INITIAL STUDY

KNAUF CULVERT REPLACEMENT
CITY OF SHASTA LAKE, CALIFORNIA

Prepared for

City of Shasta Lake

Prepared by

VESTRA Resources, Inc.
5300 Aviation Drive
Redding, California 96002

APRIL 2025

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1.0 PROJECT INFORMATION

Project Title: Knauf Culvert Replacement

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4477 Main Street
Shasta Lake, California 96019

Project Location: 40.652953°, -122.392267°
City of Shasta Lake, Shasta County, California
APN: 064-150-079-000, 064-150-077-000

Applicant: Knauf Insulation Inc.
3100 Ashby Road
Shasta Lake City, California 96019

Consultant/Prepared by: VESTRA Resources, Inc.
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General Plan Designation: Industrial

Zoning: "M-DR", Industrial, Design Review

Description of the Project: The project includes the replacement of an existing culvert within the track ballast of the railroad spur for the Knauf Insulation Inc. (Knauf) City of Shasta Lake Facility. The existing 96-inch diameter corrugated metal pipe culvert within Newtown Creek will be excavated and replaced with an 8-foot by 8-foot concrete box culvert.

Surrounding Land Uses: The project site is located at the Knauf facility, southwest of the plant and adjacent to and including portions of the railroad spur to the plant. The general site location is shown in Figure 1. Parcels to the north, east, and south are designated for industrial use in the City of Shasta Lake General Plan and zoned Industrial, Design Review. Properties to the west of the project site are outside of the limits of the City of Shasta Lake and within unincorporated Shasta County. The Union Pacific Railroad (UPRR) railway is immediately west of the project site. On the opposite side of the railway, land uses are designated Suburban Residential in the Shasta County General Plan and are zoned Interim Rural Residential (I-R), Mobile Home (T) District, with areas adjacent to Newtown Creek zoned Designated Floodway (F-1) District.

The closest residential area to the project site is on the opposite side of the UPRR and includes residences on Pine Cone Drive and Tiptoe Lane. The closest residence on Pine Cone Drive is 500 feet west of the project site.

Other Public Agencies Whose Approval May be Required (e.g., permits, financing approval, or participation agreement:

- Lake or Streambed Alteration Agreement, California Department of Fish and Wildlife
- 401 Water Quality Certification, Central Valley Regional Water Quality Control Board
- Construction General Permit, Central Valley Regional Water Quality Control Board
- Nationwide Permit, United States Army Corps of Engineers

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

DETERMINATION; (to be completed by the Lead Agency)

On the basis of this initial evaluation:

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

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

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

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

_____ _____

Prepared by: Date

_____ _____

Reviewed by: Date

2.0 PROJECT DESCRIPTION

2.1 Background

The Knauf facility is a fiberglass manufacturing facility in the City of Shasta Lake, California, which was constructed in 2002. Construction of the facility included a private rail spur connecting the facility to the UPRR railway for the delivery of raw materials and offsite transport of manufactured products. Facility operations require 80 to 100 tons of raw material to be delivered to the plant each week. The rail spur crosses Newtown Creek west of the facility. The existing crossing consists of a 96-inch diameter corrugated metal pipe (CMP) culvert installed within Newton Creek at the base of the track ballast

Compression of a section of the CMP culvert was initially observed in 2023 following the 2022-2023 wet season, with the first observation of deficiencies with the culvert being on March 09, 2023. Following heavy rain in December 2023, the culvert compressed several additional inches within a few days and ballast material was observed eroding through the culvert. Emergency repair activities were initiated in late December 2023 after obtaining emergency permits and authorizations from the California Department of Fish and Wildlife, Central Valley Regional Water Quality Control Board, and U.S. Army Corps of Engineers. During emergency repair activities, a smaller 73-inch by 55-inch pipe arch culvert was installed within the failing section of the culvert with the intent to grout the smaller culvert section in place. Concrete could not be poured during the remainder of the winter since flows within Newton Creek became too high to dewater the work area and did not recede during the winter months. The spur was covered with heavy plastic to prevent additional saturation of the ballast material over the winter and the temporary fix was sufficient for the crossing to remain stable through the 2023-2024 wet season. Grouting of the culvert in place was completed under the same emergency permits when the stream was naturally dewatered in November 2024.

2.2 Culvert Replacement

The project includes replacement of the existing culvert with a concrete box culvert. The existing 96-inch diameter corrugated metal pipe (CMP) culvert and temporary arch culvert insert will be removed and replaced with an 8-foot by 8-foot precast concrete box culvert. The box culvert will be approximately 117 feet long. Wingwalls will be constructed on both the upstream and downstream sides of the culvert. A rock pad measuring 20 feet wide by 20 feet long by 2.5 feet deep will be placed in the streambed at the inlet and outlet of the box culvert (Figure 2).

Removal of existing vegetation on the eastern side of Newtown Creek and construction of a temporary access road will be required for equipment and trucks to access the work area. The temporary road will be 460 linear feet in length with width varying between 15 and 10 feet to avoid mature trees. If authorized by the UPRR, the existing railroad access road may also be used for access to the work area. The project site including work, access, and storage/staging areas is shown in Figure 2. The project plan and profile view is shown in Figure 3.

To remove the existing culvert, rail ballast material on top of the culvert will be excavated, loaded into a dump truck, and transported using the temporary construction access road or existing UPRR access road shown in Figure 2 to the staging/storage area shown in Figure 2. The

excavation area will be approximately 11,000 square feet around the culvert and will remove approximately 115 cubic yards of ballast material. Approximately 4,000 cubic yards of material will be excavated. The existing culvert and concrete will be removed and disposed of at the nearest landfill. The pre-cast concrete culvert will be installed. Concrete will be poured into forms to construct the wingwalls and rock will be placed at the inlet and outlet of the culvert. Following the installation of the new culvert, 115 cubic yards of track ballast material will be replaced on top of the replacement culvert.

Equipment required for construction could include an excavator, dump truck, crane, loader/dozer, concrete pump truck, and water truck for dust control. Activities will require the operation of equipment within the streambed of Newtown Creek. Within the stream channel, equipment will be operated within the culvert footprint or a 20-foot by 20-foot area on either end of the culvert. In areas where heavy equipment must enter the stream below the ordinary high-water mark, mats or gravel will be placed under the equipment.

The work area will be dewatered for the duration of activities within the stream channel. If the stream does not become naturally dewatered, a temporary dam will be constructed and water conveyed through or around the work area using a pump or gravity diversion. The temporary dam will be a maximum of 5 feet in width. Following culvert replacement, dewatering infrastructure will be removed and areas where vegetation disturbance occurred will be revegetated. Activities are anticipated to require 30 to 60 days with the rail spur non-operational for 30 days. Construction activities may occur up to 24 hours per day if approved by the City of Shasta Lake. Activities will occur during the dry season when water levels are lowest in Newtown Creek (June through October).

2.3 Purpose and Need

The culvert beneath the rail spur has started to fail and is at risk of collapse during the wet season without additional reinforcement. The purpose of the project is to remove the failing culvert to provide a stable crossing that can accommodate the 100-year flood event within Newtown Creek.

3.0 ENVIRONMENTAL CHECKLIST

I. AESTHETICS Except as provided in Public Resources Code Section 21099, Would the project:				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-significant impact**	**No impact**
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing 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 and 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?	☐	☐	☒	☐

Setting

The project site is southwest of the Knauf facility on parcels owned by Knauf Insulation Inc. Staging, access, and storage areas will be located southwest of the plant and north of the rail spur, with possible use of an access route within the UPRR right-of-way. Work will occur adjacent to the existing culvert crossing within and adjacent to the stream channel of Newtown Creek. The closest residence is approximately 500 feet west of the project site. There is no line of sight between the residence and the work area within the stream channel.

The current visual condition of the project site includes the existing railroad spur crossing of Newtown Creek and undeveloped portions of the industrial facility. Riparian vegetation is present on each side of the creek, except where vegetation was recently removed on the west side of the culvert inlet to provide access for emergency work conducted in 2023.

Discussion

The project includes the short-term presence of equipment, stockpiled materials, vehicles within the work area, vegetation removal on the east side of Newtown Creek, and construction of a temporary access road on the east side of Newtown Creek to access the work area. Work could require nighttime operations that would require temporary lighting within the work area. Following culvert replacement, construction vehicles and equipment would be removed and the

temporary access road restored. Riparian vegetation including species present prior to project activities will be re-planted where it was removed for project activities as well as on the western bank that was cleared of vegetation during previous emergency repair activities.

a) No Impact. The project site is not within an area designated as a scenic vista and project activities will not result in development that would block views of the surrounding landscape from any vantage point. The project will have no impact to a scenic vista.

b) No Impact. The closest officially designated state scenic highway is Route 151 west of Lake Boulevard. The project site is not visible from a state scenic highway and will have no impact to scenic resources within a state scenic highway.

c) No Impact. The project site is not located in an urbanized area per CEQA Guidelines §21071. The project is within a non-urbanized area on private property that is not clearly visible from a publicly accessible vantage point. The project would not degrade the existing character or quality of public views of the site and its surroundings since it is not visible to the public.

d) Less than Significant Impact. The project could require nighttime or evening work to reduce the amount of time the rail spur is non-operational. Lighting will be required for nighttime work. In accordance with Chapter 17.84.050, Lighting, of the Shasta Lake Municipal Code, the lighting used for project activities will be designed, located, directed, and shielded in such a manner as to prevent objectionable light and glare across property lines. With this requirement impacts to nighttime views would be less than significant.

II. AGRICULTURE AND FOREST 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 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:

	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
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 that could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Setting

Existing zoning for the site is M-DR, General Industrial, Design Review District with an interim zoning designation of Industrial. The project site does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The project site contains riparian forest adjacent to Newtown Creek that could meet the definition of forestland as defined in PRC section 12220(g)).

Discussion

a) No Impact. The project site does not include Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland)as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. The project will not convert Farmland to non-agricultural use.

b) No Impact. The project site does not include land zoned for agricultural use or land that is under a Williamson Act Contract. The project will not conflict with existing zoning for agricultural use or a Williamson Act Contract.

c) No Impact. The project site does not include timberland and is not zoned Timberland Production. The project site does contain riparian forest adjacent to Newtown Creek that can support 10 percent native tree cover and meets the definition of forest land as defined in PRC section 12220(g)). The project does not include the removal of large-diameter trees. The project includes temporary culvert replacement activities and will not conflict with existing zoning or cause rezoning of forest land, timberland, or timberland zoned Timberland Production.

d) Less than Significant Impact. The project will require the removal of several small-diameter trees for access to the work area. Following culvert replacement, the work area will be revegetated. The project would not decrease native tree cover below 10 percent in forested areas of the project site. The project will not result in the loss of forest land or conversion of forest land to non-forest use.

e) No Impact. The project includes temporary construction activities that will not result in the conversion of Farmland to non-agricultural use or the conversion of forest land to non-forest use.

Mitigation Measures

No mitigation measures are required related to agriculture and forestry resources.

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

Setting

The United States Environmental Protection Agency (USEPA) has established the National Ambient Air Quality Standards (NAAQS) under the Clean Air Act (CAA) for six common air pollutants known as "criteria pollutants". These air pollutants consist of carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO_2), volatile organic compounds (VOC) as reactive organic gases (ROG), particulate matter less than 10 micrometers (coarse or PM_{10}), particulate matter less than 2.5 micrometers (fine or $PM_{2.5}$). and lead (Pb). Similar standards have been adopted by the state of California called California Ambient Air Quality Standards (CAAQS).

The project site is located in the Northern Sacramento Valley Air Basin (NSVAB). The Shasta County Air Quality Management District (SCAQMD) is the air pollution regulatory agency for the portion of the NSVAB in Shasta County. Under federal air quality standards, Shasta County is designated as attainment for all criteria pollutants. Under State air quality standards, Shasta County is designated as nonattainment for ozone and is designated as attainment/unclassified for all other pollutants.

SCAQMD's *Protocol for Review, Land Use Permitting Activities, and Procedures for Implementing the California Environmental Quality Act* includes the following thresholds of significance for emissions:

- Daily emissions of 25 pounds per day of ROG and NO_x and 80 pounds per day of PM_{10} (Level A)
- Daily emissions of greater than 137 pounds per day of ROG, NO_x, and PM_{10} (Level B)

The SCAQMD and the Shasta County General Plan recommend that projects apply Standard Mitigation Measures (SMM) and appropriate Best Available Mitigation Measures (BAMM) when a project exceeds Level A thresholds and that projects apply SMM, BAMM, and special BAMM when a project exceeds Level B thresholds. Projects that cannot mitigate emissions to levels below the Level B thresholds are considered significant. All projects within Shasta County are subject to applicable SCAQMD rules and regulations in effect at the time of construction.

As described in the City of Shasta Lake General Plan, residential and sensitive land uses, like schools and health care facilities, face air quality-related health impacts and noise impacts. The project site is within an industrial area of the City. The closest sensitive land use to the project site is a residence 500 feet west of the work area on the opposite side of the UPRR railway. The closest sensitive receptors to the project site are shown in Figure 4.

Discussion

a) Less than Significant Impact. The Northern Sacramento Planning Area *2021 Triennial Air Quality Attainment Plan* (2021 Plan) was jointly prepared by the Air Quality Management Districts for the counties located in the northern portion of the Sacramento Valley. The Air Quality Attainment Plan includes control strategies necessary to attain the California ozone standard at the earliest practicable date.

In the Northern Sacramento Valley Planning Area (NSVPA), ozone can be caused by stationary source emissions such as internal combustion engines or boilers, mobile sources such as cars, trucks, and trains, or area sources such as consumer products or wildfires (SVAQEEP 2021). The Air Quality Attainment Plan includes projected emissions of ozone precursor emissions including nitrogen oxides (NO_x) and Reactive Organic Gases (ROG). Based on the Emission Inventory contained in the Attainment Plan, projected emissions show a downward trend for both ROG and NO_x. NO_x emissions are forecasted to decrease by 44 percent and ROG emissions are forecasted to decrease by 19 percent between 2012 and 2025 (SVAQEEP 2021).

The NSVPA air districts have adopted several control measures and programs that reduce emissions from new development during the planning process or through control of specific sources of emissions. Although the project includes the replacement of an existing structure and does not include new development, Shasta County APCD rules for fugitive dust during construction are applicable to the project and will be implemented for the project. The project does not include a permanent stationary source of emissions and will not conflict with the implementation of non-stationary source measures contained in the 2021 Plan. The project does not conflict with the implementation of the Northern Sacramento Valley Planning Area 2021 Triennial Air Quality Attainment Plan.

b) Less than Significant Impact. Shasta County is designated as nonattainment for ozone. The County is classified as either unclassified or as in attainment with State and federal Standards for all other criteria pollutants. The project includes short-term culvert replacement activities requiring the operation of one to two pieces of equipment at a time onsite which will result in only minor daily exhaust emissions. Excavation, transport, and hauling of track ballast material as well as operation of vehicles and equipment on unpaved areas would generate particulate matter from

dust. The following Standard Mitigation Measures included in the City's Air Quality Element will be implemented during ground disturbance, grading, or clearing activities:

a. Suspend all grading operations when winds, as instantaneous gusts exceed 20 miles per hour or as directed by the SCAQMD.

b. Water active construction sites at least twice daily, or as needed to control fugitive dust as directed by the Public Works Department or Building Department if onsite.

c. Apply non-toxic soil stabilizers according to the manufacturer's specification to all graded areas that will be inactive for 10 days or more.

d. When construction activity occurs during wet weather, install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip. Prior to the issuance of any clearing or grading permits, locations of wheel washers shall be identified and approved by the City.

e. If visible soil materials are carried onto adjacent paved roads, sweep streets at the end of the day.

f. Cover trucks hauling dirt, sand, soil, or other loose materials or maintain at least 2 feet of freeboard (minimum vertical distance between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.

g. Reestablish ground cover on the construction site through seeding and watering prior to final occupancy.

These measures would minimize particulate matter generated by onsite construction activities to a less-than-significant level.

The project will also require increased truck trips for the transport of raw materials and final products from the facility for the duration of construction. Up to 48 additional trucks could be required each week (7 additional trucks each day) for an anticipated duration of 30 days. A small number of contractor employee trips would also be required. During this time there would be no emissions generated by train trips transporting material to and from the facility since the rail spur would be non-operational. Short-term traffic increases are not anticipated to result in a cumulatively considerable net increase of any criteria pollutant. For reference, estimates of criteria pollutants generated by 33 trucks per day serving the facility were 4.66 pounds/day of ROG, 5.36 pounds/day of NO_x, 0.73 pounds/day of PM_{10}, and 0.47 pounds/day of SO_x (CH2MHILL, 1997). An additional seven trucks per day would result in approximately one-fifth of the emissions listed above and would produce emissions far below SCAQMD Level A thresholds.

c) Less than Significant Impact. The closest sensitive receptor to the project site is a residence 500 feet west of the project site on Pine Cone Drive. Standard mitigation measures included in the City's air quality element will be implemented during ground disturbing, grading, or clearing activities to minimize particulate matter generated by onsite construction activities. Pollutants generated by worker automobile trips and additional trucks would be minimal and would not be concentrated in a single area or near a single sensitive receptor for an extended duration since these sources will be mobile. The project would not expose sensitive receptors to substantial pollutant concentrations with the implementation of SMMs from the City of Shasta Lake Air Quality Element.

d) Less than Significant Impact. Odors generated by the project include exhaust odor from the operation of equipment within the project site as well as the additional trucks required for the transport of materials when the rail spur is non-operational. Exhaust odor from equipment operated within the project site is not anticipated to be detectable at the residence 500 feet from the project site. Trucks will use existing roadways used for truck traffic and will not result in a new source of odor along the transport route. The project will not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Mitigation Measures

No mitigation measures are required for the project related to air quality.

IV. BIOLOGICAL RESOURCES Would the project:				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-Significant Impact**	**No Impact**
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 Game 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, and regulations or by the California Department of Fish and Game 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?	☐	☐	☐	☒

Setting

A Biological Resources Assessment (BRA) was prepared for the project by VESTRA Resources, Inc. (VESTRA) in August 2024 and is included as Appendix A. Information regarding the existing setting of the project site as well as potential impacts to special-status species was based on information contained in the BRA.

Hydrology

The project area is centered around a culvert that conveys Newtown Creek underneath the railroad embankment. Newtown Creek originates roughly 2 miles northwest of the site according to the National Wetlands Inventory. Several obstructions and diversions were observed on private properties upstream of the project area. These man-made features have altered the stream channel;

ponds, and spillways in the stream channel and have created flashy, intermittent hydrology in Newtown Creek within the project area.

Culverts were observed in two locations underneath the railroad tracks. Newtown Creek flows through the northernmost culvert over the access road into the riparian area which flows into the project work area.

The confluence of Newtown Creek with Churn Creek occurs 1.75 miles downstream from the project area. At the time of a pedestrian survey completed in November 2023, Newtown Creek contained flowing surface water approximately 2 to 4 inches in depth. During pedestrian surveys completed in April 2024, water depth in Newtown Creek remained the same at 2 to 4 inches.

Vegetation

The project site contains Valley Foothill Riparian, barren, and annual grassland vegetation habitat types. These vegetation types are described below.

Valley Foothill Riparian

The riparian community onsite is dominated by willow (*Salix* sp.) and Fremont cottonwood (*Populus fremontii*). The understory is covered in dense blackberry (*Rubus armeniacus*) and a giant chain fern (*Woodwardia* sp.) patch. Surrounding the project area, scattered valley oak trees (*Quercus lobata*) and a few buckbrush shrubs (*Ceanothus cuneatus*) are present. No elderberry (*Sambucus* sp.) occurs onsite or within 165 feet of the site. At the culvert inlet, a portion of Valley Foothill Riparian habitat that included oak and willow trees was removed during recent activities onsite unrelated to this assessment.

Barren

Barren habitat is defined as having less than 10 percent vegetation cover. The railroad tracks and existing roads comprise the barren portion of the project area. At the culvert outlet, historic disturbance to the slope directly above the project area has left a barren patch where a portion of Valley Foothill Riparian habitat was once located.

Annual Grassland

Annual Grassland habitats are open grasslands composed primarily of annual plant species. Structure in annual grassland depends largely on weather patterns and livestock grazing. Dramatic differences in physiognomy, both between seasons and between years, are characteristic of this habitat. Fall rains cause the germination of annual plant seeds. Plants grow slowly during the cool winter months, remaining low in stature until spring when temperatures increase and stimulate more rapid growth. Large amounts of standing dead plant material can be found during summer in years of abundant rainfall and light to moderate grazing pressure. Heavy spring grazing favors the growth of summer-annual forbs, such as tarweed (*Madia* sp.), and reduces the amount of standing dead material.

Introduced annual grasses are the dominant plant species in this habitat. These include wild oats (*Avena fatua*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), red brome (*Bromus rubens*), wild barley (*Hordeum murinum*), and foxtail fescue (*Vulpia myuros*). Common forbs include broadleaf filaree (*Erodium* sp.), true clover (*Trifolium* spp.), popcorn flower (*Plagiobothrys* sp. and *Cryptantha* spp.), and many others. The annual grassland onsite is interspersed with blackberry patches (*Rubus armeniacus*) and a few buckbrush shrubs (*Ceanothus cuneatus*).

Special-Status Plant Species
Special-status plant species include plants that are (1) designated as rare by California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS) or are listed as threatened or endangered under the California Endangered Species Act (CESA) or ESA; (2) proposed for designation as rare or listing as threatened or endangered; (3) designated as state or federal candidate species for listing as threatened or endangered; and/or (4) ranked as California Rare Plant Rank (RPR) 1A, 1B, 2A, or 2B. A list of regionally occurring special-status plant species was compiled based on a review of pertinent literature, the results of the field surveys, and a review of the USFWS species list and California Natural Diversity Database (CNDDB) and a nine-quad search of California Native Plant Society (CNPS) database records.

The habitat and ecological requirements of each special-status plant species were evaluated and compared to the known habitat types in, or in the immediate vicinity, of the study area to assess the potential for occurrence. Fourteen regionally occurring special-status plant species identified during the desktop review were assessed based on the presence of their habitat within the project area. The assessment considered key habitat elements such as hydrologic, edaphic, topographic, and pH requirements; known geographic ranges; known elevation ranges; known community associations; land use history; and site-specific data gathered from the site surveys. No special-status plant species were observed during the site surveys. The habitat observed within the project area is not likely to support any of the regionally occurring special-status plant species identified during the desktop review. Therefore, no special-status plants have the potential to occur within the project boundary and are not discussed further.

Special-Status Wildlife Species
Special-status animal species include species that are (1) listed as threatened or endangered under the CESA or the ESA; (2) proposed for federal listing as threatened or endangered; (3) identified as state or federal candidates for listing as threatened or endangered; and/or (4) identified by the CDFW as Species of Special Concern or California Fully Protected Species.

A list of regionally occurring special-status wildlife species was compiled based on a review of pertinent literature and consultations with the USFWS Information for Planning and Consultation (iPAC) database and CNDDB database records, and a query of the California Wildlife Habitats Relationship (CWHR) system. The habitat and ecological requirements of each special-status species were evaluated and compared to the known habitat types in, or in the immediate vicinity, of the study area to assess the potential for suitable habitat or occurrence. Based on this assessment, the project site contains suitable habitat for Steelhead-Central Valley DPS (*Oncorhynchus mykiss irideus pop. 11)* and ringtail *(Bassariscus astutus)*. The project site is also designated as Essential Fish Habitat for all runs of Chinook Salmon (*Oncorhynchus tshawytscha)* Potential impacts to these species are discussed under a) below.

Discussion

a) Less than Significant Impact with Mitigation. Based on the findings of the Biological Resources Assessment prepared for the project, special-status species that could potentially occur within the project area include steelhead(*(Oncorhynchus mykiss irideus pop. 11)* and ringtail (*(Bassariscus astutus)*. The project site also contains Essential Fish Habitat for all runs of Chinook Salmon

(*Oncorhynchus tshawytscha EFH)* as well as habitat for nesting and migratory birds. Potential effects to these species and habitats are discussed below.

Steelhead-California Central Valley DPS (*Oncorhynchus mykiss irideus pop. 11)*
Steelhead could be spawning where conditions are appropriate within Churn Creek and its flowing tributaries between December and April, but there is potential for rearing and developing juveniles to rear in these streams year-round. When flowing with adequate water levels, potential rearing habitat is present in the project area.

Steelhead have the potential to occur in streams with adequate water levels and water quality for fish rearing. Generally, steelhead are expected to occur in tributaries to the Sacramento River, such as Churn Creek and Newtown Creek, except where barriers to their migration occur. According to the California Salmonid Stream Habitat Restoration Manual published by CDFW, barriers can include natural or man-made impediments to fish passage that, due to a steep channel gradient, drop-off height, or physical barrier across the stream, prevent fish passage either seasonally or year-round. The CDFW Fish Passage Assessment Database (PAD) was reviewed, and onsite conditions were investigated to determine if any barriers to fish passage occur downstream of the project area. An inspection of Newtown Creek was completed to determine if any natural or man-made barriers to fish passage occur within the stream channel.

Approximately 250 feet downstream from the project area, a debris dam comprised of tightly matted human litter, car tires, and woody debris spans the stream channel. The flow rate slows and the depth of water increases immediately above the dam, which indicates the water is slowly trickling through the debris. The height of the dam is taller than the high water levels that occurred during recent storm events, as was evident from scouring and leaf deposition upstream of the dam. Therefore, the dam is likely a year-round barrier even during high flow periods. Steelhead, if present in Newtown Creek, are restricted to the accessible areas below the debris dam. As long as this debris dam remains, there is no potential for fish passage upstream into the project area.

Generally, construction in or near a stream has the potential to directly impact fish by causing direct mortality from disturbance in the aquatic habitat. Direct effects to fish from in-stream work are associated with in-water work (i.e., direct crushing/impact, or concussive impacts from vibrations within the water column). No fish or other aquatic species were observed during the survey performed within the work area conducted during the preparation of the Biological Resources Assessment. A debris dam downstream of the work area currently blocks all fish passage upstream, making direct effects during construction unlikely. Water levels will be at their lowest or Newtown Creek will be dry during project activities. **Mitigation Measure BIO-2** includes a survey to verify the fish passage barrier is still in place prior to project activities if surface water is present, and dewatering of the work area if water is present using appropriate screens on the pump intake as well as measures to minimize water quality impacts and disturbance to the stream channel. Direct impacts to fish would be less than significant with the implementation of **Mitigation Measure BIO-2.**

Indirect effects to steelhead could occur from reduced habitat quality within the project area. Replacing the failing culvert with a larger box culvert in this portion of Newtown Creek will prevent the creation of a human-caused barrier to fish passage and ensure stable channel morphology for future steelhead runs and essential fish habitat. Project construction activities are expected to result in short-term disturbance to the channel and the adjacent streambank within

the project area during the dry season, while surface water is minimal, and the site is dewatered. Impacts to water quality may occur in the form of turbidity and suspended sediment, but these effects are expected to be localized and temporary. **Mitigation Measure BIO-2** includes measures to minimize impacts to water quality during project activities. Impacts to existing riparian vegetation within the project area will be minimized pursuant to **Mitigation Measure BIO-5** and, as the revegetated trees mature, the amount and extent of native riparian habitat adjacent to Newtown Creek will not be lost. The culvert replacement within the project area is not expected to limit steelhead spawning, rearing, or migration in future years. Therefore, indirect effects to fish will be less than significant with mitigation.

Chinook Salmon Essential Fish Habitat - all runs *(Oncorhynchus tshawytscha EFH)*
The project area is designated as EFH for all runs of Chinook salmon. EFH includes specifically identified waters and substrates necessary for fish spawning, breeding, feeding, or growing to maturity. Important components of EFH for spawning, rearing, and migration include suitable substrate composition; water quality (e.g., dissolved oxygen, nutrients, temperature); water quantity, depth, and velocity; channel gradient and stability; food; cover and habitat complexity (e.g., large woody debris, pools, channel complexity, aquatic vegetation); space; access and passage; and floodplain and habitat connectivity. EFH also includes all habitats necessary for the production of commercially valuable aquatic species to support a long-term sustainable fishery and contribute to a healthy ecosystem (16 USC 1802[10]).

Removal of riparian vegetation can alter the aquatic environment as mature riparian trees contribute to important habitat features for anadromous fish life history, such as organic matter composition, temperature and dissolved oxygen, nutrients, water depth and velocity, and shaded cover. Disturbance to riparian vegetation will occur as needed to access the work area. This will require the removal of less than 0.1 acres of willow (*Salix* sp.), blackberry (*Rubus armeniacus*), and giant chain fern (*Woodwardia fimbriata)* in the path of the temporary road within the riparian area. Tree removal would have minimal impact on habitat for fish because only the willow trees onsite provide shade over Newtown Creek. Additionally, the removal of riparian vegetation will be temporary as the access area will be revegetated following the installation of the box culvert.

Potential adverse effects to EFH could result from work in the stream channel that results in an alteration to the channel morphology or substrate that could reduce the water quality or quantity within and downstream from the project area. Additionally, major channel alteration could reduce the suitability of substrate composition, channel gradient and stability, and cover and habitat complexity. Portions of the natural channel outside of the crossing footprint will be disturbed during construction. **Mitigation Measures BIO-2** and **BIO-5** include minimization of disturbance to the bed bank, and channel of Newtown Creek as well as restoration of areas outside the culvert footprint following project activities. The existing CMP culvert will be replaced with a concrete box culvert. This replacement will not substantially change the nature of the substrate within the work area as the bottom material will remain artificial. Improvements to the culvert structure will benefit the channel stability and gradient. Therefore, the project will have a less than significant impact on EFH with mitigation incorporated.

Ringtail *(Bassariscus astutus)*
The ringtail is recognized as a Fully Protected species by the CDFW. In California, the ringtail is widely distributed throughout riparian forest, brush stands, and shrub habitats in the lower to middle elevations. They can be found denning and living in natural cavities, snags, and even

buildings near a permanent water source. They nocturnally feed, primarily on rodents and rabbits. The project area exists within the range of ringtail cats and some ringtail habitat exists along Newtown Creek and the Valley Foothill Riparian Forest. There is potential for ringtails to den or nocturnally forage within larger trees in the project area.

Due to their nocturnal activity period, it is not likely for ringtails to be active during daytime project activities and therefore direct mortality is unlikely. However, if project activities were to occur at night, there is a potential for direct mortality to ringtail. The removal of small pockets of vegetation relative to the typical range of small mammals is unlikely to cause an adverse direct impact unless a den occurs in the project area. No den sites were observed within the project area by the biologist during the site survey. **Mitigation Measure BIO-1** includes general measures to avoid and reduce impacts to wildlife and **Mitigation Measure BIO-3** includes measures to avoid direct mortality to ringtail during nighttime activities and location and avoidance of active den sites for activities occurring within the ringtail maternity season

The proposed project will not result in the loss of available foraging or den habitat for ringtails. Ringtails that utilize this area may depart from or avoid the site in favor of undisturbed areas during project work. Noise generated by heavy equipment operation may disturb mammals within the project area; however, the ambient noise level of the railroad use is significant and mammals in the project area are likely acclimated to above-average noise levels. The project could require lighting at night which could result in disturbance to ringtails. **Mitigation Measure BIO-3** includes a requirement that lighting is to be used only in the active work area and focused on the direct area of work which will minimize potential disturbance to ringtails.

With the implementation of **Mitigation Measure BIO-1** and **Mitigation Measure BIO-3**, direct and indirect impacts to ringtail will be less than significant**.**

Nesting and Migratory Birds

The proposed project will result in temporary noise generated by heavy equipment operation and human presence as well as nighttime lighting if nighttime work is allowed. This may disturb foraging birds; however, the project area is currently utilized for railroad transportation, and birds in the project area are likely acclimated to above-average noise and light levels. In response to the additional noise disturbance, foraging birds may avoid the site by changing flight patterns while project work occurs. **Mitigation Measure BIO-4** includes identification and avoidance of active nests prior to the commencement of project activities if project activities are performed during the nesting bird season. With the implementation of this measure, no direct effects to nesting or migratory birds are expected as a result of the project.

Indirect impacts that could occur to nesting and migratory bird species from the proposed project activities include loss of available or future nesting and foraging habitat due to vegetation removal. Mature trees and vegetation will be retained and avoided wherever practicable. No trees over 10 inches in diameter at breast height (DBH) will be removed. **Mitigation Measure BIO-5** includes measures to reduce impacts to riparian areas impacted by project activities, including restoration of impacted areas with native vegetation, minimization of vegetation and tree removal, and measures to prevent the spread of invasive species. Indirect impacts to the nesting and migratory birds are anticipated to be less than significant with mitigation incorporated.

Roosting Bat Species of Special Concern

In California, several species of bats have been recognized as Species of Special Concern (SSC) by CDFW; Fish and Game Code (CFGC) and the California Code of Regulations (CCR) (CFGC Sections 2126 and 4150; CCR Section 251.1) prohibit incidental take of bats. Important ecological factors for bats include roosting habitat, foraging habitat, and winter hibernacula.

The proposed project will result in temporary noise generated by heavy equipment operation and human presence as well as nighttime lighting if nighttime work occurs. This may disturb nocturnal animals such as bats, who could utilize the project area for foraging. Due to the proximity to the railroad, bats and other nocturnal species in the project area are likely acclimated to above-average noise and light levels. Foraging bats may be deterred by nighttime lighting and noise because these factors negatively influence their ability to detect prey items. Foraging bats may avoid the site by changing flight patterns while project work occurs.

In addition, tree removal has the potential to impact bat maternity roosts. If a tree that is removed contains a maternity colony of bats, the disturbance would cause displacement of the group of animals. Because maternity roosts include non-volant young, who are incapable of flight, this displacement could cause bats to be stranded and/or killed. The removal of trees would follow **Mitigation Measure BIO-7** so that disturbance of bat maternity roosts would be avoided.

Because the project will avoid impacts to bat roosts but may temporarily alter foraging habitat within the limits of the project area during construction, project impacts to bats would be less than significant with mitigation incorporated.

b) Less than Significant Impact. The project will affect the riparian habitat adjacent to Newtown Creek. Removal of riparian vegetation will be required to construct the temporary access road and access to the work area. The project includes revegetation of the area where vegetation was removed from the eastern side of Newtown Creek for the project as well as the western side of Newtown Creek where vegetation was removed during emergency activities. Revegetation will be conducted using native vegetation similar to that present prior to project activities. The project will require a Lake or Streambed Alteration Agreement (LSA) from CDFW. A revegetation plan detailing the species, number of plantings, and success criteria will be prepared and submitted to CDFW for approval prior to project activities as part of the permitting requirements for the project. Impacts to riparian habitat and sensitive natural communities will be less than significant.

c) Less than Significant Impact with Mitigation. An Aquatic Resource Delineation of the project site was completed by VESTRA Resources, Inc., to support permit applications for the project. The report is included in Appendix B. No wetlands were delineated within the project area. Riverine habitat is present below the ordinary high-water mark of Newtown Creek within the project area and is a water of the State and water of the United States. The project will result in permanent and temporary impacts to Newtown Creek during culvert replacement activities. Impacts are shown in Figure 5.

The project includes permanent fills (concrete box culvert, wingwalls, and rock) below the ordinary high-water mark of Newtown Creek that will occur primarily within the footprint of the existing, permitted crossing. The project will result in a change to the bottom elevation, shape, and substrate of the bottom of Newtown Creek, but will not result in a reduction of acreage of Newtown Creek. The replacement culvert is sized to accommodate the 100-year flood event in Newtown Creek and will not result in permanent hydrological interruption of the Creek.

Temporary impacts include temporary fills to dewater and access the work area that will be removed following project work.

Impacts to Newtown Creek will be addressed through permits obtained from the Central Valley Regional Water Quality Control Board and United States Army Corps of Engineers As part of the permitting process, the Regional Board will require compensatory mitigation for the permanent impacts to Newtown Creek to ensure no net loss of waters of the State (**Mitigation Measure BIO-6**). Obtaining permits and authorization from these agencies and compliance with the permit requirements including compensatory mitigation for impacts to Newtown Creek will ensure impacts to Newtown Creek are minimized and mitigated to less than significant.

d) Less than Significant Impact with Mitigation. Newtown Creek could support migratory fish when water is present at sufficient levels within the creek. Fish barriers(impoundments) are present in Newtown Creek immediately upstream of the project site and there is currently a barrier (debris dam) downstream of the project site. Project activities will occur when Newtown Creek is dry or during low flows, when fish are not likely to occur within the project area. Following activities within the stream channel, flows would be restored. The project would not significantly affect the movement of fish. Impacts to native wildlife nursery sites for nesting birds and ringtail are addressed under impact a) above. Impacts to migratory fish, wildlife corridors, and nursery sites will be less than significant with the implementation of **Mitigation Measures BIO-2, BIO-3, BIO-4,** and **BIO-5.**

e) No Impact. Chapter 12.36 "Tree Conservation" of the Shasta Lake Municipal Code requires that protected trees be saved and protected from construction activities. Protected trees include any living tree, except gray pine (*pinus sabiniana*), having at least one trunk of 10 inches DBH; or a tree that is required to be preserved under discretionary project approval or under a tree removal permit granted by either the director or the planning commission; or a "heritage tree." Removal of a heritage tree requires a tree removal permit. Heritage trees include any tree exceeding 36 inches or larger DBH or any native oak 24 inches or larger DBH, and any tree specifically designated as a heritage tree by action of the Planning Commission. The project does not require the removal of protected trees.

f) No Impact. There are no habitat conservation plans, natural community conservation plans, or related documents for the area with which the proposed project could conflict.

Mitigation Measures

Mitigation Measure BIO-1: The following general measures shall be implemented to avoid and minimize potential project impacts to special-status species with the potential to occur within the work area:

- Equipment should be visually inspected each day for the presence of wildlife to prevent injury or harm to an animal. All culverts or construction materials left overnight in areas that may be occupied by wildlife will be inspected by the contractor prior to being used for construction. Such inspections will occur at the beginning of each day's activities, for those materials to be used or moved that day. Capture and relocation of trapped or injured

wildlife will only be performed by personnel with appropriate USFWS and CDFW handling permits.

- To prevent special-status species from becoming entangled or trapped in erosion control materials, plastic monofilament netting (erosion control matting) or similar material will not be used for erosion control.
- Prior to beginning project work, a qualified biologist will conduct an education program for contractor personnel. At a minimum, the training will include a description of special-status species and their habitats; the potential occurrence of these species in the project area during daytime and nighttime work; and the measures to be implemented to conserve listed species and their habitats as they relate to the work site.
- Trash generated by covered activities should be promptly and properly removed from the site.
- Equipment and vehicle storage, fueling, and staging areas will be sited on disturbed areas or areas of compacted soils, when these sites are available, to minimize the risk of direct discharge into riparian areas or other sensitive land cover types. Equipment and vehicle operation outside of existing roads, compacted soils, or disturbed areas will be minimized to the maximum extent practicable.

Mitigation Measure BIO-2: The following measures will be implemented to minimize impacts to Newtown Creek, Fish, and Essential Fish Habitat:

- Work will be conducted in the dry season when water levels in Newtown Creek are lowest. Site conditions preclude fish passage and exclude fish from the work area during low-water flows. If surface water is present in the work area, a survey confirming the presence of the downstream fish passage barrier will be conducted prior to project activities. If the downstream barrier becomes passable prior to project activities or changes occur that would allow passage of salmonids into the work area during project activities, in-water activities will not occur until consultation with CDFW and NMFS occurs and the appropriate take permits are acquired if needed based on consultation.
- The work area will be dewatered to minimize turbidity and prevent construction materials and demolition debris from entering flowing water. Pump intakes shall include the appropriate screens (1/4 inch or finer, if possible) to avoid impacts to aquatic species.
- Disturbance to the bed, bank, and channel of Newton Creek outside of the replacement crossing footprint will be minimized such that the morphology, including depth, width, and slope, resemble pre-project conditions.
- Equipment operated within the limits of Newtown Creek will be operated on mats or a gravel pad to reduce disturbance to the stream channel.
- Work site perimeter containment/erosion control will be implemented to prevent the transport of earth material to the stream channel. As required by the City of Shasta Lake, an erosion control plan prepared by a licensed civil engineer or other licensed professional will be submitted and approved prior to any land clearing or grading work.

Mitigation Measure BIO-3: To avoid direct and indirect impacts to ringtail from project activities, the following will be implemented prior to and during project activities:

- If activities occur during the ringtail maternity season (April 15 to June 30), the entire project area will be surveyed by a qualified biologist for trees/snags/dens with potential ringtail den structures, within seven days prior to ground or vegetation disturbance. If potential den structures are identified, their occupancy shall be determined or else the den structure shall be assumed to be occupied. Occupied dens shall be avoided either by implementing a Limited Operating Period from April 15 to June 30 or by implementing a 0.25-mile non-disturbance buffer around the den. If the den structure is determined through surveys not to be occupied, then work may proceed without the need for avoidance.
- During nighttime work for project construction, night lighting should be shielded or else oriented downward so that it illuminates only the active work area
- Vegetation removal will only occur during daytime hours. If vegetation is removed using mechanical methods, the operation of heavy machinery will be conducted slowly and cautiously. Contractors will watch for ringtails when vegetation is removed. If ringtails are observed during any project activities, the contractor will halt treatment activities and ringtails will be allowed to leave the area unharmed prior to continuing project activities.
- If a ringtail is observed within the work area during nighttime work, then the use of heavy equipment shall cease until the animal has left the work area unharmed. Once the ringtail has left the site, then work may proceed.

Mitigation Measure BIO-4: To avoid direct impacts to nesting and migratory birds, the following measure will be implemented:

- It is recommended that all tree/vegetation removal should occur outside nesting bird season. If removal of nesting substrate, including trees or woody vines that could support nesting birds, occurs within the nesting bird season (February 1 to August 31), then preconstruction surveys will be conducted by a qualified biologist within 7 days of activities to identify active nests within the work area and surrounding 150 feet wherever potential nesting habitat is present. Surveys will begin prior to sunrise and continue until vegetation and potential nesting habitat have been sufficiently observed. If an active nest is located during preconstruction surveys, a species-specific, non-disturbance spatial buffer will be established around the nest by a qualified biologist. The buffer distance will be selected to consider the species present and onsite conditions, such as the potential for project activities to disturb or cause abandonment of a nest with nesting birds, eggs, or chicks present. The buffer will remain in place until the chicks have fledged or the nest is deemed to be no longer active by a qualified biologist.

Mitigation Measure BIO-5: The following measures are included to minimize impacts to riparian habitat from project activities:

- To prevent the spread of invasive species, all equipment that enters the project area shall be thoroughly washed or otherwise cleaned of all vegetation materials before entry into

the project area. No measure is required for vehicles that remain on access roads or unvegetated areas.

- If straw is used, only certified weed-free straw will be used for erosion control or other purposes to reduce the importation and spread of invasive exotic plant species.
- Impacted areas within the project area shall be restored and planted with native vegetation.
- Vegetation and tree removal will be kept to the minimum necessary to access work areas. Mature tree removal will be avoided wherever feasible.

Mitigation Measure BIO-6: The following measure is included to ensure no net loss of waters of the state:

- Compensatory mitigation requirements contained in the 401 Water Quality Certification for the project will be completed prior to the onset of project activities as outlined in the 401 Water Quality Certification and Order for the project. A copy of the fully executed agreement for the purchase of mitigation credits shall be provided to the Central Valley Water Board prior to the initiation of in-water work.

Mitigation Measure BIO-7: To avoid disturbance of bat maternity roosts, the following would be implemented:

- Removal of large trees (>10 inches DBH) shall occur outside of bat maternity season (March 1 to August 31). If trees must be removed during the bat maternity season, then a qualified biologist shall assess the tree to determine whether bat roost structures are present in the tree(s). If a bat roost structure (i.e., crevices, broken limbs, snags) is present, then a bat emergence survey shall be conducted to determine whether bats are present in the roost structure. If a bat maternity roost is present, the tree removal must occur outside of maternity roost season once the roost is no longer active.

V. CULTURAL RESOURCES Would the project:				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-significant impact**	**No impact**
a) Cause a substantial adverse change in the significance of a historical resource as defined in '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 dedicated cemeteries?	☐	☒	☐	☐

Setting

CEQA

The California Environmental Quality Act (CEQA) of 1970 applies to certain projects requiring approval by State and/or local agencies. Property owners, planners, developers, as well as State and local agencies, are responsible for complying with CEQA requirements regarding the identification and treatment of historical resources. Applicable California regulations are found in California PRC Sections 5020 through 5029.5 and Section 21177, and in CEQA (California Code of Regulations [CCR] Sections 15000 through 15387). CEQA equates a substantial adverse change in the significance of a historical resource with a significant effect on the environment (PRC Section 21084.1). A substantial adverse change includes demolition, destruction, relocation, or alteration that would impair the historical significance of a resource (PRC Section 5020.1). PRC Section 21084.1 stipulates that any resource listed in, or eligible for listing in, the California Register of Historic Resources (CRHR) is presumed to be historically or culturally significant. If a resource is determined ineligible for listing on the CRHR, the resource is released from management responsibilities and a project can proceed without further cultural resource considerations.

Under CEQA, cultural resources that will be affected by an undertaking must be evaluated to determine their eligibility for listing in the CRHR (PRC Section 5024.1(c)). For a cultural resource to be deemed eligible for listing, it must meet at least one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California History and cultural heritage; or
2. Is associated with the lives of persons important to our past; or
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 value; or
4. Has yielded, or is likely to yield, information important to prehistory or history.

The eligibility of archaeological sites is usually evaluated under Criterion 4: its potential to yield information important to prehistory or history. Whether or not a site is considered important is determined by the capacity of the site to address pertinent local and regional research themes. The process for considering cultural resources on CEQA projects is essentially linear, although in practice it may overlap or be compressed. Evaluating prehistoric properties involves four basic tasks: (1) development of an archaeological research design, (2) field excavations, (3) laboratory analysis, and (4) report preparation and eligibility determination.

Known Resources
A Cultural Resource Inventory (CRI) was conducted for the project to satisfy requirements of Section 106 of the National Historic Preservation Act of 1966 (NHPA) (36 CFR Part 800), the CEQA, and the responsibilities codified in Public Resource Code sections 5097 and implementing guidelines 21082 and 21083.2. Records research, Native American communication, an archeological field survey, and preparation of an Archaeological Survey Report (*Archaeological Survey Report, Knauf Insulation Culvert Replacement Project, Shasta County, California*) were completed for the project by AnthropologyRx. The CRI did not document any cultural resources discovered within the area of potential effect (APE).

Discussion

a,b) Less than Significant Impact with Mitigation. The CRI did not document any cultural resources within the APE. The project, as currently designed is not expected to impact cultural resources. However, management recommendations were included in the Archaeological Survey Report to ensure that cultural resources are not adversely affected by the project in the event that previously unidentified cultural resources are encountered during project implementation. Management recommendations are included as **Mitigation Measures CUL-1** and **CUL-2.** Impacts to cultural resources will be less than significant with the implementation of these mitigation measures.

c) Less than Significant Impact with Mitigation. No known burial sites are located within the project site. Although unlikely, human remains could be inadvertently unearthed during excavation activities. **Mitigation Measure CUL-2** is included to reduce potential impacts to less than significant should they be encountered during project activities. Impacts to human remains would be less than significant with mitigation incorporated.

Mitigation Measures

Mitigation Measure CUL-1: If previously unidentified cultural resources are encountered during project implementation, avoid altering the materials and their stratigraphic context. A qualified professional archaeologist should be contacted to evaluate the situation. Project personnel should not collect cultural resources. Prehistoric resources include, but are not limited to, chert or obsidian flakes, projectile points, mortars, pestles, and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources include stone or abode foundations or walls; structures and remains with square nails; and refuse deposits or bottle dumps, often located in old wells or privies.

Mitigation Measure CUL-2: Although unlikely, if human remains are encountered, all work must stop in the immediate vicinity of the discovered remains and the County Coroner and a qualified archaeologist must be notified immediately so that an evaluation can be performed. If the remains are deemed to be Native American and prehistoric, the Native American Heritage Commission must be contacted by the coroner so that a "Most Likely Descendant" can be designated and further recommendations regarding treatment of the remains are provided. Specific treatment of human remains shall occur consistent with State and federal law**.**

VI. ENERGY Would the project:				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-Significant Impact**	**No Impact**
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state of local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Setting

The City of Shasta Lake General Plan contains several goals and policies related to energy conservation and efficiency including requirements for new construction as well as a program to improve the energy efficiency of existing buildings; however, none of the goals and policies are applicable to short-term activities.

Discussion

a) Less than Significant Impact. The project will require energy in the form of fuel for heavy equipment operation and transportation of workers to and from the project site. Fuel will also be required to support additional truck trips (an additional 48 truck trips each week for one month) for the transport of raw materials and finished products required when the rail spur is non-operational. The increased energy demand will be short-term and cease upon completion of the project. Compliance with local, state, and federal regulations for limiting engine idling time will reduce short-term energy demand during the project to the extent feasible. The project would not result in wasteful, inefficient, or unnecessary consumption of energy resources. Energy consumption impacts of the project would be less than significant.

b) No Impact. The project does not conflict with any local, state, or federal regulations for renewable energy or energy efficiency. No impact.

Mitigation Measures

No mitigation measures are required for the project related to energy.

VII. GEOLOGY AND SOILS Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less-than-Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☒	☐
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? 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 soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Setting

The closest known quaternary fault to the project site is the Battle Creek Fault Zone south of Cottonwood, California (USGS, 2024). Pre-quaternary faults (older than 1.6 million years) are present west and north of the project site, several miles away (CGS, 2024). While all of California is earthquake-prone, the City of Shasta Lake has less potential for more frequent, stronger shakes than most of California. For example, a magnitude 6.7 rupture along the Battle Creek fault, which has the highest modeled chance of producing more frequent, stronger shaking will produce moderate shaking in Shasta Lake (City of Shasta Lake, 2023).

The project site contains elevations ranging from 714 to 735 feet above sea level with topography sloping toward Newtown Creek. Soils within the survey area, as classified by the Natural Resources Conservation Service (NRCS), consist of Auburn loam and Boomer gravelly loam. Auburn loam is well-drained with low to moderately low permeability and medium runoff. Boomer gravelly loam is well-drained with very low to moderately low permeability and high runoff. (NRCS 2024).

Discussion

ai) No Impact. The project site is not located within an Alquist-Priolo Earthquake Fault Zone mapped by the State and there are no other known faults within the project site. The project is not anticipated to result in the risk of loss, injury, or death from the rupture of a known earthquake fault.

aii) Less than Significant Impact. Rupture of the Battle Creek fault could result in moderate shaking within the City of Shasta Lake (City of Shasta Lake, 2023). The project includes the replacement of an existing failing culvert with a concrete box culvert that is less likely to fail during strong seismic ground shaking should it occur. Temporary construction activities are not anticipated to expose workers to hazards from strong seismic ground shaking.

aiii) Less than Significant Impact. Activities will occur primarily within fill placed to construct the existing crossing as well as small areas of the stream channel upstream and downstream of the crossing. Ground shaking potential at the site is low; therefore, the project is not anticipated to result in or expose workers to seismic-related ground failure including liquefaction during the course of the project

aiv) Less than Significant Impact. The project site contains slopes on the bank of Newtown Creek as well as the slopes of the rail ballast. The slopes within the project area are not severe or unstable; therefore, the potential for landslides within the project area is low. Project activities will not result in significant permanent alterations to existing slopes within the project area. During construction, the project is not anticipated to result in the risk of loss, injury, or death from landslides.

b) Less than Significant Impact. Project activities could result in soil erosion from excavation and equipment operation within the project site. The project requires a grading permit from the City of Shasta Lake, which entails the submittal and approval of a grading, drainage, and erosion control plan prepared by a licensed civil engineer or other licensed professional for approval by the City. Implementation of the required erosion control plan would minimize soil erosion from project activities. Additional permits are required by the Central Valley RWQCB for the project which include measures to minimize erosion from project activities during construction and to minimize discharges of sediment to Newtown Creek. These permits are discussed further in Section X (Hydrology).

c) No Impact. As discussed above, ground-disturbing project activities would primarily occur within the footprint of the existing rail spur. The project will not occur on an unstable geologic unit soil or result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.

d) No Impact. The project includes the replacement of an existing culvert installed within the rail spur. Mitigation for the initial construction of the Knauf facility required that any expansive soils encountered during construction were to be excavated, replaced with non-expansive soils, and compacted with the requirements for engineered fill (CH2MHILL, 1997). There should be no expansive soils present within the culvert footprint. The project will not create substantial risks to life or property due to expansive soils.

e) No Impact. The project does not include the installation of septic tanks or other alternative wastewater disposal systems.

f) Less than Significant Impact with Mitigation. There are no known paleontological resources or unique geologic features present within the project site. Excavation within the project area will occur primarily within the footprint of fills placed to construct the rail spur or areas previously disturbed by the construction of the rail spur; therefore, it is unlikely that paleontological resources will be encountered during project activities. However, **Mitigation Measure GEO-1** is included to ensure that the project would not directly or indirectly destroy a unique paleontological resource or site in the unlikely event that paleontological resources are encountered during project activities and would reduce impacts to a less than significant level.

Mitigation Measure

Mitigation Measure GEO-1: As required by the City of Shasta Lake, if during the course of construction or pre-construction activities, paleontological resources are uncovered, discovered, or otherwise detected or observed, all earthwork and/or construction within 100 feet of these resources will be stopped immediately, the City will be notified, and a qualified paleontologist in consultation with other affected parties shall conduct a review of the materials. Site work and construction within the area shall not commence until the paleontologist has had an opportunity to evaluate the significance of the find and outline appropriate mitigation measures deemed necessary to protect the materials and/or site.

VIII. GREENHOUSE GAS EMISSIONS Would the project:				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-Significant Impact**	**No Impact**
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Setting

Gases that trap heat in the atmosphere are called greenhouse gases (GHG). These include carbon dioxide, methane, nitrous oxide, and fluorinated gases. Additional compounds in the atmosphere including solid and liquid aerosol and other greenhouse gases, such as water vapor and ground-level ozone can also impact the climate. Carbon dioxide is the primary greenhouse gas emitted through human activities. In 2022, CO_2 accounted for 80 percent of all U.S. greenhouse gas emissions from human activities. The main activity that emits CO_2 is the combustion of fossil fuels (coal, natural gas, and oil) for energy and transportation. Certain industrial processes and land use changes also emit CO_2 (USEPA, 2024).

Discussion

a) Less than Significant Impact. The project will result in short-term greenhouse gas emissions from equipment operation, worker transport trips, and increased trucking during project activities. Activities will be short-term (30 to 60 days) in duration. The project will not result in a permanent source of GHG emissions and will not generate GHG emissions that may have a significant impact on the environment.

b) Less than Significant Impact. The proposed project includes short-term activities associated with the replacement of an existing structure. Activities would not conflict with any adopted plans, policies, or regulations adopted for the purpose of reducing GHG emissions.

Mitigation Measures

No mitigation measures are required for the project related to greenhouse gases.

IX. HAZARDS AND HAZARDOUS MATERIALS Would the project:				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-Significant Impact**	**No Impact**
a) Create a significant hazard to the public or the environment through the routine transport/use/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 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 to a significant risk of loss, injury or death involving wildland fires?	☐	☒	☐	☐

Setting

Hazardous materials and waste are substances that are considered toxic, ignitable, corrosive, or reactive (as defined in CCR, Title 22, and Sections 66261.20-66261.24). The release of hazardous materials into the environment could contaminate soils, surface water, and groundwater supplies. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with the CEQA requirements in providing information about the location of hazardous materials release sites. Government Code section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List.

Discussion

a-b) Less than Significant Impact. The project will require the use of hazardous materials including fuels, lubricants, and hydraulic fluids within construction vehicles and equipment. Quantities stored onsite will be limited by the tank capacity of each piece of equipment. Concrete will also be required for the construction of the box culvert wingwalls. These materials could be released if spills or leaks were to occur during project activities. Activities will occur when Newtown Creek is dry, or the work area will be dewatered to ensure spills or leaks of materials are limited to the immediate spill area and not conveyed downstream. Additional water quality protection measures will be included in the Lake or Streambed Alteration Agreement and Water Quality Certification required for the project. Standard water quality protection measures contained in these permits include setbacks from the stream for refueling, secondary containment for stationary equipment, inspection and maintenance of vehicles and equipment for leaks, cleanup and containment of spills, etc. Exact requirements will be contained in the permits issued for the project. Avoiding work in flowing water and compliance with permit requirements for the project will minimize the risk of hazard to the public and environment from the accident release of hazardous materials.

c) No Impact. The project site is not within a quarter mile of a school. The closest schools (Central Valley High School, Shasta Lake School, Buckeye School of the Arts, and Redding STEM Academy) are more than 1.5 miles from the project site. The project includes standard construction activities and will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste.

d) No Impact. "Cortese List" data resources were reviewed including the Department of Toxic Substances Control (DTSC) EnviroStor database List of Hazardous Waste and Substances Sites, State Water Board GeoTracker database List of Underground Storage Tank Sites, list of solid waste disposal sites identified by Water Board with waste constituents above hazardous waste levels outside the waste management unit, list of "active" Cease and Desist Orders and Cleanup and Abatement Orders from the Water Board, and list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code. No Cortese List sites are present within the project area.

e) No Impact. There are no major airports in or around the City of Shasta Lake. The closest airport, east of the City of Shasta Lake, is a private airstrip. There are no public or public-use airports within two miles of the project site and the project is not within an airport land use plan. The project will not result in a safety hazard to people working on the project from aircraft.

f) Less than Significant Impact. Construction activities onsite will not interfere with evacuation or emergency response for the Knauf facility or the City of Shasta Lake. The project will result in temporary traffic increases on Pine Grove Avenue, which serves as a main evacuation route for the southern portion of Shasta Lake City. Traffic increases would include 48 additional trucks per week (7 trucks per day) for a duration of 30 days. Traffic increases are not anticipated to physically interfere with an emergency evacuation or emergency response plan.

g) Less than Significant Impact with Mitigation. The project includes activities adjacent to riparian vegetation as well as staging and stockpiling materials in areas that are currently vegetated. Operation of equipment and vehicles within and adjacent to vegetated areas during project activities could temporarily increase the risk of fire within the project site. **Mitigation Measure HAZ-1** is included to minimize the risk of fire during project activities. With the implementation

of this measure, the project is not anticipated to expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

Mitigation Measures

Mitigation Measure HAZ-1: To minimize the risk of fire during project activities, the following measures will be implemented by the contractor:

- Mobile and stationary equipment that normally includes a spark arrestor shall be equipped with a properly functioning, federal or state-approved spark arrestor.
- During onsite construction activities, fire response equipment including fire extinguishers, axes, Pulaski, and shovels will be stored and accessible with the project site to respond to a fire should one occur.
- Smoking will be permitted only in designated smoking areas already present at the facility.
- Vehicles and equipment shall not travel off-road or upon roads that have not been maintained free of flammable vegetation. Staging areas shall be cleared of dried vegetation or other materials that could serve as fire fuel prior to their use.

X. HYDROLOGY Would the project:				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces in a manner which would	☐	☐	☒	☐
i) result in substantial erosion or siltation on or offsite;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on 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 of release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Setting

The project site is within and adjacent to Newtown Creek within the Churn Creek-Sacramento River Watershed. Newtown Creek flows into Churn Creek, a tributary to the Sacramento River, approximately 2 miles downstream of the project area. The project site is northwest of the boundary of the Redding Area-Enterprise groundwater basin. The project site contains special flood hazard areas (100-year flood zone), including the regulatory floodway of Newtown Creek.

Discussion

a) Less than Significant Impact. Project activities do not include discharges that would degrade groundwater quality. The project has the potential to result in impacts to surface water quality

from discharge of sediment or accidental release of construction-related pollutants including concrete or fuel spills or leaks to Newtown Creek. Work will be conducted when the channel of Newtown Creek within the project area is naturally dewatered. If the work area does not naturally dewater during the dry season, it will be dewatered using gravity or pumped diversion for the duration of activities within the creek channel. Dewatering will prevent the direct discharge of sediment and concrete to flowing water and will avoid leaks or spills from reaching flowing water during construction activities

A Clean Water Act Section 401 Water Quality Certification (WQC) will be required from the Central Valley RWQCB for the activity and will include conditions including surface water quality monitoring as well as avoidance and minimization measures to be implemented during activities to minimize potential effects of the project to water quality (i.e., maintaining spill response materials onsite, checking equipment for leaks each day, refueling equipment in areas that do not discharge to the creek, restoring work areas following construction, etc.). The project site is greater than one acre in size and will also require coverage under the *General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Order WA 2022-0057-DWQ* (Construction General Permit). The Construction General Permit requires the development of a Stormwater Pollution Prevention Plan (SWPPP) which will include Best Management Practices (BMPs) to minimize erosion and sediment during construction. The SWPPP will utilize the *California Stormwater Best Management Practices Handbook for Construction Activities* and other generally accepted engineering practices for sediment and erosion control. Compliance with permit requirements for the project will minimize impacts to surface water quality. The project is not anticipated to violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

b) Less Than Significant Impact. The project will require a minimal volume of water for dust suppression during ground disturbance activities. The project does not include a permanent increase in water use and will not substantially decrease groundwater supplies. The project will not have an impact to groundwater recharge. The project will not impact sustainable groundwater management of the basin.

c) Less than Significant Impact. The project includes the replacement of the existing 96-inch diameter corrugated metal pipe culvert with an 8-foot tall, 8-foot-wide concrete box culvert. The project will not result in a decrease in the culvert capacity and will not significantly increase impervious surfaces. Areas of the stream channel outside of the reconstructed crossing will be restored following replacement activities.

i) **Less than Significant Impact.** As discussed under a) above, the stream channel will be dewatered during in-channel activities which will minimize the discharge of sediment offsite. In addition, measures and conditions included in the 401 WQC and SWPPP required for project activities will be implemented to minimize erosion or siltation onsite and offsite. The project will not result in substantial erosion or siltation.

ii) **Less than Significant Impact.** The project does not include any changes to the site that would substantially increase the rate or amount of surface runoff that could result in flooding onsite or offsite.

iii) **Less than Significant Impact.** The project would not increase the volume of surface water runoff from the project area. As discussed above, the project is subject to permit requirements that will minimize pollution in runoff from the site.

iv) **Less than Significant Impact**. The replacement culvert is sized to accommodate the 100-year flood event for Newtown Creek and will not impede or redirect flood flows.

d) Less than Significant Impact. The project site is not within a tsunami or seiche zone. The project includes activities within the 100-year floodplain of Newtown Creek. Project activities will occur during the dry season when water is not present or flows are minimal within Newtown Creek, and the work area is not anticipated to become unexpectedly inundated during project activities. The project site will be stable upon project completion and is not anticipated to release pollutants when it becomes inundated following construction.

e) Less than Significant Impact. The project will require minimal water use for dust suppression and will not result in a drawdown of groundwater levels or impacts to groundwater quality. The project is subject to permits regulating discharges to surface water which will ensure compliance with the Water Quality Control Plan for the Sacramento and San Joaquin River Basins. The project will not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan.

Mitigation Measures

No mitigation measures are required related to hydrology.

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

Setting

The project site is located at the Knauf facility, southwest of the plant and adjacent to and including portions of the railroad spur to the plant The project site is zoned Industrial Design Review (M-DR). The General Plan land use for the site is Industrial. Parcels to the north, east, and south are designated for industrial use in the City of Shasta Lake General Plan and zoned Industrial, Design Review. Properties to the west of the project site are outside of the city limits within unincorporated Shasta County. The UPRR is immediately west of the project site. On the opposite side of the railway, land uses are designated Suburban Residential in the Shasta County General Plan and are zoned Interim Rural Residential (I-R), Mobile Home (T) District, with areas adjacent to Newtown Creek zoned Designated Floodway (F-1) District.

The closest residential area to the project site is on the opposite side of the UPRR railway and includes residences on Pine Cone Drive and Tiptoe Lane. The closest residence to the project site is on Pine Cone Drive approximately 500 feet west of the project site.

Discussion

a) No Impact. Culvert replacement activities will occur within the developed industrial facility. Project activities will not divide an established community.

b) No Impact. The project includes temporary activities required to replace an existing, permitted structure. The project would not require changes to land use designation or zoning classification. The proposed project would not conflict with the General Plan, General Plan Land Use Designations, or the City Zoning Ordinance. The project would not conflict with a land use policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Mitigation Measures

No mitigation measures are required related to land use and planning.

XII. MINERAL RESOURCES Would the project:				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-Significant Impact**	**No Impact**
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Setting

California's Surface Mining and Reclamation Act of 1975 (SMARA) requires the State Geologist to classify land into mineral resource zones based on the known or inferred mineral resource potential of that land. The primary goal is to ensure that important mineral resources do not become inaccessible due to uninformed land-use decisions. To this end, the California Geological Survey performs objective mineral land classifications to assist in the protection and wise development of California's mineral resources (California Department of Conservation 2019).

The project site is within the study area of a 1997 study completed by D. Dupras within Shasta County (Mineral Land Classification of Alluvial Sand and Gravel, Crushed Stone, Volcanic Cinders, Limestone, and Diatomite). Portions of the project site are within MRZ-3 (areas of undetermined mineral resource significance) for sand and gravel.

Discussion

a) No impact. The project site is within an area of undetermined mineral resource significance for sand and gravel. The project includes the replacement of an existing structure and would not result in the loss of sand or gravel within the project site.

b) No impact. The project site is not within a locally important mineral resource recovery site. Project activities would not result in loss of availability of mineral resources.

Mitigation Measures

No mitigation measures are required related to mineral resources.

XIII. NOISE Would the project result in:				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-Significant Impact**	**No Impact**
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project 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?	☐	☐	☐	☒

Setting

The project site is located within the Knauf plant and adjacent to the rail spur for the facility as well as the UPRR railway. According to the *Existing Conditions Roadway and Rail Noise Contours* included in the City of Shasta Lake General Plan, existing noise levels from the UPRR railway are 65 to 70 dB CNEL within the project area, and noise levels generated by the Knauf Fiberglass Plant (Industrial Park) are 45 to 50 dB within the project area. The closest noise-sensitive receptor to the project site includes a residence 500 feet west of the project site.

The City of Shasta Lake requires construction to comply with the following noise threshold periods established for construction activities.

a. Monday through Friday: 7:00 a.m.-7:00 p.m.
b. Saturday 8:00 a.m.- 5:00 p.m.
c. Sunday No construction activities allowed.

Construction activities can occur outside of the time limits if approved by the City of Shasta Lake prior to the commencement of the work.

Discussion

a) Less than Significant Impact. The project will result in a temporary increase in noise levels in the project vicinity during culvert replacement activities from the use of construction equipment. Construction activities would be required 24 hours per day, 7 days per week, to reduce the amount of time the rail spur is non-operational. The project will require the use of equipment and vehicles including an excavator, dump truck, and water truck. A front-end loader or crane

could also be required. Reference noise levels for equipment that may be used for culvert replacement activities are included in Table 1.

Table 1
REFERENCE NOISE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Measured Noise Level dBA Lmax @ 50 feet from Source
Concrete Pump Truck	81
Crane	81
Dump Truck	76
Excavator	81
Flat Bed Truck	74
Front End Loader	79

Source: Federal Highway Administration, Roadway Construction Noise Model (FHWA-HEP-05-054), dated January 2006

Not all equipment used for project activities would be operating at the same time. Using the FHWA Roadway Construction Noise Model and assuming simultaneous operation of a dump truck and excavator, the estimated average hourly noise level from construction would be 58 dB Leq and the maximum noise level would be 61 dB Lmax at a distance of 500 feet from the equipment. These estimated noise levels do not include noise reduction that would occur due to vegetation and intervening topography provided by the UPRR rail grade between the project site and the closest sensitive receptor. Tall grass and thick shrubbery at least 100 feet wide can provide up to 5 dB of additional attenuation (Caltrans, 2013). In addition, interior noise levels within residences would be 15 to 25 dB lower than exterior noise levels depending on the windows being opened or closed (EPA 1978).

Due to existing elevated noise levels in the project vicinity from the UPRR railway (60 to 65 dB CNEL at the location of the closest residences to the project site) and the distance and intervening vegetation between the project site and closest sensitive receptors, temporary noise increases from onsite construction activities would be less than significant.

In addition to onsite construction activities, the project would result in minor increases in transportation noise along Pine Grove Avenue and Ashby Road due to increased trucking that would occur for the duration of construction activities. A doubling of a noise source produces only a 3 dB increase in the sound pressure levels, which is barely detectable by the human ear (FHWA, 1995). Traffic generated by the project (an average of 7 additional trucks per day with up to 10 worker trips per day) will not result in a substantial increase in vehicle and truck traffic volumes on Pine Grove Avenue. The average daily traffic (ADT) count on Pine Grove Avenue east of Ashby Road in 2020 was 3,734 vehicles with a peak hour traffic volume of 390 vehicles (City of Shasta Lake, 2021). Ashby Road south of Pine Grove Avenue serves an industrial area and there are no adjacent sensitive receptors. Noise from temporary traffic generated by the project would be less than significant.

b) Less than Significant Impact. The project will require the use of mobile equipment that could produce minor sources of groundborne vibration or groundborne noise. Blasting or other operations that could create significant groundborne vibration or groundborne noise levels are

not proposed. Vibration from equipment used for the project would be detectible in close proximity to the operating equipment but would not exceed vibration levels produced by the UPRR railway or be detectible at the location of the nearest residence to the project site.

c) No Impact. There are no major airports in or around the City of Shasta Lake; however, there are two small airports and one airstrip nearby. The main source of air traffic in the area is the Redding Airport, located approximately 15 miles to the south. There is also a privately owned airstrip located immediately east of the city limits, Tews Field, and a small domestic airport to the southwest, Benton Airpark. Although aircraft flying overhead is occasionally audible, Shasta Lake is not located within the influence areas of either Redding Airport or Benton Airpark and the aeronautical operations in the area are not considered significant sources of noise for the city (City of Shasta Lake, 2023). The project would not expose workers to excessive noise levels from aircraft.

Mitigation Measures

No mitigation measures are required for noise.

XIV. POPULATION AND HOUSING Would the project:				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-Significant Impact**	**No Impact**
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Setting

The project includes the replacement of an existing culvert within an industrial property and does not include the development of new buildings or infrastructure.

Discussion

a) No Impact. The project does not include the development of new homes, businesses, permanent employment opportunities, or infrastructure. The project will not induce substantial unplanned population growth.

b) No Impact. There is no housing within the project site. The project will not displace housing or necessitate construction of replacement housing elsewhere.

Mitigation Measures

No mitigation measures are required for population and housing.

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:				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-Significant Impact**	**No Impact**
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Setting

Public services for the project area are provided by the following:

- **Fire Protection** Shasta Lake Fire Protection District
- **Police Protection** Shasta County Sheriff's Department
- **Schools** Gateway Unified School District
- **Parks** City of Shasta Lake Parks and Recreation Department

Discussion

No Impact. The project includes temporary activities to replace an existing culvert. The project will not involve any activities or development that could increase the demand for police protection, schools, parks, or other public facilities or require the need for new or physically altered facilities. The project could result in a slight increase in fire risk during construction activities; however, this risk will be minimized with the implementation of mitigation measures included in the Hazards and Hazardous Materials section (Section IX) of this document. Temporary construction activities associated with the project would not require the construction of new or physically altered fire protection facilities.

Mitigation Measures

No mitigation measures are required for public services.

XVI. RECREATION Would the project:				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-significant impact**	**No impact**
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 that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Setting

Existing parks in the City of Shasta Lake include Clair Engle Park, Margaret Polk Park, Boomtown BMX, Bizz Johnson Ballpark, Wynne Price Park and Baseball Field, Akard Park, Shasta Park, and Blue Canyon Park. Recreational opportunities are also available within federally owned public lands surrounding the City and at Shasta Lake.

Discussion

a) No Impact. The project will not result in a population increase that would increase the rate of use of an existing neighborhood park, regional park, or other recreational facility. The project would not result in the deterioration of any parks or recreational facilities.

b) No Impact. The project does not include recreational facilities or requires the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Mitigation Measures

No mitigation measures are required for recreation.

XVII. TRANSPORTATION Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less-than-significant impact	No impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA guidelines 15064.3, subdivision?	☐	☐	☒	☐
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?	☐	☐	☐	☒

Setting

Project-generated traffic will utilize Pine Grove Avenue and Ashby Road to access the project site from Interstate 5. Pine Grove Avenue is a 1.9-mile connector to Interstate 5. Ashby Road, south of Pine Grove Avenue, provides access to the Shasta Gateway Industrial Park. Based on the most recent traffic counts collected by All Traffic Data Services, LLC (ATD) on Wednesday, December 9, 2020, the average daily traffic (ADT) count on Pine Grove Avenue east of Ashby Road was 3,734 vehicles and the peak hour volume of 390 vehicles occurred at 5:00 p.m. (City of Shasta Lake, 2021).

The UPRR operates the rail line east of the project site. The spur between the UPRR rail line and the facility is used for the delivery of raw materials to the facility. Raw materials and finished products are currently transported to and from the site via trucks and rail cars.

Discussion

a) Less than Significant Impact. The project will not affect the UPRR railway; however, the rail spur connecting the facility to the UPRR tracks will be non-operational for an estimated 30 days during culvert replacement activities. During this period, all shipments and delivery to the Knauf facility will be completed by truck. The facility currently requires 14 to 16 truckloads per week for receiving raw material and transport of finished products. Up to 48 additional trucks per week (7 per day) would be required during project activities when the rail spur is non-operational. Up to 10 round-trip worker trips could also be required during construction activities.

The project includes temporary passenger vehicle and truck traffic increases that are minor relative to the volumes currently occurring on the roadways within the project area. Increased traffic will cease upon completion of the project. The project does not include changes to the existing roadways, transit, bicycle, or pedestrian facilities. The project will not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

b) Less than Significant Impact. Section 15064.3 of the CEQA Guidelines states that "vehicle miles traveled" (VMT) is the preferred method for evaluating transportation impacts. There are no applicable VMT thresholds applicable to temporary construction activities; however, the Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* contains screening thresholds for land-use projects. Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact.

As discussed in a) above, the project would require an additional 48 trucks per week (7 per day) to support facility operations when the rail spur is non-operational. Worker trips to and from the project site would also be generated during repair activities and are not anticipated to exceed 10 round trips per day. The project will not generate or attract more than 110 trips per day. In addition, VMT generated by the project will be short-term in nature and cease upon completion of the project. Transportation impacts related to VMT will be less than significant.

c) No Impact. No modifications to roadway features are proposed as part of the project. Temporary traffic increases will use roadways currently used by trucks serving the Shasta Gateway Industrial Park. park. The project will not substantially increase hazards due to a geometric design feature or incompatible uses.

d) No Impact. The project will not change the existing emergency access to the project area or block the emergency evacuation route for the Knauf facility.

Mitigation Measures

No mitigation measures are required for transportation.

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XVIII. TRIBAL CULTURAL RESOURCES Would the project:				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-Significant Impact**	**No Impact**
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is:	☐	☒	☐	☐
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1 (k) or	☐	☒	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Setting

Assembly Bill 52

AB 52 was enacted on July 1, 2015, and establishes that "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource when feasible (PRC Section 21084.3).

Section 21074 of the CEQA Guidelines defines Tribal cultural resources as follow:

(a)Tribal cultural resources" are either of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

(A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) 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 purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

(b) 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.

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section

AB 52 also establishes a formal consultation process for California cities, counties, and tribes regarding tribal cultural resources. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

Consultation

On April 24, 2024, Mr. Dalton (Principal for AnthropologyRx) contacted the NAHC to request a review of the Sacred Lands file for information on Native American cultural resources in the study area and to request a list of Native American contacts in this area. The NAHC response dated April 26, 2024, indicated that a search of the Sacred Lands File returned a negative result. The NAHC also forwarded a Native American Contacts list and suggested tribes and individuals on that list be contacted to solicit their input or concerns regarding the project.

Tribal consultation letters were mailed by the City of Shasta Lake on March 24, 2025. The city conducted a site visit with the Wintu Tribe of Northern California on Thursday, April 10, 2025. During the visit, Cultural Resources Director Theresa Rickard-Tibbett concluded that a cultural resources monitor would not be required for the project.

Discussion

a) i-ii Less than Significant Impact with Mitigation. No known cultural resources have been identified within the project area. The site has not been identified as either a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe. However, unanticipated and accidental discovery of California Native American tribal cultural resources is possible during project implementation, especially during excavation, and has the potential to impact unique cultural resources. Implementation of **Mitigation Measures CUL-1** and **CUL-2** would reduce the potential for impacts to tribal cultural resources to less than significant with mitigation incorporated.

Mitigation Measures

Mitigation Measures CUL-1 and **CUL-2** from Section X (Cultural Resources) will be implemented.

XIX. UTILITIES AND SERVICE SYSTEMS Would the project:				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-Significant Impact**	**No Impact**
a) Require or result in the construction of new water or 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 statutes and regulations related to solid waste?	☐	☐	☐	☒

Setting

The project site is within the service areas of the following utility and service providers:

Electricity:	City of Shasta Lake
Natural Gas:	Pacific Gas and Electric Company (PG&E)
Water	City of Shasta Lake
Wastewater:	City of Shasta Lake
Solid Waste:	City of Shasta Lake

The proposed project would not require access to any additional utilities or include construction of any utilities.

Discussion

a) No Impact. The proposed project will not require the construction of new water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities.

b) No Impact. The project will not result in any permanent increase in water use onsite. Water consumption would be limited water for dust control and potable water for construction crews which will be imported as needed to the project area.

c) No Impact. The project will not result in the generation of new wastewater requiring treatment. Sanitary facilities will include portable toilet facilities for construction crews during the construction period. No new permanent facilities will be added.

d) Less than Significant Impact. Wastes generated by the project will be limited to a moderate amount of demolition materials as a result of the removal of the existing culvert prior to replacement. No permanent or regular waste will be generated by the project. Demolition waste will be hauled to an appropriate disposal facility.

e) No Impact. The project will comply with all federal state and local statutes and regulations relating to solid waste and disposal.

Mitigation Measures

No significant impacts have been identified and no mitigation measures are required.

XX. WILDFIRE If located on or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-significant impact**	**No impact**
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?	☐	☒	☐	☐
c) Require 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?	☐	☐	☐	☒

Setting

The project site is within the Shasta Lake Local Responsibility Area, and most of the project site is within the Very High Fire Hazard Severity Zone (FRAP, 2008).

The primary evacuation routes for the City of Shasta Lake funnel traffic to Interstate 5, which generally runs north-south along the city's eastern boundary. Main evacuation routes for the city include Lake Boulevard, Shasta Dam Boulevard, and Pine Grove Avenue.

Discussion

a) Less than Significant Impact. The project includes temporary construction activities on private property. Project construction will not impair any emergency response plan or emergency evacuation plan. The project will result in temporary increases in truck traffic and passenger vehicle traffic along Ashby Road and Pine Grove Avenue which are listed as evacuation routes in the City of Shasta Lake General Plan Public Safety and Community Health Element and the City of Shasta Lake Local Hazard Mitigation Plan. Increased truck traffic is expected to be limited to 30 days, while worker trips will be required for the duration of activities. Increased traffic to the Knauf facility will not be substantial enough to impair the evacuation routes along Ashby Road or Pine Grove Avenue.

b) Less than Significant Impact with Mitigation. The proposed project does not include residential developments or permanent, occupied structures. Post-project conditions will be

similar to current existing conditions and will not exacerbate wildfire risk. The project has the potential to increase fire risk during the operation of equipment and vehicles within the project site. **Mitigation Measure HAZ-1** is included to minimize the risk or spread of fire during replacement activities. Project wildfire risk will be less than significant with the implementation of **Mitigation Measure HAZ-1**.

c) Less than Significant Impact. No new permanent infrastructure will be required for the proposed project. A temporary road will be constructed for the project. The construction of the road will reduce the likelihood of wildfire ignition, as it will provide an unvegetated surface for equipment and vehicles to be operated on. The road will be recompacted and revegetated at the end of the construction period and will not require ongoing maintenance. Impacts of the temporary access road are considered in this analysis.

d) No Impact. The project will not add a new risk for downslope or downstream flooding or landslide. Workers will not be exposed to downslope or downstream floods or landslides as a result of runoff, post-fire slope instability, or drainage changes.

Mitigation Measures

Mitigation Measure HAZ-1 from Section IX Hazards and Hazardous Materials will be implemented.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less-than-significant impact**	**No impact**
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?	☐	☐	☒	☐

a) Less than Significant Impact with Mitigation. Project impacts to biological and cultural resources are discussed in Sections IV and V of this document. Project impacts to fish, wildlife, and vegetation will be short-term in nature. Mitigation measures listed in Section IV are included to ensure impacts to biological resources including fish and wildlife are not significant. There are no known cultural resources within the project site, and mitigation measures are included in the event that cultural resources are inadvertently discovered during project activities to ensure the project does not have adverse effects to such resources. Impacts are less than significant with the incorporation of the mitigation measures included in Sections IV and V of this document.

b) Less than Significant Impact with Mitigation. Potential water quality and biological resource impacts of the project are considerable in combination with previous emergency culvert stabilization activities conducted in December 2023. Previous culvert repair activities required in-water work and resulted in short-term impacts to water quality which ceased upon completion of activities. Since water quality impacts of the emergency project have ceased, potential water quality impacts of the proposed project would not combine with previous impacts and are not cumulatively considerable.

Impacts to riparian vegetation and physical impacts to Newtown Creek from the proposed project are cumulatively considerable in combination with impacts of the emergency project. Project-level impacts related to riparian vegetation will be less than significant since the project includes replanting of riparian areas following project activities. The project also includes replanting of the riparian area disturbed by emergency activities. Project-level impacts to Newtown Creek will be less than significant with mitigation (purchase of compensatory mitigation credits for impacts below the ordinary high-water mark). The emergency project also required compensatory mitigation for impacts to Newtown Creek to ensure no net loss of aquatic resources. Since project-level impacts of activities will be mitigated to a less-than-significant level, cumulative impacts to riparian vegetation and Newtown Creek will be less than significant with mitigation incorporated.

c) Less than Significant Impact. Environmental impacts of the project that could affect human beings (Noise, Air Quality, Geology and Soils, Greenhouse Gases, Hazards and Hazardous Materials, Transportation, etc.) are less than significant or less than significant with mitigation incorporated and will not result in substantial adverse effects to human beings either directly or indirectly. In addition, all impacts of the project that could affect human beings would occur for only the short duration of the project.

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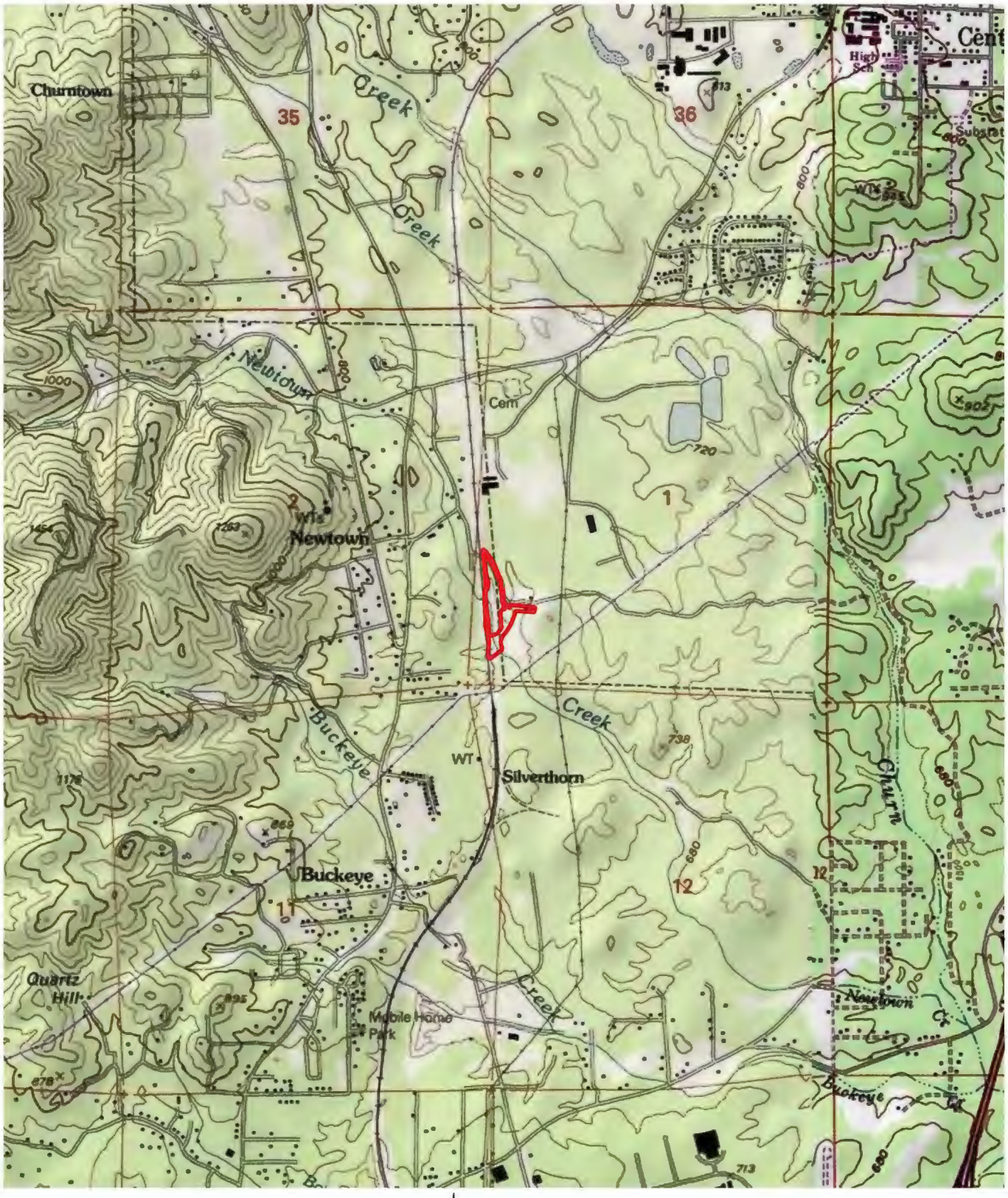
Figures



VESTRA

SOURCE: USGS 7.5' TOPOGRAPHIC MAP, SHASTA DAM QUADRANGLE

FIGURE 1
GENERAL SITE LOCATION
KNAUF CULVERT REPLACEMENT PROJECT
CITY OF SHASTA LAKE, CALIFORNIA

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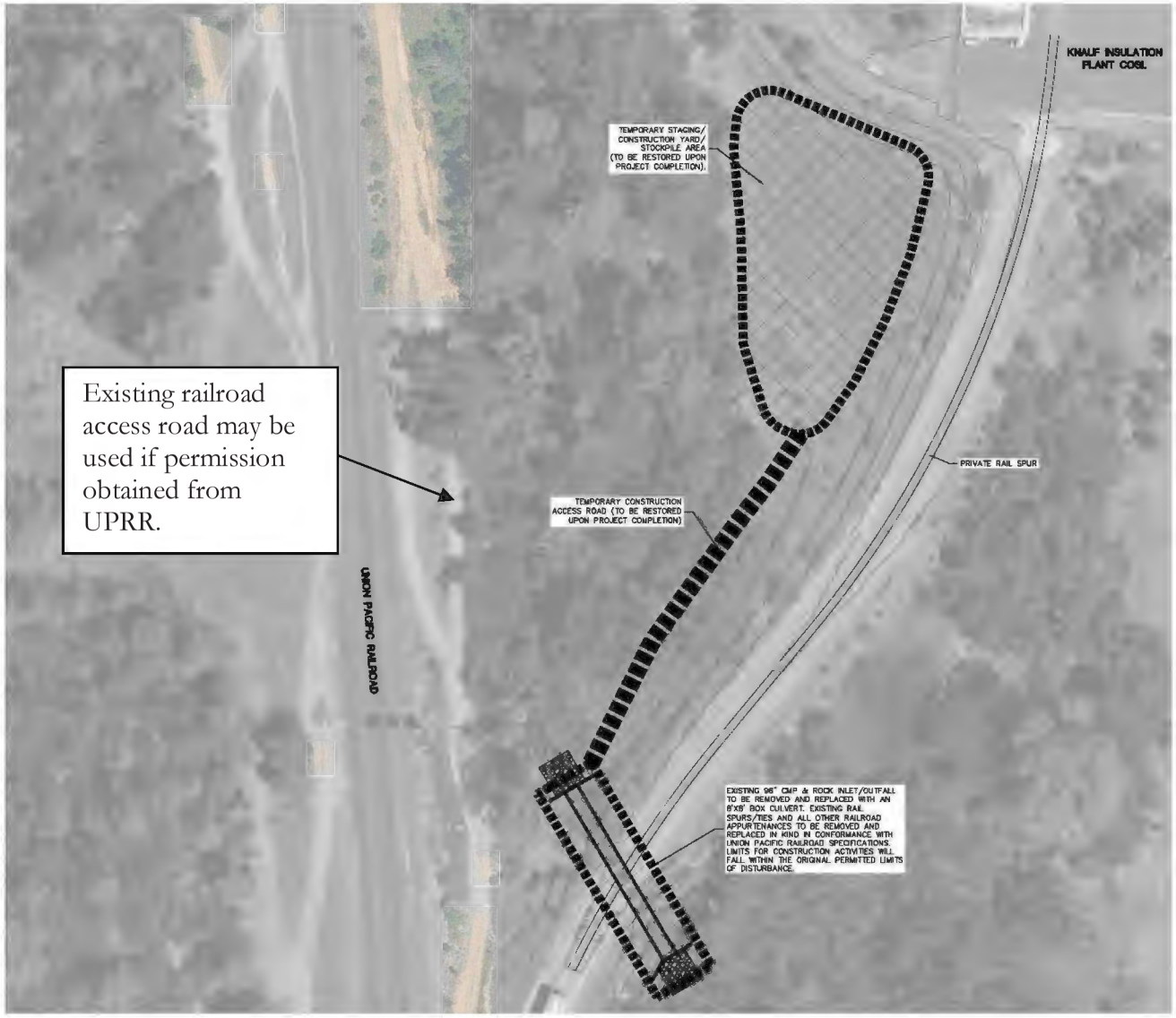

SOURCE: SHARRAH DUNLAP SAWYER 2024

FIGURE 2
GENERAL SITE LAYOUT
KNAUF CULVERT REPLACEMENT PROJECT
CITY OF SHASTA LAKE, CALIFORNIA

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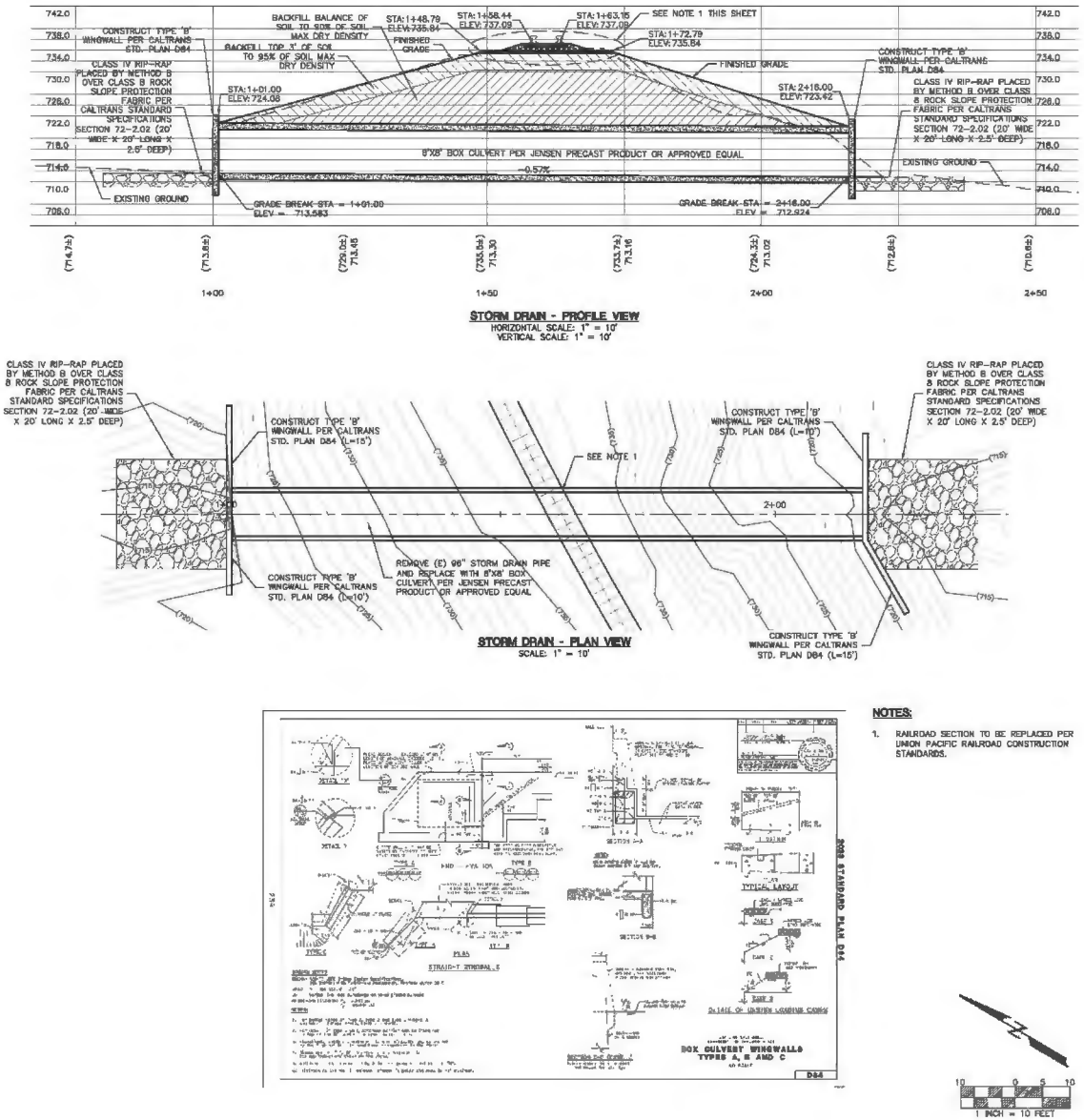

SOURCE: SHARRAH DUNLAP SAWYER 2024

FIGURE 3
PROJECT PLAN AND PROFILE VIEW
KNAUF CULVERT REPLACEMENT PROJECT
CITY OF SHASTA LAKE, CALIFORNIA

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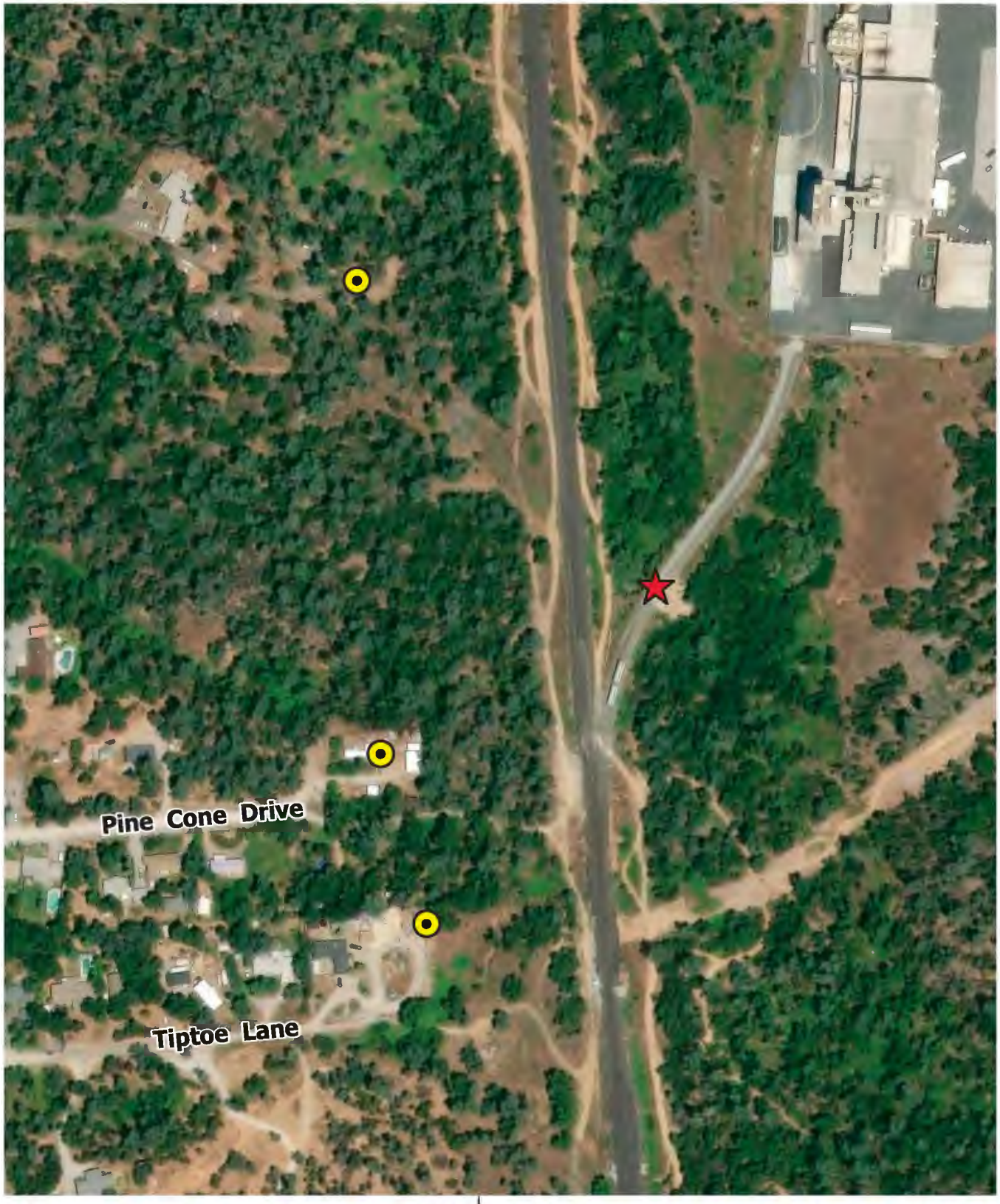

VESTRA

SOURCE: MAXAR 2023 AERIAL PHOTOGRAPH; NRCS SSURGO 2020

FIGURE 4
CLOSEST SENSITIVE RECEPTORS
KNAUF CULVERT REPLACEMENT PROJECT
SHASTA COUNTY, CALIFORNIA

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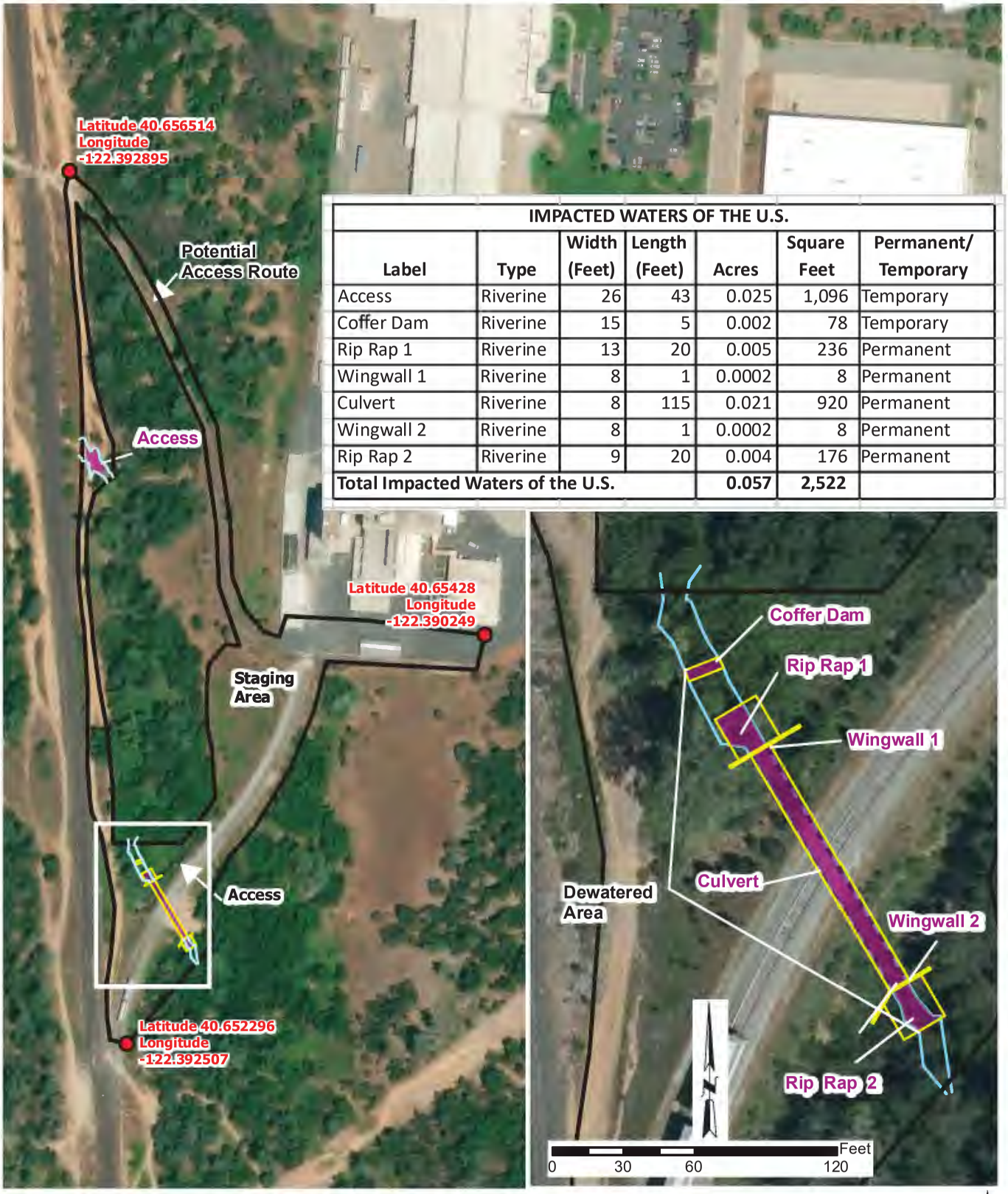

IMPACTED WATERS OF THE U.S.						
Label	Type	Width (Feet)	Length (Feet)	Acres	Square Feet	Permanent/ Temporary
Access	Riverine	26	43	0.025	1,096	Temporary
Coffer Dam	Riverine	15	5	0.002	78	Temporary
Rip Rap 1	Riverine	13	20	0.005	236	Permanent
Wingwall 1	Riverine	8	1	0.0002	8	Permanent
Culvert	Riverine	8	115	0.021	920	Permanent
Wingwall 2	Riverine	8	1	0.0002	8	Permanent
Rip Rap 2	Riverine	9	20	0.004	176	Permanent
Total Impacted Waters of the U.S.				**0.057**	**2,522**	

Control Point

Ordinary High Water Mark

Impacted Waters (0.06 Acres)

Project Area (4.1 Acres)

Work Area

OHWM

Feet
0 125 250 500

SOURCE: MAXAR 2023 AERIAL PHOTOGRAPH

FIGURE 5
SITE LAYOUT/IMPACTED WATERS OF THE U.S./STATE
KNAUF CULVERT REPLACEMENT PROJECT
CITY OF SHASTA LAKE, CALIFORNIA

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Appendix A

Biological Resources Assessment

BIOLOGICAL ASSESSMENT

KNAUF CULVERT REPLACEMENT
SHASTA LAKE, CALIFORNIA

Prepared for

Sharrah Dunlap Sawyer

Prepared by

VESTRA Resources Inc.
5300 Aviation Drive
Redding, California 96002

72421

AUGUST 2024

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FIGURES

APPENDICES

1.0 INTRODUCTION

1.1 Purpose and Proposed Action

The proposed action associated with the project included the replacement of the existing 96-inch corrugated metal pipe (CMP) culvert conveying Newtown Creek under the Knauf Fiberglass railroad spur owned by Knauf Insulation Inc. (Knauf) and the installation of an 8-foot by 8-foot concrete box culvert. The site plan is included in Appendix A.

2.0 PROJECT DESCRIPTION

2.1 Project Location

The project site is located at the culvert crossing of Newtown Creek beneath the railroad spur of the Knauf facility in Shasta Lake City, located at 3100 Ashby Road, Shasta Lake, California 96019. The site is located in Section 1, Township 32 North, Range 05 West, MDBM USGS Shasta Dam 7.5-Minute Quadrangle map. Coordinates for the culvert are 40.653016N°, -122.392274W°.

To access the survey area, from Interstate 5 take Exit 684 (Pine Grove Avenue) and proceed west on Pine Grove Avenue to the intersection of Ashby Road. The project site is accessible only through the Knauf facility located on the west side of Ashby Road. The general site location is shown on Figure 1.

2.2 Project Activities and Timeline

The project includes replacement of an existing culvert which conveys a section of Newtown Creek under the Knauf railroad spur. The general site location is shown on Figure 1. The existing culvert has failed and a temporary insert has been placed within to stabilize the failure. This project will remove the existing culvert and insert and install a permanent concrete box culvert. Design plans are attached.

The existing 96-inch inch corrugated metal pipe (CMP) culvert and temporary arch culvert insert will be removed and replaced with an 8-foot by 8-foot precast concrete box culvert. The final culvert will be approximately 117 feet long. Wingwalls will be constructed on both the upstream and downstream sides of the culvert. Two pads of rip-rap rock measuring 20 feet by 20 feet by 2.5 feet will be placed in the streambed, one at each entrance (upstream and downstream) to the box culvert (Figure 2). The excavation area will be approximately 11,000 square feet around the culvert. Approximately 115 cubic yards of material will removed during excavation. The project will also include the construction of a temporary access road and staging area (Figure 2).

A material staging area and temporary access road will be constructed to allow access to the project site. This construction will require the removal of existing vegetation. No trees greater than 10 inches diameter at breast height (dbh) will be removed. Road material will be removed when the project is complete and the disturbed area will be revegetated. The temporary road will be 460 linear feet in length with width varying between 10 and 15 feet to avoid mature trees. The upland stockpile and laydown area is estimated to be approximately 18,000 square feet.

Construction will require the operation of heavy equipment within the streambed. In any area where heavy equipment must enter the stream below the ordinary high water mark, mats or gravel will be placed under the equipment to reduce permanent impacts to the streambed. The in-stream work area will be dewatered for the duration of activities. A dewatering plan will be prepared by the contractor prior to the start of work. Dewatering will require construction of a temporary dam upstream of the work area. Flows within Newtown Creek will be pumped or gravity-diverted through the work area via a hose or pipe.

Temporary impacts to the streambed from the operation of heavy equipment is expected to primarily be within the 20-foot by 20-foot area at the inlet and outlet of the culvert which will be stabilized and armored with rip-rap as part of the project. Temporary impacts will also include the temporary dam and dewatering infrastructure. Mature trees and vegetation will be retained and avoided wherever practicable. Permanent impacts will occur mostly within the culverted portion of Newtown Creek and include a change in the material, shape, and width of the culvert. Permanent impacts also include the construction of wingwalls and installation of rock at the inlet and outlet of the culvert. Impacts to Waters of the United States and State are shown in Figure 3.

Construction is expected to be completed within 90 days of project initiation. Work will be conducted during the dry season (June through October) when water levels in Newtown Creek are lowest.

2.3 Avoidance and Minimization Measures

In order to reduce the likelihood and magnitude of adverse temporary and permanent impacts associated with the proposed activities, measures are incorporated into the design of the project. Measures and project components to avoid, minimize, and/or mitigate adverse effects to biological resources are as follow.

2.3.1 General

- Work will be conducted in the dry season when water levels in Newtown Creek are lowest.
- Equipment operated within the limits of Newtown Creek will be operated on mats or a gravel pad to reduce disturbance to the stream channel.
- Work site perimeter containment/erosion control will be implemented to prevent the transport of earth material to the stream channel. As required by the City of Shasta Lake, an erosion control plan prepared by a licensed civil engineer or other licensed professional will be submitted and approved prior to any land clearing or grading work.
- Equipment will be inspected prior to arrival at the construction area. All heavy equipment will be thoroughly cleaned prior to mobilization onsite to remove any soil, weed seeds, and plant parts to reduce the importation and spread of invasive exotic plant species.
- If straw is used, only certified weed-free straw will be selected for erosion control or other purposes to reduce the importation and spread of invasive exotic plant species.
- Vegetation and tree removal will be kept to the minimum necessary to access work areas.
- Road construction will avoid the removal of mature trees wherever feasible.

- All vehicles and heavy equipment will be inspected underneath for the presence of wildlife before the start of each workday when equipment is staged overnight.
- A construction worker education program will be provided to all personnel onsite by a qualified biologist that includes an explanation of all federally listed species with the potential to occur, identification, avoidance measures, and federal laws that protect the species.
- Vegetation and tree removal will occur outside of the nesting bird season (February 1 – August 31) or a nesting bird survey will occur within seven days of vegetation removal.
- Pump intakes shall include the appropriate screens (1/4 inch or finer, if possible) to avoid impacts to aquatic species.
- Disturbance to the bed, bank, and channel of Newtown Creek outside of the replacement crossing footprint will be minimized such that the morphology, including depth, width, and slope, resemble pre-project conditions.
- The work area will be dewatered to minimize turbidity and prevent construction materials and demolition debris from entering flowing water.
- Riparian vegetation will be replanted in the access areas following project completion.

2.3.2 Fish

- Site conditions preclude fish passage and exclude fish from the work area during low-water flows. If surface water is present in the work area, a survey confirming the presence of the downstream fish passage barrier will be conducted prior to project activities. If the downstream barrier becomes passable prior to project activities, or changes occur that would allow passage of salmonids into the work area during project activities, in-water work will not occur until consultation with CDFW and NMFS occurs and the appropriate take permits are acquired, if needed based on the consultation.
- Pump intakes shall include the appropriate screens (1/4 inch or finer, if possible) to avoid impacts to aquatic species.
- Disturbance to the bed, bank, and channel of Newton Creek outside of the replacement crossing footprint will be minimized such that the morphology, including depth, width, and slope, resemble pre-project conditions.

2.3.3 Riparian Habitat and Water Quality

- The work area will be dewatered to minimize turbidity and prevent construction materials and demolition debris from entering flowing water.
- Riparian vegetation will be replanted in the access areas following project completion.

3.0 ACTION AREA

3.1 Hydrology

The project area is centered around a culvert that conveys Newtown Creek underneath the railroad embankment. Newtown Creek originates roughly 2 miles northwest of the site according to the National Wetlands Inventory. Several obstructions and diversions were observed on private properties upstream of the project area. These man-made features have altered the stream channel; ponds, and spillways in the stream channel and have created flashy, intermittent hydrology in Newtown Creek within the project area.

Culverts were observed in two locations underneath the railroad tracks. Newtown Creek flows through the northernmost culvert over the access road into the riparian area which flows into the project work area.

The confluence of Newtown Creek with Churn Creek occurs 1.75 miles downstream from the project area. At the time of a pedestrian survey completed in November 2023, Newtown Creek contained flowing surface water approximately 2 to 4 inches in depth. During pedestrian surveys completed in April 2024, water depth in Newtown Creek was the same at 2 to 4 inches.

3.2 Vegetation

The project site includes the culvert, proposed access road route, and surrounding railroad tracks plus the Valley Foothill Riparian habitat that surrounds Newtown Creek. The project will require removal of vegetation and oak trees (*Quercus* sp.) within the path of the temporary road. Most oak trees to be removed are less than 6 inches in diameter at breast height. Two of the oaks to be removed are large, mature trees.

3.2.1 Valley Foothill Riparian

The riparian community onsite is dominated by willow (*Salix* sp.) and Fremont cottonwood (*Populus fremontii*). The understory is covered in dense blackberry (*Rubus armeniacus*) vines and a giant chain fern (*Woodwardia* sp.) patch. Surrounding the project area, scattered valley oak trees (*Quercus lobata*) and a few buckbrush shrubs (*Ceanothus cuneatus*) are present. No elderberry (*Sambucus* sp.) occurs onsite or within 165 feet of the site. At the culvert inlet, a portion of Valley Foothill Riparian habitat that included oak and willow trees was removed during recent activities onsite unrelated to this assessment.

3.2.2 Barren

Barren habitat is defined as having less than 10 percent vegetation cover. The railroad tracks and existing roads comprise the barren portion of the project area. At the culvert outlet, historic disturbance to the slope directly above the project area has left a barren patch where a portion of Valley Foothill Riparian habitat was once located.

4.0 BIOLOGICAL RESOURCES

4.1 Informational Review

Federally listed, or proposed to be listed, threatened and endangered species, Critical Habitat, and Essential Fish Habitat that may occur in the study area were determined by reviewing agency databases, literature, and other relevant sources. The following information sources were reviewed:

- Aerial photography of the project area and vicinity;
- The U.S. Fish and Wildlife Service (USFWS) official list of endangered and threatened species that may occur, or be affected by, projects;
- California Wildlife Habitat Relationships (CWHR) System;
- California Department of Fish and Wildlife Fish Passage Assessment Database (PAD)
- GIS shapefiles of designated critical habitat from the USFWS Critical Habitat Portal website, NOAA Essential Fish Habitat Application, and the National Marine Fisheries Service (NMFS) Critical Habitat Mapper;
- U.S. Department of Agriculture Web Soil Survey;
- California Department of Fish and Wildlife publications including State and Federally Listed Endangered, Threatened, and Rare Plants of California; Special Vascular Plants, Bryophytes, and Lichens; State and Federally Listed and Threatened Animals of California; and Special Animals List; and
- Pertinent biological literature including the following: *The Jepson Manual: Vascular Plants of California, Bird Species of Special Concern in California,* and *A Manuel of California Vegetation.*

4.2 Federally Listed/Proposed Species and Critical Habitat

Species that are considered in this assessment are those either listed, proposed for listing, or candidates for listing as threatened or endangered under the Federal ESA (50 Code of Federal Regulations [CFR] Part 17.12 [listed plants], 50 CFR Part 17.11 [listed animals], and 67 Federal Register [FR] 40657 [candidate species]).

The USFWS and NMFS list nine special-status wildlife species that meet the evaluation criteria of this analysis as occurring within or in proximity of the project area. Of these regionally local species, three wildlife species were evaluated for project impacts due to their potential to occupy habitat within the project area. Potential for occurrence was based on habitat requirements and proximity to known recorded occurrences of a species.

Evaluated species, their habitat requirements, status, and potential for occurrence within the project area are provided in Table 1. Species determined to have potential to occur within the project area are discussed below, while species that were determined to be absent are not discussed further.

Table 1
POTENTIALLY OCCURRING FEDERALLY LISTED/PROPOSED SPECIES

Common Name	Scientific Name	Conservation Status	Effects Determination	Summary
Invertebrates				
Valley Elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT	NE	No elderberry shrubs were found onsite or within 165 feet of Action Area during pre-project survey.
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT, X	NE	No vernal pool habitat is present within the Action Area.
Monarch butterfly	*Danaus plexippus*	FC	NE	No milkweed was found in Action Area during pre-project survey.
Birds				
Bald eagle	*Haliaeetus leucocephalus*	FDR, SE	NE	Unlikely to occur. Requires large, open water bodies for forage and isolated mature trees for perching and nesting.
Northern spotted owl	*Stric occidentalis*	FT	NE	No habitat for nesting, foraging, or roosting within 1.3 miles of project site.
Reptiles				
Northwestern pond turtle	*Actinemys marmorata*	FPT	NE	No potential to occur. Site lacks adequate basking habitat due to dense shade over aquatic habitat.
Fish				
Central Valley steelhead	*Oncorhyncus mykiss*	FT, X	NLAA	Known to occur in Churn Creek to which Newtown Creek is a tributary. Spawning and incubation occurs from December through May. Because juveniles rear year-round, *Oncorhynchus mykiss* have potential to occur in Newtown Creek, but in-stream barriers downstream from the project area preclude fish passage at water levels expected during project work. Unlikely to occur in project area during project activities.
Sacramento River Winter-run Chinook salmon	*Oncorhynchus tshawytscha*	FE, EFH	NE	Winter-run spawn only in main stem Sacramento River. Unlikely to occur in the project area. NOAA EFH includes Newtown Creek for all Chinook salmon.
Central Valley spring-run Chinook salmon	*Oncorhynchus tshawytscha*	FT, EFH X	NLAA	*Oncorhynchus tshawytscha* spawning occurs in fall and eggs incubate from about September to March. Juveniles migrate downstream during spring of the same year. Spawning correlates with low stream flows onsite, so species is unlikely to occur due to in-stream barriers downstream from the project area, precluding fish passage at water levels expected during project work. Unlikely to occur in project area during project activities. NOAA EFH includes Newtown Creek for all Chinook salmon.

Key: FT: federally threatened; **FE**: federally endangered; **FDR:** federally delisted (recovered); **FPT:** federally proposed as threatened; **ST**: state threatened; **SE:** state endangered; **SC:** Species of Special Concern; **1B.1:** "seriously" rare, threatened, or endangered in CA and elsewhere**; 1B.2:** "moderately" rare, threatened, or endangered in CA and elsewhere**; MBTA:** Migratory Bird Treaty Act; **BGEA**: Bald and Golden Eagle Protection Act; **X:** Critical Habitat. **NE:** No effect; **LAA:** Likely to adversely affect**; NLAA:** Not likely to adversely affect.

Based on the assessment summarized in Table 1, Federally protected species, Critical Habitats, and Essential Fish Habitats that are known to occur, or have the potential to occur, within the project area include:

- Central Valley steelhead (*Oncorhynchus mykiss*)
- Essential Fish Habitat for winter-run and Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha)*

An official list of Federally listed species and critical habitat that may occur in the project area was obtained from the USFWS and is included as Appendix B. A map of the Essential Fish Habitat for Chinook salmon is included as Appendix C.

4.2.1 Central Valley Steelhead (*Oncorhynchus mykiss)*

Legal Status
The Central Valley steelhead distinct population segment (DPS) was listed as Threatened by NMFS on March 19, 1998 (63 FR 13347), and January 5, 2006 (71 FR 834). Critical Habitat was designated by NMFS on September 2, 2005 (70 FR 52488). Churn Creek and its tributaries are not within Critical Habitat for Central Valley steelhead. NOAA Essential Fish Habitat (EFH) has not been designated for Central Valley steelhead.

Current and Historical Distribution
Unlike Chinook salmon, steelhead typically rear in freshwater for at least two years before migrating to the Pacific Ocean. Steelhead may spawn more than once and return to the Pacific Ocean between spawning. From 1967 to 1993, the estimated number of steelhead passing the Red Bluff Diversion Dam (RBDD) ranged from a low of 470 to a high of 19,615 (California Department of Fish and Game 1994, McEwan and Jackson 1996).

Life History and Habitat Requirements
Steelhead are generally classified into two runs, depending on whether they begin their upstream migration in winter or summer. Winter steelhead typically begin their spawning migration in fall and winter, and spawn within a few weeks to a few months from the time they enter freshwater. In natural populations, Central Valley steelhead adult migration occurs from July through February. In most years in streams with cool, year-round, well-oxygenated water, spawning and incubation occurs from December through April and, possibly in May. Following emergence, fry live in small schools in shallow water along streambanks. As the steelhead grow, they establish individual feeding territories. Juvenile steelhead typically rear for one to two years in streams before emigration, which generally occurs in spring. Steelhead may remain in the ocean from one to four years, growing rapidly as they feed in the highly productive currents along the continental shelf (Barnhart 1986). Steelhead return to natal streams to spawn as two- to four-year-old adults.

Reasons for Species Decline
Population declines are attributed to blockage from upstream habitats, entrainment from unscreened diversions, hatchery practices, and degraded habitat conditions due to water development and land use practices. Dams at low elevations on all major tributaries block access to an estimated 95 percent of historical spawning habitat in the Central Valley (Reynolds et al. 1993).

Recovery Plan Goals

The recovery plan that includes Central Valley steelhead (National Marine Fisheries Service 2014) has the overarching goal of the removal of Central Valley steelhead from the Federal List of Endangered and Threatened Wildlife (50 CFR 223.102). As part of the recovery strategy, conservation principles have been identified that will support viable steelhead populations, which include providing habitat capacity and diversity, ensuring the viability of steelhead populations (which are abundant, productive, diverse, and spatially structured) having viable ESUs and delineating recovery units. The recovery plan also highlights California and Central Valley Recovery Actions for Sacramento River winter-run Chinook salmon and the Central Valley spring-run Chinook salmon. These actions include implementation of water conservation programs, climate change and smart growth programs, and development and implementation of an ecosystem-based management approach that integrates harvest, hatchery, habitat, and water management, in consideration of ocean conditions and climate change. The plan also identifies actions such as implementation of a comprehensive Central Valley steelhead monitoring plan to better understand their abundance and distribution and the development and implementation of state and national levee vegetation policies to maintain and restore riparian corridors.

Current Status in Project Area

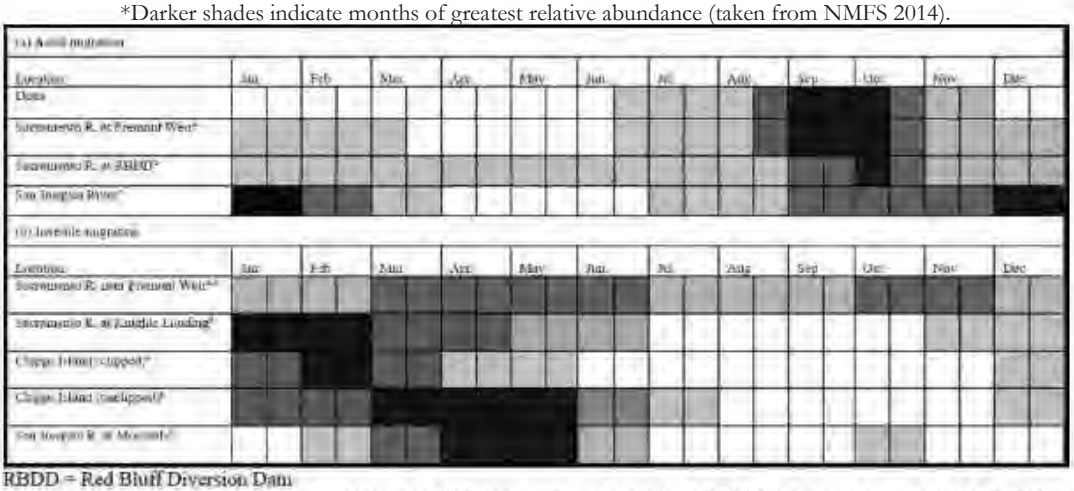
Populations of Central Valley steelhead are at lower levels than were found historically and are composed predominantly of hatchery fish (McEwan 2001). In general, the majority of Central Valley steelhead is confined to non-historical spawning and rearing habitat below impassable dams, but the existing spawning and rearing habitat can sustain steelhead at current population levels. In addition, monitoring data indicates that much of the anadromous form of the species is hatchery supported. There is also a strong resident component to the population (also referred to as rainbow trout) that interacts with and produces both resident and anadromous offspring.

Recent steelhead monitoring data are scarce for the Upper Sacramento River system. Hallock (1989) reported that steelhead have declined drastically above the mouth of the Feather River. From 1967 to 1993, the estimated number of steelhead passing the Red Bluff Diversion Dam (RBDD), located approximately 30 miles south (downstream) from the proposed project area, ranged from a low of 470 to a high of 19,615. Based on otolith sampling of *O. mykiss* in the Upper Sacramento River system, less than 50 percent of age zero- to four-year-old fish sampled were progeny of an anadromous (steelhead) mother (2016).

Table 2 presents the temporal occurrence of adult and juvenile California Central Valley Steelhead in the Central Valley (National Marine Fisheries Service 2014). Steelhead could be spawning where conditions are appropriate within Churn Creek and its flowing tributaries between December and April, but there is potential for rearing and developing juveniles to rear in these streams year-round. When flowing with adequate water levels, potential rearing habitat is present in the project area.

Table 2
TEMPORAL OCCURRENCE OF ADULT AND JUVENILE CALIFORNIA CENTRAL VALLEY STEELHEAD AT LOCATIONS IN THE CENTRAL VALLEY*

*Darker shades indicate months of greatest relative abundance (taken from NMFS 2014).



RBDD = Red Bluff Diversion Dam
Sources: a: (Hallock 1957); b: (McEwan 2001); c: (California Department of Fish and Wildlife Steelhead Report Card Data 2007); d: National Marine Fisheries Service analysis of 1998-2011 California Department of Fish and Wildlife data; e: National Marine Fisheries Service analysis of 1998-2011 U.S. Fish and Wildlife Service data; f: National Marine Fisheries Service analysis of 2003-2011 U.S. Fish and Wildlife Service data.

Steelhead have potential to occur in stream with adequate water levels and water quality for fish rearing. Generally, steelhead are expected to occur in tributaries to the Sacramento River, such as Churn Creek and Newtown Creek, except where barriers to their migration occurs. According to the California Salmonid Stream Habitat Restoration Manual published by CDFW, barriers can include natural or man-made impediments to fish passage that, due to a steep channel gradient, drop-off height, or physical barrier across the stream, prevent fish passage either seasonally or year-round. The California Department of Fish and Wildlife (CDFW) Fish Passage Assessment Database (PAD) was reviewed and onsite conditions were investigated to determine if any barriers to fish passage occur downstream of the project area. An inspection of Newtown Creek was completed to determine if any natural or man-made barriers to fish passage occur within the stream channel.

Approximately 250 feet downstream from the project area, a debris dam comprised of tightly matted human litter, car tires, and woody debris spans the stream channel (Figure 2c). The flow rate slows and depth of water increases immediately above the dam, which indicates the water is slowly trickling through the debris. The height of the dam is taller than the high-water levels that occurred during recent storm events, as was evident from scouring and leaf deposition upstream of the dam. Therefore, the dam is likely a year-round barrier even during high flow periods. Steelhead, if present in Newtown Creek, are restricted to the accessible areas below the debris dam. As long as this debris dam remains, there is no potential for fish passage upstream into the project area.

4.2.2 Chinook Salmon Essential Fish Habitat

Essential Fish Habitat
The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act (Public Law 104 to 297), mandates all federal agencies consult with NMFS on any activities or proposed activities authorized, funded, or conducted by that agency that may adversely impact Essential Fish Habitat (EFH) of commercially managed marine and

anadromous fish species (Section 305(b)(2). These regulations require that federal action agencies provide NMFS with a written assessment of the effects of their action on EFH (50 CFR Section 600.920).

EFH includes specifically identified waters and substrate necessary for fish spawning, breeding, feeding, or growing to maturity. Important components of EFH for spawning, rearing, and migration include suitable substrate composition; water quality (e.g., dissolved oxygen, nutrients, temperature); water quantity, depth and velocity; channel gradient and stability; food; cover and habitat complexity (e.g., large woody debris, pools, channel complexity, aquatic vegetation); space; access and passage; and floodplain and habitat connectivity (Pacific Fishery Management Council 2003). EFH also includes all habitats necessary for the production of commercially valuable aquatic species, to support a long-term sustainable fishery, and contribute to a healthy ecosystem (16 USC 1802[10]).

The project area is designated as EFH for all runs of Chinook salmon.

5.0 POTENTIAL EFFECTS ANALYSIS

An assessment of the potential affects that could be caused by the project based on the project description, precautionary measures incorporated into the project design, and proposed impact avoidance and minimization measures follows.

5.1 Direct Effects

Direct effects of the proposed project are those immediate impacts resulting from proposed project work.

5.1.1 Direct Effects to Fish

Generally, construction in or near a stream has the potential to directly impact fish by causing direct mortality from disturbance in the aquatic habitat. Direct effects to fish from in-stream work are associated with in-water work (i.e., direct crushing/impact, or concussive impacts from vibrations within the water column). No fish or other aquatic species were observed during the survey performed within the work area. A debris dam downstream of the work area currently blocks all fish passage upstream, making direct effects during construction unlikely.

As per avoidance and minimization measures outlined in Measure 2.3.2, water levels will be at their lowest (2 to 4 inches in depth, or dry) during project activities. The work area will be dewatered and work will commence once the downstream barrier present during pre-project surveys has been verified immediately prior to beginning work. Appropriate screening will be installed to prevent potential impacts during dewatering. Direct impacts to fish would be avoided by implementing the mitigation measures listed in Section 2.3.2.

5.1.3 Direct Effects to Essential Fish Habitat

Removal of riparian vegetation can alter the aquatic environment as mature riparian trees contribute to important habitat features for anadromous fish life history, such as organic matter

composition, temperature and dissolved oxygen, nutrients, water depth and velocity, and shaded cover. Disturbance to riparian vegetation will occur as needed to access the work area. This will require removal of less than 0.1 acres willow (*Salix* sp.), blackberry (*Rubus armeniacus*), and giant chain fern (*Woodwardia fimbriata)* in the path of the temporary road within the riparian area. Tree removal would have minimal impact on habitat for fish, because only willow trees provide shade over Newtown Creek. Additionally, removal of riparian vegetation will be temporary as the access area will be revegetated following installation of a box culvert.

Potential adverse effects to EFH could result from work in the stream channel that results in alteration to the channel morphology or substrate that could reduce the water quality or quantity within and downstream from the project area. Additionally, major channel alteration could reduce suitability of substrate composition, channel gradient and stability, and cover and habitat complexity. Portions of the natural channel outside of the crossing footprint will be disturbed during construction but will be restored to pre-project conditions. The existing CMP culvert will be replaced with a concrete box culvert. This replacement will not substantially change the nature of the substrate within the work area as the bottom material will remain artificial. Improvements to the culvert structure will benefit the channel stability and gradient. Therefore, the project may affect but is not likely to adversely affect fish EFH.

5.2 Indirect Effects

Indirect effects are those impacts that are caused by or will result from the proposed action and are expected to occur later in time. Impacts could be both short- and/or long-term in nature.

5.2.1 Indirect Effects to Fish

Indirect impacts to fish could result from degradation of the aquatic habitat or surrounding riparian corridor. To reduce and/or prevent indirect effects to fish, the avoidance and minimization measures listed in Section 2.3 will be applied.

5.3 Cumulative Effects

The project area is located along a private spur that is connected to the main spur of the Union Pacific Railroad tracks. Pre-existing ground and vegetation disturbance near these tracks in the vicinity of the project area includes the historic re-routing of Newtown Creek underneath the main spur of the railroad in the 1990s, which has affected the aquatic habitat and impedes fish passage immediately upstream from the project area. Numerous existing culverts and low-water crossings occur along Newtown Creek, both upstream and downstream of the project culvert. Any improvements to the culvert structure onsite will benefit the channel stability and gradient and prevent erosion of the fill around the collapsing culvert.

Existing ground disturbance observed adjacent to the main spur of the railroad, where project area access occurs, suggests that minor earth-moving projects are frequently carried out to access and maintain the railroad grade. While impacts to biological resources from these projects are not well known, it is unlikely that the cumulative effects of railroad maintenance and the proposed project would lead to adverse impacts to Federally listed species or Essential Fish Habitat.

6.0 CONCLUSION AND DETERMINATION OF EFFECTS

Steelhead could occur in Churn Creek and its tributaries as juveniles (fry) are known to use streams within this watershed as holding grounds. The fry remain in holding streams for up to two years before emigrating; therefore, they could occur at any time that conditions are appropriate. The conditions observed onsite are unlikely to support steelhead fry, and downstream obstructions are likely to prevent fish passage upstream into the project area. The depth of water throughout the year, except during storm events, is less than 3 inches. No fish or other living wildlife was observed in the stream during pre-project surveys. Work will be conducted during the dry season when water levels within the work area are lowest or the creek is dry. If water is present during the work period, the presence of the downstream fish barrier will be verified immediately prior to project activities. Additional measures will be implemented to minimize impacts to water quality and riparian habitat. The project is not likely to adversely affect steelhead.

Effects to Essential Fish Habitat will be temporary because mature overstory trees within the riparian area will remain onsite and replanting will be completed following installation of the box culvert. The project is not likely to adversely affect Essential Fish Habitat.

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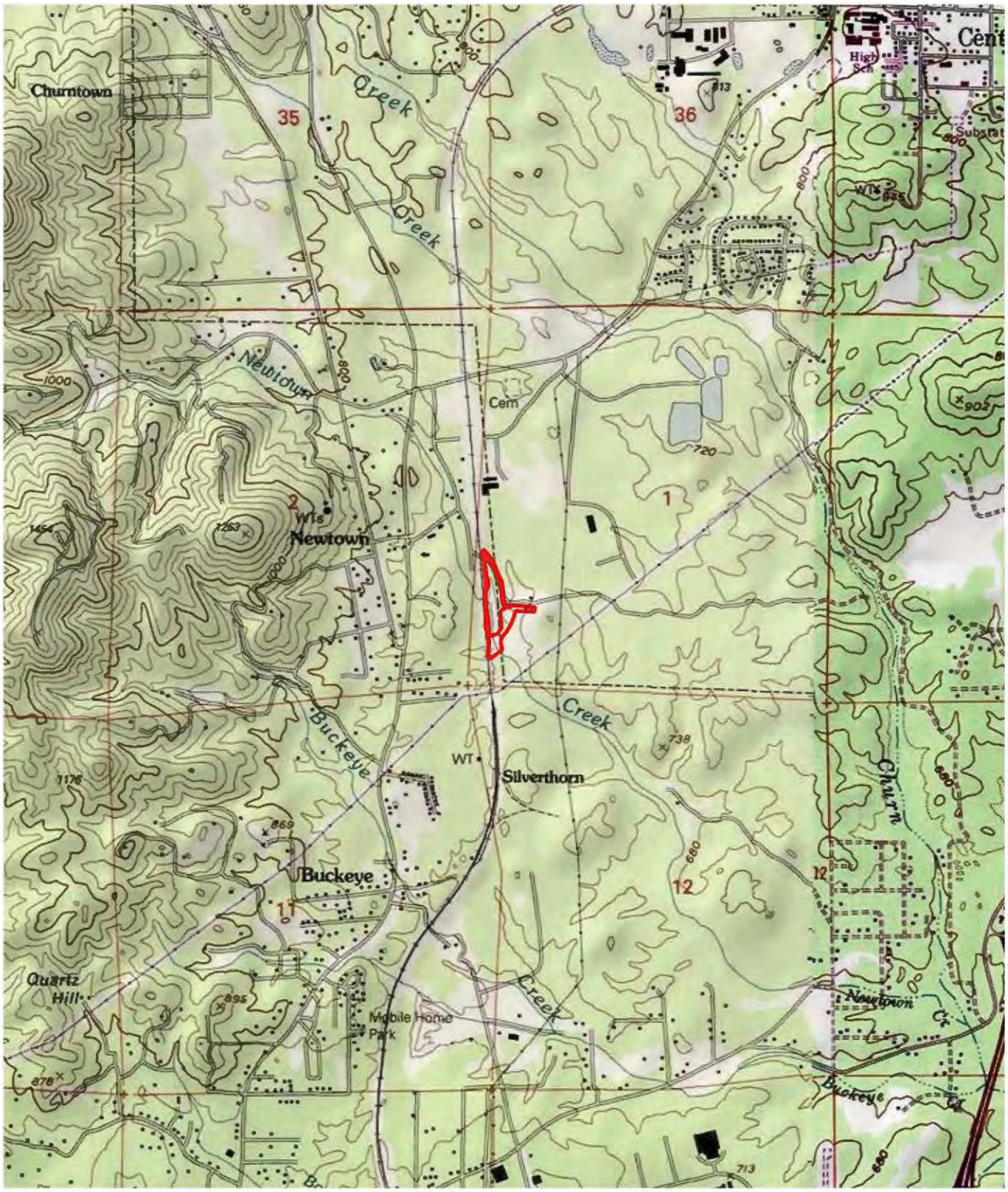
Figures



VESTRA

SOURCE: USGS 7.5' TOPOGRAPHIC MAP, SHASTA DAM QUADRANGLE

FIGURE 1
GENERAL SITE LOCATION
KNAUF CULVERT REPLACEMENT PROJECT
CITY OF SHASTA LAKE, CALIFORNIA

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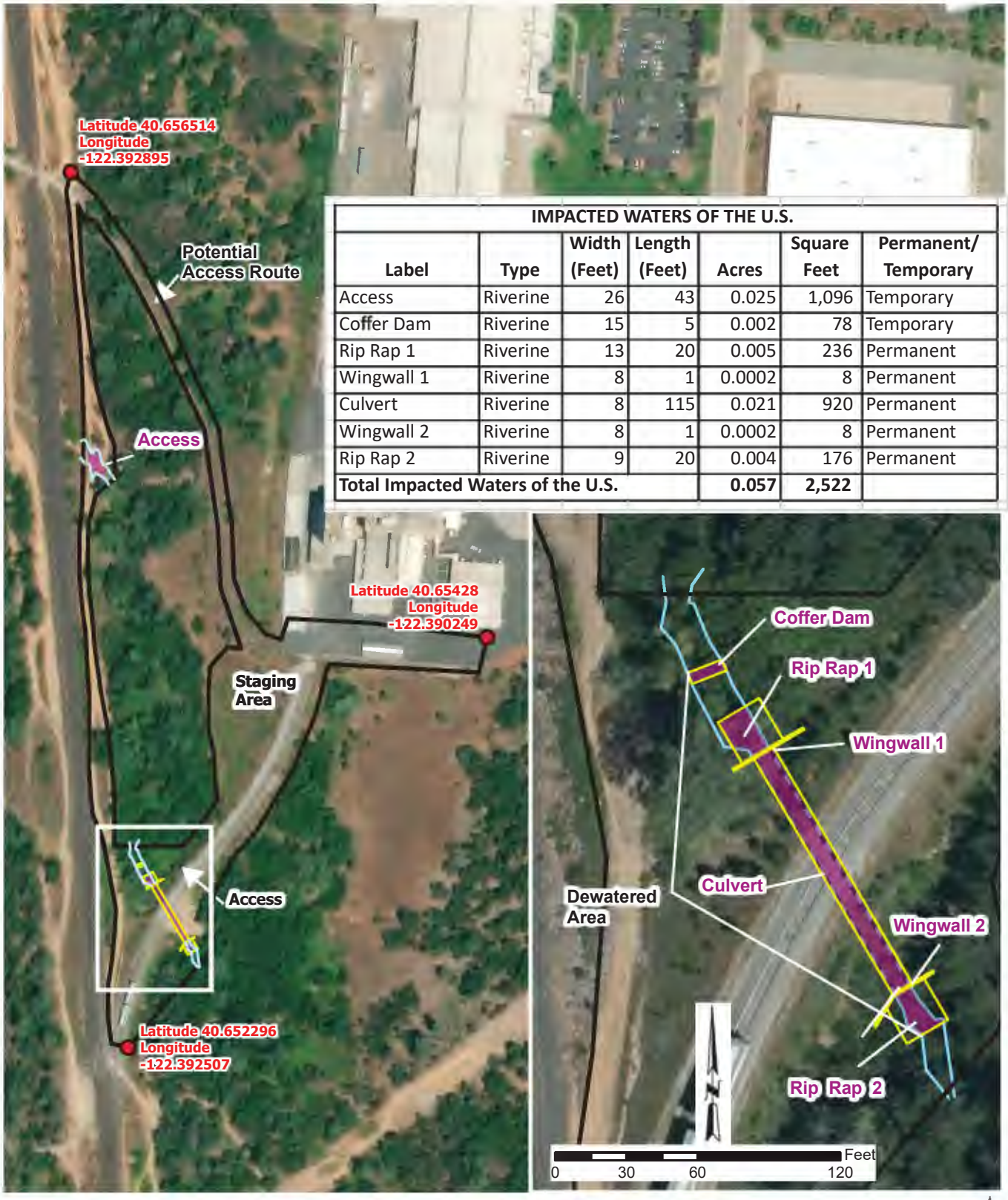
Figure 2a. Existing Culvert Inlet

Figure 2b. Culvert Outlet

Figure 2c. Stream bank disturbed by emergency work

Figure 2d. Fish barrier downstream of Project Area



IMPACTED WATERS OF THE U.S.						
Label	Type	Width (Feet)	Length (Feet)	Acres	Square Feet	Permanent/ Temporary
Access	Riverine	26	43	0.025	1,096	Temporary
Coffer Dam	Riverine	15	5	0.002	78	Temporary
Rip Rap 1	Riverine	13	20	0.005	236	Permanent
Wingwall 1	Riverine	8	1	0.0002	8	Permanent
Culvert	Riverine	8	115	0.021	920	Permanent
Wingwall 2	Riverine	8	1	0.0002	8	Permanent
Rip Rap 2	Riverine	9	20	0.004	176	Permanent
Total Impacted Waters of the U.S.				**0.057**	**2,522**	

Control Point
Ordinary High Water Mark
Impacted Waters (0.06 Acres)
Project Area (4.1 Acres)
Work Area
OHWM

Feet
0 125 250 500

SOURCE: MAXAR 2023 AERIAL PHOTOGRAPH

FIGURE 3
SITE LAYOUT/IMPACTED WATERS OF THE U.S./STATE
KNAUF CULVERT REPLACEMENT PROJECT
CITY OF SHASTA LAKE, CALIFORNIA

P:\GIS\72421\Knauf\Knauf.aprx

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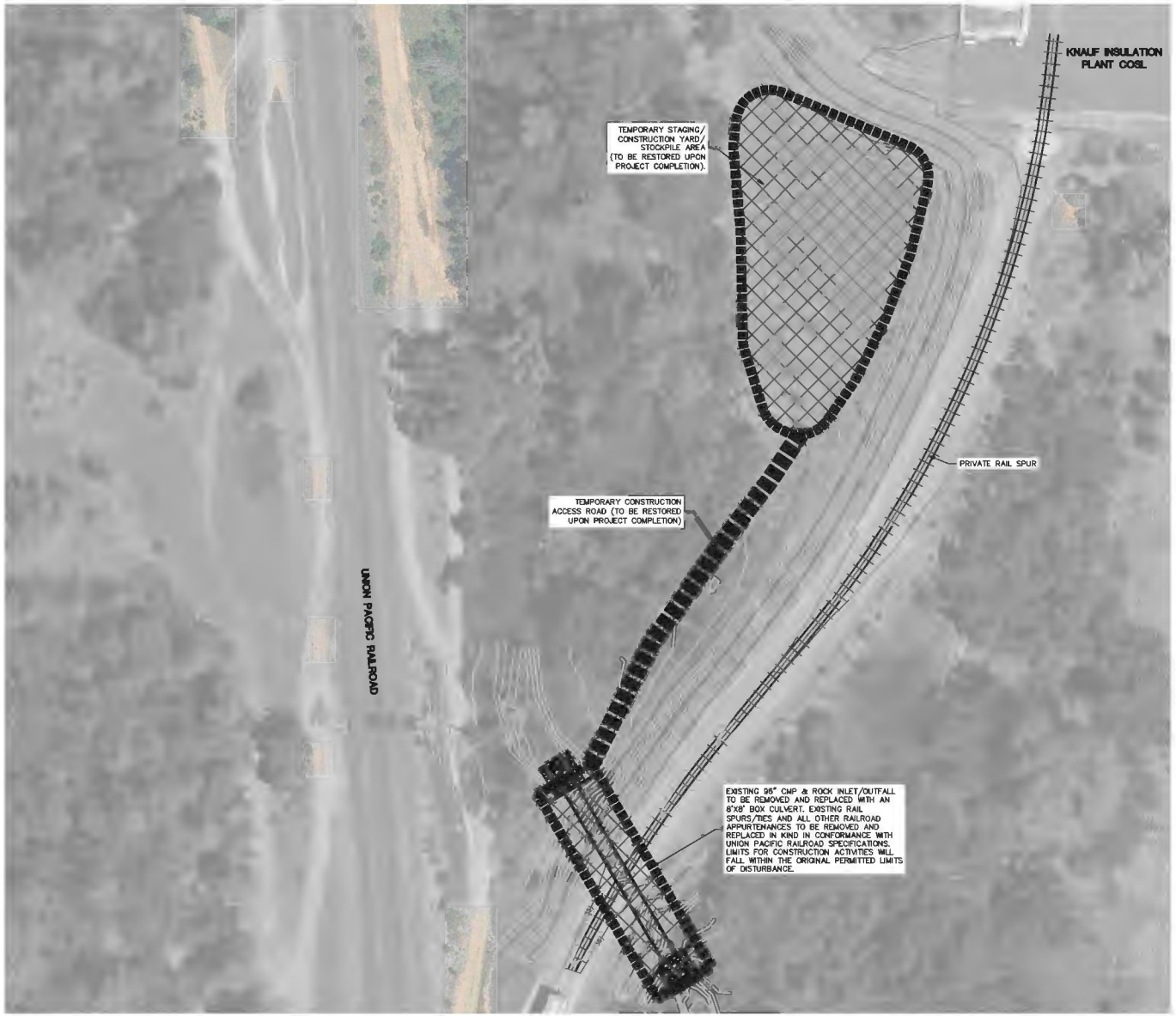
Appendix A

Site Plan



SHARRAH DUNLAP SAWYER INCORPORATED
Civil Engineering • Land Planning • Surveying & Mapping
Landscape Architecture • Presentation Graphics
320 Hartnell Avenue, Redding, CA 96002
530.221.1792 voice
info@sdsengineering.com

PLANS PREPARED UNDER THE SUPERVISION OF:

SHARRAH DUNLAP SAWYER, INC.
ENGINEERING • SURVEYING • PLANNING
REDDING, CALIFORNIA

SHASTA LAKE CITY

KNAUF STORM DRAIN REPLACEMENT

CONSTRUCTION LAY DOWN AREA EXHIBIT

3100 ASHBY ROAD
SHASTA LAKE, CA 96019

DRAWING STATUS

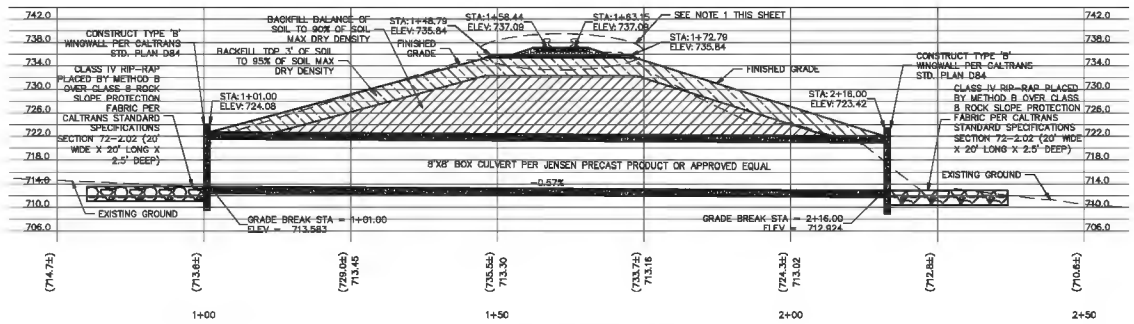
EXHIBIT

REVISIONS AND/OR CORRECTIONS

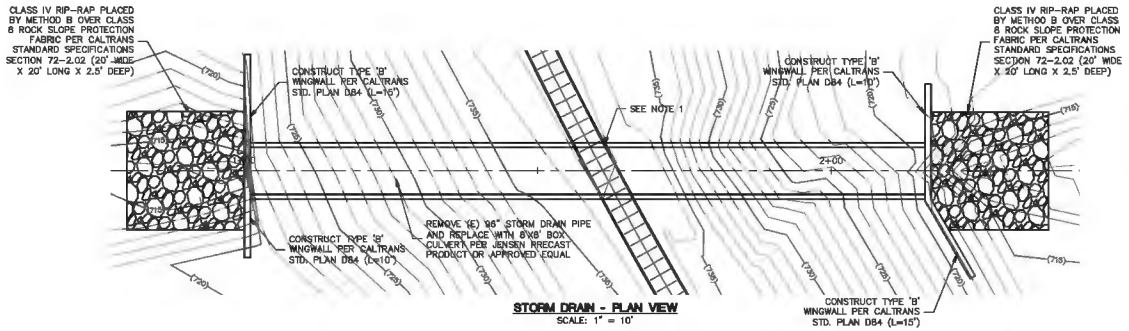
DATE	NATURE	BY

DESIGNED:	ITS
DRAWN:	HJG
CHECKED:	ITS
DATE:	APRIL 18, 2024
VERTICAL:	1"=N/A
HORIZONTAL:	1"=30'

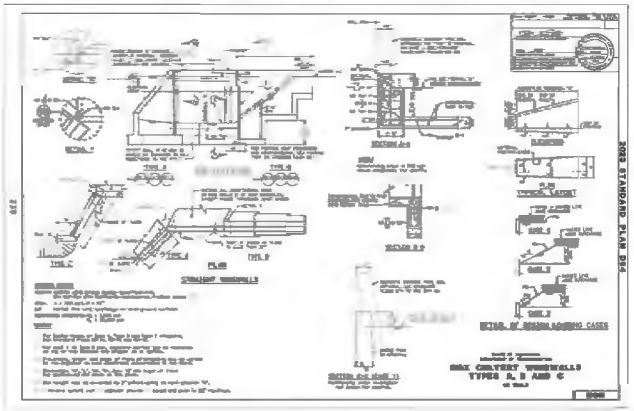
SHEET 1 OF 2



STORM DRAIN - PROFILE VIEW
HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 10'



STORM DRAIN - PLAN VIEW
SCALE: 1" = 10'



NOTES:

1. RAILROAD SECTION TO BE REPLACED PER UNION PACIFIC RAILROAD CONSTRUCTION STANDARDS.

10 0 5 10
1 INCH = 10 FEET

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PLANS PREPARED UNDER THE SUPERVISION OF:

SHARRAH DUNLAP SAWYER, INC.
ENGINEERING • SURVEYING • PLANNING
REDDING, CALIFORNIA

SHASTA LAKE

KNAUF STORM DRAIN REPLACEMENT

STORM DRAIN PLAN & PROFILE EXHIBIT

3100 ASHBY ROAD
SHASTA LAKE, CA 96019

DRAWING STATUS

EXHIBIT

REVISIONS AND/OR CORRECTIONS

DATE	NATURE	BY

DESIGNED:	ITS
DRAWN:	HJG
CHECKED:	ITS
DATE:	APRIL 18, 2024
VERTICAL:	1"=10'
HORIZONTAL:	1"=10'

SHEET **2** OF 2

Appendix B

Official USFWS List of Potentially Occurring ESA-Listed Species

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Project Code: 2024-0024738
Project Name: Newtown Creek

December 08, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

PROJECT SUMMARY

Project Code: 2024-0024738
Project Name: Newtown Creek
Project Type: Culvert Repair/Replacement/Maintenance
Project Description: Culvert repair
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@40.6551518,-122.39276431117202,14z

Counties: Shasta County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

BIRDS

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened

REPTILES

NAME	STATUS
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/498

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: VESTRA
Name: Anna Prang
Address: 5300 Aviation Drive
City: Redding
State: CA
Zip: 96002
Email aprang@vestra.com
Phone: 5302232585

Appendix C

NOAA Essential Fish Habitat Report for Project Area

EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

West Coast Regional Office

Query Results

Degrees, Minutes, Seconds: Latitude = 40° 39' 13" N, Longitude = 123° 36' 38" W
Decimal Degrees: Latitude = 40.654, Longitude = -122.389

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

EFH

No additional Essential Fish Habitats (EFH) were identified at the report location.

Pacific Salmon EFH

Link	HUC Name	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
	Clear Creek-Sacramento River - Below Da*	Chinook Salmon	All	Pacific	Pacific Coast Salmon Plan

Atlantic Salmon

No Atlantic Salmon were identified at the report location.

HAPCs

No Habitat Areas of Particular Concern (HAPC) were identified at the report location.

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

Pacific Coastal Pelagic Species,
Jack Mackerel,
Pacific (Chub) Mackerel,
Pacific Sardine,
Northern Anchovy - Central Subpopulation,
Northern Anchovy - Northern Subpopulation,
Pacific Highly Migratory Species,
Bigeye Thresher Shark - North Pacific,
Bluefin Tuna - Pacific,
Dolphinfish (Dorado or Mahimahi) - Pacific,
Pelagic Thresher Shark - North Pacific,
Swordfish - North Pacific

Appendix B

Aquatic Resource Delineation

DRAFT AQUATIC RESOURCE DELINEATION REPORT

KNAUF CULVERT REPLACEMENT
SHASTA LAKE, CALIFORNIA

Prepared for

Sharrah Dunlap Sawyer, Inc
320 Hartnell Ave
Redding, California 96002

Prepared by

VESTRA Resources, Inc.
5300 Aviation Drive
Redding, California 96002
(530) 223-2585

MAY 2024

TABLE OF CONTENTS

TABLES

FIGURES (included in Appendix B)

APPENDICES

EXECUTIVE SUMMARY

The aquatic resource delineation conducted for the Knauf Culvert Replacement Project was completed in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual as well as the 2008 *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* and *National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams: Interim Version.* This Aquatic Resource Delineation Report was prepared to determine the location of the Ordinary High-Water Mark (OHWM) of Newtown Creek within the project area.

The survey area for this Aquatic Resource Delineation Report includes the east and west banks of Newtown Creek, which flows through the project culvert under the Knauf Railroad spur as well as the staging, access areas for the project. The survey area is 4.27 acres. Based on results of the delineation, the survey area contains 0.208 acres and 449 linear feet of impacted riverine habitat.

1.0 INTRODUCTION

The survey area for this Aquatic Resource Delineation Report includes the east and west banks of Newtown Creek, as well as staging, access, and work areas for the proposed culvert replacement project. The survey area includes portions of the main channel and side channels of Newtown Creek within the survey area. Based on results of the delineation, the survey area contains 0.208 acres and 449 linear feet of riverine habitat.

The project area has previously been impacted by emergency culvert repair operations which occurred in December of 2023. Emergency repair operations included the installation of a temporary culvert within the existing culvert, installation of rock along the access road and at stream crossings, and the removal of riparian vegetation.

The purpose of this report is to identify and describe aquatic resources and to identify known possible sensitive plant, fish, and wildlife species and cultural/historic properties in the survey area. This report facilitates efforts to:

1. Avoid or minimize impacts to aquatic resources during the design process.
2. Document aquatic resource boundary determinations for review by regulatory authorities.
3. Provide early indications of known sensitive species and historic/cultural properties within the survey area.
4. Provide background information.

Contact Information

Applicant
Harish Zade
Knauf Insulation, Inc.
3100 Ashby Road
Shasta Lake, CA 96019
harish.zade@knauf.com

Designated Agent
Randy Turner
Knauf Insulation, Inc.
3100 Ashby Road
Shasta Lake, CA 96019
randy.turner@knauf.com

Property Owner
Knauf Insulation, Inc
3100 Ashby Road
Shasta Lake, CA 96019

2.0 LOCATION

The survey area is located along Newtown Creek in Shasta County, California. The project area is southwest of the City of Shasta Lake along the Union Pacific Railroad near Ashby Road. The general site location is shown on Figure 1 in Appendix B.

The site is located in Section 1, Township 32 North, Range 05 West, MDBM USGS Shasta Dam 7.5-Minute Quadrangle map. The coordinates for the culvert are 40.653016°, -122.392274°.

To access the survey area from City of Shasta Lake, take Interstate 5 (I-5) south; follow I-5 south to exit 684 at Pine Grove Avenue in the City of Shasta Lake; proceed to follow Pine Grove Avenue west to the intersection of Ashby Road. The project site is accessible only through the Knauf Fiberglass facility located on the west side of Ashby Road.

3.0 METHODS

Prior to conducting the field survey, aerial photographs and topographic maps of the survey area were reviewed. A delineation field survey of the project area was conducted on April 25, 2024. The survey area included sections of the main channel and side channels of Newtown Creek which were present in the work areas. The aquatic resource delineation was performed in accordance with the methodology contained in the 1987 Corps of Engineers Wetlands Delineation Manual as well as *National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams: Interim Version* and portions of the *2008 A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*. USACE regulations (33 CFR 328) were used to determine the presence of Waters of the United States other than wetlands.

The project areas including transportation paths, in-stream work areas, and staging areas were surveyed for aquatic resources. Stream channels were delineated and mapped. Changes in slope, sediment texture, vegetation characteristics, and erosion within each channel were observed. A cross-section of the channel perpendicular to the flow was selected. This cross-section is described on the delineation data sheets with associated photograph log. Data points were collected at the OHWM using an R10 GNSS System. This data is included in Appendix A. Photographs taken within the survey area are included in Appendix C. The OHWM data sheets are included in Appendix E.

The project area is primarily comprised of vegetation associated with the Vally Foothill Riparian Community. The riparian community onsite is dominated by willow (*Salix* sp.) and Fremont cottonwood (*Populus fremontii*). The understory is covered in dense blackberry (*Rubus armeniacus*) vines. Surrounding the project area, scattered valley oak trees (*Quercus lobata*) and few buckbrush (*Ceanothus cuneatus*) shrubs are present. Thick vegetation is present both above and below the OHWM within the work area. Both sides of the stream bed have a break in the bank slope at the OHWM. Soils below the OHWM are a mix of gravel, cobble, and areas of silt deposits. Areas above the OHWM have more developed soils and organic material layers.

4.0 EXISTING CONDITIONS

4.1 Landscape Setting

The survey area is located at the culvert crossing of Newtown Creek beneath the railroad spur of the Knauf Insulation Inc. (Knauf) facility located at 3100 Ashby Road in Shasta Lake. The survey area includes the existing 96-inch corrugated metal pipe (CMP) culvert where Newtown Creek flows under the Knauf railroad spur and a box culvert and low water crossing upstream. The natural stream has been modified by the culvert structure and railroad development. The stream channel has also been recently impacted by the emergency culvert stabilization work, which included the installation of a smaller arch culvert within a portion of the existing culvert, installation of two-inch rock in the low water crossing, and removal of riparian vegetation in the primary work area.

4.1.1 Soils

Soils within the survey area, as classified by the Natural Resources Conservation Service (NRCS), consist of Auburn loam and Boomer gravelly loam. Auburn loam is well drained with, low to moderately low permeability and medium runoff. Boomer gravelly loam is well drained with very low to moderately low permeability and high runoff. A map of soils within the project area is provided as Figure 2.

4.1.2 Climate

Based on climate data from the nearby Redding Municipal Airport Station (047304), the region receives on average 33.68 inches of precipitation annually, mostly between October and May. Average maximum temperatures range from 55 degrees Fahrenheit (°F) in December to 98.7 °F in July. Average minimum temperatures range from 36.1 °F in December to 65.9 °F in July (Western U.S. Climate Historical Summaries Redding Muni AP, CA; period of record 1986-2016).

4.1.3 Hydrology

The project area surrounds Newtown Creek, an intermittent stream and tributary to Churn Creek. The stream flows the majority of the year with several inches of water. Upstream of the survey area landowner has constructed a pond within Newtown Creek which retains flows and can prevent water flows downstream during dry periods. Flows during significant rain events may rise considerably. Between the crossing on the access road and the spur culvert, a unnamed tributary joins the stream channel. The unnamed tributary has been impacted by the construction of the Knauf facility and flows consists mainly of outflows from the facilities storm water basin which can be controlled.

The study area is within a Special Flood Hazard Area Regulatory floodplain Zone AE. The FEMA Flood Zones within the survey area are included on Figure 3. The U.S. Fish and Wildlife Service National Wetland Inventory Wetlands Mapper shows Freshwater Forested/Shrub Wetland (PSSA) habitat along Newtown Creek within the survey area.

4.1.4 Vegetation

The riparian community within the project site is dominated by willow (*Salix* sp.) and Fremont cottonwood (*Populus fremontii*). The understory is covered in dense blackberry (*Rubus armeniacus*) vines. Surrounding the project area, scattered valley oak trees (*Quercus lobata*) and few buckbrush (*Ceanothus cuneatus*) shrubs are present. Vegetation species observed within the survey area are included in the plant list in Appendix D.

4.2 Aquatic Resources

4.2.1 Newtown Creek

A total of 0.208 acres of aquatic resources were delineated within the project area including 449 linear feet of stream. The Aquatic Resource Delineation Map for the OHWM of the stream in the survey area is provided in Appendix A. The Aquatic Resource Excel sheet is included in Appendix F.

Delineated aquatic resources were classified according to physical and biological characteristics using the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin Classification System; Cowardin et al., 1979). Within the study area, riverine habitat types were classified based on field evaluation and are summarized in Table 1.

Table 1
AQUATIC RESOURCES DELINEATED WITHIN THE SURVEY AREA

Aquatic Resource Name	Classification		Acres	Linear Feet
	Cowardin Type	Location (latitude/longitude)		
Newtown Creek	R4SB	40.653016°, -122.392274	0.208	449

Newtown Creek flows north to south within the survey area. This aquatic resource is characterized according to the Cowardin classification system as riverine, intermittent.

5.0 REFERENCES

Cowardin, L.M., V. Carter V., F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31.Washington, D.C.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station. Vicksburg, Miss.

Lichvar, Robert W. and McColley, Shawn M. 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. August 2008.

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U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). 2024. Web Soil Survey. Available online at: http://websoilsurvey.sc.egov.usda.gov/.

U.S. Fish and Wildlife Service. National Wetlands Inventory. https://www.fws.gov/wetlands/data/mapper.html. Accessed May, 2024.

Western Regional Climate Center. 2021 https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7304. Accessed May, 2024

Appendix A

Aquatic Resource Delineation Map

Ordinary High Water Mark

Culvert

Survey Area (4.27 Acres)

N

0 100 200 400 Feet

VESTRA

SOURCE: MAXAR 2023 AERIAL PHOTOGRAPH

AQUATIC RESOURCES
KNAUF CULVERT REPLACEMENT PROJECT
CITY OF SHASTA LAKE, CALIFORNIA

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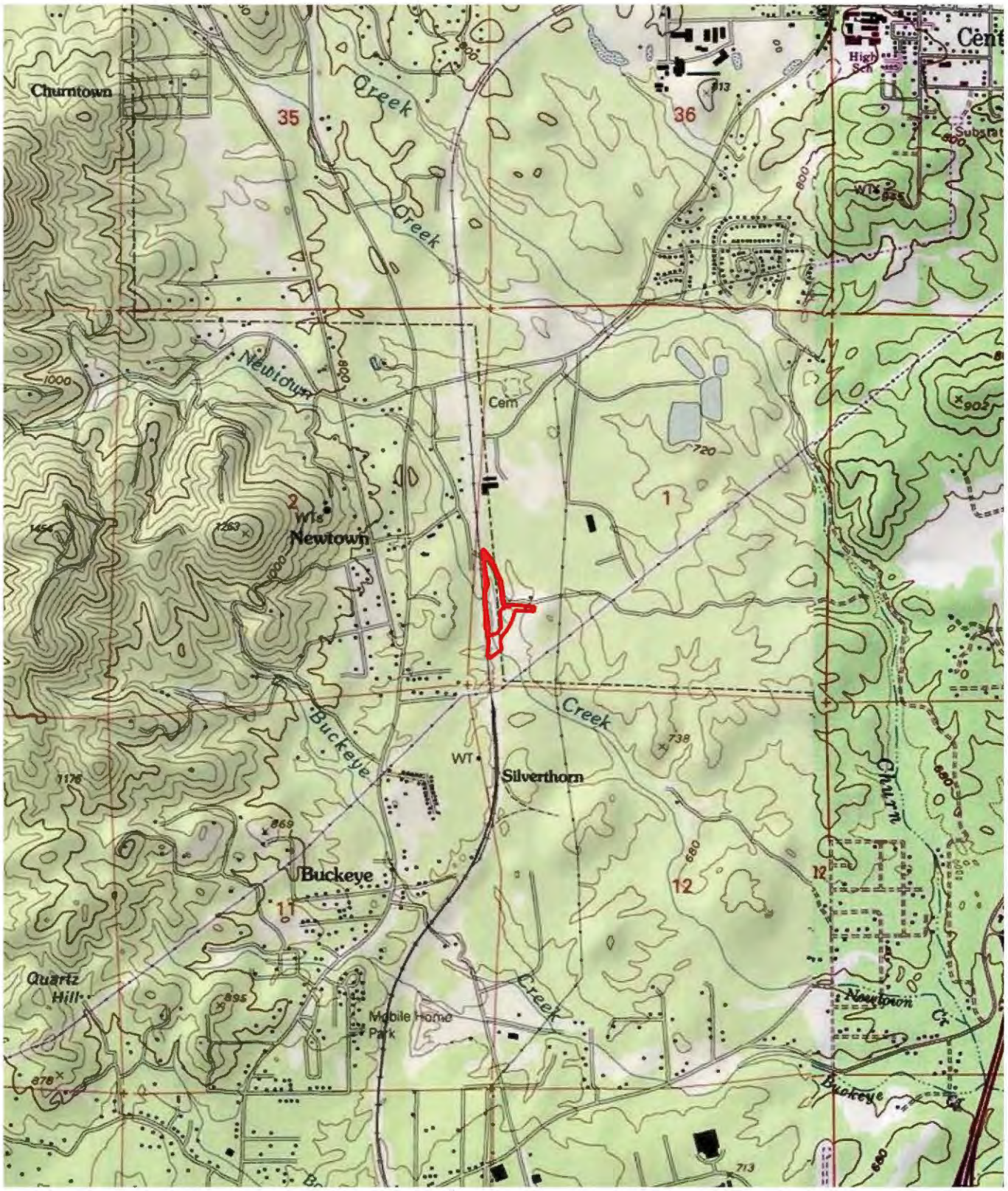
Appendix B

Supporting Maps



VESTRA

SOURCE: USGS 7.5' TOPOGRAPHIC MAP, SHASTA DAM QUADRANGLE

FIGURE 1
GENERAL SITE LOCATION
KNAUF CULVERT REPLACEMENT PROJECT
CITY OF SHASTA LAKE, CALIFORNIA

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P:\GIS\72421\Figures\72421_GeneralSiteLocation.pdf

Soil Map Unit

Project Area

AnB - Auburn loam, 0 to 8 percent slopes
AsD2 - Auburn clay loam, 8 to 30 percent slopes, eroded
BkC - Boomer gravelly loam, 0 to 15 percent slopes

VESTRA

0 250 500 1,000 Feet

SOURCE: MAXAR 2023 AERIAL PHOTOGRAPH; NRCS SSURGO 2020

FIGURE 2
SOILS
KNAUF CULVERT REPLACEMENT PROJECT
SHASTA COUNTY, CALIFORNIA

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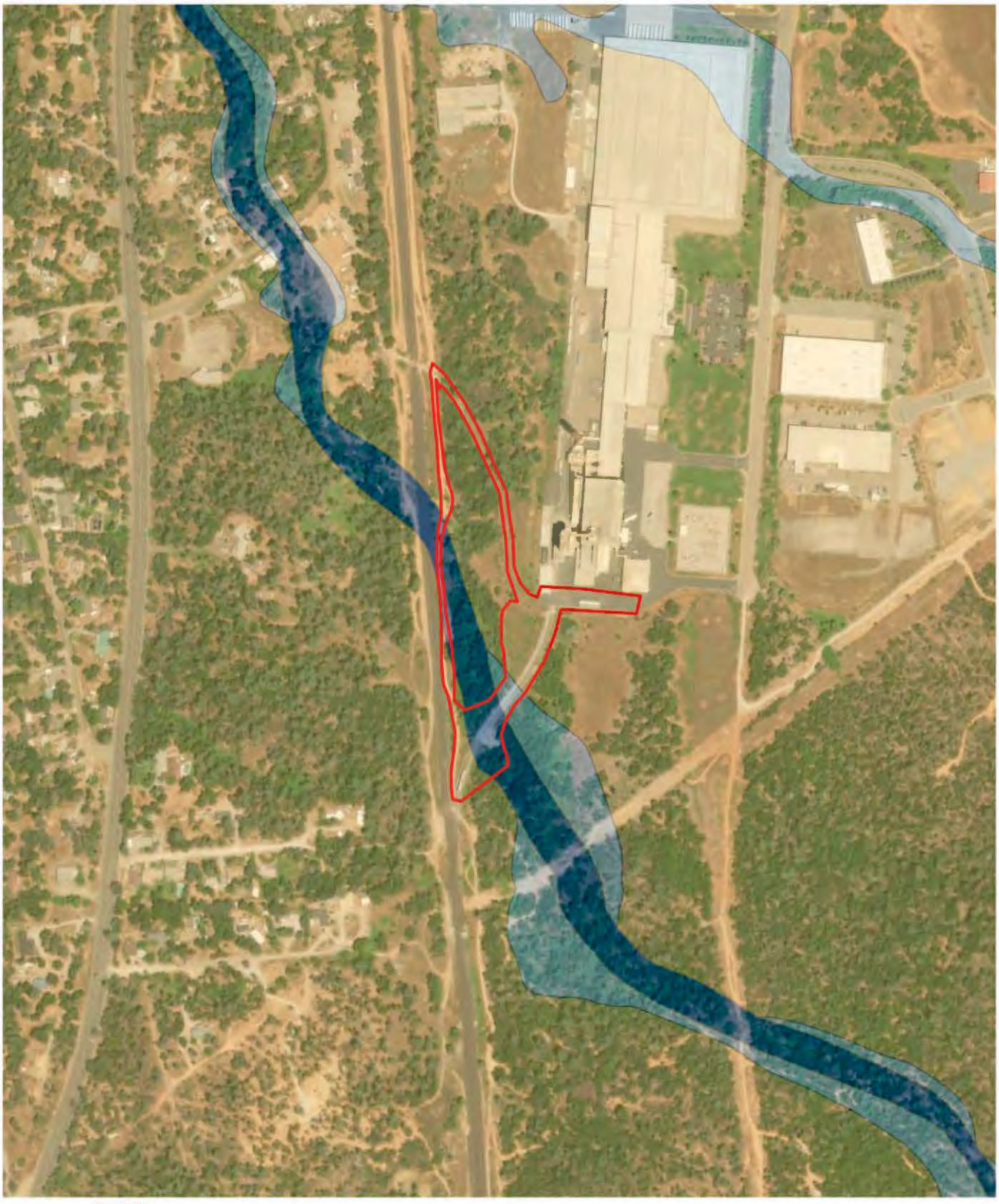

SOURCE: MAXAR 2023 AERIAL PHOTOGRAPH; FEMA 2020

FIGURE 3
FEMA FLOOD ZONES
KNAUF CULVERT REPLACEMENT PROJECT
SHASTA COUNTY, CALIFORNIA

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P:\GIS\72421\Figures\72421_FEMA.pdf

Appendix C

Photographs

Existing CMP culvert to be replaced

Stream bank cleared during emergency work

Newtown Creek upstream of the project area

Channelization along the existing access road

Low water crossing of Newtown Creek along the railroad access road

Appendix D

Plant List

PLANT LIST		
Common Name	**Scientific Name**	**Wetland Indicator Status**
Trees/Shrubs/Woody Vines		
Willow	*Salix* spp.	FACW
Fremont cottonwood	*Populus fremontii*	NI
Valley oak	*Quercus lobata*	FACU
Himalayan blackberry	*Rubus armeniacus*	FAC
Buckbrush	*Ceanothus cuneatus*	NI
Herbaceous		
Giant chain fern	*Woodwardia fimbriata*	FACW

***Wetland Indicator Status (WIS) in Arid West Region:**

OBL= occurs in aquatic resources >99% of time
FACW= occurs in aquatic resources 67-99% of time
FAC= occurs in aquatic resources 34-66% of time
FACU= occurs in aquatic resources 1-33% of time
UPL= occurs in uplands >99% of time
NI= indicator status not known in this region

Appendix E

OHWM Data Sheet

U.S. Army Corps of Engineers (USACE)

INTERIM DRAFT RAPID ORDINARY HIGH WATER MARK (OHWM) FIELD IDENTIFICATION DATA SHEET

The proponent agency is Headquarters USACE CECW-COR.

Form Approved -
OMB No. 0710-0024
Expires: 2024-04-30

The Agency Disclosure Notice (ADN)

The Public reporting burden for this collection of information, 0710-0024, is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

Project ID #: 72421	Site Name: Knauf Fiberglass	Date and Time: 4/25/2024
Location (lat/long): 40.653016°, -122.392274	Investigator(s): NWV	

Step 1 Site overview from remote and online resources

Check boxes for online resources used to evaluate site:

- [ ] gage data
- [ ] climatic data
- [ ] aerial photos
- [ ] LiDAR
- [x] satellite imagery
- [ ] topographic maps
- [ ] geologic maps
- [ ] land use maps
- [ ] Other: _____

Describe land use and flow conditions from online resources.
Were there any recent extreme events (floods or drought)?
None

Step 2 Site conditions during field assessment. First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

Stream exists a box culvert under main rail line, and forms a small pool which then discharges over a low water crossing across the rail road access road. The stream is partially diverted down the road, the main channel of the stream continues into a riparian area which flows to a large culvert under a rail spur.

Step 3 Check the boxes next to the indicators used to identify the location of the OHWM.

OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below `b', at `x', or just above `a' the OHWM.

Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic indicators

- [x] **Break in slope:** x
  - [x] *on the bank:* x
  - [ ] *undercut bank:*
  - [ ] *valley bottom:*
  - [ ] Other: _____
- [ ] **Shelving:**
  - [ ] *shelf at top of bank:*
  - [ ] *natural levee:*
  - [ ] *man-made berms or levees:*
  - [ ] *other berms:* _____
- [ ] **Channel bar:**
  - [ ] *shelving (berms) on bar:*
  - [ ] *unvegetated:*
  - [x] *vegetation transition (go to veg. indicators)* x
  - [ ] *sediment transition (go to sed. indicators)*
  - [ ] *upper limit of deposition on bar:*
- [ ] **Instream bedforms and other bedload transport evidence:**
  - [ ] *deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.)*
  - [ ] *bedforms (e.g., pools, riffles, steps, etc.):*
- [ ] *erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)*
- [ ] **Secondary channels:**

Sediment indicators

- [x] **Soil development:** a
- [x] **Changes in character of soil:** b
- [ ] **Mudcracks:**
- [ ] **Changes in particle-sized distribution:**
  - [ ] *transition from* _____ to _____
  - [ ] *upper limit of sand-sized particles*
  - [ ] *silt deposits:*

Vegetation Indicators

- [x] **Change in vegetation type and/or density:** x

  Check the appropriate boxes and select the general vegetation change *(e.g., graminoids to woody shrubs).* ***Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain.***

  - [ ] *vegetation absent to:*
  - [ ] *moss to:*
  - [ ] *forbs to:*
  - [ ] *graminoids to:*
  - [x] *woody shrubs to:* forbs
  - [ ] *deciduous trees to:*
  - [ ] *coniferous trees to:*
- [ ] **Vegetation matted down and/or bent:**
- [ ] **Exposed roots below intact soil layer:**

Ancillary indicators

- [ ] **Wracking/presence of organic litter:**
- [ ] **Presence of large wood:**
- [x] **Leaf litter disturbed or washed away:** b
- [ ] **Water staining:**
- [ ] **Weathered clasts or bedrock:**

Other observed indicators? Describe:

Project ID #: 72421

Step 4 Is additional information needed to support this determination? ☐ Yes ☒ No If yes, describe and attach information to datasheet:

Step 5 Describe rationale for location of OHWM

OHWM through out the site was delineated by clear changes in vegetation from think ground cover and woody shrubs to barren areas or forb cover. Below OHWM soil had been eroded through the majority of the stream channels, except where silt deposits had developed. Leaf litter was prominent in areas above OHWM and removed below. Some areas of stream channel showed marked brake in slope.

Additional observations or notes

Portions of the stream banks have been cleared and impacted by emergency culvert repair work.

Attach a photo log of the site. Use the table below, or attach separately.

Photo log attached? ☒ Yes ☐ No If no, explain why not: _____

List photographs and include descriptions in the table below.

Number photographs in the order that they are taken. Attach photographs and include annotations of features.

Photo Number	Photograph description
1	Low water crossing over access road
2	Change in vegetation at OHWM.
3	Forbs within OHWM, woody shrubs above OHWM.

OHWM Field Identification Datasheet Instructions and Field Procedure

Step 1 Site overview from remote and online resources **Complete Step 1 prior to site visit.**

Online Resources: Identify what information is available for the site. Check boxes on datasheet next to the resources used to assess this site.

a. gage data
b. aerial photos
c. satellite imagery
d. LiDAR
e. topographic maps
f. geologic maps
g. land use maps
h. climatic data (precipitation and temperature)

Landscape context: Use the online resources to put the site in the context of the surrounding landscape.

a. **Note on the datasheet under Step 1:**
   i. Overall land use and change if known
   ii. Recent extreme events if known (e.g., flood, drought, landslides, debris flows, wildfires)
b. Consider the following to inform weighting of evidence observed during field visit.
   i. What physical characteristics are likely to be observed in specific environments?
   ii. Was there a recent flood or drought? Are you expecting to see recently formed or obscured indicators?
   iii. How will land use affect specific stream characteristics? How natural is the hydrologic regime? How stable has the landscape been over the last year, decade, century?

Step 2 Site conditions during the field assessment (assemble evidence)

a. Identify the assessment area.
b. Walk up and down the assessment area noting all the potential OHWM indicators.
c. Note broad trends in channel shape, vegetation, and sediment characteristics.
   i. Is this a single thread or multi-thread system? Is this a stream-wetland complex?
   ii. Are there any secondary and/or floodplain channels?
   iii. Are there obvious man-made alterations to the system?
   iv. Are there man-made (e.g., bridges, dams, culverts) or natural structures (e.g., bedrock outcrops, Large Wood jams) that will influence or control flow?
d. Look for signs of recurring fluvial action.
   i. Where does the flow converge on the landscape?
   ii. Are there signs of fluvial action (sediment sorting, bedforms, etc.) at the convergence zone?
e. Look for indicators on both banks. If the opposite bank is not accessible, then look across the channel at the bank.
f. **In Step 2 of the datasheet** describe any adjacent land use or flow conditions that may influence interpretation of each line of evidence.
   i. What land use and flow conditions may be affecting your ability to observe indicators at the site?
   ii. What recent extreme events may have caused changes to the site and affected your ability to observe indicators?

Step 3a List evidence

Assemble evidence by checking the boxes next to each line of evidence:

a. If needed, use a separate scratch datasheet to check boxes next to possible indicators, or check boxes of possible indicators in pencil and use pen for final decision.
b. If using fillable form, then follow the instructions for filling in the fillable form.

Context is important when assembling evidence. For instance, pool development may be an indicator of interest on the bed of a dry stream, but may not be a useful indicator to take note of in a flowing stream. On the other hand, if the pool is found in a secondary channel adjacent to the main channel, it could provide a line of evidence for a minimum elevation of high flows. Therefore, consider the site context when deciding which indicators provide evidence for identifying the OHWM. Explain reasoning in Step 5.

Questions to consider while making observations and listing evidence at a site:

Geomorphic indicators	**Sediment and soil indicators**	**Vegetation Indicators**	**Ancillary indicators**
Where are the breaks in slope?	Where does evidence of soil formation appear?	Where are the significant transitions in vegetation species, density, and age?	Is there organic litter present?
Are there identifiable banks?		Is there vegetation growing on the channel bed?	
Is there an easily identifiable top of bank?	Are there mudcracks present?	If no, how long does it take for the non-tolerant vegetation to establish relative to how often flows occur in the channel?	Is there any leaf litter disturbed or washed away?
Are the banks actively eroding?			
Are the banks undercut?	Is there evidence of sediment sorting by grain size?	Where are the significant transitions in vegetation?	Is there large wood deposition?
Are the banks armored?			
Is the channel confined by the surrounding hillslopes?		Is the vegetation tolerant of flowing water?	Is there evidence of water staining?
Are there natural or man-made berms and levees?		Has any vegetation been flattened by flowing water?	
Are there fluvial terraces?			
Are there channel bars?			

Are the following features of fluvial transport present?
Evidence of erosion: obstacle marks, scour, armoring
Bedforms; riffles, pools, steps, knickpoints/headcuts
Evidence of deposition: imbricated clasts, gravel sheets, etc.

In some cases, it may be helpful to explain why an indicator was NOT at the OHWM elevation, but found above or below. It can also be useful to note if specific indicators (e.g., vegetation) are NOT present. For instance, note if the site has no clear vegetation zonation.

Step 3b **Weight each line of evidence and weigh body of evidence**

Weight each indicator by considering its importance based upon:

***Landscape context from Step 1 can help determine the relevance, strength, and reliability of the indicators observed in the field.**

a. Relevance:

i. Is this indicator left by low, high, or extreme flows?

Tips on how to assess the indicator relative to type of flow:

Consider the elevation of the indicator relative to the channel bed. What is the current flow level based on season or nearby gages? Consider the elevation of the indicator relative to the current flow. If the stream is currently at baseflow and indicator is adjacent to that, then it is likely a low flow indicator. The difference between high and extreme flow indicators can sometimes be difficult to determine.

***Information in Chapter 2 of the OHWM field manual provides information on specific indicators which can assist in putting these in context and determining relevance, strength, and reliability.**

ii. Did recent extreme events and/or land use affect this indicator?

1. Recent floods may have left many extreme flow indicators, or temporarily altered channel form. Other resources will likely be needed to support any OHWM identification at this site. Field evidence of the OHWM may have to wait for the site to recover from the recent flood.
2. Droughts may cause field evidence of OHWM to be obscured, because there has been an extended time since the last high flow event. There can be overgrowth of vegetation or deposition of material from surrounding landscape that can obscure indicators.
3. Both man-made (e.g., dams, construction, mining activities, urbanization, agriculture, grazing) and natural (e.g., fires, floods, debris flows, beaver dams) disturbances can all alter how indicators are expected to appear at a site. Chapter 6 and Chapter 7 of the OHWM field manual provides specific case-studies that can help in interpreting evidence at these sites.

b. Strength:

i. Is this indicator persistent across the landscape?

1. Look up and downstream and across the channel to see if you see the same indicator at multiple locations.
2. Does the indicator occur at the same elevation as other indicators?

c. Reliability:

i. Is this indicator persistent on the landscape over time? Will this indicator still persist across seasons?

1. This can be difficult to determine for some indicators and may be specific to climatic region (in terms of persistence of vegetation) and history of land use or other natural disturbances.
2. Chapter 2, Chapter 6, and Chapter 7 of the OHWM field manual describes each indicator in detail and provides examples of areas where indicators are difficult to interpret.

d. Weigh body of evidence:

i. Combine weights: integrate the weighted line of evidence (relevance, strength, reliability) of each indicator.

ii. For each of the observed indicators, which are more heavily weighted? Where do high value indicators co-occur along the stream reach? Do they co-occur at a similar elevation along the banks relative to water surface (or channel bed if there is no water).

iii. On datasheet, select the indicators used to identify the OHWM. Information in Chapter 2 of the OHWM field manual provides descriptions of specific indicators which can assist in putting these in context and determining relevance, strength, and reliability.

e. Take photographs of indicators and attach a log using either page 2 of datasheet or another method of logging photos.

i. Annotate photos with descriptions of indicators.

Step 4 **Is additional information needed? Are other resources needed to support the lines of evidence observed in the field?**

a. If additional resources are needed, then repeat steps 3a and 3b for the resources selected in Step 1 of assembling, weighting, and weighing evidence collected from online resources. Chapter 5 of the OHWM field manual provides information on using online resources.

b. Any data collected from online tools have strengths and weaknesses. Make sure these are clear when determining relevance, strength, and reliability of the remotely collected data. Clearly describe why other resources were needed to support the lines of evidence observed in the field, as well as the relevance, strength, and reliability of the supporting data and/or resources.

c. Attach any remote data and data analysis to the datasheet.

Step 5 **Describe rationale for location of OHWM:**

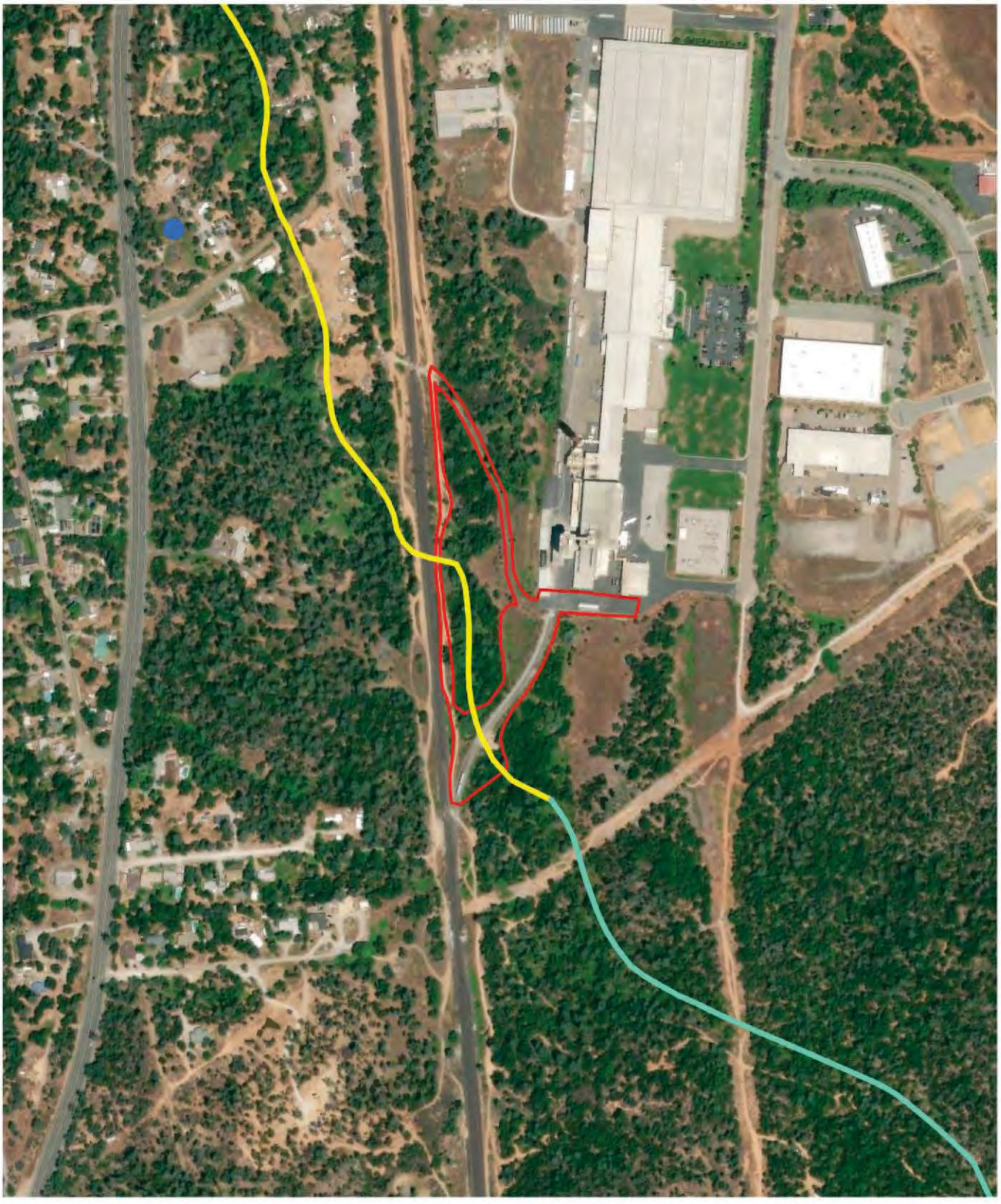
a. Why do the combination of indicators represent the OHWM?

b. If there are multiple possibilities for the OHWM, explain why there are two (or more) possibilities. Include any relevant discussion on why specific indicators were not included in the final decision.

c. If needed, add additional site notes on page 2 of the datasheet under Step 5.

Photo 1: Low water crossing over access road

Photo 2: Change in vegetation at OHWM.



VESTRA

SOURCE: MAXAR 2023 AERIAL PHOTOGRAPH; USFWS NWI 2024

FIGURE 4
NATIONAL WETLAND INVENTORY
KNAUF CULVERT REPLACEMENT PROJECT
SHASTA COUNTY, CALIFORNIA

P:\GIS\72421\Knauf\knauf.aprx

P:\GIS\72421\Figures\72421_NationalWetlands.pdf

Photo 3: Forbs within OHWM, woody shrubs above OHWM.

Appendix F

Aquatic Resource Excel Sheet

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
Newtown Creek	CALIFORNIA	R4SBC		Area	0.059	ACRE	A3.TRIB-404	40.653016°	-122.39227400	