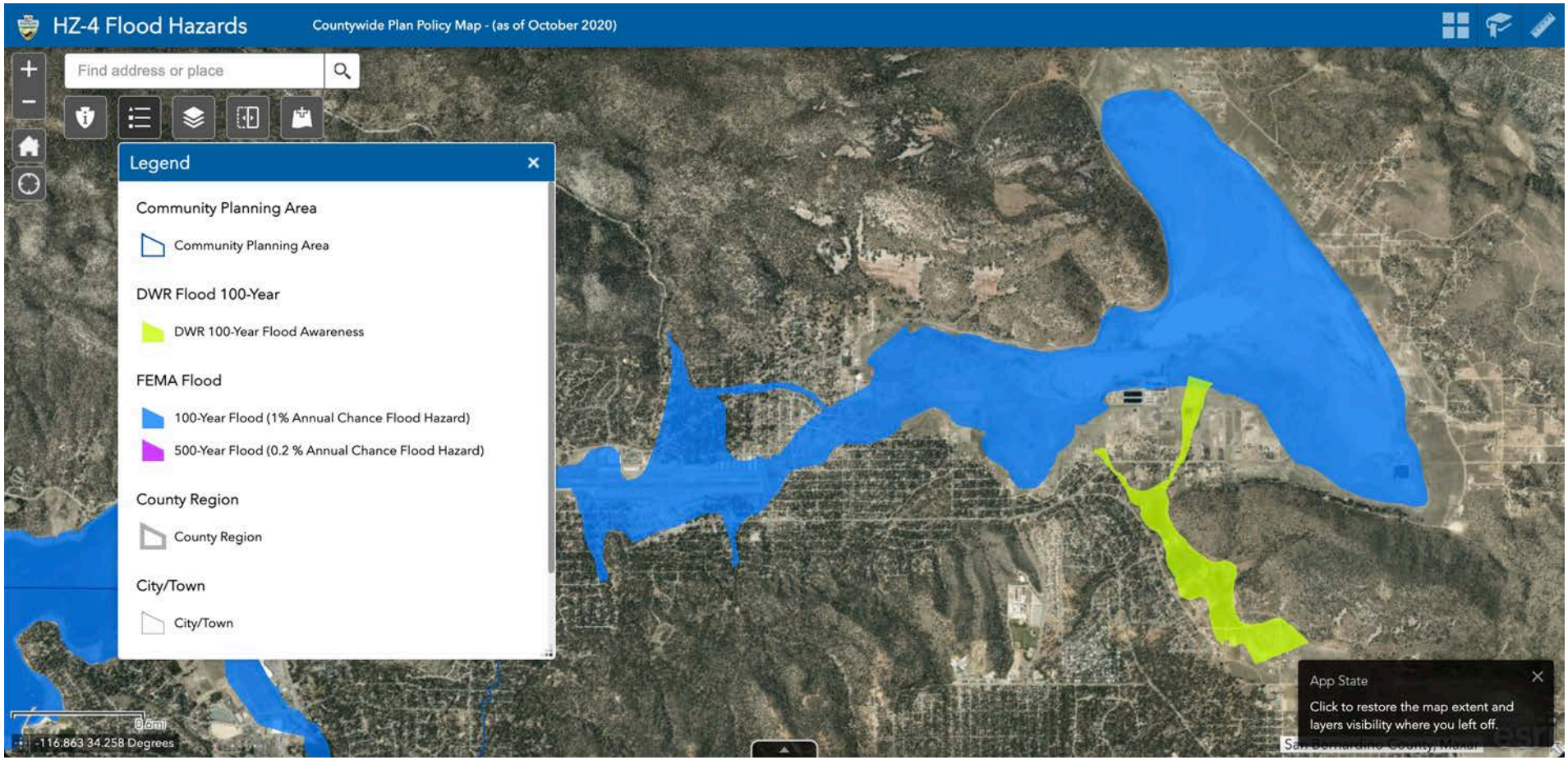

FIGURE X-1

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Flood Hazards

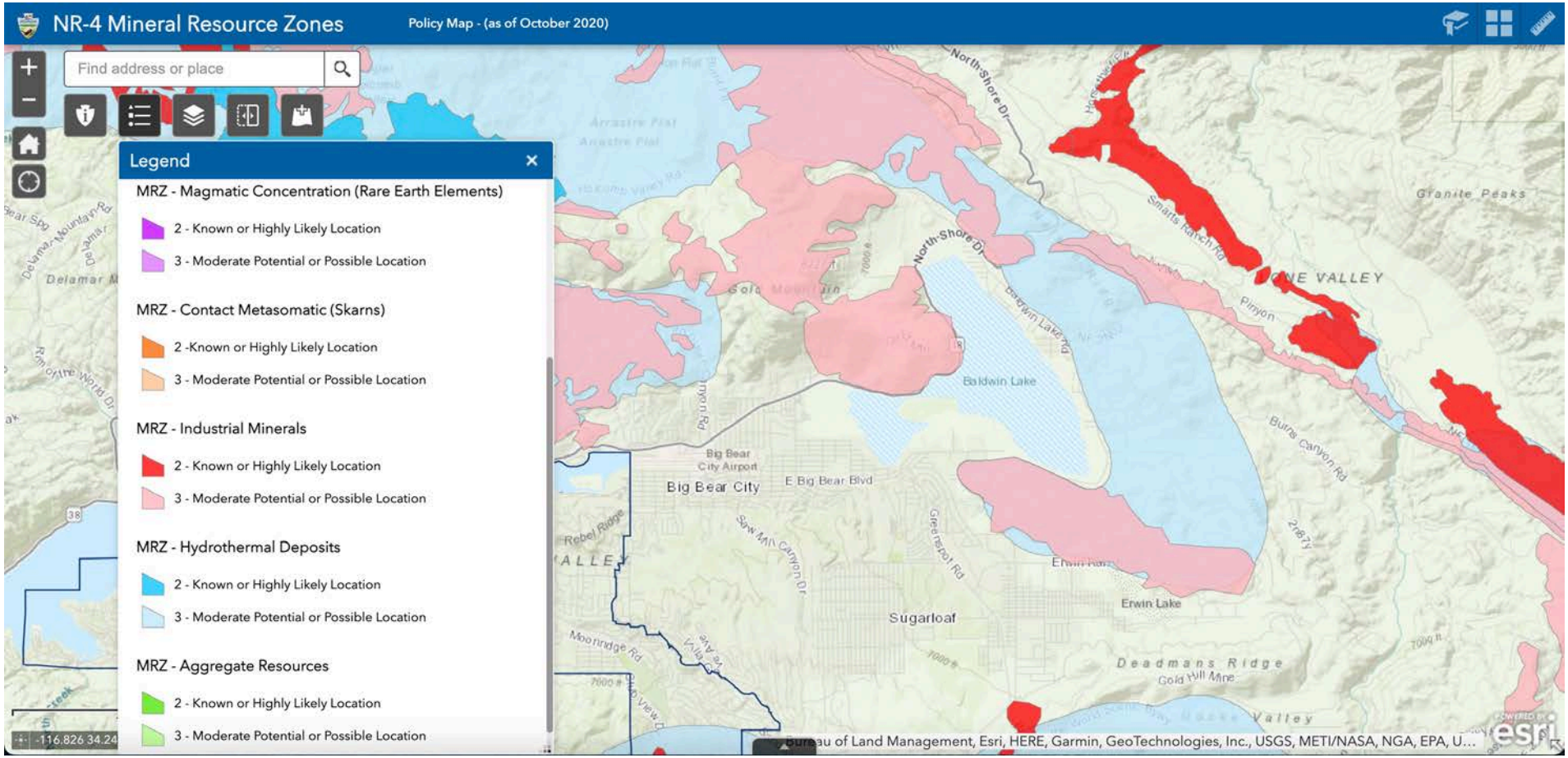

FIGURE XII-1

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Mineral Resource Zones

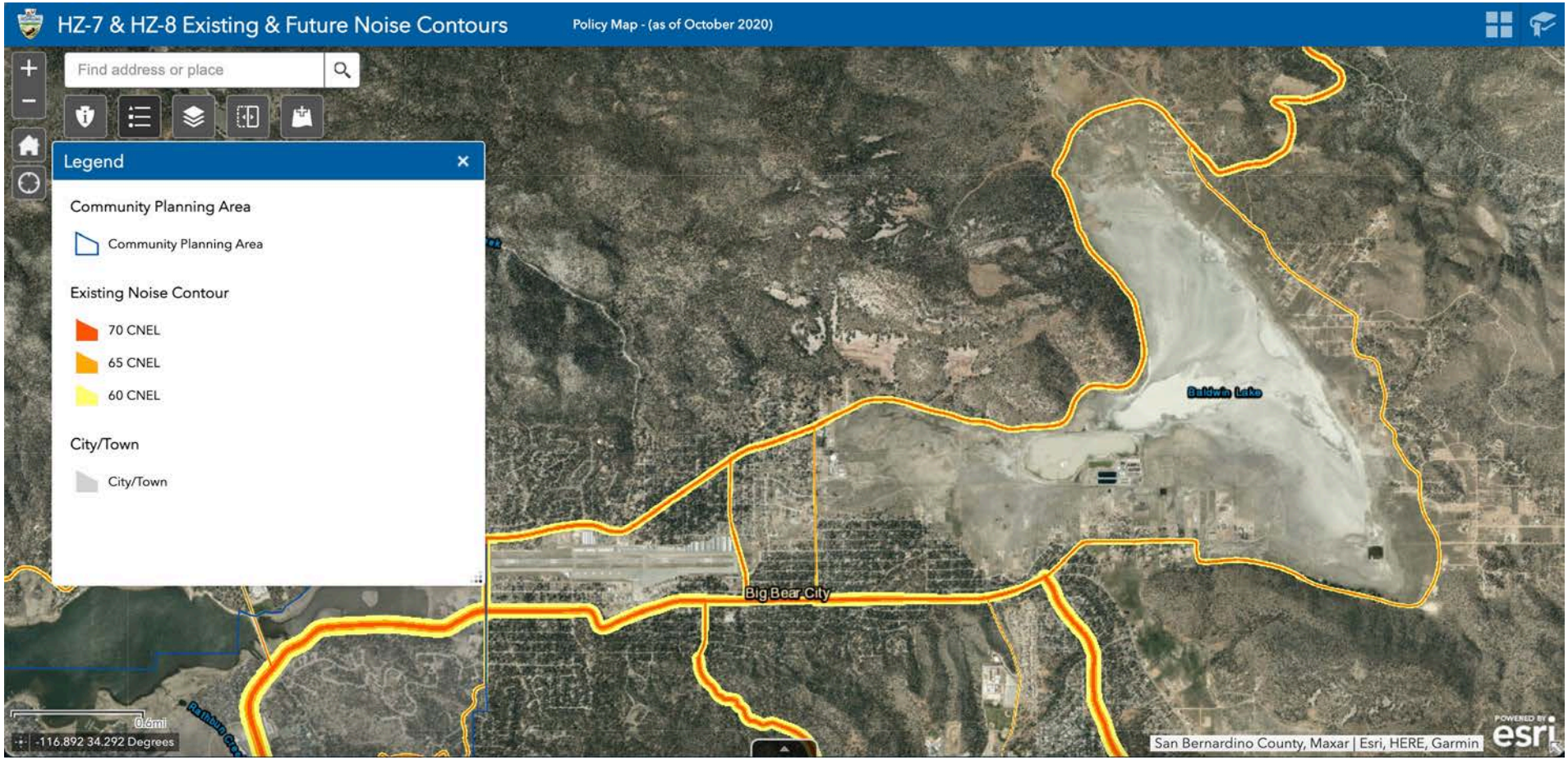

FIGURE XIII-1

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Existing Noise Contours

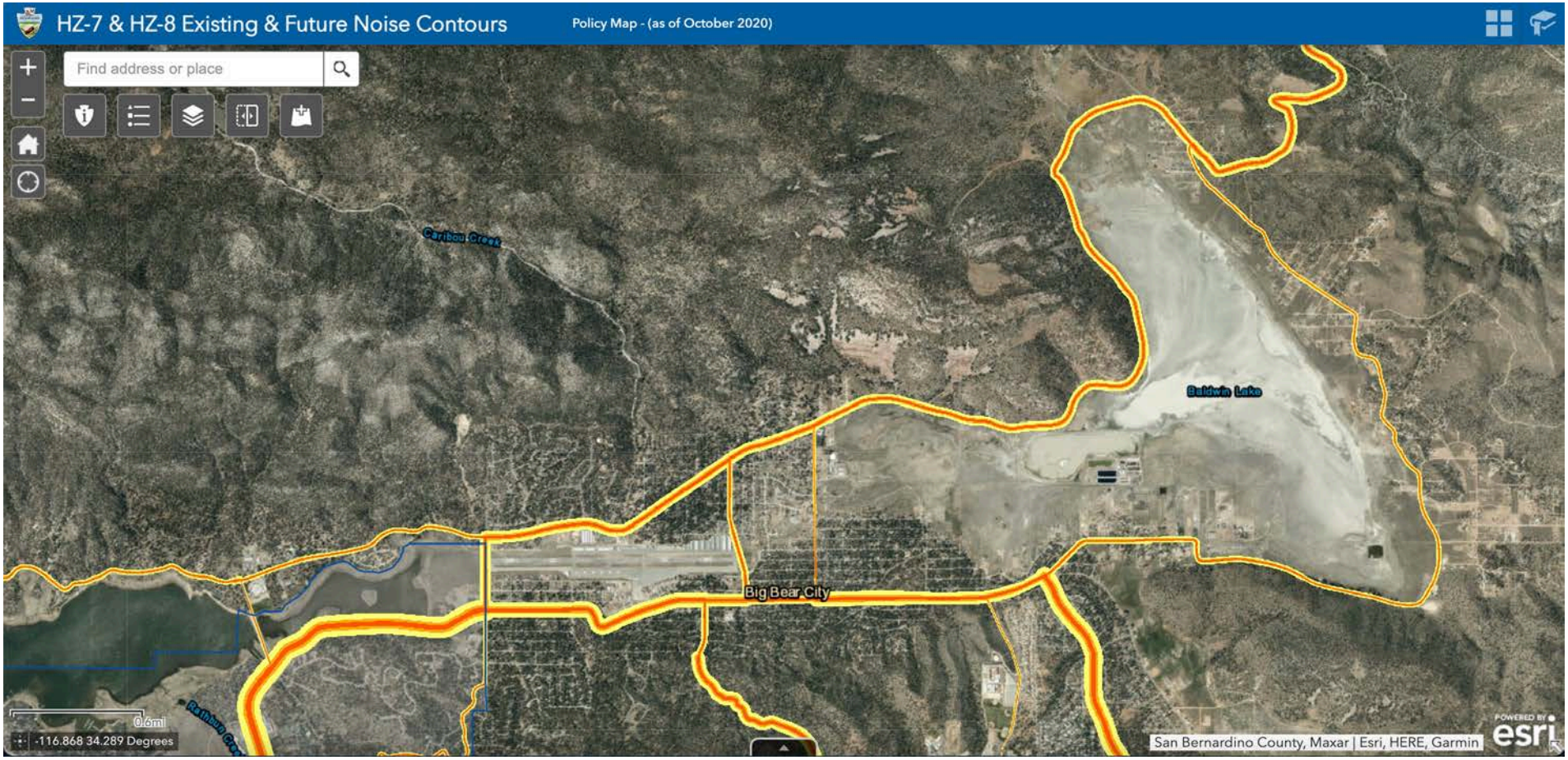

FIGURE XIII-2

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Future Noise Contours

APPENDIX 1

AIR QUALITY and GHG IMPACT ANALYSES

WSC-096
BIG BEAR CITY COMMUNITY SERVICES DISTRICT
CINDERELLA AND PAN SPRINGS PIPELINE REPLACEMENT PROJECT

BIG BEAR (SAN BERNARDINO), CALIFORNIA

Prepared by:

Giroux & Associates

Prepared for:

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

Date:

December 29, 2022

Project No.: P22-050 AQ

ATMOSPHERIC SETTING

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

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

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

AMBIENT AIR QUALITY STANDARDS (AAQS)

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

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

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

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

Table 1

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page …

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (5/4/16)

Table 1 (continued)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (5/4/16)**

Table 2
Health Effects of Major Criteria Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter.	• Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO_2)	• Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions.	• Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O_3)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	• Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	• Contaminated soil.	• Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Respirable Particulate Matter (PM-10)	• Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions.	• Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM-2.5)	• Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NOx, sulfur oxides, and organics.	• Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO_2)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002.

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

Similarly, the ARB extensively evaluated health effects of ozone exposure. A new state standard for an 8-hour ozone exposure was adopted in 2005, which aligned with the exposure period for the federal 8-hour standard. The California 8-hour ozone standard of 0.07 ppm is more stringent than the federal 8-hour standard of 0.075 ppm. The state standard, however, does not have a specific attainment deadline. California air quality jurisdictions are required to make steady progress towards attaining state standards, but there are no hard deadlines or any consequences of non-attainment. During the same re-evaluation process, the ARB adopted an annual state standard for nitrogen dioxide ($NO_{2)}$ that is more stringent than the corresponding federal standard, and strengthened the state one-hour NO_2 standard.

As part of EPA's 2002 consent decree on clean air standards, a further review of airborne particulate matter (PM) and human health was initiated. A substantial modification of federal clean air standards for PM was promulgated in 2006. Standards for PM-2.5 were strengthened, a new class of PM in the 2.5 to 10 micron size was created, some PM-10 standards were revoked, and a distinction between rural and urban air quality was adopted. In December, 2012, the federal annual standard for PM-2.5 was reduced from 15 $\mu g/m^3$ to 12 $\mu g/m^3$ which matches the California AAQS. The severity of the basin's non-attainment status for PM-2.5 may be increased by this action and thus require accelerated planning for future PM-2.5 attainment.

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

In 2010 a new federal one-hour primary standard for nitrogen dioxide (NO_2) was adopted. This standard is more stringent than the existing state standard. Based upon air quality monitoring data in the South Coast Air Basin, the California Air Resources Board has requested the EPA to designate the basin as being in attainment for this standard. The federal standard for sulfur dioxide (SO_2) was also recently revised. However, with minimal combustion of coal and mandatory use of low sulfur fuels in California, SO_2 is typically not a problem pollutant.

BASELINE AIR QUALITY

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

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

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

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

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

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

Table 3
Air Quality Monitoring Summary (2018-2021)
(Number of Days Standards Were Exceeded, and
Maximum Levels During Such Violations)
(Entries shown as ratios = samples exceeding standard/samples taken)

Pollutant/Standard	2018	2019	2020	2021
Ozone				
1-Hour > 0.09 ppm (S)	57	53	69	65
8-Hour > 0.07 ppm (S)	113	99	118	110
8- Hour > 0.075 ppm (F)	91	79	97	91
Max. 1-Hour Conc. (ppm)	0.142	0.129	0.159	0.148
Max. 8-Hour Conc. (ppm)	0.125	0.112	0.139	0.120
Carbon Monoxide				
8- Hour > 9. ppm (S,F)	0	0	0	0
Max 8-hour Conc. (ppm)	2.0	1.2	1.4	1.6
Nitrogen Dioxide				
1-Hour > 0.18 ppm (S)	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.055	0.056	0.054	0.056
Respirable Particulates (PM-10)				
24-hour > 50 $\mu g/m^3$ (S)	1/59	0/54	1/40	0/59
24-hour > 150 $\mu g/m^3$ (F)	0/59	0/54	0/40	0/59
Max. 24-Hr. Conc. ($\mu g/m^3$)	78.	38.	51.	33.
Fine Particulates (PM-2.5)				
24-Hour > 35 $\mu g/m^3$ (F)	0/54	0/46	0/58	0/59
Max. 24-Hr. Conc. ($\mu g/m^3$)	17.3	31.0	24.3	24.5

Source: South Coast Air Quality Management District;
Crestline Monitoring Station for Ozone and PM-10.
San Bernardino 4th Street Monitoring Station for CO and NO_2.
Big Bear City Monitoring Station for PM-2.5.

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

AIR QUALITY PLANNING

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

The 1990 Federal Clean Air Act Amendment (CAAA) required that all states with air-sheds with "serious" or worse ozone problems submit a revision to the State Implementation Plan (SIP). Substantial reductions in emissions of ROG, NOx and CO are forecast to continue throughout the next several decades. Unless new particulate control programs are implemented, PM-10 and PM-2.5 are forecast to slightly increase.

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

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

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

In other air quality attainment plan reviews, EPA had disapproved of part of the SCAB PM-2.5 attainment plan included in the AQMP. EPA stated that the current attainment plan relied on PM-2.5 control regulations that had not yet been approved or implemented. It was expected that several rules that were pending approval would remove the identified deficiencies. If these issues were not resolved within the next several years, federal funding sanctions for transportation projects could

result. The 2012 AQMP included in the current California State Implementation Plan (SIP) was expected to remedy identified PM-2.5 planning deficiencies.

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

AQMPs are required to be updated at regular intervals. The 2012 AQMP was adopted in early 2013. An updated 2016 AQMP was adopted by the SCAQMD Board in March 2017. The 2016 AQMD demonstrated the emissions reductions shown in Table 4 compared to the 2012 AQMP.

Table 4
Comparison of Emissions by Major Source Category From 2012 AQMP

Pollutant	Stationary Sources	Mobile Sources
VOC	-12%	-3%
NOx	-13%	-1%
SOx	-34%	-23%
PM2.5	-9%	-7%

*source 2016 AQMP

SCAQMD has initiated the development of the 2022 AQMP to address the attainment of the 2015 8-hour ozone standard (70 ppb) for South Coast Air Basin and Coachella Valley which will focus on attaining the 70 ppb 8-hour ozone National Ambient Air Quality Standard (NAAQS) by 2037. On-road vehicles and off-road mobile sources represent the largest categories of NOx emissions. Accomplishment of attainment goals requires an approximate 70% reduction in NOx emissions. Large scale transition to zero emission technologies is a key strategy. To this end, Governor Executive Order N-79-20 requires 100 percent EV sales by 2035 for automobiles and short haul drayage trucks. A full transition to EV buses and heavy-duty long-haul trucks is required by 2045.

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

AIR QUALITY IMPACT

STANDARDS OF SIGNIFICANCE

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

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

a) Conflicts with or obstructs implementation of the applicable air quality plan.

b) Results in a cumulatively considerable net increase of any criteria pollutants for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
c) Exposes sensitive receptors to substantial pollutant concentrations.

d) Creates objectionable odors affecting a substantial number of people.

Primary Pollutants

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

Secondary Pollutants

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

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

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

Table 5
Daily Emissions Thresholds

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

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

CONSTRUCTION ACTIVITY IMPACTS

The Big Bear City Community Services District (BBCCSD) proposes to construct approximately 4,400 LF of new pipelines to replace pipelines that are no longer efficient or effective, due to age or because they are undersized, improving water quality and fire flow capabilities.

Estimated construction emissions were modeled using CalEEMod2020.4.0 to identify maximum daily emissions for each pollutant with durations and equipment fleets shown below. Although there is a newer CalEEMod it is a "soft release". The SCAQMD website link is to the version used in this report.[1] Project construction activities provided by the applicant are discussed below.

Construction is anticipated to begin in Spring of 2023 and is anticipated to require 5 months to complete. The project will utilize open cut trenching and jack and bore techniques, if necessary. It is assumed that installation of 4,400 LF of water pipeline will occur over 80 days of construction over a period of about 5 months. The final activity associated with the pipeline installation is repaving roads and recompacting surfaces disturbed by the construction of the pipeline. This effort is anticipated to occur over a 15 working day period.

The project encompasses construction of pipeline within the Cinderella and Pan Hot Springs areas of Big Bear City within San Bernardino County. The project footprint is surrounded generally by residential uses.

[1] https://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-modeling

It is assumed that an underground utility installation team can install approximately 200 to 300 lineal feet of water pipeline per day. A team consists of the following:

- 1 Excavator
- 1 Backhoe
- 1 Paver
- 1 Roller
- 1 Water truck
- Traffic Control Signage and Devices
- 10 Dump/delivery trucks (80 miles round trip distance)
- Employees (12 members per team)

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

Table 6
Construction Activity Emissions
Maximum Daily Emissions (pounds/day)

Maximal Construction Emissions	ROG	NOx	CO	SO_2	PM-10	PM-2.5
2023	1.4	4.5	11.6	0.0	2.7	1.6
SCAQMD Thresholds	75	100	550	150	150	55

*Assumes SCAQMD Rule 403 Fugitive Dust applied (watering at least twice daily).

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

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

LOCALIZED SIGNIFICANCE THRESHOLDS

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

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

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

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

The SCAQMD has issued guidance on applying CalEEMod to LSTs. LST pollutant screening level concentration data is currently published for 1, 2- and 5-acre sites for varying distances. For this project the most stringent standards for a 1-acre site were used.

The following thresholds and emissions in Table 7 are therefore determined (pounds per day):

Table 7
LST and Project Emissions (pounds/day)

1 acre/25 meters East San Bernardino Mtns	**CO**	**NOx**	**PM-10**	**PM-2.5**
LST Threshold	775	118	4	4
Max On-Site Emissions				
2023	12	4	3	2

LSTs were compared to the maximum daily construction activities. As seen in Table 7, with active dust suppression, emissions meet the LST for construction thresholds. LST impacts are less-than-significant.

CONSTRUCTION EMISSIONS MINIMIZATION

Construction activities are not anticipated to cause dust emissions to exceed SCAQMD CEQA thresholds with active dust suppression. Nevertheless, mitigation through enhanced dust control measures is recommended for use because of the proximity of residential uses. Recommended mitigation includes:

Fugitive Dust Control

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

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

Exhaust Emissions Control

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

GREENHOUSE GAS EMISSIONS

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

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

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

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

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

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

THRESHOLDS OF SIGNIFICANCE

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

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or,

- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

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

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

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

On December 5, 2008 the SCAQMD Governing Board adopted an Interim quantitative GHG Significance Threshold for industrial projects where the SCAQMD is the lead agency (e.g., stationary source permit projects, rules, plans, etc.) of 10,000 Metric Tons (MT) CO_2 equivalent/year. In September 2010, the SCAQMD CEQA Significance Thresholds GHG Working Group released revisions which recommended a threshold of 3,000 MT CO_2e for all land use projects. This 3,000 MT/year recommendation has been used as a guideline for this analysis. In the absence of an adopted numerical threshold of significance, project related GHG emissions in excess of the guideline level are presumed to trigger a requirement for enhanced GHG reduction at the project level.

PROJECT RELATED GHG EMISSIONS GENERATION

Construction Activity GHG Emissions

The project is assumed to occur in less than one year. During construction, modeling predicts that the construction activities will generate the annual CO_2e emissions identified in Table 8.

Table 8
Construction Emissions (Metric Tons CO_2e)

	CO_2e
Year 2023	101.8
Amortized	**3.4**

CalEEMod Output provided in appendix

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

Project Operational GHG Emissions

There are no project related operational emissions.

CONSISTENCY WITH GHG PLANS, PROGRAMS AND POLICIES

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

Projects that demonstrate consistency with the strategies, actions, and emission reduction targets contained in the Reduction Plan would have a less than significant impact on climate change. The Project consists of a 3,400 linear foot water distribution pipeline. There are no actions that relate to such a use. Construction will be brief and there are no operational impacts. The Project results in GHG emissions significantly below the recommended SCAQMD 3,000-ton threshold. Therefore, the Project would not conflict with any applicable plan, policy, or regulation to reduce GHG emissions.

CALEEMOD2020.4.0 COMPUTER MODEL OUTPUT

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

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Summer

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

Big Bear Pipeline Replacement

San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.51	0.00	0

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 4400 linear feet

Construction Phase - 80 days for pipeline, 15 days for repaving

Off-road Equipment - Pipeline Install: 1 loader/backhoe, 1 excavator, 1 water truck, 10 signal boards

Off-road Equipment - Paving: 1 paver, 1 roller, 1 loader/backhoe

Trips and VMT - 12 workers, 10 dump/delivery trucks, 80 miles round trip distance

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	2.00	80.00
tblConstructionPhase	NumDays	5.00	15.00
tblConstructionPhase	PhaseEndDate	6/19/2023	10/5/2023

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Summer

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

tblConstructionPhase	PhaseEndDate	11/13/2023	10/27/2023
tblConstructionPhase	PhaseStartDate	11/7/2023	10/7/2023
tblGrading	AcresOfGrading	60.00	1.50
tblLandUse	LotAcreage	0.00	0.51
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Grading
tblTripsAndVMT	HaulingTripLength	20.00	80.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	8.00	24.00
tblTripsAndVMT	WorkerTripNumber	18.00	24.00

2.0 Emissions Summary

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Summer

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

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	1.4095	9.5411	11.6315	0.0285	4.8135	0.3881	5.2015	2.5584	0.3682	2.9266	0.0000	2,593.7969	2,593.7969	0.6499	0.0104	2,613.1490
Maximum	**1.4095**	**9.5411**	**11.6315**	**0.0285**	**4.8135**	**0.3881**	**5.2015**	**2.5584**	**0.3682**	**2.9266**	**0.0000**	**2,593.7969**	**2,593.7969**	**0.6499**	**0.0104**	**2,613.1490**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	1.4095	4.4566	11.6315	0.0285	2.3184	0.3881	2.7065	1.1917	0.3682	1.5599	0.0000	2,593.7969	2,593.7969	0.6499	0.0104	2,613.1490
Maximum	**1.4095**	**4.4566**	**11.6315**	**0.0285**	**2.3184**	**0.3881**	**2.7065**	**1.1917**	**0.3682**	**1.5599**	**0.0000**	**2,593.7969**	**2,593.7969**	**0.6499**	**0.0104**	**2,613.1490**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**53.29**	**0.00**	**0.00**	**51.83**	**0.00**	**47.97**	**53.42**	**0.00**	**46.70**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Summer

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Summer

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

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	6/16/2023	10/5/2023	5	80	
2	Paving	Paving	10/7/2023	10/27/2023	5	15	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	7.00	158	0.38
Grading	Off-Highway Trucks	1	7.00	402	0.38
Grading	Signal Boards	10	8.00	6	0.82
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Summer

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

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	3	24.00	0.00	10.00	14.70	6.90	80.00	LD_Mix	HDT_Mix	HHDT
Paving	7	24.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5365	0.0000	4.5365	2.4848	0.0000	2.4848			0.0000			0.0000
Off-Road	1.3150	9.4372	10.7192	0.0258		0.3862	0.3862		0.3664	0.3664		2,322.2973	2,322.2973	0.6428		2,338.3669
Total	**1.3150**	**9.4372**	**10.7192**	**0.0258**	**4.5365**	**0.3862**	**4.9226**	**2.4848**	**0.3664**	**2.8513**		**2,322.2973**	**2,322.2973**	**0.6428**		**2,338.3669**

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Summer

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

3.2 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.9000e-004	0.0473	9.6500e-003	2.7000e-004	8.7500e-003	5.7000e-004	9.3200e-003	2.4000e-003	5.5000e-004	2.9500e-003		29.3370	29.3370	1.2700e-003	4.6500e-003	30.7548
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0938	0.0566	0.9026	2.4000e-003	0.2683	1.3200e-003	0.2696	0.0711	1.2200e-003	0.0724		242.1627	242.1627	5.8600e-003	5.7700e-003	244.0274
Total	**0.0945**	**0.1039**	**0.9123**	**2.6700e-003**	**0.2770**	**1.8900e-003**	**0.2789**	**0.0735**	**1.7700e-003**	**0.0753**		**271.4997**	**271.4997**	**7.1300e-003**	**0.0104**	**274.7822**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0414	0.0000	2.0414	1.1182	0.0000	1.1182			0.0000			0.0000
Off-Road	1.3150	1.3437	10.7192	0.0258		0.3862	0.3862		0.3664	0.3664	0.0000	2,322.2972	2,322.2972	0.6428		2,338.3669
Total	**1.3150**	**1.3437**	**10.7192**	**0.0258**	**2.0414**	**0.3862**	**2.4276**	**1.1182**	**0.3664**	**1.4846**	**0.0000**	**2,322.2972**	**2,322.2972**	**0.6428**		**2,338.3669**

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Summer

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

3.2 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	6.9000e-004	0.0473	9.6500e-003	2.7000e-004	8.7500e-003	5.7000e-004	9.3200e-003	2.4000e-003	5.5000e-004	2.9500e-003		29.3370	29.3370	1.2700e-003	4.6500e-003	30.7548
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0938	0.0566	0.9026	2.4000e-003	0.2683	1.3200e-003	0.2696	0.0711	1.2200e-003	0.0724		242.1627	242.1627	5.8600e-003	5.7700e-003	244.0274
Total	**0.0945**	**0.1039**	**0.9123**	**2.6700e-003**	**0.2770**	**1.8900e-003**	**0.2789**	**0.0735**	**1.7700e-003**	**0.0753**		**271.4997**	**271.4997**	**7.1300e-003**	**0.0104**	**274.7822**

3.3 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4349	4.4000	6.0959	9.1400e-003		0.2213	0.2213		0.2036	0.2036		884.5388	884.5388	0.2861		891.6908
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4349**	**4.4000**	**6.0959**	**9.1400e-003**		**0.2213**	**0.2213**		**0.2036**	**0.2036**		**884.5388**	**884.5388**	**0.2861**		**891.6908**

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Summer

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

3.3 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0938	0.0566	0.9026	2.4000e-003	0.2683	1.3200e-003	0.2696	0.0711	1.2200e-003	0.0724		242.1627	242.1627	5.8600e-003	5.7700e-003	244.0274
Total	**0.0938**	**0.0566**	**0.9026**	**2.4000e-003**	**0.2683**	**1.3200e-003**	**0.2696**	**0.0711**	**1.2200e-003**	**0.0724**		**242.1627**	**242.1627**	**5.8600e-003**	**5.7700e-003**	**244.0274**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4349	4.4000	6.0959	9.1400e-003		0.2213	0.2213		0.2036	0.2036	0.0000	884.5388	884.5388	0.2861		891.6908
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4349**	**4.4000**	**6.0959**	**9.1400e-003**		**0.2213**	**0.2213**		**0.2036**	**0.2036**	**0.0000**	**884.5388**	**884.5388**	**0.2861**		**891.6908**

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Summer

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

3.3 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0938	0.0566	0.9026	2.4000e-003	0.2683	1.3200e-003	0.2696	0.0711	1.2200e-003	0.0724		242.1627	242.1627	5.8600e-003	5.7700e-003	244.0274
Total	**0.0938**	**0.0566**	**0.9026**	**2.4000e-003**	**0.2683**	**1.3200e-003**	**0.2696**	**0.0711**	**1.2200e-003**	**0.0724**		**242.1627**	**242.1627**	**5.8600e-003**	**5.7700e-003**	**244.0274**

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Summer

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

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

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Summer

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Summer

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

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Summer

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

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Summer

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Summer

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Annual

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

Big Bear Pipeline Replacement

San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.51	0.00	0

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 4400 linear feet

Construction Phase - 80 days for pipeline, 15 days for repaving

Off-road Equipment - Pipeline Install: 1 loader/backhoe, 1 excavator, 1 water truck, 10 signal boards

Off-road Equipment - Paving: 1 paver, 1 roller, 1 loader/backhoe

Trips and VMT - 12 workers, 10 dump/delivery trucks, 80 miles round trip distance

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	2.00	80.00
tblConstructionPhase	NumDays	5.00	15.00
tblConstructionPhase	PhaseEndDate	6/19/2023	10/5/2023

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Annual

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

tblConstructionPhase	PhaseEndDate	11/13/2023	10/27/2023
tblConstructionPhase	PhaseStartDate	11/7/2023	10/7/2023
tblGrading	AcresOfGrading	60.00	1.50
tblLandUse	LotAcreage	0.00	0.51
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Grading
tblTripsAndVMT	HaulingTripLength	20.00	80.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	8.00	24.00
tblTripsAndVMT	WorkerTripNumber	18.00	24.00

2.0 Emissions Summary

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0599	0.4155	0.5119	1.2200e-003	0.1943	0.0172	0.2115	0.1028	0.0163	0.1191	0.0000	100.9947	100.9947	0.0256	4.3000e-004	101.7633
Maximum	**0.0599**	**0.4155**	**0.5119**	**1.2200e-003**	**0.1943**	**0.0172**	**0.2115**	**0.1028**	**0.0163**	**0.1191**	**0.0000**	**100.9947**	**100.9947**	**0.0256**	**4.3000e-004**	**101.7633**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0599	0.0917	0.5119	1.2200e-003	0.0945	0.0172	0.1117	0.0481	0.0163	0.0644	0.0000	100.9946	100.9946	0.0256	4.3000e-004	101.7632
Maximum	**0.0599**	**0.0917**	**0.5119**	**1.2200e-003**	**0.0945**	**0.0172**	**0.1117**	**0.0481**	**0.0163**	**0.0644**	**0.0000**	**100.9946**	**100.9946**	**0.0256**	**4.3000e-004**	**101.7632**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**77.92**	**0.00**	**0.00**	**51.36**	**0.00**	**47.19**	**53.18**	**0.00**	**45.91**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Annual

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-1-2023	8-31-2023	0.3011	0.0786
2	9-1-2023	9-30-2023	0.1173	0.0306
		Highest	0.3011	0.0786

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Annual

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	6/16/2023	10/5/2023	5	80	
2	Paving	Paving	10/7/2023	10/27/2023	5	15	

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Annual

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

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	7.00	158	0.38
Grading	Off-Highway Trucks	1	7.00	402	0.38
Grading	Signal Boards	10	8.00	6	0.82
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	3	24.00	0.00	10.00	14.70	6.90	80.00	LD_Mix	HDT_Mix	HHDT
Paving	7	24.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Annual

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

3.2 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1815	0.0000	0.1815	0.0994	0.0000	0.0994	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0526	0.3775	0.4288	1.0300e-003		0.0155	0.0155		0.0147	0.0147	0.0000	84.2701	84.2701	0.0233	0.0000	84.8532
Total	**0.0526**	**0.3775**	**0.4288**	**1.0300e-003**	**0.1815**	**0.0155**	**0.1969**	**0.0994**	**0.0147**	**0.1141**	**0.0000**	**84.2701**	**84.2701**	**0.0233**	**0.0000**	**84.8532**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	2.0100e-003	3.9000e-004	1.0000e-005	3.4000e-004	2.0000e-005	3.7000e-004	9.0000e-005	2.0000e-005	1.2000e-004	0.0000	1.0647	1.0647	5.0000e-005	1.7000e-004	1.1162
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3400e-003	2.4900e-003	0.0312	9.0000e-005	0.0105	5.0000e-005	0.0106	2.8000e-003	5.0000e-005	2.8400e-003	0.0000	8.1192	8.1192	2.2000e-004	2.2000e-004	8.1911
Total	**3.3700e-003**	**4.5000e-003**	**0.0315**	**1.0000e-004**	**0.0109**	**7.0000e-005**	**0.0110**	**2.8900e-003**	**7.0000e-005**	**2.9600e-003**	**0.0000**	**9.1840**	**9.1840**	**2.7000e-004**	**3.9000e-004**	**9.3073**

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Annual

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

3.2 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0817	0.0000	0.0817	0.0447	0.0000	0.0447	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0526	0.0538	0.4288	1.0300e-003		0.0155	0.0155		0.0147	0.0147	0.0000	84.2700	84.2700	0.0233	0.0000	84.8531
Total	**0.0526**	**0.0538**	**0.4288**	**1.0300e-003**	**0.0817**	**0.0155**	**0.0971**	**0.0447**	**0.0147**	**0.0594**	**0.0000**	**84.2700**	**84.2700**	**0.0233**	**0.0000**	**84.8531**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	2.0100e-003	3.9000e-004	1.0000e-005	3.4000e-004	2.0000e-005	3.7000e-004	9.0000e-005	2.0000e-005	1.2000e-004	0.0000	1.0647	1.0647	5.0000e-005	1.7000e-004	1.1162
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3400e-003	2.4900e-003	0.0312	9.0000e-005	0.0105	5.0000e-005	0.0106	2.8000e-003	5.0000e-005	2.8400e-003	0.0000	8.1192	8.1192	2.2000e-004	2.2000e-004	8.1911
Total	**3.3700e-003**	**4.5000e-003**	**0.0315**	**1.0000e-004**	**0.0109**	**7.0000e-005**	**0.0110**	**2.8900e-003**	**7.0000e-005**	**2.9600e-003**	**0.0000**	**9.1840**	**9.1840**	**2.7000e-004**	**3.9000e-004**	**9.3073**

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Annual

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

3.3 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2600e-003	0.0330	0.0457	7.0000e-005		1.6600e-003	1.6600e-003		1.5300e-003	1.5300e-003	0.0000	6.0183	6.0183	1.9500e-003	0.0000	6.0670
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.2600e-003**	**0.0330**	**0.0457**	**7.0000e-005**		**1.6600e-003**	**1.6600e-003**		**1.5300e-003**	**1.5300e-003**	**0.0000**	**6.0183**	**6.0183**	**1.9500e-003**	**0.0000**	**6.0670**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3000e-004	4.7000e-004	5.8400e-003	2.0000e-005	1.9700e-003	1.0000e-005	1.9800e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.5224	1.5224	4.0000e-005	4.0000e-005	1.5358
Total	**6.3000e-004**	**4.7000e-004**	**5.8400e-003**	**2.0000e-005**	**1.9700e-003**	**1.0000e-005**	**1.9800e-003**	**5.2000e-004**	**1.0000e-005**	**5.3000e-004**	**0.0000**	**1.5224**	**1.5224**	**4.0000e-005**	**4.0000e-005**	**1.5358**

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Annual

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

3.3 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2600e-003	0.0330	0.0457	7.0000e-005		1.6600e-003	1.6600e-003		1.5300e-003	1.5300e-003	0.0000	6.0183	6.0183	1.9500e-003	0.0000	6.0670
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.2600e-003**	**0.0330**	**0.0457**	**7.0000e-005**		**1.6600e-003**	**1.6600e-003**		**1.5300e-003**	**1.5300e-003**	**0.0000**	**6.0183**	**6.0183**	**1.9500e-003**	**0.0000**	**6.0670**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.3000e-004	4.7000e-004	5.8400e-003	2.0000e-005	1.9700e-003	1.0000e-005	1.9800e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.5224	1.5224	4.0000e-005	4.0000e-005	1.5358
Total	**6.3000e-004**	**4.7000e-004**	**5.8400e-003**	**2.0000e-005**	**1.9700e-003**	**1.0000e-005**	**1.9800e-003**	**5.2000e-004**	**1.0000e-005**	**5.3000e-004**	**0.0000**	**1.5224**	**1.5224**	**4.0000e-005**	**4.0000e-005**	**1.5358**

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Annual

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

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

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Annual

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Annual

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

Big Bear Pipeline Replacement - San Bernardino-South Coast County, Annual

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX 2

BIOLOGICAL RESOURCES ASSESSMENT AND JURISDICTIONAL DELINEATION FOR THE PROPOSED BIG BEAR CITY COMMUNITY SERVICES DISTRICT CINDERELLA AND PAN SPRINGS PIPELINE REPLACEMENT PROJECT, IN THE CITY OF BIG BEAR LAKE, CALIFORNIA

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Contents

SECTION 1.0 – INTRODUCTION

Jennings Environmental, LLC (Jennings) was retained by Tom Dodson and Associates (TDA) to conduct a literature review and reconnaissance-level survey for the proposed Big Bear City Community Services District (BBCCSD) Cinderella and Pan Springs Pipeline Replacement (Project), within an unincorporated portion of Big Bear Lake, San Bernardino County, California. The survey identified vegetation communities, the potential for the occurrence of special status species, or habitats that could support special status wildlife species, and recorded all plants and animals observed or detected within the Project boundary. This biological resources assessment is designed to address the potential effects of the proposed Project on designated critical habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) or species designated as sensitive by the California Department of Fish and Wildlife (CDFW) or the California Native Plant Society (CNPS). Information contained in this document is in accordance with accepted scientific and technical standards that are consistent with the requirements of the United States Fish and Wildlife Service (USFWS) and (CDFW). Additionally, the project footprint was surveyed for any drainage features that would meet the definition of the Waters of the US (WOUS), Waters of the State (WOS), or CDFW jurisdiction.

1.1 PROJECT LOCATION

The project is generally located in the southern portion of Section 11, Township 2 North, Range 1 East, and is depicted on the *Big Bear City* U.S. Geological Survey's (USGS) 7.5-minute quadrangles topographic map. More specifically the project is located within various roadways generally located south of State Route 18/East North Shore Drive, east of Sequoia Drive, west of Paradise Way, and north of East Tiger Lily Drive, within an unincorporated area of Big Bear Lake, San Bernardino County, California. (Figures 1 and 2 in Appendix A).

1.2 PROJECT DESCRIPTION

The BBCCSD proposes to construct approximately 4,400 LF of new pipelines to replace pipelines that are no longer efficient or effective, due to age or because they are undersized, improving water quality and fire flow capabilities. The project includes the replacement of existing water mains with new 8-inch piping on North Shore Drive, Mount Doble Drive, Gold Mountain Drive, Cinderella Drive, and Tiger Lily Drive, which will be installed within the road rights-of-way along with new line side services, valves, fire hydrants, and customer service tie-ins. The existing mains and customer services will be disconnected from the water system and abandoned in place.

The project also includes the abandonment of 1,390 LF of pipeline located within backyard easements between and parallel to: (1) Dumas Lane and Pan Springs Lane; and (2) Pan Springs Lane and Paradise Way. The pipeline will be abandoned in place. Existing homes served by these backyard easement pipelines will have new services constructed from their homes to the existing water mains on Dumas Lane and Paradise Way or the new water main on Pan Springs Lane, as appropriate.

SECTION 2.0 – METHODOLOGY

2.1 LITERATURE REVIEW

Prior to performing the field survey, existing documentation relevant to the Project Footprint was reviewed. The most recent records were reviewed for the following quadrangle containing and surrounding the Project Footprint: *Big Bear Lake, Fawnskin, Big Bear City,* and *Moonridge,* USGS 7.5-minute quadrangles. The *Big Bear Lake* and *Moonridge* quads were included in this search due to the Project Footprint's proximity to their borders. These databases contain records of reported occurrences of federal- or state-listed endangered or threatened species, California Species of Concern (SSC), or otherwise special status species or habitats that may occur within or in the immediate vicinity of the Project Footprint. These sources include:

- California Natural Diversity Database (CNDDB) managed by CDFW (CDFW 2023)
- USFWS Critical Habitat Mapper (USFWS 2023)
- California Native Plant Society's Electronic Inventory (CNPSEI) of Rare and Endangered Vascular Plants of California (CNPS 2023), issuer of the California Rare Plant Rank.
- U.S. Fish and Wildlife (USFWS) threatened and endangered species occurrence GIS overlay;
- USDA Natural Resources Conservation Service (NRCS) Web Soil Survey;
- USGS National Map;
- Calwater Watershed Maps
- Environmental Protection Agency My Waters Maps
- USFWS Designated Critical Habitat Maps
- San Bernardino County Biotic Resources Map

2.2 SOILS

Before conducting the surveys, soil maps for San Bernardino County were referenced online to determine the types of soil found within the Project Footprint. Soils were determined in accordance with categories set forth by the United States Department of Agriculture (USDA) Soil Conservation Service and by referencing the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2023).

2.3 BIOLOGICAL RECONNAISSANCE-LEVEL SURVEY

Jennings biologist, Gene Jennings, conducted the general reconnaissance survey within the Project Footprint to identify the potential for the occurrence of special status species, vegetation communities, or habitats that could support special status wildlife species. The surveys were conducted on foot, throughout the Project Footprint between 1230 and 130 hours on January 27, 2023. Weather conditions during the survey included temperatures ranging from 48.3 to 50.2 degrees Fahrenheit, with clear skies, no precipitation, and 0 to 1.3 mile-per-hour winds. Photographs of the Project Footprint were taken to document existing conditions (Appendix B).

2.4 JURISDICTIONAL FEATURES

A general assessment of jurisdictional waters regulated by the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW was conducted for the proposed Project area. Pursuant to Section 404 of the Clean Water Act, USACE regulates the discharge of dredged and/or fill material into waters of the United States. The State of California (State) regulates the discharge of material into waters of the State pursuant to Section 401 of the Clean Water Act and the California Porter- Cologne Water Quality Control Act (California Water Code, Division 7, §13000 et seq.). Pursuant to Division 2, Chapter 6, Sections 1600-1602 of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife. The assessment was conducted by a desktop survey through the USGS National Hydrography Dataset for hydrological connectivity. An additional discussion of the regulatory framework is provided in Appendix C.

2.5 VEGETATION

All plant species observed within the Project Footprint were recorded. Vegetation communities within the Project Footprint were identified and qualitatively described. Plant communities were determined in accordance with the *Manual of California Vegetation*, *Second Edition* (Sawyer et al. 2009). Plant nomenclature follows that of *The Jepson Manual, Second Edition* (Baldwin et al. 2012). A comprehensive list of the plant species observed during the survey is provided in Appendix D.

2.6 WILDLIFE

All wildlife and wildlife signs observed and detected, including tracks, scat, carcasses, burrows, excavations, and vocalizations, were recorded. Additional survey time was spent in those habitats most likely to be utilized by wildlife (native vegetation, wildlife trails, etc.) or in habitats with the potential to support state- and/or federally listed or otherwise special status species. Notes were made on the general habitat types, species observed, and the conditions of the Project Footprint. A comprehensive list of the wildlife species observed during the survey is provided in Appendix D.

2.7 WILDLIFE CORRIDORS AND HABITAT CONSERVATION PLAN

According to the California Essential Habitat Connectivity Project, the Project Footprint is not mapped within an area for wildlife movement. Additionally, the Project Footprint is not within or adjacent to a habitat conservation plan. Therefore, the proposed Project will not have an impact on any current wildlife corridors or habitat conservation plans.

SECTION 3.0 – RESULTS

3.1 LITERATURE REVIEW RESULTS

According to the CNDDB, CNPSEI, and other relevant literature and databases, 104 sensitive species, 20 of which are listed as threatened or endangered, and 2 sensitive habitats, have been documented in the *Big Bear Lake, Fawnskin, Big Bear City,* and *Moonridge* quads. The *Big Bear City* and *Moonridge* quads were included in this search due to the Project Footprint's proximity to their borders. This list of sensitive

species and habitats includes any State and/or federally-listed threatened or endangered species, CDFW-designated Species of Special Concern (SSC), and otherwise Special Animals. "Special Animals" is a general term that refers to all of the taxa the CNDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special status species." The CDFW considers the taxa on this list to be those of greatest conservation need.

An analysis of the likelihood for the occurrence of all CNDDB-sensitive species documented in the *Big Bear Lake, Fawnskin, Big Bear City,* and *Moonridge* quads is provided in Table 1, in Appendix D. This analysis takes into account species range as well as documentation within the vicinity of the project area and includes the habitat requirements for each species and the potential for their occurrence on the Project Footprint, based on required habitat elements and range relative to the current Project Footprint conditions. According to the databases, no sensitive habitat, including USFWS-designated critical habitat, occurs within or adjacent to the Project Footprint.

3.1.1 SOILS

After a review of the USDA Soil Conservation Service and by referencing the USDA NRCS Web Soil Survey (USDA 2023), it was determined that the Project Footprint is located within the San Bernardino County National Forest Area, California area CA777. Based on the results of the database search, one (1) soil type is documented in the area:

Moonridge-caribou creek-urban land complex, 0 to 4 percent slopes (306). This soil is well drained with a moderately high to high capacity to transmit water. This soil consists of alluvium derived from granitoid, typically ranges in elevation from 6,690 to 6,920 feet above mean sea level (amsl), and is considered prime farmland if irrigated.

3.1.2 SPECIAL STATUS SPECIES BACKGROUND

Of the 104 species found within the *Big Bear Lake, Fawnskin, Big Bear City,* and *Moonridge* quads, 20 have a special designation of either: federally listed, state listed, or a species of special concern (SSC) under California Fish and Game Code. The discussion below provides the background information on those species that have the potential to occur within the Project Footprint or vicinity.

Southern rubber boa (Charina umbratical) – Threatened (State)

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

Typical habitat for this species is mixed conifer-oak forest or woodland dominated by two or more of the following species: Jeffrey pine (*Pinus jeffreyi*), yellow pine (*P. ponderosa*), sugar pine (*P. lambertiana*), incense cedar (*Calocedrus decurrens*), white fir (*Abies concolor*), and black oak (*Quercus kelloggii*) (Stewart et al., 2005). Rubber boas are usually found near streams or wet meadows or within or under surface

objects with good moisture retaining properties such as rotting logs (CDFW 2014). Much of the literature suggests that the rubber boa prefers mixed conifer-oak forests and woodlands between 5,000 and 8,000 feet in elevation, especially in canyons and on cool, north facing slopes (CDFW 1987). However, the factors of overriding importance seem to be access to hibernation sites below the frost line and access to damp soil (Keasler 1982).

Rubber boa have been documented within approximately 5 miles of the subject parcel.

Bald eagle (Haliaeetus leucocephalus) – Delisted (Federal)/ Endangered (State)

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

According to the CNDDB, the nearest occurrence for the BAEA is 5.91 miles west of the Project Footprint.

California spotted owl (Strix occidentalis) – SSC

The California spotted owl (SPOW) is considered a Species of Special Concern (SSC) by the CDFW and is listed as a Sensitive Species by the U.S. Forest Service. The SPOW breeds and roosts in forests and wood-lands with large old trees and snags, high basal areas of trees and snags, dense canopies (≥70% canopy closure), multiple canopy layers, and downed woody debris (Verner et al. 1992a, as cited in Davis and Gould 2008). Large, old trees are the key component; they provide nest sites and cover from inclement weather and add structure to the forest canopy and woody debris to the forest floor. These characteristics typify old-growth or late-seral-stage habitats (Davis and Gould 2008). Because the SPOW selects stands that have higher structural diversity and significantly more large trees than those generally available, it is considered a habitat specialist (Moen and Gutiérrez 1997, as cited in Davis and Gould 2008). In southern California, SPOW principally occupy montane hardwood and montane hard-wood-conifer forests, especially those with canyon live oak (*Quercus chrysolepis*) and bigcone Douglas-fir (*Pseudotsuga macrocarpa*), at mid- to high elevations (Davis and Gould 2008).

SPOW prey on small mammals, particularly dusky-footed woodrats (*Neotoma fuscipes*) at lower elevations (oak woodlands and riparian forests) and throughout southern California (Verner et al. 1992a, as cited in Davis and Gould 2008). The SPOW breeding season occurs from early spring to late summer or fall.

Breeding spotted owls begin pre-laying behaviors, such as preening and roosting together, in February or March and juvenile owl dispersal likely occurs in September and October (Meyer 2007). The SPOW does not build its own nest but depends on finding suitable, naturally occurring sites in tree cavities or on broken-topped trees or snags, on abandoned raptor or common raven (*Corvus corax*) nests, squirrel nests, dwarf mistletoe (*Arceuthobium* spp.) brooms, or debris accumulations in trees (Davis and Gould 2008). In the San Bernardino Mountains, platform nests predominate (59%) and were in trees with an average diameter at breast height (dbh) of 75 cm, whereas cavity nest trees and broken-top nest trees were significantly larger (mean dbh of 108.3 cm and 122.3 cm, respectively) (LaHaye et al. 1997, as cited in Davis and Gould 2008).

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

Per the CNDDB Spotted Owl Observations Database (2023), the nearest documented SPOW activity center (roosting or nesting site) is approximately 3.58 miles northwest of the Project Footprint.

San Bernardino flying squirrel (Glaucomys oregonensis californicus) – SSC

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

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

meters, and concluded that movements are unimpeded in areas with average openings of 20 meters and occasional openings of 30 to 40 meters.

The Flying Squirrels of Southern California is a project of the San Diego Natural History Museum (SDNHM), in collaboration with the U.S. Forest Service and the USFWS, to try to determine the distribution and habitat use of the flying squirrel in southern California. Per the SDNHM database, the nearest documented flying squirrel occurrence (2015) is located 0.33 miles northwest of the Project Footprint, within a more dense tree canopy area.

3.1.3 JURISDICTIONAL WATERS

Aerial imagery of the Project Footprint was examined and compared with the surrounding USGS 7.5-minute topographic quadrangle maps to identify drainage features within the survey area as indicated by topographic changes, blue-line features, or visible drainage patterns. The U.S. Fish and Wildlife Service National Wetland Inventory and Environmental Protection Agency (EPA) Water Program "My Waters" data layers were also reviewed to determine whether any hydrologic features and wetland areas had been documented within the vicinity of the Project Footprint. Similarly, the Soil maps from the U.S. Department of Agriculture (USDA) - Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2023) were reviewed to identify the soil series within the Project Footprint and to check if they have been identified regionally as hydric soils. Upstream and downstream connectivity of waterways (if present) was reviewed in the field, on aerial imagery, and topographic maps to determine jurisdictional status. After a review of the aerials, it appeared that there was a jurisdictional feature on the western edge of the parcel.

3.1.4 HYDROLOGY AND HYDROLOGIC CONNECTIVITY

Hydrologically, the Project Footprint is located within Baldwin Hydrologic Sub-Area (HSA 801.73), as identified on the Calwater Watershed maps. This undefined area comprises a 22,789-acre drainage area within the larger Bear Creek Watershed Area (Hydrologic Unit Code [HUC10] 1807020301, US Watershed Maps) (CalTrans, 2023). The Bear Creek watershed in Big Bear is bordered to the north by the Deep Creek, Crystal Creek – Lucerne Lake, and Arrastre Creek-Melville Lake watersheds, to the east by the Arrastre Creek-Melville Lake watershed, to the south by the Headwaters Santa Ana River watershed, and to the west by Deep Creek and Upper Santa Ana River watersheds. (Figure 4 in Appendix A).

3.1.5 DESIGNATED CRITICAL HABITAT

The Project Footprint is not located within or adjacent to any USFWS-designated Critical Habitat. No further action is required.

3.2 FIELD STUDY RESULTS

3.2.1 VEGETATION

The Project Footprint is within an established neighborhood within the existing paved roads. There are some native pines [Jeffery pine (*Pinus jeffreyi*) and sugar pine (*Pinus lambertiana*)] mixed in between the houses. However, all potions of the road and properties are currently maintained and do not contain any habitat for any sensitive species.

3.2.2 WILDLIFE

A few birds were seen or heard during the survey. Species observed or otherwise detected on or in the vicinity of the Project Footprint during the surveys included; common raven (*Corvus corax*), pygmy nuthatch (*Sitta pygmaea*), and Steller's jay (*Cyanocitta stelleri*).

The Project Footprint is located within a developed area of Big Bear. As mentioned above the Project Footprint is currently a paved roadway within an existing neighborhood. There is no habitat within the proposed project footprint, as well as the immediate surrounding area, that is suitable for the sensitive species identified in the CNDDB search (Table 1 in Appendix D).

3.2.3 SPECIAL STATUS SPECIES

Southern rubber boa – Threatened (State)

Although this species has been observed within 5 miles of the Project Footprint, there is no suitable habitat within the Project boundary. The Project Footprint is disturbed with concrete, asphalt, or structures, and the small dirt-landscaped areas are exposed to direct sunlight most of the year and do not retain moisture. Additionally, the Project Footprint does not contain any fallen debris for hibernacula and there are no south-facing slopes to provide any rock outcrops. The Project Footprint is also separated from the occupied habitat by multiple development projects. Therefore, this species is considered absent from the Project Footprint and the proposed Project will not affect rubber boa.

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

The Project is not within or adjacent to any suitable BAEA foraging or nesting habitat. The nearest suitable habitat for this species is the Big Bear shoreline, which is approximately 2.6 miles west of the Project Footprint. Additionally, the proposed Project does not require the removal of large old-growth vegetation. Therefore, the proposed project is will not affect BAEA and no further investigation relative to this species is warranted or required.

California spotted owl – SSC

The Project Footprint is within an already disturbed area and the immediate vicinity has been subject to ongoing human disturbances associated with the existing commercial and residential developments in the area for a long time. Therefore, it is unlikely that the immediate surrounding area would be utilized by SPOW for nesting or roosting. Additionally, the Project Footprint lacks the basic habitat requirements for this species. Furthermore, this species has not been documented within the project area. Although the U.S. Forest Service does not survey for SPOW on private property, the surrounding San Bernardino National Forest areas have been surveyed extensively by the Forest Service since the late 1980s. For the reasons discussed, the Project area is not occupied by SPOW, and the proposed Project will not affect this species.

San Bernardino flying squirrel – SSC

The Project Footprint and surrounding area do not provide habitat suitable to support flying squirrels. The surrounding area is a residential development with sparse tree canopy cover. Although, this species has been documented within approximately 0.33 miles of the Project Footprint, in mixed conifer forest habitat. The habitat within the Project Footprint and surrounding vicinity are not suitable to support flying squirrels and the proposed Project would not result in impacts to this species. Additionally, the Project does not propose to remove large old-growth vegetation. Therefore, the proposed Project will not have an effect on this species.

3.2.4 NESTING BIRDS

The immediate surrounding area does contain habitat suitable for nesting birds (developed shrubs and tall trees). As such the Project is subject to the following nesting bird regulations. Recommendations for avoidance and minimization are in section 4.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918. This Act implements four international conservation treaties that the U.S. entered into with Canada in 1916, Mexico in 1936, Japan in 1972, and Russia in 1976. It is intended to ensure the sustainability of populations of all protected migratory bird species. The Act has been amended with the signing of each treaty, as well as when any of the treaties were amended, such as with Mexico in 1976 and Canada in 1995. The Act prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service.

California Fish and Game Code

The Project Footprint is also subject to Sections 3503 and 3503.5 of the Fish and Game Code. Section 3503 states, "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto". And Section 3503.5 states, "It is unlawful to take, possess, or destroy any birds in the orders 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".

3.2.5 JURISDICTIONAL WATERS

Waters of the United States and Waters of the State

The USACE has the authority to permit the discharge of dredged or fill material in Waters of the U.S. (WOUS) under Section 404 CWA. While the Regional Water Quality Board has authority over the discharge of dredged or fill material in Waters of the State under Section 401 CWA as well as the Porter-Cologne Water Quality Control Act. The Project area was surveyed with 100 percent visual coverage and no drainage features were present within the Project Footprint that met the definition for WOUS. As such, the subject parcel does not contain any wetlands, Waters of the U.S., or Waters of the State.

Fish and Game Code Section 1602 - State Lake and/or Streambed

The CDFW asserts jurisdiction over any drainage feature that contains a definable bed and bank or associated riparian vegetation. The Project area was surveyed with 100 percent visual coverage and no

definable bed or bank features exist on the Project Footprint. As such, the subject parcel does not contain any areas under CDFW jurisdiction.

Section 4.0 – CONCLUSIONS AND RECOMMENDATIONS

Based on the literature review and personal observations made within the Project Footprint and in the immediate vicinity, no State and/or federally listed threatened or endangered species are documented/or expected to occur within the Project Footprint. Additionally, no plant species with the California Rare Plant Rank (CRPR) of 1 or 2 were observed within the Project Footprint. No other sensitive species were observed within the Project area or buffer area.

Jurisdictional Features

There are no streams, channels, washes, or swales that meet the definitions of Section 1600 of the State of California Fish and Game Code (FGC) under the jurisdiction of the CDFW, Section 401 ("Waters of the State") of the Clean Water Act (CWA) under the jurisdiction of the Regional Water Quality Control Board (RWQCB), or "Waters of the United States" (WoUS) as defined by Section 404 of the CWA under the jurisdiction of the U.S. Army Corps of Engineers (Corps) within the subject parcel. Therefore, no permit from any regulatory agency will be required.

Nesting Birds

Since there is some habitat within the immediate surrounding area that is suitable for nesting birds in general, the following mitigation measure should be implemented if any future construction is proposed:

> Nesting bird nesting season generally extends from February 1 through September 15 in southern California and specifically, March 15 through August 31 for migratory passerine birds. To avoid impacts to nesting birds (common and special status) during the nesting season, a qualified Avian Biologist will conduct pre-construction Nesting Bird Surveys (NBS) prior to project-related disturbance to nestable vegetation to identify any active nests. If no active nests are found, no further action will be required. If an active nest is found, the biologist will set appropriate no-work buffers around the nest which will be based upon the nesting species, its sensitivity to disturbance, nesting stage and expected types, intensity and duration of disturbance. The nests and buffer zones shall be field checked weekly by a qualified biological monitor. The approved no-work buffer zone shall be clearly marked in the field, within which no disturbance activity shall commence until the qualified biologist has determined the young birds have successfully fledged and the nest is inactive.

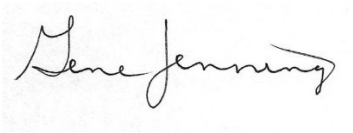
Certification

I hereby certify that the statements furnished herein, and in the attached exhibits present data and information required for this analysis to the best of my ability, and the facts, statements, and information presented are true and correct to the best of my knowledge and belief. This report was prepared in accordance with professional requirements and standards. Fieldwork conducted for this assessment was

performed by me. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project proponent and that I have no financial interest in the project.

Please do not hesitate to contact me at 909-534-4547 should you have any questions or require further information.

Sincerely,



Gene Jennings
Principal/Regulatory Specialist

Appendices:

- Appendix A – Figures
- Appendix B – Project Footprint Photos
- Appendix C – Regulatory Framework
- Appendix D – Tables

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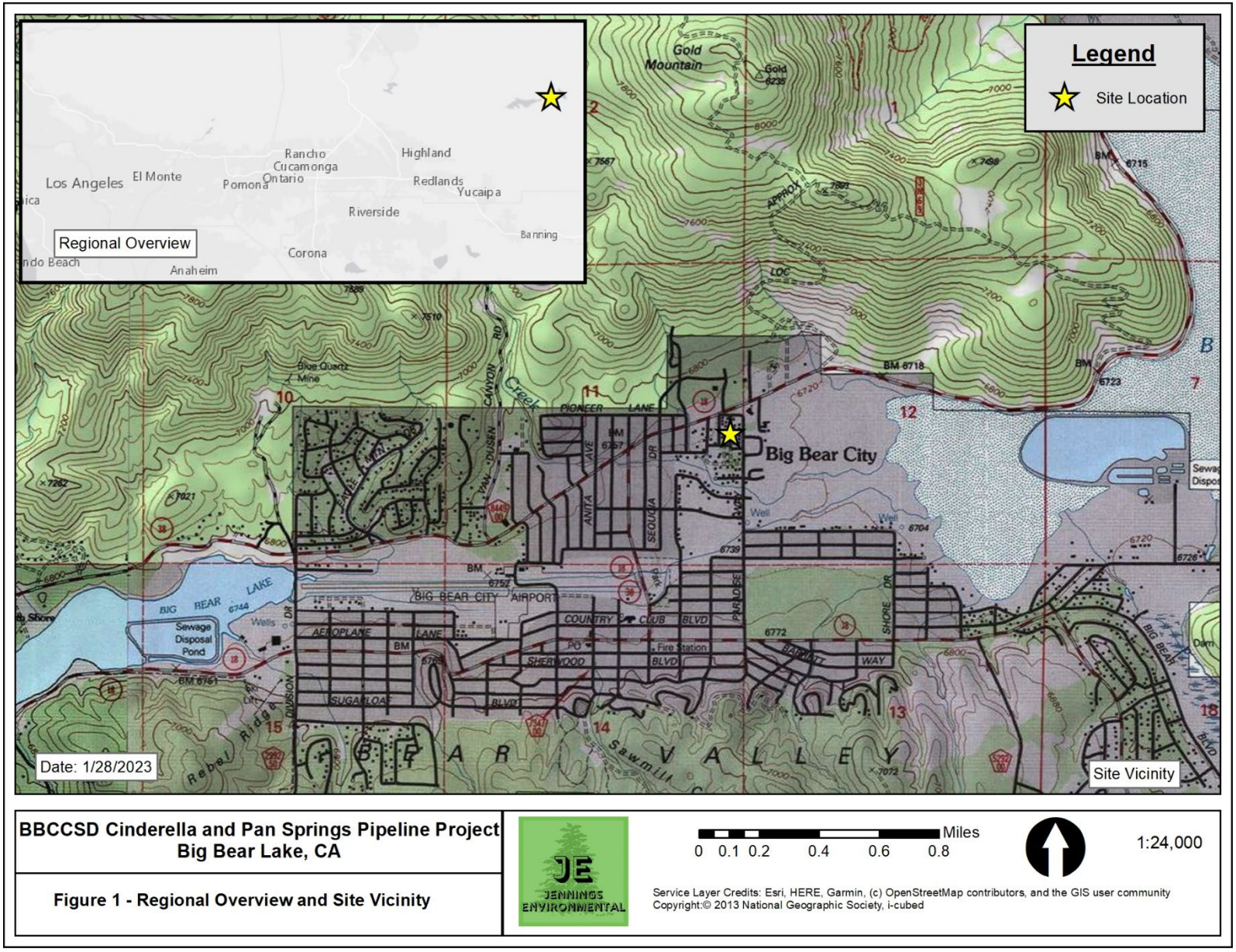
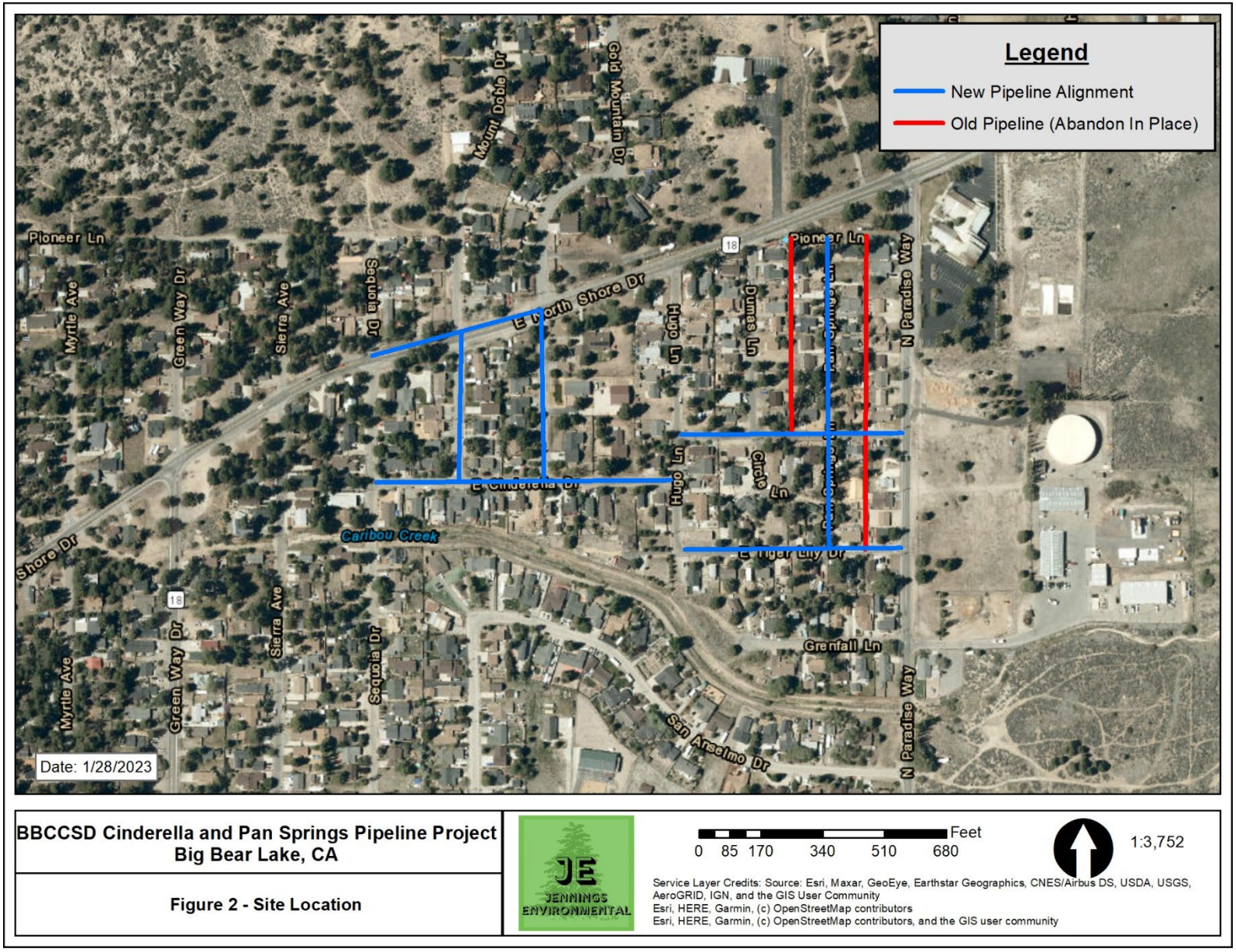
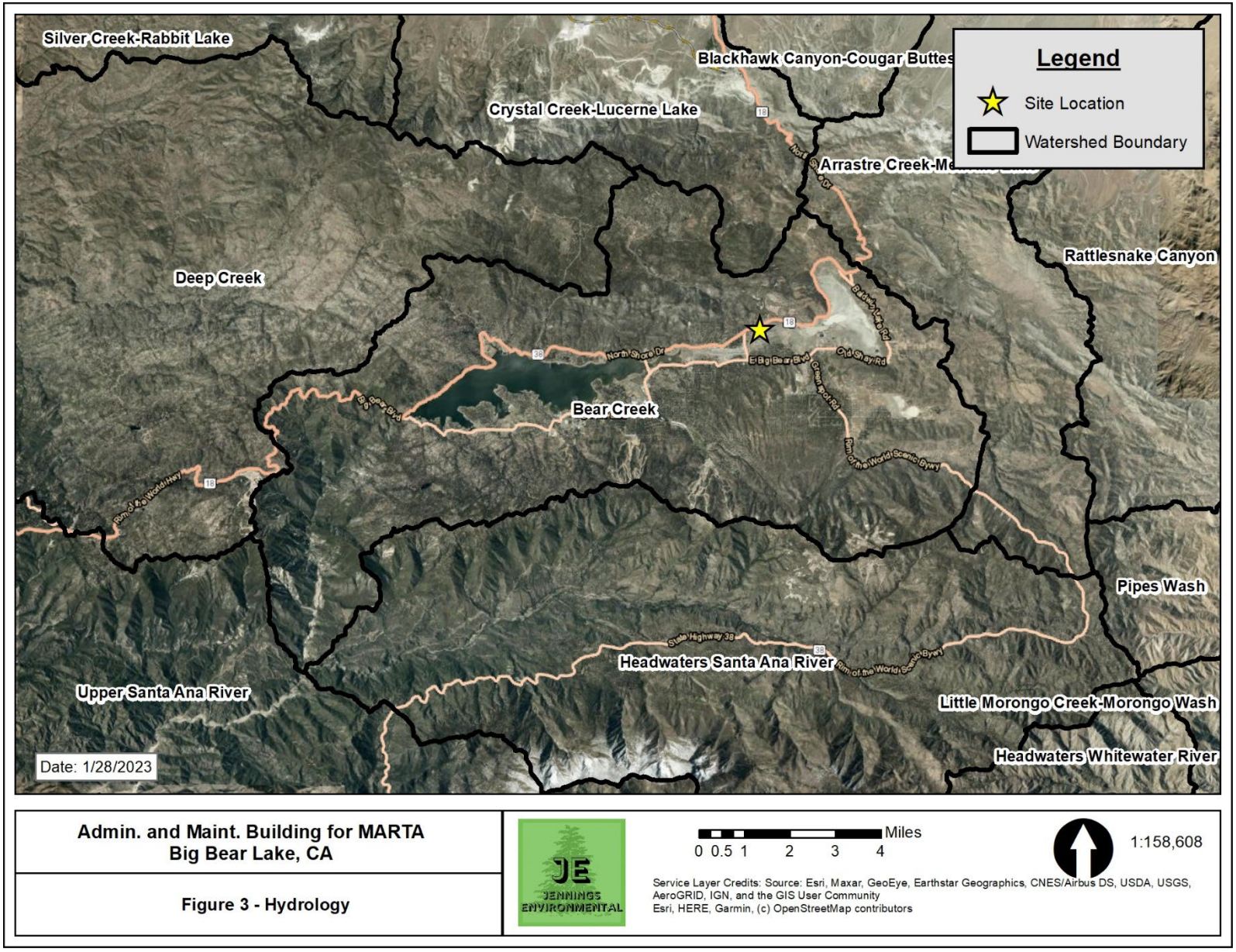
Appendix A – Figures


Legend
Site Location
Regional Overview
Los Angeles
El Monte
Pomona
Rancho Cucamonga
Ontario
Highland
Redlands
Yucaipa
Riverside
Banning
Corona
Anaheim
Gold Mountain
Big Bear City
BIG BEAR CITY AIRPORT
Sewage Disposal Pond
Date: 1/28/2023
Site Vicinity
BBCCSD Cinderella and Pan Springs Pipeline Project
Big Bear Lake, CA
Figure 1 - Regional Overview and Site Vicinity
JE
JENNINGS ENVIRONMENTAL
0 0.1 0.2 0.4 0.6 0.8 Miles
1:24,000
Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Copyright:© 2013 National Geographic Society, i-cubed


Legend
New Pipeline Alignment
Old Pipeline (Abandon In Place)
Pioneer Ln
Mount Doble Dr
Gold Mountain Dr
Myrtle Ave
Green Way Dr
Sierra Ave
Sequoia Dr
North Shore Dr
Hugo Ln
Dumas Ln
N Paradise Way
Circle Ln
Caribou Creek
Shore Dr
Grenfall Ln
San Anselmo Dr
18
Date: 1/28/2023
BBCCSD Cinderella and Pan Springs Pipeline Project
Big Bear Lake, CA
Figure 2 - Site Location
JE
JENNINGS ENVIRONMENTAL
0 85 170 340 510 680
Feet
1:3,752
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community


Silver Creek-Rabbit Lake
Blackhawk Canyon-Cougar Buttes
Crystal Creek-Lucerne Lake
Arrastre Creek-Me
Rattlesnake Canyon
Deep Creek
Bear Creek
Pipes Wash
Headwaters Santa Ana River
Upper Santa Ana River
Little Morongo Creek-Morongo Wash
Headwaters Whitewater River
Legend
Site Location
Watershed Boundary
North Shore Dr
E Big Bear Blvd
Old Shay Rd
Glen Trail Rd
Big Bear Blvd
Rim of the World Hwy
Rim of the World Scenic Byway
State Highway 38
Date: 1/28/2023
Admin. and Maint. Building for MARTA
Big Bear Lake, CA
Figure 3 - Hydrology
JE
JENNINGS ENVIRONMENTAL
Miles
0 0.5 1 2 3 4
1:158,608
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors

Appendix B – Photos

	Photo 1 – Intersection of Sequoia Drive and E. Cinderella Drive, facing east.
	Photo 2 – Intersection of E Cinderella Drive and Gold Mountain Drive, facing north.

	Photo 3 – Intersection of Hugo Lane and E Tiger Lily Drive, facing east.
	Photo 4 – Intersection of E Tiger Lily Drive and Pan Springs Lane, facing north.

Appendix C – Regulatory Framework

1.1 FEDERAL JURISDICTION

1.1.1 United States Army Corps of Engineers

Activities within inland streams, wetlands, and riparian areas in California are regulated by agencies at the federal, state, and regional levels. At the federal level, the U.S. Army Corps of Engineers (USACE) Regulatory Program regulates activities within wetlands and waters of the US pursuant to Section 404 of the Federal Clean Water Act (CWA).

At the state level, the California Department of Fish and Wildlife (CDFW) regulates activities within the bed, bank, and associated habitat of a stream under the Fish and Game Code §§ 1600–1616. The California State Water Resources Board (SWRB) delegates authority at the regional level to Regional Water Quality Control Boards (RWQCB) that are responsible for regulating discharge into waters of the US under Section 401 of the federal CWA and waters of the State under the California Porter-Cologne Water Quality Act.

The CWA was implemented to maintain and restore the chemical, physical, and biological integrity of the Waters of the United States (33 Code of Federal Regulations [CFR] Part 328 Section 328.3). "Waters of the US" are defined as follows:

> **§ 328.3 Definitions.**
> For the purpose of this regulation these terms are defined as follows:
> (a) *Waters of the United States* means:
> (1) Waters which are:
> (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
> (ii) The territorial seas; or
> (iii) Interstate waters, including interstate wetlands;
> (2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;
> (3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section:
> (i) That are relatively permanent, standing or continuously flowing bodies of water; or
> (ii) That either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (a)(1) of this section;
> (4) Wetlands adjacent to the following waters:
> (i) Waters identified in paragraph (a)(1) of this section; or
> (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3)(i) of this section and with a continuous surface connection to those waters; or

(iii) Waters identified in paragraph (a)(2) or (3) of this section when the wetlands either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (a)(1) of this section;

(5) Intrastate lakes and ponds, streams, or wetlands not identified in paragraphs (a)(1) through (4) of this section:

(i) That are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3)(i) of this section; or

(ii) That either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (a)(1) of this section.

(b) The following are not ‘‘waters of the United States’’ even where they otherwise meet the terms of paragraphs (a)(2) through (5) of this section:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;

(2) Prior converted cropland designated by the Secretary of Agriculture The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area’s status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (*e.g.,* gullies, small washes) characterized by low volume, infrequent, or short duration flow.

(c) In this section, the following definitions apply:

(1) *Wetlands* means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically
adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

(2) *Adjacent* means bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes, and the like are ‘‘adjacent wetlands.’’

(3) *High tide line* means the line of intersection of the land with the water’s surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such at those accompanying a hurricane or other intense storm.

(4) *Ordinary high water mark* means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

(5) *Tidal waters* means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.

(6) *Significantly affect* means a material influence on the chemical, physical, or biological integrity of waters identified in paragraph (a)(1) of this section. To determine whether waters, either alone or in combination with similarly situated waters in the region, have a material influence on the chemical, physical, or biological integrity of waters identified in paragraph (a)(1) of this section, the
functions identified in paragraph (c)(6)(i) of this section will be assessed and the factors identified in paragraph (c)(6)(ii) of this section will be considered:

(i) Functions to be assessed:

(A) Contribution of flow;

(B) Trapping, transformation, filtering, and transport of materials (including nutrients, sediment, and other pollutants);

(C) Retention and attenuation of floodwaters and runoff;

(D) Modulation of temperature in waters identified in paragraph (a)(1) of this section; or

(E) Provision of habitat and food resources for aquatic species located in waters identified in paragraph (a)(1) of this section;

(ii) Factors to be considered:

(A) The distance from a water identified in paragraph (a)(1) of this section;

(B) Hydrologic factors, such as the frequency, duration, magnitude, timing, and rate of hydrologic connections, including shallow subsurface flow;

(C) The size, density, or number of waters that have been determined to be similarly situated;

(D) Landscape position and geomorphology; an

(E) Climatological variables such as temperature, rainfall, and snowpack.

1.2 STATE JURISDICTION

The State of California (State) regulates discharge of material into waters of the State pursuant to Section 401 of the CWA as well as the California Porter-Cologne Water Quality Control Act (Porter-Cologne; California Water Code, Division 7, §13000 et seq.). Waters of the State are defined by Porter-Cologne as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code Section 13050(e)). Waters of the State broadly includes all waters within the State's boundaries (public or private), including waters in both natural and artificial channels.

1.2.1 Regional Water Quality Control Board

Under Porter-Cologne, the State Water Resources Control Board (SWRCB) and the local Regional Water Quality Control Boards (RWQCB) regulate the discharge of waste into waters of the State. Discharges of waste include "fill, any material resulting from human activity, or any other 'discharge' that may directly or indirectly impact 'waters of the state.'" Porter-Cologne reserves the right for the State to regulate activities that could affect the quantity and/or quality of surface and/or groundwaters, including isolated wetlands, within the State. Wetlands were defined as waters of the State if they demonstrated both wetland hydrology and hydric soils. Waters of the State determined to be jurisdictional for these purposes require, if impacted, waste discharge requirements (WDRs).

When an activity results in fill or discharge directly below the OHWM of jurisdictional waters of the United States (federal jurisdiction), including wetlands, a CWA Section 401 Water Quality Certification is required. If a proposed project is not subject to CWA Section 401 certification but involves activities that may result in a discharge to waters of the State, the project may still be regulated under Porter-Cologne and may be subject to waste discharge requirements. In cases where waters apply to both CWA and Porter-Cologne, RWQCB may consolidate permitting requirements to one permit.

1.2.2 California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1602 of the California Fish and Game Code, the California Department of Fish and Wildlife (CDFW) regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation" (California Code of Regulations, Title 14, Section 1.72). The jurisdiction of CDFW may include areas in or near intermittent streams, ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams that are indicated on USGS maps, watercourses that may contain subsurface flows, or within the flood plain of a water body. CDFW's definition of "lake" includes "natural lakes or man-made reservoirs." CDFW limits of jurisdiction typically include the maximum extents of the uppermost bank-to-bank distance and/or the outermost extent of riparian vegetation dripline, whichever measurement is greater.

In a CDFW guidance of stream processes and forms in dryland watersheds (Vyverberg 2010), streams are identified as having one or more channels that may all be active or receive water only during some high flow event. Subordinate features, such as low flow channels, active channels, banks associated with secondary channels, floodplains, and stream-associated vegetation, may occur within the bounds of a single, larger channel. The water course is defined by the topography or elevations of land that confine a stream to a definite course when its waters rise to their highest level. A watercourse is defined as a stream with boundaries defined by the maximal extent or expression on the landscape even though flow may otherwise be intermittent or ephemeral.

Artificial waterways such as ditches (including roadside ditches), canals, aqueducts, irrigation ditches, and other artificially created water conveyance systems also may be under the jurisdiction of CDFW. CDFW may claim jurisdiction over these features based on the presence of habitat characteristics suitable to support aquatic life, riparian vegetation, and/or stream-dependent terrestrial wildlife. As with natural waterways, the limit of CDFW jurisdiction of

artificial waterways includes the uppermost bank-to-bank distance and/or the outermost extent of riparian vegetation dripline, whichever measurement is greater.

CDFW does not have jurisdiction over wetlands but has jurisdiction to protect against a net loss of wetlands. CDFW supports the wetland criteria recognized by USFWS; one or more indicators of wetland conditions must exist for wetlands conditions to be considered present. The following is the USFWS accepted definition of a wetland:

> Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the lands supports hydrophytes, (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated withwater or covered by shallow water at some time during the growing season of each year (Cowardin et al. 1979).

In A Clarification of the U.S. Fish and Wildlife Service's Wetland Definition (Tiner 1989), the USFWS definition was further clarified "that in order for any area to be classified as wetland by the Service, the area must be periodically saturated or covered by shallow water, whether wetland vegetation and/or hydric soils are present or not; this hydrologic requirement is addressed in the first sentence of the definition." When considering whether an action would result in a net loss of wetlands, CDFW will extend jurisdiction to USFWS-defined wetland conditions where such conditions exist within the riparian vegetation that is associated with a stream or lake and does not depend on whether those features meet the three-parameter USACE methodology of wetland determination. If impacts to wetlands under the jurisdiction of CDFW are unavoidable, a mitigation plan will be implemented in coordination with CDFW to support the CDFW policy of "no net loss" of wetland habitat.

Appendix D – Tables

Table 1 – CNDDB Potential to Occur for the *Big Bear Lake, Fawnskin, Big Bear City, and Moonridge* USGS 7.5 minute Quadrangles

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Acanthoscyphus parishii var. cienegensis	Cienega Seca oxytheca	None, None	G4?T2, S2, 1B.3	Upper montane coniferous forest, pinyon and juniper woodland, Joshua tree woodland. Dry gravelly banks and granitic sand. 1920-2560 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Acanthoscyphus parishii var. goodmaniana	Cushenbury oxytheca	Endangered, None	G4?T1, S1, 1B.1	Pinyon and juniper woodland. On limestone talus and rocky slopes. 1400-2350 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Accipiter cooperii	Cooper's hawk	None, None	G5, S4, CDFW-WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Anniella stebbinsi	Southern California legless lizard	None, None	G3, S3, CDFW-SSC	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Antennaria marginata	white-margined everlasting	None, None	G4G5, S1, 2B.3	Lower montane coniferous forest, upper montane coniferous forest. Dry woods. 2070-3355 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Aquila chrysaetos	golden eagle	None, None	G5, S3, CDFW-WL	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Arenaria lanuginosa var. saxosa	rock sandwort	None, None	G5T5, S2, 2B.3	Subalpine coniferous forest, upper montane coniferous forest. Mesic, sandy sites. 1920-2935 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Astragalus albens	Cushenbury milk-vetch	Endangered, None	G1, S1, 1B.1	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Sandy or stony flats, rocky hillsides, canyon washes, and fans, on carbonate or mixed granitic-calcareous debris. 1185-1950 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Astragalus bernardinus	San Bernardino milk-vetch	None, None	G3, S3, 1B.2	Joshua tree woodland, pinyon and juniper woodland. Granitic or carbonate substrates. 290-2290 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Astragalus lentiginosus var. sierrae	Big Bear Valley milk-vetch	None, None	G5T2, S2, 1B.2	Mojavean desert scrub, meadows and seeps, pinyon and juniper woodland, upper montane coniferous forest. Stony meadows and open pinewoods; sandy and gravelly soils in a variety of habitats. 1710-3230 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Astragalus leucolobus	Big Bear Valley woollypod	None, None	G2, S2, 1B.2	Lower montane coniferous forest, pebble plain, pinyon and juniper woodland, upper montane coniferous forest. Dry pine woods, gravelly knolls among sagebrush, or stony lake shores in the pine belt. 1460-2895 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Astragalus tidestromii	Tidestrom's milk-vetch	None, None	G4, S2, 2B.2	Mojavean desert scrub. Washes, in sandy or gravelly soil. On limestone. 765-1575 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Atriplex parishii	Parish's brittlescale	None, None	G1G2, S1, 1B.1	Vernal pools, chenopod scrub, playas. Usually on drying alkali flats with fine soils. 4-1420 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Berberis fremontii	Fremont barberry	None, None	G5, S3, 2B.3	Pinyon and juniper woodland, Joshua tree woodland. Rocky, sometimes granitic. 1140-1770 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Boechera dispar	pinyon rockcress	None, None	G3, S3, 2B.3	Joshua tree woodland, pinyon and juniper woodland, Mojavean desert scrub. Granitic, gravelly slopes and mesas. Often under desert shrubs which support it as it grows. 1005-2805 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Boechera lincolnensis	Lincoln rockcress	None, None	G4G5, S3, 2B.3	Chenopod scrub, Mojavean desert scrub. On limestone. 880-2410 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Boechera parishii	Parish's rockcress	None, None	G2, S2, 1B.2	Pebble plain, pinyon and juniper woodland, upper montane coniferous forest. Generally found on pebble plains on clay soil with quartzite cobbles; sometimes on limestone. 1825-2805 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Boechera shockleyi	Shockley's rockcress	None, None	G3, S2, 2B.2	Pinyon and juniper woodland. On ridges, rocky outcrops and openings on limestone or quartzite. 875-2515 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Bombus caliginosus	obscure bumble bee	None, None	G2G3, S1S2	Coastal areas from Santa Barbara County north to Washington state. Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Bombus crotchii	Crotch bumble bee	None, Candidate Endangered	G2, S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Bombus morrisoni	Morrison bumble bee	None, None	G3, S1S2	From the Sierra-Cascade ranges eastward across the intermountain west. Food plant genera include Cirsium, Cleome, Helianthus, Lupinus, Chrysothamnus, and Melilotus.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Botrychium crenulatum	scalloped moonwort	None, None	G4, S3, 2B.2	Bogs and fens, meadows and seeps, upper montane coniferous forest, lower montane coniferous forest, marshes and swamps. Moist meadows, freshwater marsh, and near creeks. 1185-3110 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Calochortus palmeri var. palmeri	Palmer's mariposa-lily	None, None	G3T2, S2, 1B.2	Meadows and seeps, chaparral, lower montane coniferous forest. Vernally moist places in yellow-pine forest, chaparral. 195-2530 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Calochortus plummerae	Plummer's mariposa-lily	None, None	G4, S4, 4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60-2500 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Calochortus striatus	alkali mariposa-lily	None, None	G3, S2S3, 1B.2	Chaparral, chenopod scrub, Mojavean desert scrub, meadows and seeps. Alkaline meadows and ephemeral washes. 70-1600m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Calyptridium pygmaeum	pygmy pussypaws	None, None	G1G2, S1S2, 1B.2	Upper montane coniferous forest, subalpine coniferous forest. Sandy or gravelly sites. 2145-3415 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Carex occidentalis	western sedge	None, None	G4, S3, 2B.3	Lower montane coniferous forest, meadows and seeps. 1645-2320 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Castilleja cinerea	ash-gray paintbrush	Threatened, None	G1G2, S1S2, 1B.2	Pebble plains, upper montane coniferous forest, Mojavean desert scrub, meadows and seeps, pinyon and juniper woodland. Endemic to the San Bernardino Mountains, in clay openings; often in meadow edges. 725-2860 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Castilleja lasiorhyncha	San Bernardino Mountains owl's-clover	None, None	G2?, S2?, 1B.2	Meadows and seeps, pebble plain, upper montane coniferous forest, chaparral, riparian woodland. Mesic to drying soils in open areas of stream and meadow margins or in vernally wet areas. 1140-2320 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Chaetodipus fallax pallidus	pallid San Diego pocket mouse	None, None	G5T3T4, S3S4	Desert border areas in eastern San Diego County in desert wash, desert scrub, desert succulent scrub, pinyon-juniper, etc. Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Charina umbratica	southern rubber boa	None, Threatened	G2G3, S2S3,	Found in a variety of montane forest habitats. Previously considered morphologically intermediate, recent (2022) genomic analysis clarifies individuals from Mt Pinos, Tehachapi Mts, and southern Sierra Nevada are southern rubber boa. Found in vicinity of streams or wet meadows; requires loose, moist soil for burrowing; seeks cover in rotting logs, rock outcrops, and under surface litter.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Claytonia peirsonii ssp. bernardinus	San Bernardino spring beauty	None, None	G2G3T1, S1, 1B.1	Pinyon and juniper woodland, upper montane coniferous forest. Rocky, talus slopes, carbonate, usually openings. 2360-2465 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Claytonia peirsonii ssp. californacis	Furnace spring beauty	None, None	G2G3T1, S1, 1B.1	Pinyon and juniper woodland, upper montane coniferous forest. Rocky, talus slopes, carbonate, usually openings. 2300 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Corynorhinus townsendii	Townsend's big-eared bat	None, None	G4, S2, CDFW-SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Cymopterus multinervatus	purple-nerve cymopterus	None, None	G4G5, S2, 2B.2	Mojavean desert scrub, pinyon and juniper woodland. Sandy or gravelly places. 765-2195 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Drymocallis cuneifolia var. cuneifolia	wedgeleaf woodbeauty	None, None	G2T1, S1, 1B.1	Upper montane coniferous forest, riparian scrub. Sometimes on carbonate. 1520-2220 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Dryopteris filix-mas	male fern	None, None	G5, S2, 2B.3	Upper montane coniferous forest. In granite crevices. 1855-3075 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Dudleya abramsii ssp. affinis	San Bernardino Mountains dudleya	None, None	G4T2, S2, 1B.2	Pebble (pavement) plain, upper montane coniferous forest, pinyon and juniper woodland. Outcrops, granite or quartzite, rarely limestone. 1200-2425 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Empidonax traillii extimus	southwestern willow flycatcher	Endangered, Endangered	G5T2, S1	Riparian woodlands in Southern California.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Ensatina eschscholtzii klauberi	large-blotched salamander	None, None	G5T2?, S3, CDFW-WL	Found in conifer and woodland associations. Found in leaf litter, decaying logs and shrubs in heavily forested areas.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Eremogone ursina	Big Bear Valley sandwort	Threatened, None	G1, S1, 1B.2	Pebble plain, pinyon and juniper woodland, meadows and seeps. Mesic, rocky sites. 1795-2895 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Erigeron parishii	Parish's daisy	Threatened, None	G2, S2, 1B.1	Mojavean desert scrub, pinyon and juniper woodland. Often on carbonate; limestone mountain slopes; often associated with drainages. Sometimes on grainite. 1050-2245 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Eriogonum evanidum	vanishing wild buckwheat	None, None	G2, S1, 1B.1	Chaparral, cismontane woodland, lower montane coniferous forest, pinyon and juniper woodland. Sandy sites. 975-2240 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Eriogonum kennedyi var. alpigenum	southern alpine buckwheat	None, None	G4T3, S3, 1B.3	Alpine boulder and rock fields, subalpine coniferous forest. Dry granitic gravel. 2500-3415 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Eriogonum kennedyi var. austromontanum	southern mountain buckwheat	Threatened, None	G4T2, S2, 1B.2	Pebble (pavement) plain, lower montane coniferous forest. Usually found in pebble plain habitats. 1765-3020 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Eriogonum microthecum var. johnstonii	Johnston's buckwheat	None, None	G5T2, S2, 1B.3	Subalpine coniferous forest, upper montane coniferous forest. Slopes and ridges on granite or limestone. 1795-2865 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Eriogonum microthecum var. lacus-ursi	Bear Lake buckwheat	None, None	G5T1, S1, 1B.1	Lower montane coniferous forest, Great Basin scrub. Clay outcrops. 2000-2100 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Eriogonum ovalifolium var. vineum	Cushenbury buckwheat	Endangered, None	G5T1, S1, 1B.1	Mojavean desert scrub, pinyon and juniper woodland, Joshua tree woodland. Limestone mountain slopes. Dry, usually rocky places. 1430-2440 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Erythranthe exigua	San Bernardino Mountains monkeyflower	None, None	G2, S2, 1B.2	Meadows and seeps, pebble plains, upper montane coniferous forest. Seeps and sandy sometimes disturbed soil in moist drainages of annual streams; clay soils. 2060-2630 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Erythranthe purpurea	little purple monkeyflower	None, None	G2, S2, 1B.2	Meadows and seeps, pebble plain, upper montane coniferous forest. Dry clay or gravelly soils under Jeffrey pines, along annual streams or vernal springs and seeps. 2045-2290 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Euchloe hyantis andrewsi	Andrew's marble butterfly	None, None	G4G5T1, S1	Inhabits yellow pine forest near Lake Arrowhead and Big Bear Lake, San Bernardino Mtns, San Bernardino Co, 5000-6000 ft. Hostplants are Streptanthus bernardinus and Arabis holboellii var pinetorum; larval foodplant is Descurainia richardsonii.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Euphydryas editha quino	quino checkerspot butterfly	Endangered, None	G5T1T2, S1S2	Sunny openings within chaparral and coastal sage shrublands in parts of Riverside and San Diego counties. Hills and mesas near the coast. Need high densities of food plants Plantago erecta, P. insularis, and Orthocarpus purpurescens.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	Endangered, Endangered	G5T1, S1, CDFW-FP	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small Southern California streams. Cool (<24 C), clear water with abundant vegetation.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Gentiana fremontii	Fremont's gentian	None, None	G4, S2, 2B.3	Meadows and seeps, upper montane coniferous forest. Wet mountain meadows. 2400-2700 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Gilia leptantha ssp. leptantha	San Bernardino gilia	None, None	G4T2, S2, 1B.3	Lower montane coniferous forest. Sandy or gravelly sites. 1520-2595 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Glaucomys oregonensis californicus	San Bernardino flying squirrel	None, None	G5T1T2, S1S2, CDFW-SSC	Known from black oak or white fir dominated woodlands between 5200 - 8500 ft in the San Bernardino and San Jacinto ranges. May be extirpated from San Jacinto range. Needs cavities in trees/snags for nests and cover. Needs nearby water.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Haliaeetus leucocephalus	bald eagle	Delisted, Endangered	G5, S3, CDFW-FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Heuchera parishii	Parish's alumroot	None, None	G3, S3, 1B.3	Lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest, alpine boulder and rock field. Rocky places. Sometimes on carbonate. 1340-3505 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Horkelia wilderae	Barton Flats horkelia	None, None	G1, S1, 1B.1	Lower montane coniferous forest, upper montane coniferous forest, chaparral. On rocky, north aspects in openings that hold persistent snowdrifts. 1980-2895 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Hulsea vestita ssp. pygmaea	pygmy hulsea	None, None	G5T1, S1, 1B.3	Alpine boulder and rock field, subalpine coniferous forest. Gravelly sites; on granite. 2860-3502 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Hydroporus simplex	simple hydroporus diving beetle	None, None	G1?, S1S3	Known from aquatic habitats in Tuolumne and San Bernardino counties.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Icteria virens	yellow-breasted chat	None, None	G5, S3, CDFW-SSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Ivesia argyrocoma var. argyrocoma	silver-haired ivesia	None, None	G2T2, S2, 1B.2	Meadows and seeps, pebble plains, upper montane coniferous forest. In pebble plains and meadows with other rare plants. 1490-2960 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Lewisia brachycalyx	short-sepaled lewisia	None, None	G4, S2, 2B.2	Lower montane coniferous forest, meadows and seeps. Dry to moist meadows in rich loam. 1400-2290 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Lilium parryi	lemon lily	None, None	G3, S3, 1B.2	Lower montane coniferous forest, meadows and seeps, riparian forest, upper montane coniferous forest. Wet, mountainous terrain; generally in forested areas; on shady edges of streams, in open boggy meadows and seeps. 625-2930 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Linanthus killipii	Baldwin Lake linanthus	None, None	G1, S1, 1B.2	Alkaline meadows, pebble plain, pinyon and juniper woodland, Joshua tree woodland. Usually on pebble plains with other rare species. 1645-2645 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Malaxis monophyllos var. brachypoda	white bog adder's-mouth	None, None	G5T4T5, S1, 2B.1	Meadows and seeps, bogs and fens, upper montane coniferous forest. Hillside bogs and mesic meadows. 2375-2560 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Myotis evotis	long-eared myotis	None, None	G5, S3	Found in all brush, woodland and forest habitats from sea level to about 9000 ft. Prefers coniferous woodlands and forests. Nursery colonies in buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Myotis thysanodes	fringed myotis	None, None	G4, S3	In a wide variety of habitats, optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer. Uses caves, mines, buildings or crevices for maternity colonies and roosts.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Myotis volans	long-legged myotis	None, None	G4G5, S3	Most common in woodland and forest habitats above 4000 ft. Trees are important day roosts; caves and mines are night roosts. Nursery colonies usually under bark or in hollow trees, but occasionally in crevices or buildings.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Myotis yumanensis	Yuma myotis	None, None	G5, S4	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Navarretia peninsularis	Baja navarretia	None, None	G3, S2, 1B.2	Lower montane coniferous forest, chaparral, meadows and seeps, pinyon and juniper woodland. Wet areas in open forest. 1150-2365 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Neotamias speciosus speciosus	lodgepole chipmunk	None, None	G4T3T4, S2	Summits of isolated Piute, San Bernardino, and San Jacinto mountains. Usually found in open-canopy forests. Habitat is usually lodgepole pine forests in the San Bernardino Mts and chinquapin slopes in the San Jacinto Mts.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	Endangered, Candidate Endangered	G5T1Q, S1	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Oreonana vestita	woolly mountain-parsley	None, None	G3, S3, 1B.3	Subalpine coniferous forest, upper montane coniferous forest, lower montane coniferous forest. High ridges; on scree, talus, or gravel. 800-3370 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Oxytropis oreophila var. oreophila	rock-loving oxytrope	None, None	G5T4T5, S2, 2B.3	Alpine boulder and rock field, subalpine coniferous forest. Gravelly or rocky sites. 2615-3505 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Packera bernardina	San Bernardino ragwort	None, None	G2, S2, 1B.2	Meadows and seeps, pebble plains, upper montane coniferous forest. Mesic, sometimes alkaline meadows, and dry rocky slopes. 1615-2470 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Pebble Plains	Pebble Plains	None, None	G1, S1.1	Pavement plain	This habitat type is **absent** from the Project Footprint.
Perideridia parishii ssp. parishii	Parish's yampah	None, None	G4T3T4, S2, 2B.2	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest. Damp meadows or along streambeds- prefers an open pine canopy. 1470-2530 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Phlox dolichantha	Big Bear Valley phlox	None, None	G2, S2, 1B.2	Pebble plains, upper montane coniferous forest. Sloping hillsides, in shade under pines and Quercus kelloggii, with heavy pine litter; also in openings. 1980-2805 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Phrynosoma blainvillii	coast horned lizard	None, None	G3G4, S4, CDFW-SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Physaria kingii ssp. bernardina	San Bernardino Mountains bladderpod	Endangered, None	G5T1, S1, 1B.1	Pinyon and juniper woodland, lower montane coniferous forest, subalpine coniferous forest. Dry sandy to rocky carbonate soils. 1980-2590 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Piranga rubra	summer tanager	None, None	G5, S1, CDFW-SSC	Summer resident of desert riparian along lower Colorado River, and locally elsewhere in California deserts. Requires cottonwood-willow riparian for nesting and foraging; prefers older, dense stands along streams.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Poa atropurpurea	San Bernardino blue grass	Endangered, None	G2, S2, 1B.2	Meadows and seeps. Mesic meadows of open pine forests and grassy slopes, loamy alluvial to sandy loam soil. 1255-2655 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Poliomintha incana	frosted mint	None, None	G5, SH, 2A	Lower montane coniferous forest. In boggy soil. 1600-1700 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Psychomastax deserticola	desert monkey grasshopper	None, None	G1G2, S1	Occurs in very arid environments in the vicinity of the San Bernardino Mtns. Known to occur on chamise (Adenostoma fasciculatum).	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Pyrrocoma uniflora var. gossypina	Bear Valley pyrrocoma	None, None	G5T1, S1, 1B.2	Pebble plain, meadows and seeps. Meadows, meadow edges, and along streams in or near pebble plain habitat. 2040-2280 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Rana muscosa	southern mountain yellow-legged frog	Endangered, Endangered	G1, S1, CDFW-WL	Disjunct populations known from southern Sierras (northern DPS) and San Gabriel, San Bernardino, and San Jacinto Mtns (southern DPS). Found at 1,000 to 12,000 ft in lakes and creeks that stem from springs and snowmelt. May overwinter under frozen lakes. Often encountered within a few feet of water. Tadpoles may require 2 - 4 yrs to complete their aquatic development.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Rosa woodsii var. glabrata	Cushenbury rose	None, None	G5T1, S1, 1B.1	Mojavean desert scrub. Springs. 1095-1220 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Saltugilia latimeri	Latimer's woodland-gilia	None, None	G3, S3, 1B.2	Chaparral, Mojavean desert scrub, pinyon and juniper woodland. Rocky or sandy substrate; sometimes in washes, sometimes limestone. 120-2200 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Sidalcea hickmanii ssp. parishii	Parish's checkerbloom	None, Rare	G3T1, S1, 1B.2	Chaparral, cismontane woodland, lower montane coniferous forest. Disturbed burned or cleared areas on dry, rocky slopes, in fuel breaks and fire roads along the mountain summits. 1095-2135 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Sidalcea malviflora ssp. dolosa	Bear Valley checkerbloom	None, None	G5T2, S2, 1B.2	Meadows and seeps, riparian woodland, lower montane coniferous forest, upper montane coniferous forest. Known from wet areas within forested habitats. Affected by hydrological changes. 1575-2590 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Sidalcea pedata	bird-foot checkerbloom	Endangered, Endangered	G1, S1, 1B.1	Meadows and seeps, pebble plains. Vernally mesic sites in meadows or pebble plains. 1840-2305 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Sisyrinchium longipes	timberland blue-eyed grass	None, None	G3, S1, 2B.2	Meadows and seeps. Mesic areas in meadows; seeps. 2060 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Southern California Threespine Stickleback Stream	Southern California Threespine Stickleback Stream	None, None	GNR, SNR,	Southern California Threespine Stickleback Stream	This habitat type is **absent** from the Project Footprint.
Sphenopholis obtusata	prairie wedge grass	None, None	G5, S2, 2B.2	Cismontane woodland, meadows and seeps. Open moist sites, along rivers and springs, alkaline desert seeps. 15-2625 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Streptanthus bernardinus	Laguna Mountains jewelflower	None, None	G3G4, S3S4, 4.3	Chaparral, lower montane coniferous forest. Clay or decomposed granite soils; sometimes in disturbed areas such as streamsides or roadcuts. 1440-2500 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Streptanthus campestris	southern jewelflower	None, None	G3, S3, 1B.3	Chaparral, lower montane coniferous forest, pinyon and juniper woodland. Open, rocky areas. 605-2590 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Streptanthus juneae	June's jewelflower	None, None	G2, S2, 1B.2	Lower montane coniferous forest, chaparral (montane). Openings. 2155-2370 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Symphyotrichum defoliatum	San Bernardino aster	None, None	G2, S2, 1B.2	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, valley and foothill grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. 3-2045 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Taraxacum californicum	California dandelion	Endangered, None	G1G2, S1S2, 1B.1	Meadows and seeps. Mesic meadows, usually free of taller vegetation. 1620-2590 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Thamnophis hammondii	two-striped gartersnake	None, None	G4, S3S4, CDFW-SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Scientific Name	Common Name	Federal / State Status	Other Status	Habitat	Potential to Occur
Thelypodium stenopetalum	slender-petaled thelypodium	Endangered, Endangered	G1, S1, 1B.1	Meadows and seeps. Seasonally moist alkaline clay soils; associated with seeps and springs in the pebble plains. 2045-2240 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.
Viola pinetorum ssp. grisea	grey-leaved violet	None, None	G4G5T3, S3, 1B.2	Subalpine coniferous forest, upper montane coniferous forest, meadows and seeps. Dry mountain peaks and slopes. 1580-3700 m.	Suitable habitat for this species does not occur on site. As such, this species is considered **absent** from the Project Footprint.

Coding and Terms

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

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

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

Global Rankings (Species or Natural Community Level):

G1 = Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2 = Imperiled – At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
G3 = Vulnerable – At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
G4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5 = Secure – Common; widespread and abundant.
? = Uncertainty in the exact status of an element (could move up or down one direction from current rank)

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

State Ranking:

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

California Rare Plant Rankings (CNPS List):

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

Threat Ranks:

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

APPENDIX 3

HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT

BIG BEAR CITY COMMUNITY SERVICES DISTRICT
CINDERELLA AND PAN SPRINGS PIPELINE REPLACEMENT PROJECT

Big Bear City Area
San Bernardino County, California

For Submittal to:

Big Bear City Community Services District
139 East Big Bear Boulevard
P.O. Box 558
Big Bear City, CA 92314

Prepared for:

Tom Dodson & Associates
2150 North Arrowhead Avenue
San Bernardino, CA 92405

Prepared by:

CRM TECH
1016 East Cooley Drive, Suite A/B
Colton, CA 92324

Bai "Tom" Tang, Principal Investigator
Michael Hogan, Principal Investigator

March 17, 2023
CRM TECH Contract No. 3974

Title: Historical/Archaeological Resources Survey Report: Big Bear City Community Services District Cinderella and Pan Springs Pipeline Replacement Project, Big Bear City Area, San Bernardino County, California

Author(s): Bai "Tom" Tang, Principal Investigator/Historian
Deirdre Encarnación, Archaeologist/Report Writer
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Date: March 17, 2023

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Prepared for: Kaitlyn Dodson-Hamilton, Vice President
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Project Size: Approximately 0.8 linear mile

USGS Quadrangle: Big Bear City, Calif., 7.5' quadrangle (Section 11, T2N R1E, San Bernardino Baseline and Meridian)

Keywords: Big Bear Valley, San Bernardino Mountains; Phase I cultural resources survey; Site 36-000935 (CA-SBR-935/H): prehistoric village site; Site 36-014403 (CA-SBR-12916H): structural remains and refuse deposit; Site 36-024054 (CA-SBR-15239H): Mount Doble Drive; Site 36-024552 (CA-SBR-15593H): Sequoia Drive; limited archaeological monitoring recommended for subsurface deposits for prehistoric cultural remains

MANAGEMENT SUMMARY

Between November 2022 and March 2023, at the request of Tom Dodson & Associates, CRM TECH performed a linear cultural resources survey for the proposed Big Bear City Community Services District Cinderella and Pan Springs Pipeline Replacement Project in the unincorporated Big Bear City area of San Bernardino County, California. The project will be carried out along various existing residential street located generally south of North Shore Drive (State Route 18), east of Sequoia Drive, north of Tiger Lily Drive, and west of Paradise Way, in the southeast quarter of Section 11, T2N R1E, San Bernardino Baseline and Meridian, as depicted in the United States Geological Survey Big Bear City, California, 7.5' quadrangle.

The study is part of the environmental review process for the project, which entails primarily the replacement of approximately 4,400 linear feet of water mains with new 8-inch pipelines on North Shore Drive, Mount Doble Drive, Gold Mountain Drive, Cinderella Drive, Tiger Lily Drive, and Pan Springs Lane. The existing mains and customer services will be disconnected from the water system and abandoned in place, and the new pipelines, along with associated line-side services, valves, and fire hydrants, will be installed within the public rights-of-way, while customer service tie-ins will extend onto private properties along the project alignment. The project also proposes to abandon in place 1,390 linear feet of pipelines located within backyard easements parallel to Dumas Lane, Pan Springs Lane, and Paradise Way. Services to the homes along these pipelines will be restored via new laterals to be install and connected to existing water mains on Dumas Lane and Paradise Way or the new water main on Pan Springs Lane.

The Big Bear City Community Services District (BBCCSD), 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 BBCCSD 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 conducted a historical/archaeological resources records search, initiated a Native American Sacred Lands File search, pursued historical background research, and carried out a systematic field survey.

As a result of these research procedures, four previously recorded historical/archaeological sites were identified as lying partially within or adjacent to the project area. One of these, a historic-period structural foundation designated Site 36-014403 (CA-SBR-12916H), is no longer extant today. Two other sites, 36-024054 (CA-SBR-15239H) and 36-024552 (CA-SBR-15593H), represent two of the streets within or adjacent to the project area, namely Mount Doble Drive and Sequoia Drive. As minor roadways of standard construction and utilitarian character, and with their historic integrity compromised by frequent upgrading and maintenance in the modern era, neither of them appears to meet CEQA definition of a "historical resource." Similarly, the other streets of historical origin in the project area do not demonstrate the potential to meet that definition either, and none of them require further consideration under CEQA provisions.

The fourth and most notable site within or adjacent to the project area is 36-000935 (CA-SBR-935/H), a large prehistoric (i.e. Native American) site likely associated with the Serrano village of *Kayah-pia-t* (or *Kajavpeat*), which was previously found to be eligible for listing in the National Register of Historic Places. During this study, no features or artifacts of prehistoric origin were observed at the portion of the site in and near the project area. Since most of the 137-acre site is located well outside the project area, a

comprehensive evaluation or re-evaluation of the site as a potential "historical resource" is beyond the scope of this study. However, as the significance of 36-000935 as a whole is almost beyond question, the primary concern in CEQA compliance regarding this site becomes whether any cultural remains associated with it may be present within the horizontal and vertical extents of the project area.

The bulk of the project area is located within the rights-of-way for various paved roads, where the proposed project seeks to replace existing underground water mains. Given the extent of past ground disturbance at these locations from road construction and underground utility work, the pipeline replacement is expected to occur entirely within previously disturbed soil, or essentially artificial fill. Outside the public rights-of-way, the laterals to be replaced on private properties are also situated in previously disturbed setting. As a result, these project activities are unlikely to encounter any intact cultural deposits associated with 36-000935.

In the portions of the project area where new laterals will be installed on private properties to replace existing laterals elsewhere, in comparison, the ground surface appears to be less disturbed. In the absence of sufficient data, the archaeological sensitivity of subsurface soil at these locations is currently unknown. While the excavation of shovel test pits and/or mechanical trenches, commonly known as Extended Phase I procedures, is often used to assess the sensitivity level in similar conditions, that approach appears less feasible for this project due to the number of property owners involved. Instead, archaeological monitoring appears to be a more practical alternative.

Meanwhile, the State of California Native American Heritage Commission reported the presence of unspecified Native American cultural resource(s) in the project vicinity, which may be related to Site 36-000935 as well, and referred further inquiry to the Yuhaaviatam of San Manuel Nation and other local tribal groups. According to CEQA guidelines, the identification of potential "tribal cultural resources," as defined by PRC §21074, is beyond the scope of this study and needs to be addressed through government-to-government consultations between the BBCCSD and the pertinent Native American groups, especially the Yuhaaviatam of San Manuel Nation, pursuant to Assembly Bill (AB) 52.

Based on the information and analysis summarized above, CRM TECH presents the following recommendations to the BBCCSD:

- Archaeological monitoring should be required during trenching operations for the installation of new service laterals across relatively undisturbed land. The monitoring program should be coordinated with local Native American groups, such as the Yuhaaviatam of San Manuel Nation, who may wish to participate.
- If any prehistoric cultural remains associated with Site 36-000935 are discovered during the monitoring program, additional excavations using standard Phase II archaeological testing procedures will be required to evaluate the significance of the finds.
- No further cultural resources investigations will be necessary for the pipeline replacement operations, both with the water mains in public rights-of-way and with the laterals on private land where the replacement will be installed along the same alignment.
- Final determinations on the proposed project's potential to impact "historical resources" will be made upon the completion of the monitoring program and AB 52 consultations between the BBCCSD and the local Native American groups regarding potential "tribal cultural resource(s)"

TABLE OF CONTENTS

LIST OF FIGURES

INTRODUCTION

Between November 2022 and March 2023, at the request of Tom Dodson & Associates, CRM TECH performed a linear cultural resources survey for the proposed Big Bear City Community Services District Cinderella and Pan Springs Pipeline Replacement Project in the unincorporated Big Bear City area of San Bernardino County, California (Fig. 1). The project will be carried out along various existing residential street located generally south of North Shore Drive (State Route 18), east of Sequoia Drive, north of Tiger Lily Drive, and west of Paradise Way, in the southeast quarter of Section 11, T2N R1E, San Bernardino Baseline and Meridian, as depicted in the United States Geological Survey (USGS) Big Bear City, California, 7.5' quadrangle (Figs. 2, 3).

The study is part of the environmental review process for the project, which entails primarily the replacement of approximately 4,400 linear feet of water mains with new 8-inch pipelines on North Shore Drive, Mount Doble Drive, Gold Mountain Drive, Cinderella Drive, Tiger Lily Drive, and Pan Springs Lane. The existing mains and customer services will be disconnected from the water system and abandoned in place, and the new pipelines, along with associated line-side services, valves, and fire hydrants, will be installed within the public rights-of-way, while customer service tie-ins will extend onto private properties along the project alignment. The project also proposes to abandon in place 1,390 linear feet of pipelines located within backyard easements parallel to Dumas Lane, Pan Springs Lane, and Paradise Way. Services to the homes along these pipelines will be restored via new laterals to be install and connected to existing water mains on Dumas Lane and Paradise Way or the new water main on Pan Springs Lane.

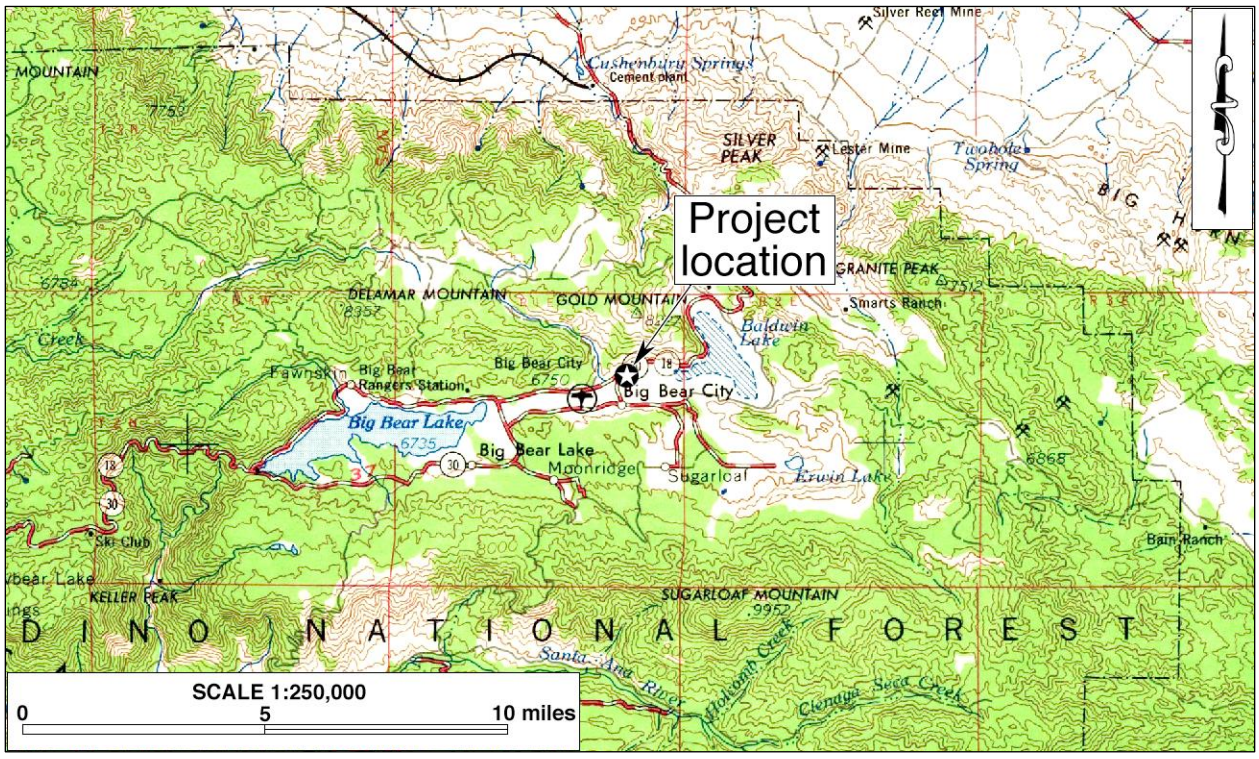

Figure 1. Project vicinity. (Based on USGS San Bernardino, Calif., 120'x60' quadrangle [USGS 1969])

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

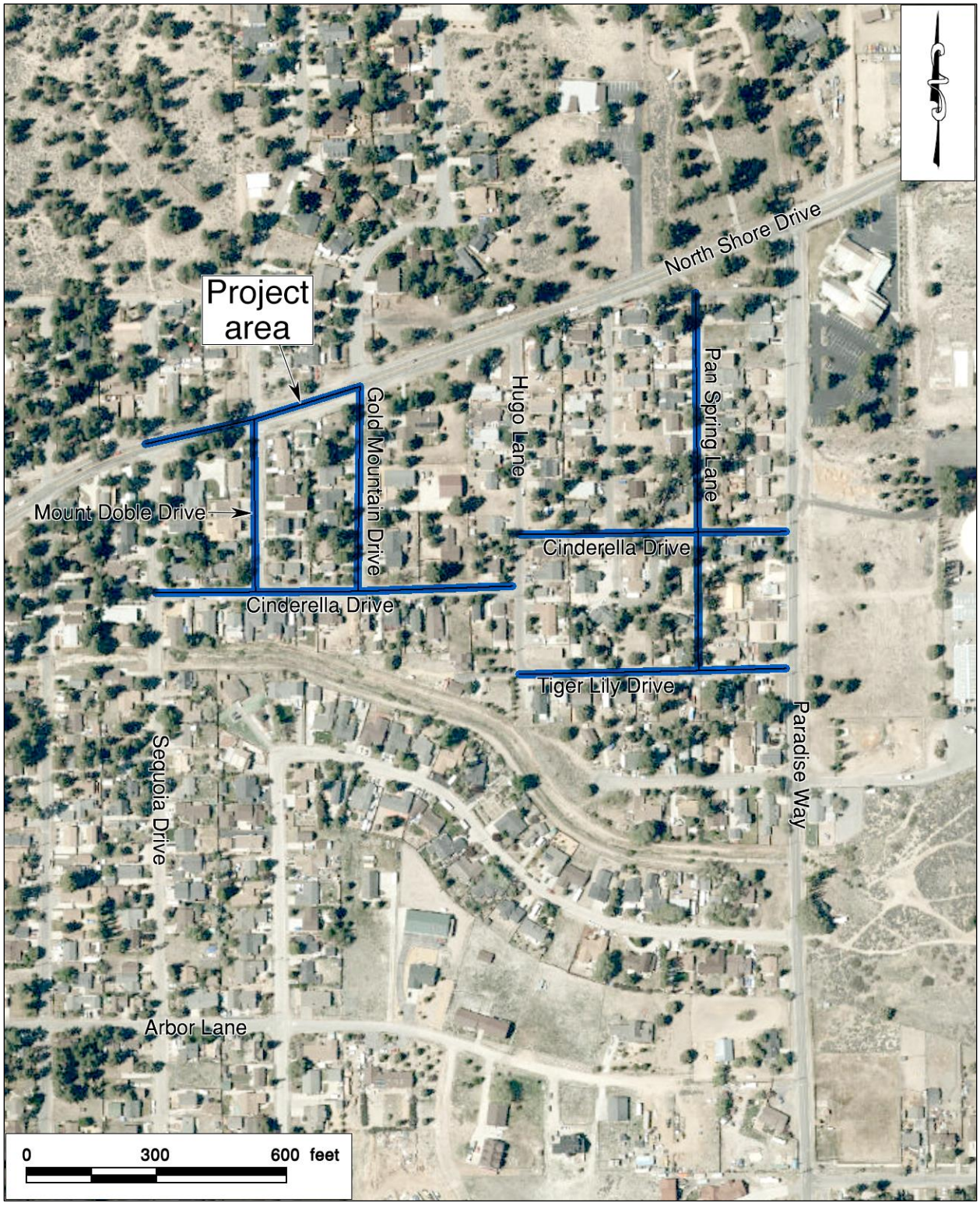

Figure 3. Recent satellite image of the project area.

The Big Bear City Community Services District (BBCCSD), 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 BBCCSD 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 conducted a historical/archaeological resources records search, initiated a Native American Sacred Lands File search, pursued historical background research, and carried out a systematic field survey. The following report is a complete account of the methods, results, and final conclusion of the study. Qualifications of personnel who participated in the study are provided in Appendix 1.

SETTING

CURRENT NATURAL SETTING

Situated in the eastern portion of Big Bear Valley and deep in the San Bernardino Mountains, the Big Bear City area is characterized by its alpine climate and forest-dominated environment, in sharp contrast to the Mediterranean climate and desert environment in most of southern California. Seasonal temperatures in Big Bear Valley range from an average low of nine degrees Fahrenheit in January to an average high of 89 degrees in July, much closer to the national average than to that of the nearby San Bernardino-Riverside region (NOAA n.d.). The average annual precipitation reaches more than 18 inches of rainfall and 35 inches of snowfall (*ibid.*).

The project location lies in a small residential neighborhood to the northeast of the Big Bear Airport and to the west of Baldwin Lake. Other than the service laterals, the project alignment is confined predominantly within the rights-of-way of existing paved roadways (Figs. 3, 4). The ground surface in the project area has been extensively disturbed by construction and maintenance of the roads. Elevations range between approximately 6,750 and 6,755 feet above mean sea level, with a generally level terrain and a slight incline to the northeast. The surface soils are a sandy alluvium with quartzite and granitic cobbles. Vegetation observed in the vicinity consists mainly of scattered, tall evergreen conifers, occasional low-lying brush and grasses, and landscaping plants, especially along the roadside.

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).

Figure 4. Typical landscape in the project area, view to the west along Cinderella Drive near Mount Doble Drive. (Photograph taken on February 10, 2023)

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) 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 Yuhaaviatam of San Manuel Nation (formerly known as 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 Big 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 Big Bear Valley, lumbering was largely limited to a number of small sawmills in support of local construction (*ibid*.:44-45).

Mining in Big 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 Big 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 Big 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, Big 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 Big Bear 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 Big 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 Big 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 Big 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 the valley in 1949 (Robinson 1989:193-194). Since then, winter sports have become one of Big Bear Valley's leading attractions.

Adding to the allure, in the early 20th century Hollywood moviemakers found Big 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 Big 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). Close to the project location, scattered residential buildings and roadways were evident prior to 1938, but development in the area evidently began in earnest after the end of World War II (NETR Online 1938-1969). In 1980, Big Bear Lake became the first incorporated city in the San Bernardino Mountains, while less urbanized communities in the eastern portion of the valley, including Big Bear City, have remained unincorporated to the present time.

RESEARCH METHODS

HISTORICAL/ARCHAEOLOGICAL RESOURCES RECORDS SEARCH

On January 25, 2023, CRM TECH archaeologist Nina Gallardo conducted the cultural resources record search for this study at the South Central Coastal Information Center (SCCIC), California

State University, Fullerton, which is the official repository for San Bernardino County in the California Historical Resources Information System. During the records search, Gallardo examined the SCCIC's digital maps, records, and databases for previously identified cultural resources and existing cultural resources reports within a one-mile radius of the project area. Previously identified cultural resources included properties designated as California Historical Landmarks, Points of Historical Interest, and San Bernardino County Landmarks, as well as those listed in the National Register of Historic Places, the California Register of Historical Resources, or the California Historical Resources Inventory.

SACRED LANDS FILE SEARCH

On December 1, 2022, 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 (SLF). 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 presented in Appendix 2 and summarized in the sections below.

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 Big Bear Valley area, and aerial/satellite photographs of the project vicinity. Among the maps consulted for this study were U.S. General Land Office (GLO) land survey plat maps dated 1858 and 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 and satellite photographs, taken between 1938 and 2022, are available at the Nationwide Environmental Title Research (NETR) Online website and through the Google Earth software.

FIELD SURVEY

On February 10, 2023, CRM TECH field director Daniel Ballester and project archaeologist Hunter O'Donnell carried out the field survey of the project area. As the project area lies mainly within the extensively disturbed rights-of-way of various paved streets, most of the survey was completed at a reconnaissance level by driving along the project route and visually inspecting the surrounding ground surface for any indication of cultural resources. Areas that appeared less disturbed, such as a vacant lot at the northern end of Pan Spring Road and on residential properties where the natural landscape adjacent to the streets is relatively intact, were inspected more closely on foot.

Using these methods, the entire project area was systematically and carefully examined for any evidence of human activities dating to the prehistoric or historic period (i.e., 50 years ago or older). Most of the project area is covered by pavement, while ground visibility beyond the pavement was generally fair to good (70-90%) except where patches of snow remained present (Fig. 4). In light of the extent of past ground disturbance in the project area, however, the ground visibility was not considered a significant hindrance to the survey effort.

RESULTS AND FINDINGS

HISTORICAL/ARCHAEOLOGICAL RESOURCES RECORDS SEARCH

According to SCCIC records, various portions of the project area were included within the scope of at least 12 cultural resources surveys carried out between 1963 and 2009. Among these, several included archaeological investigations that yielded positive results for cultural resources, all within the boundaries of Site 36-000935 (CA-SBR-935/H). In all, four historical/archaeological sites were previously recorded as lying partially within or adjacent to the current project boundaries.

Three of the sites dated to the historic period. Among them, Site 36-014403 (CA-SBR-12916H) consisted of the concrete and cobblestone foundation of a former residence with an associated refuse scatter, located on a parcel to the south of the project alignment along Cinderella Drive (Alexandrowicz and Alexandrowicz 2008). Recorded during an archaeological monitoring program in 2008, the site was subsequently removed when the parcel was redeveloped (*ibid.*). The other two historic-period sites, 36-024054 (CA-SBR-15239H) and 36-024552 (CA-SBR-15593H), both represent roads that date at least to the mid-20th century, namely Mount Doble Drive, which contains a part of the project area, and Sequoia Drive, located outside but adjacent to the project area at the western end of Cinderella Drive (Lev-Tov 2011; Trampier 2011).

The fourth and most notable site within or adjacent to the project area is 36-000935 (CA-SBR-935/H), a large prehistoric (i.e. Native American) site that encompasses more than 137 acres in total and evidently represents the remains of the Yuhavetum (or Yuhaaviatam) village of Kayah-pia-t (alternatively spelled Kajavpeat; Leonard and Lerch 1980; Chace 1993). The project area is located on the southern edge of the site, mostly within the previously established site boundary. Recorded and updated multiple times between 1956 and 2016, Site 36-000935 includes bedrock mortars, manos, metates, ceramic sherds, shell beads, and numerous flaked-stone artifacts such as hammerstones, points, choppers, and scrapers, some made with materials from the Mojave Desert (Statistical Research, Inc. 2003). None of these features or artifacts, however, is known to have been found in the immediate vicinity of this project.

The majority of the cultural remains recorded at Site 36-000935 are located in a meadow to the northwest of State Route 18 and the forested foothills further north, especially the bedrock milling features, with midden soils observed in the northern portion of the site (McKenna et al. 2016). Artifact deposits were consistently revealed during archaeological excavations and monitoring in 1989-1990 at depths reaching four feet and at times reaching the water table (Chace 1993:7). During one evaluation in particular, it was stated that the site appeared eligible for listing in the National Register of Historic Places (McKenna 2016:3). Site 36-000935 also featured a component of historical origin, namely buildings and a tower associated with former fox farms in the area as well as refuse scatters, again well outside the project area (Statistical Research, Inc. 2003).

Within the one-mile scope of the records search, more than 50 additional studies have been reported to the SCCIC, resulting in the recordation of over 90 other cultural resources within the records search scope. Among these, 51 cultural resources dated to the historic period, including 34 roads, 11 mining-related sites and districts, a sawmill, a benchmark, refuse scatters, a ditch, and two isolates (i.e., localities with fewer than three artifacts) consisting of a spur and a metal badge. Two sites had

components of both prehistoric and historic origin, such as irrigation works among bedrock milling features and a lithic scatter.

Thirty of the known archaeological sites and ten isolates were of prehistoric origin, the majority of which were located to the north-northwest of the project location, on the other side of North Shore Drive. All of the prehistoric sites contained either lithic scatters, bedrock milling features, or both. At one of the sites, associated pictographs were also present. The isolates included manos and mano fragments, a core, a hammerstone, and lithic flakes, one with an associated crystal. Since none of these additional cultural resources were found in the immediate vicinity of the project area, none of them require further consideration in this study.

SACRED LANDS FILE SEARCH

In response to CRM TECH's request, the NAHC stated in a letter dated December 22, 2022, that the Sacred Lands File identified unspecified Native American cultural resource(s) in the general vicinity of the project area and referred further inquiry to the Yuhaaviatam of San Manuel Nation (see App. 2). In addition, the NAHC recommended that other local Native American groups be consulted as well and provided a referral list of 21 individuals affiliated with 14 other Native American groups who may have knowledge of such resources in the project vicinity. The NAHC's reply is attached to this report in Appendix 2 for reference by the BBCCSD during future government-to-government consultation process.

HISTORICAL BACKGROUND RESEARCH

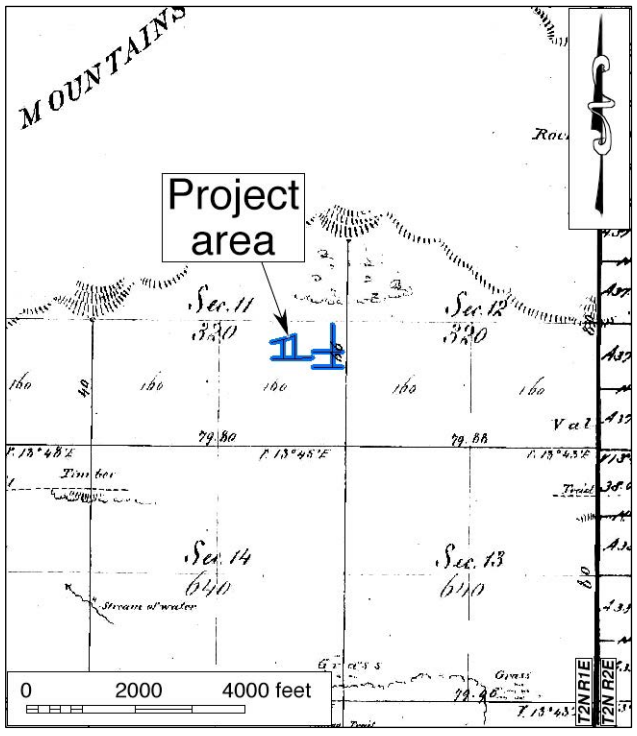

Figure 5. Project area and vicinity in 1857-1858. (Source: GLO 1858a; 1858b)

Despite Big Bear Valley's long history of Native American habitation and early Euro-American enterprises such as gold mining, lumbering, and cattle ranching, in the mid- and late 19th century the only human-made features noted in the immediate vicinity of the project area was the forerunners of present-day State Route 18, which began as an "Indian Trail" running east-west to the south of the project location (Figs. 5, 6). By the turn of the century, a new road in the general direction of State Route 18 had come into being across the project area, leading to a "Lakeview Mill" roughly a quarter-mile to the northeast (Fig. 6).

In the 1930s, a few winding dirt roads and scattered buildings, including one at the location of Site 36-014403, were noted in the vicinity of the project alignment (NETR Online 1938). To the west of what is now Sequoia Drive, a grid of roads had emerged in the typical pattern of a residential subdivision, with some buildings

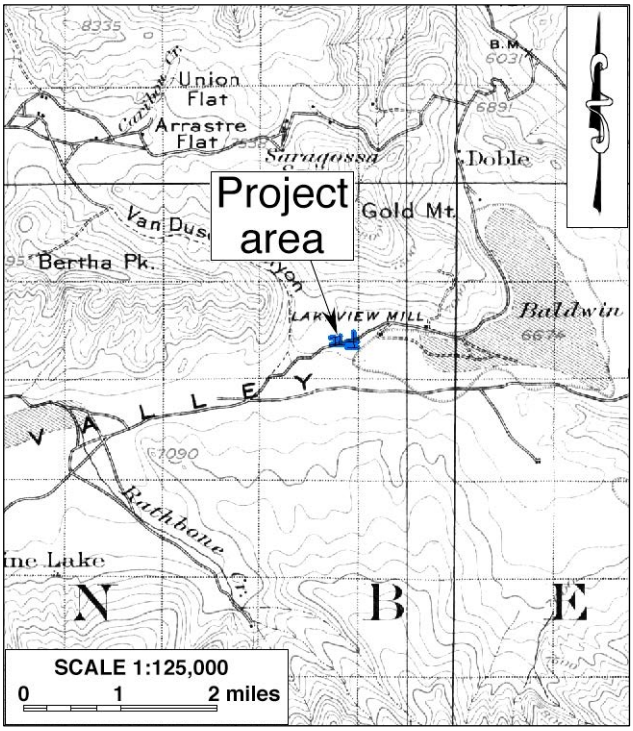

Figure 6. Project area and vicinity in 1899. (Source: USGS 1902)

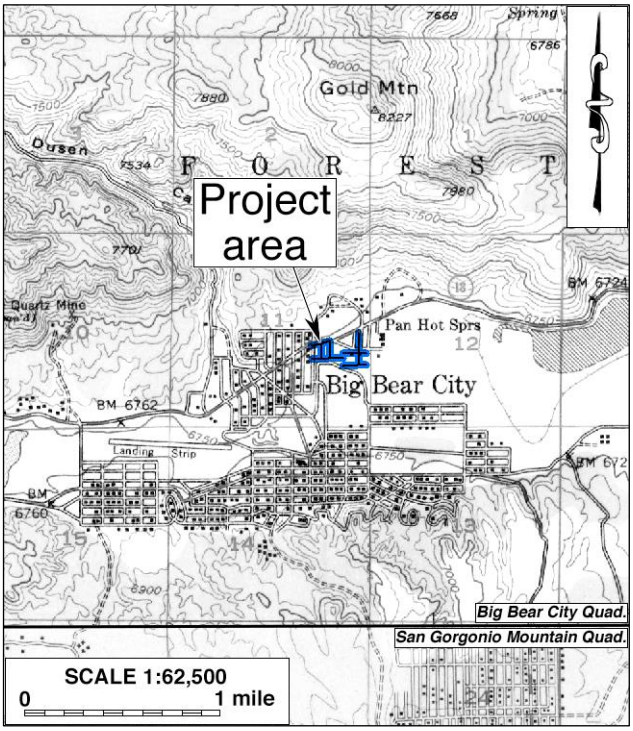

Figure 7. Project area and vicinity in 1945-1954. (Source: USGS 1947; 1954)

already in place (*ibid.*). That development eventually reached the project area during the 1950s-1960s, when most of the streets containing the project alignment were laid out, although much of the land in this neighborhood remained undeveloped at the time (Fig. 7; NETR Online 1945-1969).

In the late 1960s, the buildings near the project alignments were mainly concentrated near Paradise Way and Cinderella Drive (NETR Online 1969). Over the next 14 years, new buildings filled most of the neighborhood, and by the end of the 20th century there were few vacant lots left (NETR Online 1983-2002; Google Earth 1985-2002). The pace of development has since steadied, with the surrounding area retaining a largely rural character to this day (NETR Online 2002-2020; Google Earth 2002-2022).

FIELD SURVEY

The field survey encountered no buildings, structures, objects, sites, features, or artifact deposits of prehistoric or historical origin within the project boundaries other than the existing streets. As discussed above, most of the streets containing the project route originated during the late historic period, specifically the 1950s-1960s era, with Sequoia Drive adjacent to the project area dating further back to at least the 1930s. Two of them, Sequoia Drive and Mount Doble Drive, were previously recorded into the California Historical Resources Inventory as Sites 36-024054 and 36-024552, respectively. The current configuration and appearance of the roads, however, reflect the results of repeated upgrading and constant maintenance since their times of origin, and none of them demonstrate any distinctively historical characteristics today.

The primary feature of Site 36-014403, the foundation of a demolished residence on a parcel adjacent to the project alignment, was reportedly removed shortly after the site was recorded, and its location is now occupied by a modern residence. Site 36-014403, therefore, no longer exists. At Site 36-000935, no features or artifacts of prehistoric origin were observed in or near the project area throughout the survey. As previously noted, the majority of the recorded components of the site were found on undeveloped land to the north of North Shore Drive. Given the extensive ground disturbance that has occurred in and near the project area since the surrounding neighborhood was first developed in the 1950s-1960s, it was not expected that any prehistoric cultural remains would survive intact on the surface today.

MANAGEMENT CONSIDERATIONS

APPLICABLE STATUTORY/REGULATORY FRAMEWORK

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 defined by 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))

DISCUSSION

In summary, four historical/archaeological sites were previously recorded as lying partially within or adjacent to the project area. One of these, a historic-period structural foundation designated Site 36-

014403, is no longer extant today. Two other sites, 36-024054 and 36-024552, represent two of the streets within or adjacent to the project area, namely Mount Doble Drive and Sequoia Drive. As minor roadways of standard construction and utilitarian character, neither of them exhibits any special quality in design, engineering, or aesthetics, nor are they known to be closely associated with any persons or events of recognized historic significance.

Furthermore, both roads are working components of the modern transportation infrastructure, subject to frequent upgrading and maintenance, and consequently their appearance today is essentially indistinguishable from similar features of modern origin. As such, they do not appear to meet any of the criteria, nor the historic integrity requirement, for listing in the California Register of Historical Resources. Similarly, the other streets in the project area do not demonstrate the potential for California Register eligibility either, and none of them require further consideration in this study.

Site 36-000935, an expansive prehistoric archaeological site likely associated with the Serrano village of *Kayah-pia-t* (or *Kajavpeat*), was previously found to be eligible for listing in the National Register of Historic Places (McKenna 2016:3), for which the criteria are effectually the same as those for the California Register. Since most of the 137-acre site is located well outside the project area, and since no features or artifacts of the site were found within or adjacent to the project boundaries, a comprehensive evaluation or re-evaluation of the site for California Register eligibility is beyond the scope of this study. However, as the significance of 36-000935 as a whole is almost beyond question, the primary concern in CEQA compliance regarding this site becomes whether any cultural remains associated with it may be present within the horizontal and vertical extents of the project area.

The bulk of the project area is located within the rights-of-way for various paved roads, where the proposed project seeks to replace existing underground water mains. Given the extent of past ground disturbance at these locations from road construction and underground utility work, the pipeline replacement is expected to occur entirely within previously disturbed soil, or essentially artificial fill. Outside the public rights-of-way, the laterals to be replaced on private properties are also situated in previously disturbed setting. As a result, these project activities are unlikely to encounter any intact cultural deposits associated with 36-000935.

In the portions of the project area where new laterals will be installed on private properties to replace existing laterals elsewhere, in comparison, the ground surface appears to be less disturbed. In the absence of sufficient data, the archaeological sensitivity of subsurface soil at these locations is currently unknown. While the excavation of shovel test pits and/or mechanical trenches, commonly known as Extended Phase I procedures, is often used to assess the sensitivity level in similar conditions, that approach appears less feasible for this project due to the number of property owners involved. Instead, archaeological monitoring appears to be a more practical alternative.

Meanwhile, the NAHC reported the presence of unspecified Native American cultural resource(s) in the general vicinity, which may be related to Site 36-000935 as well. According to CEQA guidelines, the identification of potential "tribal cultural resources" is beyond the scope of this study and needs to be addressed through government-to-government consultations between the BBCCSD and the pertinent Native American groups, especially the Yuhaaviatam of San Manuel Nation, pursuant to Assembly Bill (AB) 52.

RECOMMENDATIONS

Based on the information and analysis discussed above, CRM TECH presents the following recommendations to the BBCCSD:

- Archaeological monitoring should be required during trenching operations for the installation of new service laterals across relatively undisturbed land. The monitoring program should be coordinated with local Native American groups, such as the Yuhaaviatam of San Manuel Nation, who may wish to participate.
- If any prehistoric cultural remains associated with Site 36-000935 are discovered during the monitoring program, additional excavations using standard Phase II archaeological testing procedures will be required to evaluate the significance of the finds.
- No further cultural resources investigations will be necessary for the pipeline replacement operations, both with the water mains in public rights-of-way and with the laterals on private land where the replacement will be installed along the same alignment.
- Final determinations on the proposed project's potential to impact "historical resources" will be made upon the completion of the monitoring program and AB 52 consultations between the BBCCSD and the local Native American groups regarding potential "tribal cultural resource(s)"

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2016 California Historical Resources Inventory record forms, Site 36-000935 (CA-SBR-935/H). On file, South Central Coastal Information Center, California State University, Fullerton.
Milburn, Doug, U.K. Doan, and John D. Goodman II
2008 Archaeological Investigation at Baldy Mesa-Cajon Divide for the Baldy Mesa Off-Highway-Vehicle Recreation Trails Project, San Bernardino National Forest, San Bernardino County, California. San Bernardino National Forest Technical Report 05-12-53-091. San Bernardino.
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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.
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APPENDIX 1:
PERSONNEL QUALIFICATIONS

PRINCIPAL INVESTIGATOR, HISTORY
Bai "Tom" Tang, M.A.

Education

1988-1993	Graduate Program in Public History/Historic Preservation, University of California, Riverside.
1987	M.A., American History, Yale University, New Haven, Connecticut.
1982	B.A., History, Northwestern University, Xi'an, China.
2000	"Introduction to Section 106 Review," presented by the Advisory Council on Historic Preservation and the University of Nevada, Reno.
1994	"Assessing the Significance of Historic Archaeological Sites," presented by the Historic Preservation Program, University of Nevada, Reno.

Professional Experience

2002-	Principal Investigator, CRM TECH, Riverside/Colton, California.
1993-2002	Project Historian/Architectural Historian, CRM TECH, Riverside, California.
1993-1997	Project Historian, Greenwood and Associates, Pacific Palisades, California.
1991-1993	Project Historian, Archaeological Research Unit, University of California, Riverside.
1990	Intern Researcher, California State Office of Historic Preservation, Sacramento.
1990-1992	Teaching Assistant, History of Modern World, University of California, Riverside.
1988-1993	Research Assistant, American Social History, University of California, Riverside.
1985-1988	Research Assistant, Modern Chinese History, Yale University.
1985-1986	Teaching Assistant, Modern Chinese History, Yale University.
1982-1985	Lecturer, History, Xi'an Foreign Languages Institute, Xi'an, China.

Cultural Resources Management Reports

Preliminary Analyses and Recommendations Regarding California's Cultural Resources Inventory System (with Special Reference to Condition 14 of NPS 1990 Program Review Report). California State Office of Historic Preservation working paper, Sacramento, September 1990.

Numerous cultural resources management reports with the Archaeological Research Unit, Greenwood and Associates, and CRM TECH, since October 1991.

PRINCIPAL INVESTIGATOR, ARCHAEOLOGY
Michael Hogan, Ph.D., RPA (Registered Professional Archaeologist)

Education

1991	Ph.D., Anthropology, University of California, Riverside.
1981	B.S., Anthropology, University of California, Riverside; with honors.
1980-1981	Education Abroad Program, Lima, Peru.
2002	"Section 106—National Historic Preservation Act: Federal Law at the Local Level," UCLA Extension Course #888.
2002	"Recognizing Historic Artifacts," workshop presented by Richard Norwood, Historical Archaeologist.
2002	"Wending Your Way through the Regulatory Maze," symposium presented by the Association of Environmental Professionals.
1992	"Southern California Ceramics Workshop," presented by Jerry Schaefer.
1992	"Historic Artifact Workshop," presented by Anne Duffield-Stoll.

Professional Experience

2002-	Principal Investigator, CRM TECH, Riverside/Colton, California.
1999-2002	Project Archaeologist/Field Director, CRM TECH, Riverside, California.
1996-1998	Project Director and Ethnographer, Statistical Research, Inc., Redlands, California.
1992-1998	Assistant Research Anthropologist, University of California, Riverside.
1992-1995	Project Director, Archaeological Research Unit, U.C. Riverside.
1993-1994	Adjunct Professor, Riverside Community College, Mt. San Jacinto College, U.C. Riverside, Chapman University, and San Bernardino Valley College.
1991-1992	Crew Chief, Archaeological Research Unit, U.C. Riverside.
1984-1998	Project Director, Field Director, Crew Chief, and Archaeological Technician for various southern California cultural resources management firms.

Research Interests

Cultural Resource Management, Southern Californian Archaeology, Settlement and Exchange Patterns, Specialization and Stratification, Culture Change, Native American Culture, Cultural Diversity.

Cultural Resources Management Reports

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

Memberships

Society for American Archaeology; Society for California Archaeology; Pacific Coast Archaeological Society; Coachella Valley Archaeological Society.

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

Education

2003	M.A., Anthropology, San Diego State University, California.
2000	B.A., Anthropology, minor in Biology, San Diego State University, California; with honors.
2021	Certificate of Specialization, Kumeyaay Studies, Cuyamaca College, California.
2001	Archaeological Field School, San Diego State University.
2000	Archaeological Field School, San Diego State University.

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.

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.
2007	Certificate in Geographic Information Systems (GIS), California State University, San Bernardino.
2002	"Historic Archaeology Workshop," presented by Richard Norwood, Base Archaeologist, Edwards Air Force Base; presented at CRM TECH, Riverside, California.

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.

Cultural Resources Management Reports

Field Director, co-author, and contributor to numerous cultural management reports since 2002.

PROJECT ARCHAEOLOGIST/NATIVE AMERICAN LIAISON
Nina Gallardo, B.A.

Education

2004 B.A., Anthropology/Law and Society, University of California, Riverside.

Professional Experience

2004- Project Archaeologist, CRM TECH, Riverside/Colton, California.

Cultural Resources Management Reports

Co-author of and contributor to numerous cultural resources management reports since 2004.

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.

2014 Archaeological Field School, Santa Rosa Mountains; supervised by Bill Sapp of the United States Forest Service and Daniel McCarthy of the San Manuel Band of Mission Indians.

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

SACRED LANDS FILE SEARCH RESULTS

NATIVE AMERICAN HERITAGE COMMISSION

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

December 22, 2022

Nina Gallardo
CRM TECH

Via Email to: ngallardo@crmtech.us

Re: Proposed Big Bear City Community Services District Cinderella and Pan Springs Pipeline Replacement Project (CRM TECH No. 3974), San Bernardino County

Dear Ms. Gallardo:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information submitted for the above referenced project. The results were positive. Please contact the San Manuel Band of Mission Indians Tribal Council 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: Cameron.vela@nahc.ca.gov.

Sincerely,

Cameron Vela

Cameron Vela
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
San Bernardino County
12/22/2022

Agua Caliente Band of Cahuilla Indians
Reid Milanovich, Chairperson
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264
Phone: (760) 699 - 6800
Fax: (760) 699-6919
laviles@aguacaliente.net

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

Augustine Band of Cahuilla Mission Indians
Amanda Vance, Chairperson
84-001 Avenue 54 — Cahuilla
Coachella, CA, 92236
Phone: (760) 398 - 4722
Fax: (760) 369-7161
hhaines@augustinetribe.com

Cabazon Band of Mission Indians
Doug Welmas, Chairperson
84-245 Indio Springs Parkway — Cahuilla
Indio, CA, 92203
Phone: (760) 342 - 2593
Fax: (760) 347-7880
jstapp@cabazonindians-nsn.gov

Cahuilla Band of Indians
Daniel Salgado, Chairperson
52701 U.S. Highway 371 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 5549
Fax: (951) 763-2808
Chairman@cahuilla.net

Los Coyotes Band of Cahuilla and Cupeño Indians
Ray Chapparosa, Chairperson
P.O. Box 189 — Cahuilla
Warner Springs, CA, 92086-0189
Phone: (760) 782 - 0711
Fax: (760) 782-0712

Morongo Band of Mission Indians
Robert Martin, Chairperson
12700 Pumarra Road — Cahuilla, Serrano
Banning, CA, 92220
Phone: (951) 755 - 5110
Fax: (951) 755-5177
abrierty@morongo-nsn.gov

Morongo Band of Mission Indians
Ann Brierty, THPO
12700 Pumarra Road — Cahuilla, Serrano
Banning, CA, 92220
Phone: (951) 755 - 5259
Fax: (951) 572-6004
abrierty@morongo-nsn.gov

Quechan Tribe of the Fort Yuma Reservation
Manfred Scott, Acting Chairman
Kw'ts'an Cultural Committee
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (928) 750 - 2516
scottmanfred@yahoo.com

Quechan Tribe of the Fort Yuma Reservation
Jill McCormick, Historic Preservation Officer
P.O. Box 1899 — Quechan
Yuma, AZ, 85366
Phone: (760) 572 - 2423
historicpreservation@quechantribe.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed Big Bear City Community Services District Cinderella and Pan Springs Pipeline Replacement Project (CRM TECH No. 3974), San Bernardino County.

Ramona Band of Cahuilla
Joseph Hamilton, Chairperson
P.O. Box 391670 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 4105
Fax: (951) 763-4325
admin@ramona-nsn.gov

Ramona Band of Cahuilla
John Gomez, Environmental Coordinator
P. O. Box 391670 — Cahuilla
Anza, CA, 92539
Phone: (951) 763 - 4105
Fax: (951) 763-4325
jgomez@ramona-nsn.gov

San Fernando Band of Mission Indians
Donna Yocum, Chairperson
P.O. Box 221838 — Kitanemuk
Newhall, CA, 91322 — Vanyume
Phone: (503) 539 - 0933 — Tataviam
Fax: (503) 574-3308
ddyocum@comcast.net

San Manuel Band of Mission Indians
Jessica Mauck, Director of Cultural Resources
26569 Community Center Drive — Serrano
Highland, CA, 92346
Phone: (909) 864 - 8933
Jessica.Mauck@sanmanuel-nsn.gov

Santa Rosa Band of Cahuilla Indians
Lovina Redner, Tribal Chair
P.O. Box 391820 — Cahuilla
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
lsaul@santarosa-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

Soboba Band of Luiseno Indians
Isaiah Vivanco, Chairperson
P. O. Box 487 — Cahuilla
San Jacinto, CA, 92581 — Luiseno
Phone: (951) 654 - 5544
Fax: (951) 654-4198
ivivanco@soboba-nsn.gov

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 — Cahuilla
San Jacinto, CA, 92581 — Luiseno
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

Torres-Martinez Desert Cahuilla Indians
Cultural Committee,
P.O. Box 1160 — Cahuilla
Thermal, CA, 92274
Phone: (760) 397 - 0300
Fax: (760) 397-8146
Cultural-Committee@torresmartinez-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed Big Bear City Community Services District Cinderella and Pan Springs Pipeline Replacement Project (CRM TECH No. 3974), San Bernardino County.

Twenty-Nine Palms Band of Mission Indians
Darrell Mike, Chairperson
46-200 Harrison Place Chemehuevi
Coachella, CA, 92236
Phone: (760) 863 - 2444
Fax: (760) 863-2449
29chairman@29palmsbomi-nsn.gov

Twenty-Nine Palms Band of Mission Indians
Anthony Madrigal, Tribal Historic Preservation Officer
46-200 Harrison Place Chemehuevi
Coachella, CA, 92236
Phone: (760) 775 - 3259
amadrigal@29palmsbomi-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Proposed Big Bear City Community Services District Cinderella and Pan Springs Pipeline Replacement Project (CRM TECH No. 3974), San Bernardino County.