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Hidden Valley Lake Community Service District
Defensive Space Ignition Resistant Construction Project

August 4, 2023

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2.0 PROJECT DESCRIPTIONCLERK
LAKE COUNTY**2.1 Project Purpose and Objectives**By Ka
Deputy clerk

The Project's purpose is to create defensive space and ignition resistant infrastructure within the Hidden Valley Lakes community. The proposed project is specifically designed to reduce both Hidden Valley Lake Community Service District (HVLCSO) and the community's vulnerability from the damaging effects of wildfire by thinning vegetation, and erecting ignition resistant structures in key locations of HVLCSO's water distribution infrastructure. Vegetation management will be applied to approximately 13.1 acres of undeveloped land next to existing infrastructure, one water storage tank will be replaced, and two wellheads will be housed in ignition resistant structures. This project includes design and construction of improvements to meet the goals at three sites: the Little Peak Tank site, the Grange Road Well Field, and the Tank 4 site.

2.2 Project Location

The Tank 4A Site consists of approximately 4 acres of property located in Section 20 of Township 11 North, Range 6 West, Mount Diablo Base and Meridian as depicted on the 2022 Middletown, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Figure 1). It is also known as Assessor Parcel Number (APN) 141-151-21, located in the center of the loop created by Donkey Hill Rd and Park Ridge Dr. Also included are five staging areas for materials, equipment, and logistics associated with the project located on Hartman Road and Mountain Meadow North, in portions of APNs 141-381-03, 141-611-06, respectively, and near the intersection of Donkey Hill Road and Park Ridge Drive at APNs 141-451-09, and 141-401-09 through -11, respectively.

The Little Peak Tank Site consists of approximately 3 acres of property located in Section 6 of Township 11 North, Range 6 West, Mount Diablo Base and Meridian as depicted on the 2022 Middletown, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Figure 1). It is also known as Assessor Parcel Number (APN) 013-060-05. The site is located near the intersection of Noble Ranch Rd., Little Peak Rd., and Eagle Rock Rd.

The Grange Road Well Site consists of approximately 3.5 acres of property located in Section 29 of Township 11N, Range 6W, Mount Diablo Base and Meridian as depicted on the 2022 Middletown, California U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (Figure 1). It consists of well numbers 2 and 4 and is located on Grange Road approximately .75 mile east of CA Hwy 29 on the border of Assessor Parcel Numbers (APN) 014-270-05 and 014-270-67.

2.3 Project Background

In the late 1960s, the Boise-Cascade Corporation developed the Hidden Valley Lake planned community. The Hidden Valley Lake Community Service District (HVLCSO) was formed to provide services to the community and much of the infrastructure has not been improved since its original development.

The HVLCS D's water storage and source water parcels total approximately 13 acres of lands that are either forested or have thick undergrowth. According to CalOES Hazard Risk Analysis, the Hidden Valley Lake area scores extremely high in the wildfire risk, at the 98th percentile.

During development of the Hidden Valley Lake Community, redwood tanks were constructed to store drinking water for the community. The tanks are now over 50 years and have exceeded their useful life, and thus, are showing signs of wear. With California's recent fires, the Hidden Valley Lake Community (and surrounding area) have placed a priority on building fire resiliency into their infrastructure including replacing fire prone tank materials (such as redwood). The calculations provided in HVLCS D's Water Master Plan Update (2001) were used to determine the appropriate capacity of the replacement tank to provide adequate fire flow under existing development conditions.

In addition, two of the source water wells for the community were drilled in 1990. Some improvements have been made over time, but the wellheads remain exposed. In 2015, the Valley Fire swept through this area, and damaged the well infrastructure, rendering them inoperable. While function was restored on the wells, one remains slightly below base flood elevation. The wellhead area continues to be vulnerable to climactic disruptions and represents a vulnerability to the community in the event of failure. In response, HVLCS D plans to mitigate this risk by enclosing the wellheads in ignition resistant enclosures.

In 2022, the HVLCS D was awarded grant funding for the project from the Federal Emergency Management Agency (FEMA) through the Hazard Mitigation Grant Program (HMGP).

2.4 Surrounding Land Use and Environmental Setting

The Project Area consists of multiple separate parcels of land in and around the Hidden Valley Lake Community. The Tank 4A Site and surrounding staging areas are bordered by residential and undeveloped woodland land use types. The Tank 4A Site consists of blue oak woodlands with large rock outcroppings. The Little Peak Tank Site is adjacent to a residential area and is surrounded by mixed chaparral undeveloped land. The Grange Road Wellfield is in an agricultural area, bordered on the east by a vineyard and on the west by a previous walnut orchard with a strip of mature valley oaks along the fence line.

2.5 Fuel Management Plan and Regulations

A Fuels Management Plan has been prepared by FRST Corp. to specify initial fuels reduction prescriptions (thinning plan) and maintenance schedules and prescriptions (vegetation maintenance plan) for the two Hidden Valley Lake Community Service District parcels and one deeded easement area included in the proposed project. These vegetative fuel reduction and maintenance plans are required and planned to complement the construction activities in the DSIRC to harden District infrastructure from damage related to wildland fire. (See Attachment A)

Figure 1. Project Location and Vicinity



Figure 1. Location and Vicinity
 2022-267 Hidden Valley Lake CSD

The proposed standards for the fuels management plan were designed to address the goals and intentions of the DSIRC Project and in consideration of the other provisions described in the Regulatory Framework and Other Commitments section of this plan (Attachment A). These standards can be implemented where the District has the authority and duty to maintain vegetation, such as on District parcels it holds and within the District’s deeded easements (see map in Attachment A). The following three tables identify different treatment standards for the defensible space zones:

1. Table 1A: Vegetation within 30 feet of structures.
2. Table 1B: Vegetation within 30 - 100 feet of structures.

In addition to the recommended vegetation standards, the following general vegetation treatment recommendations are also provided:

- Defensible space standards (NFPA 1144) recommend the removal of any flammable vegetative material (including dry grass) within 5 feet of a structure including grass, mulch, leaves, etc.
- Invasive plants within fuel management areas should be targeted for removal.

Table 1A: Vegetation Treatment Standards within 30 feet of HVLCSD infrastructure (see map in Attachment A)

Vegetation	Treatment	Standard of Treatment
Grass, weeds, vines (herbaceous vegetation)	Mowing	<ul style="list-style-type: none"> ▪ Vegetation shall be mowed or cleared so that it is nothing greater than 3" above bare mineral soil.
Shrubs (woody stemmed vegetation)	Removal	<ul style="list-style-type: none"> ▪ Vegetation shall be cut and material removed from the defensible space zone.
Trees	Trimming and Removal	<ul style="list-style-type: none"> ▪ No portion of any tree shall be within ten feet of the outlet of a chimney, stovepipe, pool heater, built in barbecue, other heat source, and/or electrical power service drop. ▪ Tree within 10 feet of a structure shall be removed. ▪ Trees shall be thinned so that crowns, or clumps of crowns, are spaced 18 feet or greater. ▪ All trees shall be free of dead or dying wood. ▪ Trees shall be free of branches six feet up from the ground. An exception is that the live crown ratio of residual trees shall not be reduced to below 1/3, as measured by ensuring that at least 1/3 of the height of the tree has live branches. I.e., trees that are less than 9 feet tall should be trimmed from the ground up such that 1/3 of the crown remains. As an example, a 6-foot-tall tree should retain 2

		feet of live branches at the top of its crown and would only be pruned to a height of 4 feet.
Dead Vegetation	Removal	<ul style="list-style-type: none"> All dead vegetation within 30' of a structure including grass, weeds, leaves, trees shall be removed from the defensible space zone.

Table 1B: Vegetation Treatment Standards within 100 feet of HVLCSO infrastructure (see map in Attachment A).

Vegetation	Treatment	Standard of Treatment
Grass and weeds (herbaceous vegetation)	Mowing/cutting	<ul style="list-style-type: none"> Annual grasses and annual weeds shall be cut such that the height does not exceed 3" before June 15th of every year.
Shrubs (woody stemmed vegetation)	Mowing/cutting/ removal	<ul style="list-style-type: none"> Shrub vegetation shall be removed from within 10 feet of the dripline of any retained overstory tree. Shrub vegetation shall be spaced so that the crowns of shrubs are at least 2 feet apart. All cut material should be removed from the defensible space zone.
Live trees	Live tree removal	<ul style="list-style-type: none"> As noted in the Fuels Management Plan, Trees and all associated material should be removed such that the following spacing between crowns is achieved: <ul style="list-style-type: none"> Slopes <20%: 12 feet Slopes 20% - 40%: 20 feet Slopes >40%: 30 feet Stumps should be cut as flush with the ground as possible and should not exceed 12". All cut material shall be removed. *Note: using this criteria and in accordance with the Fuels Management Plan, a certified forester has flagged all the trees that are to be removed. Note that tree removal may require a permit from Lake County or the HVLA, and if trees are intended to be commercialized (logs or other wood products), a permit

		from CAL FIRE is required pursuant to the California Forest Practice Rules.
	Live tree branch limbing	<ul style="list-style-type: none"> ▪ All live trees should be limbed to a height of 6' including any limbs that droop below 6'. Small trees should be limbed to maintain at least 1/3 of the crown (see example in Table 2A). ▪ All cut material should be removed from the defensible space zone.
Dead vegetation <3" in diameter	Removal	<ul style="list-style-type: none"> ▪ Materials such as leaves, needles, twigs, bark, cones, and small branches that are 3" in diameter should be removed such that the depth does not exceed 3". ▪ Disposed slash/vegetation shall be chipped and/or hauled offsite.
Dead vegetation >3" in diameter	Removal/Retention	<ul style="list-style-type: none"> ▪ Some materials such as large branches or logs may be left if deemed critical to habitat value. Logs/branches shall not exceed a retention rate of 1 per acre. ▪ All material <3" shall be cut and removed from the site and the largest proportion of retained material shall be in contact with mineral soil. ▪ Individual logs/branches shall not be in contact with other downed woody material. ▪ Disposed slash/vegetation shall be chipped and/or hauled offsite.

Note that areas beyond 100' from structures do not impact the Defensive Space Goals but may still be subject to local ordinances.

2.6 Project Characteristics

2.6.1 Tank 4A site

2.6.1.1 Tank Replacement/Infrastructure

The Tank 4A site is located off of Donkey Hill Road and encompasses approximately 4 acres. (see Figure 2. Site Plan). This portion of the project will include demolition of the existing redwood tank and replacement of the tank with a new concrete tank. The new tank will be 58 feet in diameter and 20.24 feet tall. New isolation valves and piping will be installed to connect proposed Tank 4A to the existing

distribution system. A new flow meter will be added to the inlet pipe from zone 4. Due to the increase in tank diameter, the existing altitude valve vault must be relocated closer to the Zone 1 flow meter.

Additionally, a new drainage inlet will be installed below the tank overflow and a new drainpipe installed from the drainage inlet to daylight at the same point as the existing overflow drainpipe. The tank drain will also discharge into the proposed drainage inlet.

The existing wharf hydrant must be relocated to accommodate the new tank and will be replaced with a 6-inch fire hydrant assembly to provide increased fire protection onsite. The hydrant will be replaced before the existing Tank 4A is demolished, so the site has a water source for protection against fire throughout construction.

The tank foundation will be designed based on recommendations from the geotechnical engineer. Significant grading will be required to accommodate the new tank diameter. A new retaining wall may be required to stabilize the cut slope and protect the tank area; requirements will be provided by the geotechnical engineer and the wall, if needed, will be designed by the structural engineer.

2.6.1.2 Electrical and Solar

New electrical instruments and a small solar panel will also be provided for the new tank. Instruments will include a hatch intrusion switch, tank level transducer, and tank overflow float switch. In addition to the replaced instruments, a new magnetic flowmeter will be provided. The small 150-watt solar system will provide 24 VDC for powering the flowmeter. The approximate 2' by 4' solar array would be mounted on the tank roof, with solar converter and batteries mounted at ground level. No utility electrical or telephone services will be part of this design. The batteries would be 12 VDC, wired in series to achieve a 24 VDC supply. Design will include spare conduits for future equipment to tie existing equipment into a future pump station. Spare conduits would be routed to handholes and capped or stubbed up and capped. Underground conduits would be PVC Schedule 40 with 3" sand encasement. Transition from underground to exposed conduits would be PVC coated galvanized rigid steel elbows and conduits. Exposed conduits would be galvanized rigid steel and painted the same color as the tank.

2.6.1.3 Defensive Space Vegetation Thinning

The predominant vegetative fuels in the Defensible Space Zone adjacent to Tank 4A include an overstory dominated by blue oak (*Quercus douglasii*) and understory dominated by annual non-native grasses. Smaller components of interior live oak (*Quercus wislizenii*) and gray pine (*Pinus sabiniana*) are present in the overstory and native shrubs including elderberry (*Sambucus nigra*) and poison oak (*Toxicodendron diversilobum*) among others are present in the understory. Initial fuels reduction work will include a heavy thinning of the overstory to meet Defensible Space target specifications and some extensive dead vegetation removal with some light understory mowing and brush removal. Maintenance will include understory mowing of grasses and shrub and removal of accumulated dead vegetation. Please refer to the "Tank 4 Tree Removal List" in Attachment B.

2.6.2 Well Field (Wells 2 and 4)

The new manifold for Well 2 will include replacement of all equipment in kind, including replacement of an ARV, check valve, flow meter, gate valves, double check detector assembly, ductile iron pipe spools, reducers, tees, elbows, and pipe supports. The elevation of the manifold may be revised based on the determination of flood elevation compliance with the Division of Drinking Water. If the manifold is raised to comply with flood requirements, a new concrete pad for the well pump will be designed and constructed. The metal frame building for Well 2 will include fire-resistant siding boards, a new concrete pad sized to match the footprint of the building, 3-foot swing door for access, metal gable roof, and roof hatch for removal of the well pump. The building size must allow for access to all equipment from inside the building. A preliminary building size of 6'x30' is proposed. The proposed building size does not include the electrical panel for the well; to accommodate the panel inside the building, the size must be increased (see Figure 2. Site Plan).

The manifold for Well 4 will be protected in place and a metal frame building constructed around it. The metal frame building will include all components listed above for the Well 2 building, but the building size was estimated in to be 12'x24' to accommodate the pump, manifold, and electrical panel and provide enough space to access the electrical panel and manifold. The connection of Well 4 to the reclamation pond pipe will include a double check detector assembly to prevent backflow and two gate valves for isolation. Due to constraints from existing piping, buildings, and other features near the Well 4 manifold, there are limited locations where the double check detector assembly can be placed. In response, the Project Engineers propose installing a new vault south of the existing shed where the double check detector assembly can be installed without relocating any existing piping or buildings. The Project Engineers also propose below ground installation to protect the appurtenances from fire.

2.6.2.1 Defensive Space Vegetation Thinning

Predominant vegetative fuels in the Defensible Space zone adjacent to Wells 2 and 4 consist of individual blue oaks along the fence line separating the two aforementioned parcels and annual non-native grasses in the understory, with planted grape vines on the vineyard property.

Initial fuels reduction work will include the removal of individual trees in close proximity to the structures that have the potential to fall into the facilities. Maintenance will include understory mowing of annual grasses and re-establishment of tree seedlings. Please refer to the "Grange Rd Tree Removal List" in Attachment C.

2.6.3 Little Peak Tank

2.6.3.1 Defensive Space Vegetation Thinning

Little Peak Tank Site consists of approximately 3 acres of property (see Figure 2. Site Plan). At this location, only defensive space vegetation thinning will be required. Predominant vegetative fuels in the Defensible Space Zone include a sparse overstory dominated by gray pine and understory dominated by annual non-native grasses and thick brush comprised of chamise (*Adenostoma fasciculatum*) and manzanita

(Arctostaphylos spp). Scattered interior live oak (Quercus wislizenii) individuals are present in the Defensible Space zone.

Much of the Defensible Space zone has been previously cleared, and only a small area immediately west of the tank will require heavy brush removal. Other initial fuel reduction treatments will include light overstory thinning where applicable. Maintenance will include understory mowing of grasses and shrub establishment and removal of accumulated dead vegetation. Please refer to the "Little Peak Tree Removal List" in Attachment D.

2.7 Maintenance and Monitoring of Sites

Once initial treatments/vegetation thinning has been made, a schedule of monitoring and maintenance will be implemented. Vegetation will continue to naturally grow and die and must be assessed on a regular basis. The following table has been developed as a suggested schedule for monitoring and treating the various types of hazardous vegetation consistent with the previous sections of this plan.

Table 2: Suggested Monitoring and Treating Schedule

Vegetation	Treatment	Monitoring and treatment schedule
Trees	Dead tree removal	Annual: assessments made during winter months and treatments completed by April 30
Trees	Live tree removal	Annual: assessments made during winter months and treatment completed by April 30
	Limbing and removal	Annual: assessments made during winter months and treatment completed by April 30
Shrubs	Removal	Annual: assessments made during winter months and treatment completed by April 30
	Trimming and removal	Annual: assessments made during winter months and treatment completed by April 30
Vines and other ground cover	Mowing/cutting/removal	Bi-annually
Grass and weeds	Mowing/cutting	<ul style="list-style-type: none"> ▪ At least twice during the growing season ▪ Once or more as necessary after the start of the dry season such that vegetation is consistent with the recommendations of the FMP throughout the dry season
Dead woody debris	Removal	Annual: assessments made during winter months and treatment completed by April 30

After significant episodic or prolonged weather events that could alter expected vegetation growth or mortality, it is also suggested that the monitoring schedule be amended or supplemented. Events that may warrant additional monitoring may include drought that may cause increased mortality, a significant wet winter that could cause vegetation to blow over and die, dead vegetation to accumulate in drainages, or extend the growing season, or disease outbreak. Additional monitoring is suggested during fire-prone weather and specifically prior to red flag warnings.

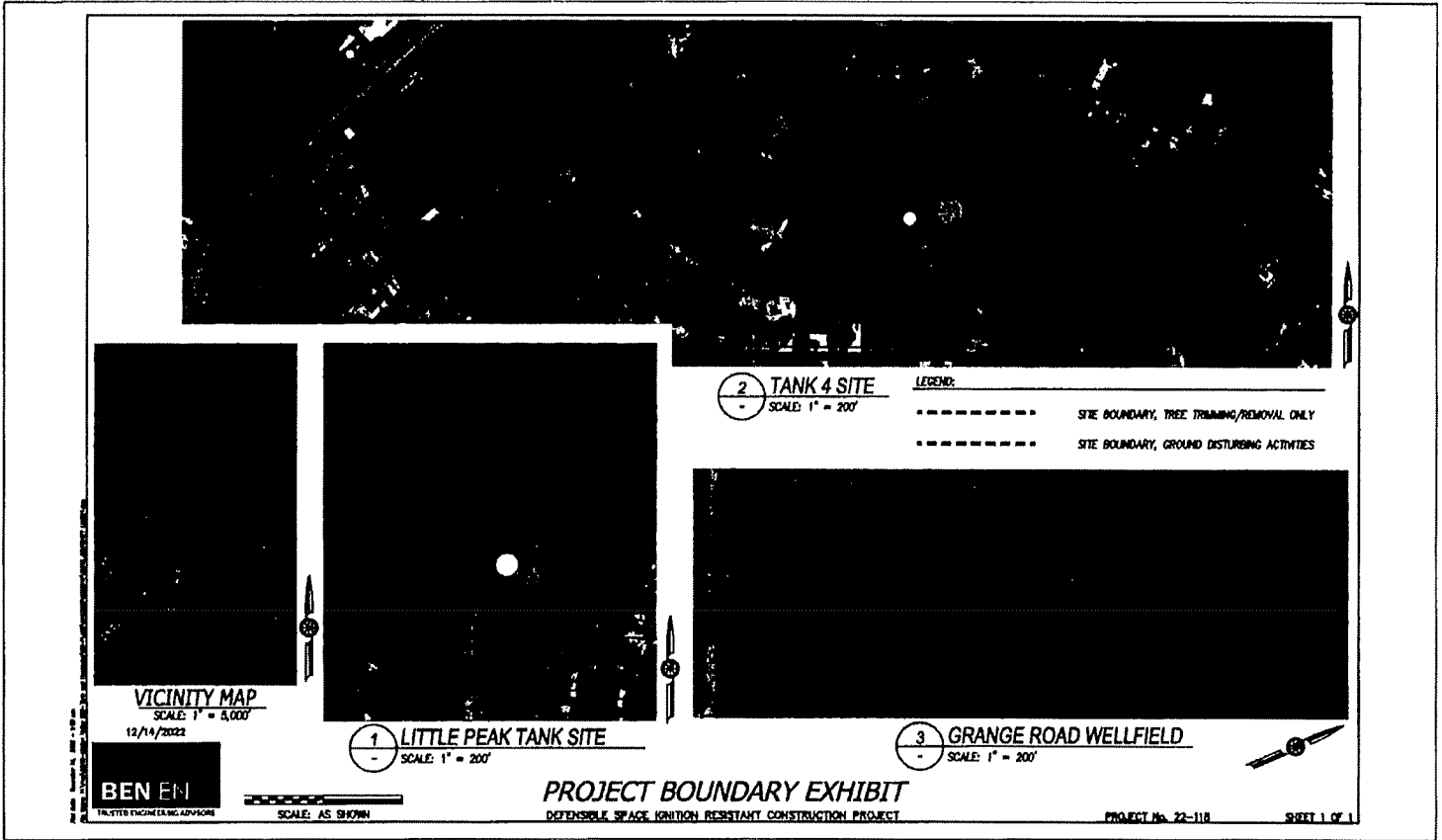
2.8 Best Management Practices

1. The project will ensure that potential aquatic resources mapped within the study area will be demarcated with highly visible fencing to ensure avoidance of potential Waters onsite.
2. The project will conduct a preconstruction survey for coast range newt 48 hours prior to construction activities. Any individuals discovered in the Project work area immediately prior to or during Project activities will be allowed to move out of the work area of their own volition. If this is not feasible, they shall be captured by a qualified biologist and relocated out of harm's way to the nearest suitable habitat at least 100 feet from the Project work area where they were found.
3. The District will ensure appropriate tree removal or work permits have been obtained in accordance with Lake County Oak Woodlands Management Policy, Resolution 1995-211 and that compensatory mitigation has been provided, as necessary, for Native Oak Trees within the Study Area that will be directly impacted (removed) or indirectly impacted (construction activities within the tree's dripline) by the Project.
4. The project will include a pre-construction nesting bird survey of all suitable habitats on the project within 14 days prior to the commencement of construction during the nesting season (February 1 to August 31). The survey will be conducted within a 300-foot radius of Project work areas for nesting raptors and a 100-foot radius for other species-status birds and birds protected under the MBTA.
 - a. A no-disturbance buffer around the nest shall be established if active nests are found. The buffer distance shall be established by a qualified biologist in consultation with CDFW. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary.
5. The project will include a bat habitat assessment for suitable bat roosting habitat prior to any construction activities that may impact bat habitat (e.g., structures, trees, or rock outcroppings). The habitat assessment shall be conducted as early as feasible prior to the initiation of construction activities, ensuring adequate time for bat surveys to be conducted during the bat active season (March to September) and, if necessary, for exclusion activities to be conducted during the appropriate seasonal windows specified below.
 - a) If no suitable roosting habitat is identified, no further measures are necessary. If suitable roosting habitat and/or sign of bat use is identified during the assessment, the roosting habitat shall be avoided to the extent possible, and the following shall be implemented:
 - b) If suitable roosting habitat and/or sign of bat use is identified that will be impacted, a qualified biologist shall prepare a Bat Management Plan for CDFW's review. The Plan will address avoidance and minimization of adverse effects to roosting bats, including special status species and maternity colonies. The Plan shall identify

appropriate surveys to determine occupation of the roosting habitat by bats (e.g., acoustic monitoring/evening emergence surveys during the bat active period).

- c) If an active bat roost is found and cannot be avoided, a plan for passive exclusion of bats from the roost shall be prepared for CDFW's review. If required, exclusion shall be scheduled either (1) between approximately March 1 (or when evening temperatures are above 45°F and rainfall less than 0.5 inch in 24 hours occurs) and April 15, prior to parturition of pups; or (2) between September 1 and October 15 (or prior to evening temperatures dropping below 45°F and onset of rainfall greater than 0.5 inch in 24 hours). Mitigation such as roost replacement should be included in the plan as appropriate.

Figure 2: Site Plan



Source: Bennett Engineering Services



Figure 2. Project Boundary
 2022-267 Hidden Valley Lake CSD project

2.9 Categorical Exemption

A Biological Resource Evaluation (BRA) as well as an Archaeological and Historical Resource Inventory and Evaluation was conducted for the project. The BRA found that although the project sites do have resources present, the proposed project (as designed) will not impact the listed species or waters of the US. The Archaeological and Historical Resource Inventory and Evaluation concluded that no resources were located within the Project Area. The 2023 survey by ECORP identified two historic-era cultural resources within the Project Area. ECORP's evaluation determined that neither of these resources would individually qualify for the NRHP or CRHR as Historic Properties under Section 106 of the NHPA or Historical Resources under CEQA. Therefore, a Notice of Exemption will be filed for the Project pursuant to Article 19 Title 14 General Section 15300.2 (b)(f), Existing Facilities Section 15301(b)(d) and Replacement or Reconstruction - Section 15302(c) of the California Code of Regulations (CCR).

Under Title 19 Article 14 Section 15300.2 of the CCR, this project is exempt because of the following: (b) the project will have no significant cumulative impact of successive projects of the same type in the same place; (f) the project will not cause substantial adverse change in the significance of a historical resource. Under Sections 15301 and 15302, this project is categorically exempt from the California Environmentally Quality Act (CEQA) provision as a Class 1 project because it consists of the minor alteration of an existing public facility with negligible expansion of use beyond that existing at the time of the lead agency's determination (CCR 15031(b)(d)) and as a Class 2 project because it consists of replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity (CCR15302(c)).

2.10 Emergency Exemptions:

In addition to the above Categorical Exemptions, the project also qualifies for the following Emergency Exemptions:

Emergency Exemption - 14CCR 15269 (b) - Emergency repairs to publicly or privately owned service facilities necessary to maintain service essential to public health, safety or welfare. Emergency repairs include those that require a reasonable amount of planning to address an anticipated emergency.

Emergency Exemption - 14CCR 15269 (c) - Specific actions necessary to prevent or mitigate an emergency.