



NOTICE OF ENVIRONMENTAL COMMITTEE MEETING

NOTICE IS HEREBY GIVEN that the San Lorenzo Valley Water District has called a regular meeting of the Environmental Committee to be held Tuesday, August 11, 2015 at 10:00 a.m. at the Operations Building, 13057 Highway 9, Boulder Creek, California.

AGENDA

1. Convene Meeting/Roll Call
2. Oral Communications
This portion of the agenda is reserved for Oral Communications by the public for items which are not on the Agenda. Any person may address the Committee at this time, on any subject that lies within the jurisdiction of the Committee. Normally, presentations must not exceed three (3) minutes in length, and individuals may only speak once during Oral Communications. No actions may be taken by the Committee on any Oral Communications presented; however, the Committee may request that the matter be placed on a future agenda. Please state your name and town/city of residence at the beginning of the statement for the record.
3. Old Business: None
4. New Business
Members of the public will be given the opportunity to address each scheduled item prior to Committee action. The Chairperson of the Committee may establish a time limit for members of the public to address the Committee on agenda items.
 - a. DRAFT BASIN BOUNDARY REGULATION COMMENTS-Nick Johnson
Discussion and possible recommendation by the Committee (attachment)
http://water.ca.gov/groundwater/sgm/basin_boundaries.cfm
 - b. PROBATION TANK MITIGATION HCP-Jodi McGraw
Discussion and possible recommendation by the Committee (attachment)
 - c. 2015 DATA COLLECTION RESTORATION GRANT PROGRAM PROJECTS
Discussion and possible recommendation by the Committee (attachments)

- d. SAN LORENZO RIVER/WATERSHED SYMPOSIUM PLANS-October 2015
Discussion and possible recommendation by the Committee
 - e. 2015 UWMP UPDATE
Discussion and possible recommendation by the Committee
 - f. COMMERCIAL CREDIT PROGRAM
Discussion and possible recommendation by the Committee
5. Informational Material: None.
6. Adjournment

In compliance with the requirements of Title II of the American Disabilities Act of 1990, the San Lorenzo Valley Water District requires that any person in need of any type of special equipment, assistance or accommodation(s) in order to communicate at the District's Public Meeting can contact the District Office at (831) 338-2153 a minimum of 72 hours prior to the scheduled meeting.

Agenda documents, including materials related to an item on this agenda submitted to the Committee after distribution of the agenda packet, are available for public inspection and may be reviewed at the office of the District Secretary, 13060 Highway 9, Boulder Creek, CA 95006 during normal business hours. Such documents may also be available on the District website at www.slvwd.com subject to staff's ability to post the documents before the meeting.

Certification of Posting

I hereby certify that on August 7, 2015, I posted a copy of the foregoing agenda in the outside display case at the District Office, 13060 Highway 9, Boulder Creek, California, said time being at least 72 hours in advance of the meeting of the Environmental Committee of the San Lorenzo Valley Water District in compliance with California Government Code Section 54956.

Executed at Boulder Creek, California, on August 7, 2015.

Holly B. Morrison, District Secretary
San Lorenzo Valley Water District



SAN LORENZO VALLEY WATER DISTRICT

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August 7, 2015

California Department of Water Resources
Attn: Sustainable Groundwater Management Section
P.O. Box 942836
Sacramento, CA 94236

To Whom It May Concern:

Thank you for the opportunity to comment on the Draft Basin Boundary Emergency Regulations. The San Lorenzo Valley Water District is located in the mountainous region of Santa Cruz County. Sixty percent of the water delivered to residential customers is from aquifers within the Santa Margarita and Lompico Sandstones. These aquifers are shared between our District and Scotts Valley Water District, as well as several smaller water systems and a large number of private wells. As such, it is critical that the basin boundary regulations will be applicable to our shared aquifer, as we are in an area of overdraft concern and believe this area should be addressed by DWR as higher priority.

Within the boundaries of the San Lorenzo Valley and Scotts Valley water districts, DWR's Bulletin 118 update defined the Felton basin (no. 3-50) as a relatively small area of exposed alluvial deposits along the San Lorenzo River where no wells exist, and the Scotts Valley basin (no. 3-27) as a relatively small area of thin alluvial deposits in Camp Evers. These designations do not encompass the actual sandstone aquifers upon which the local communities rely.

The definition of the groundwater basin, as stated in the regulations, is limited and inconsistent with other references to groundwater basins in the Draft Regulations as follows:

- A **groundwater basin** is defined as a three-dimensional alluvial aquifer, or a stacked series of alluvial aquifers, with reasonably well-defined boundaries in a lateral direction and a definable bottom.

p. 5 of the draft regulations states that: "a groundwater basin *generally* refers to an alluvial aquifer or stacked series of alluvial aquifers with a minimum thickness of 25 feet, with reasonably well-defined boundaries in a lateral direction, based on features that significantly impede groundwater flow, and a definable bottom characterized by rock or sediment of low permeability or the base of fresh water" (emphasis added).

p. 14 of the draft regulations describes an aquifer as: “alluvium *or similar bodies of rock or sediment* that is sufficiently porous and permeable to store, transmit, and yield significant or economic quantities of groundwater to wells and springs.”

We at the San Lorenzo Valley Water District would like to make California’s 2014 Groundwater Sustainability Act work for us, beginning with a more accurate recognition of our actual groundwater basins. Please provide clarification that a basin can consist of permeable sandstone formations, such as the Santa Margarita and Lompico Sandstones. And please confirm that DWR will be responsive to our attempts to comply with the 2014 Act by revising our basin boundaries and submitting a Groundwater Sustainability Plan that will address critical local overdraft issues.

Sincerely,

Brian E. Lee
District Manager
San Lorenzo Valley Water District

Draft

ADMINISTRATIVE DRAFT

**Low-Effect Habitat Conservation Plan for the
San Lorenzo Valley Water District's
Probation Tank Replacement Project
3650 Graham Hill Road (APN: 061-371-16)
Felton, Santa Cruz County, California**



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July 10, 2015

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Executive Summary

The San Lorenzo Valley Water District (District) is seeking an incidental take permit, under Section 10(a)(1)(B) of the Federal Endangered Species Act, to cover take of three federally endangered species: Mount Hermon June beetle (*Polyphylla barbata*), Zayante band-winged grasshopper (*Trimerotropis infantilis*), and Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*). The incidental take will result from replacement of an existing, dilapidated 100,000 gallon redwood water tank with a new, 527,000 gallon welded steel water tank. The new tank is needed to provide adequate water for existing domestic use by 700 households as well as for firefighting and other emergencies.

The tank will be located within the District's existing 0.443-acre easement area on the northern portion of the County of Santa Cruz's 28-acre parcel of land located at 3650 Graham Hill Road between the City of Scotts Valley and Felton, an unincorporated town within the County of Santa Cruz in central coastal California (APN: 061-371-16; Figure 1). The new tank will be situated in the location of the existing tank; however, the larger tank will cover adjacent intact habitat. The total project disturbance enveloped, which includes the space required for the 8-foot wide paved path, utilities, and associated appurtenances, as well as that required for staging equipment and materials, is 16,700 sf (0.383 acre; Figure 2).

Of the 16,700 sf (0.383 acre) within the project disturbance envelope, 1,700 sf is covered by the existing tank and other areas of impervious surface, and is therefore not habitat for the listed species. The remaining 15,000 sf features Zayante soils which can support the fossorial Mount Hermon June beetle. Of this area, the 11,000 sf surrounding the existing tank has the potential to feature dispersing Zayante band-winged grasshopper; the 4,000 sf staging area does not feature suitable habitat for this species. Of the 15,000 sf of habitat to be impacted, 925 sf (0.021 acres) featured an aboveground occurrence of the Ben Lomond spineflower—an annual plant that may also occur as dormant seed in the soil (i.e. a seed bank) elsewhere within the project area.

Installation of the tank and associated improvements including a paved walkway will permanently impact 4,500 ft² (0.103 acre) of habitat. The remaining 10,500 ft² (0.241 acre) will be temporarily impacted as a result of vegetation removal and soil disturbance associated with the project. This area includes a 4,000 square foot staging and materials lay down area which will be situated on an existing dirt access road (Figure 2).

A 3-year permit term is requested to address incidental take of the Mount Hermon June beetle and Zayante band-winged grasshopper, and impacts to the Ben Lomond spineflower, that may result during the various phases of construction, which include installation of temporary storage tanks, demolition of the existing tank, installation of the replacement tank, and restoration of the site 6,500 sf area surrounding the tank. Construction is anticipated to take place within a six-month period; however, the longer permit is requested to address seasonal or other delays in construction.

Due to the small size of the facility, and its proposed construction within an area that features existing utilities and is therefore of only moderate long-term conservation value, the project is not anticipated to significantly impact the persistence of the listed species within the 28-acre

parcel or the larger sandhills habitat patch in the Felton area on which it is located; moreover, the project is highly unlikely to affect persistence of the three species overall.

This plan's conservation strategy includes the following measures designed to minimize the project's impacts:

1. During the summer prior to construction, a qualified biologist will collect the seed of all the Ben Lomond spineflower from within the project impact area, for use in restoration of the area as outlined below.
2. The project will be conducted outside of the adult activity period for the Mount Hermon June beetle (May-August) and Zayante band-winged grasshopper (June-October), if at all possible. If soil-disturbing activities occur during the Mount Hermon June beetle flight season, tarps will be used to cover exposed soil, in order to prevent dispersing male beetles from burrowing into the construction site.
3. A qualified biologist will be on site during all ground-disturbing activities, to capture any Mount Hermon June beetle observed in the construction area and relocate them outside to intact sandhills habitat that supports appropriate soils and vegetation. The biologist will also herd out of harm's way and Zayante band-winged grasshoppers observed in the project area.
4. The project will not entail installation of outdoor lights, which can disrupt the behavior of nocturnal insects including Mount Hermon June beetle.
5. Landscaping elements that degrade habitat for the three covered species, including weed matting, landscape rock, and turf grass, will be avoided.
6. Following completion of the project, the District will restore the 6,500 sf area of temporary habitat impacts around the tank, which includes the 925-square-foot area occupied by the Ben Lomond spineflower. Restoration will include recontouring the soil, preventing erosion, sowing seed of native plant species collected on site, including the seed salvaged from Ben Lomond spineflower during the summer prior to construction, and also planting native plants from site-collected propagules, as needed.

To mitigate the unavoidable impacts to the listed species, the District will set aside and manage 0.895 acres of high-quality sandhills habitat which supports the three covered species within the Olympia Wellfield—a 170-acre property owned by the District, which is used for water supply and watershed protection (Figure 6). Of the 0.895 acres, 0.413 acres will be set aside to mitigate the project's permanent impacts to 0.103 acres at a 4:1 ratio—this reflects the high quality of the habitat that will be lost in the tank replacement area. The remaining 0.482 acres will mitigate the temporary impacts of the project (0.241 acres) at a 2:1 ratio. This lower ratio is appropriate, as the 0.149 acres of habitat that will be temporarily impacted in the tank replacement area will be restored, and the 0.092 acres in the staging area consists of a dirt road that is already highly degraded habitat.

The 0.895 acres used as off-site mitigation for this project will be part of an approximately 5.5-acre area of high quality, sand parkland habitat that the District will set aside and manage within the Olympia Wellfield (Figure 6). Located on the southern portion of the property, the set aside is of exceptional conservation value for the covered sandhills species the following reasons: 1) it is in relatively pristine conditions and features diverse populations of native plant species, 2) it

supports known populations of six of the seven endemic sandhills species, including all four federally listed endangered sandhills species, 3) it is located adjacent to other protected sandhills habitat, which it will expand and buffer. The District will use the remainder of this habitat set-aside area (4.6 acres), to mitigate the impacts of future water supply projects that impact the special-status species. Such mitigation will be the subject of future plans developed pursuant Section 10(a)1(b) or Section 7 of the federal Endangered Species Act.

The precise boundaries of the habitat set aside and the methods that the District will use to manage and monitor the estimated 5.5-acre area will be outlined in a habitat management and monitoring plan (HMMP), which will also describe the measures that will be taken to minimize adverse effects to the listed species resulting from the management and monitoring activities. The HMMP will be developed within six months of permit issuance, and will be subject to approval by the US Fish and Wildlife Service.

As an alternative to the off-site mitigation described above, the District may elect to purchase 19,500 sf conservation credits at the Zayante Sandhills Conservation Bank. Of these, 9,000 sf credits will be purchased to mitigate the 4,500 sf of permanent habitat impacts at a ratio of 2:1; this reflects the high quality of much of the habitat surrounding the existing tank, which will be covered by the tank or associated improvements including paved walkway. An additional 10,500 sf credits will be purchased to mitigate the temporary habitat impacts at a ratio of 1:1. This lower ratio is appropriate because the 6,500 sf of habitat that will be temporarily impacted in the tank replacement area will be restored, and the 4,000 sf of habitat in the staging area consists of a dirt road that is already highly degraded habitat.

The District will fund all elements of the plan conservation strategy, including one of the two alternative forms of offsite habitat mitigation. A qualified biologist will conduct monitoring to ensure compliance with the conservation strategy, and to evaluate success toward the biological goals and objectives. Monitoring results will be provided to the U.S. Fish and Wildlife Service in a project report provided by January 31 following each year that the permit is active.

Section 1

Introduction and Background

1.1 Overview and Background

This Habitat Conservation Plan (HCP) for proposed replacement of a water tank at the County of Santa Cruz parcel 061-371-16 at 3650 Graham Hill Road near Felton, California has been prepared pursuant to the requirements of Section 10(a)(1)(B) of the Federal Endangered Species Act of 1973, as amended (Act). The HCP is intended to provide the basis for issuance of a Section 10(a)(1)(B) permit to the San Lorenzo Valley Water District, the owner of a 0.443-acre easement on the parcel, to authorize incidental take of the Mount Hermon June beetle (*Polyphylla barbata*) and Zayante band-winged grasshopper (*Trimerotropis infantilis*), and impacts to Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*), which occur within the project area. Replacement of the existing, dilapidated tank with a new, larger tank, will involve ground-disturbing activities, including excavation and covering of open soil with impervious surfaces, as well as staging of equipment and materials; these activities will impact individuals of, as well as permanently remove habitat for, these three federally endangered species.

1.2 Permit Holder/Permit Duration

The San Lorenzo Valley Water District (District) requests an incidental take permit to cover take of the three federally-listed endangered species for three years commencing on the date of permit approval. Project construction is anticipated to require less than one year; however, seasonal restrictions and unforeseen logistical issues with construction may delay the project. For this reason, a three-year permit is requested to ensure that the covered activities will be implemented during the term of the permit.

1.3 Permit Boundary/Covered Lands

A permit is requested to authorize the incidental take of Mount Hermon June beetle, Zayante band-winged grasshopper, and Ben Lomond spineflower within the Project Area: an approximately 16,700-square-foot (0.383-acre) area located in the northern tip of the 28-acre parcel (APN: 061-371-16) situated at 3650 Graham Hill Road, Felton, central Santa Cruz County, central coastal California. The project site is located within the Felton United States Geological Survey (USGS) topographic quadrangle, near the center of Section 23 of Township 10S, Range 2W of the Mount Diablo Base and Meridian (Figure 1).

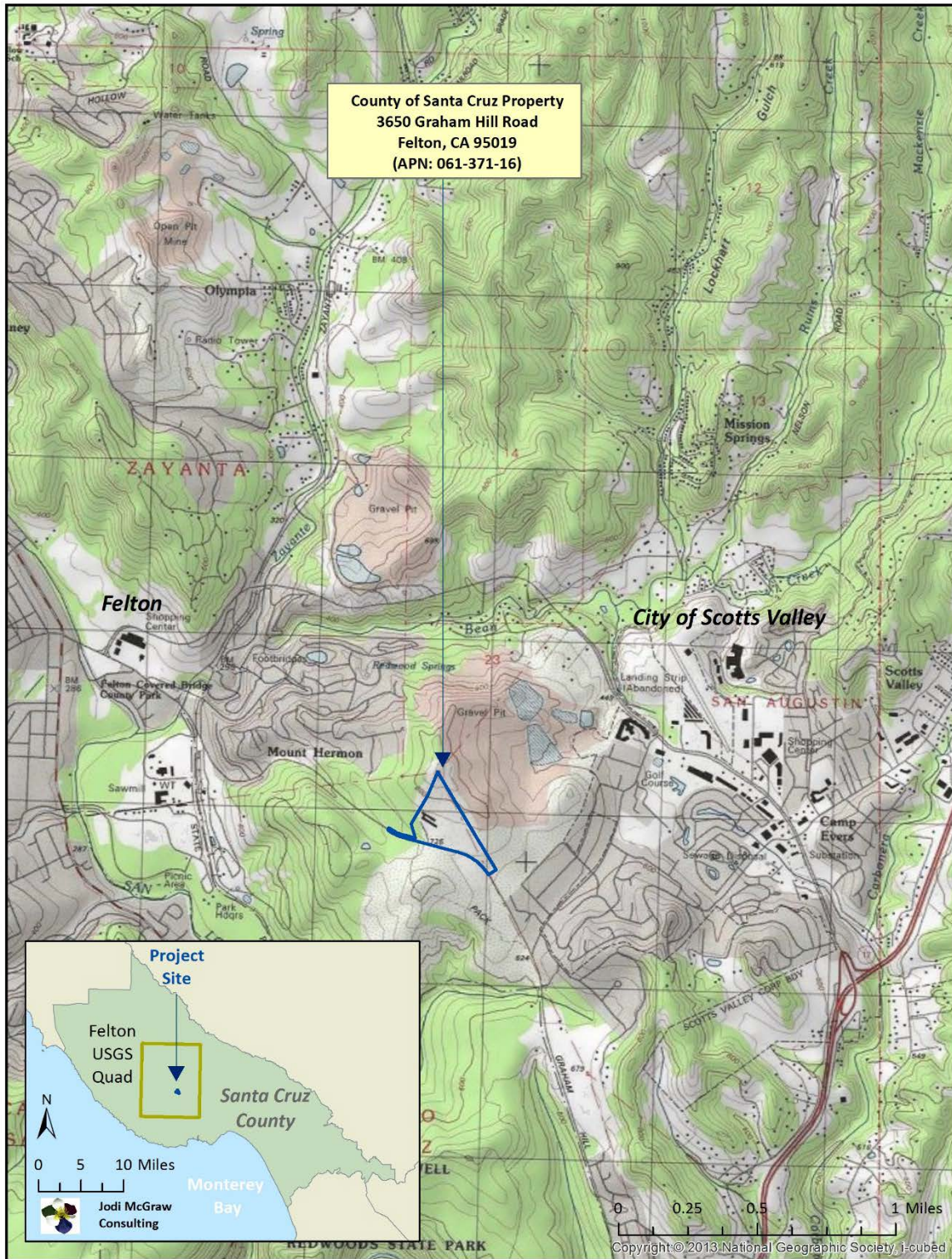


Figure 1: Location of proposed project parcel, the County of Santa Cruz parcel (APN: 061-371-16), within the Felton US Geological Survey Quadrangle in Ben Lomond, central Santa Cruz County.

1.4 Species to be Covered by Permit

The following species are referred to as a "covered species" related to the Incidental Take Permit if it is issued.

<u>Covered Species</u>	<u>Federal Status/State Status</u>
Mount Hermon June beetle (<i>Polyphylla barbata</i>)	Federally Endangered
Zayante band-winged grasshopper (<i>Trimerotropis infantilis</i>)	Federally Endangered
Ben Lomond spineflower (<i>Chorizanthe pungens</i> var. <i>hartwegiana</i>)	Federally Endangered

Take coverage is requested for these species, as they are federally listed as endangered, and they are known or likely to occur within the project area.

The following additional federally-endangered species occur in the general region but will not be impacted by the project and therefore will not be covered under the requested Incidental Take Permit nor will they be further addressed in this HCP. The Santa Cruz (Ben Lomond) wallflower does not occur on the project parcel, though does occur on the adjacent parcel to the east. The project area does not feature suitable breeding habitat for the California red-legged frog and is also highly unlikely to disperse into the project area. The species was not observed during the course of pre-project surveys or construction monitoring conducted in winter 2015 as part of the San Lorenzo Valley Water District's Regional Intertie Project (Arnold and Bandel 2014, J. McGraw, unpublished data).

<u>Additional List Species</u>	<u>Federal Status/State Status</u>
Santa Cruz (Ben Lomond) wallflower (<i>Erysimum teretifolium</i>)	Federally Endangered/ CA State Endangered
California red-legged frog (<i>Rana draytonii</i>)	Threatened/Species of Special Concern

1.5 Regulatory Framework

1.5.1 Federal Endangered Species Act

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption.

Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the U.S. Fish and Wildlife Service (Service) as an intentional or negligent act or omission that creates the likelihood of injury to listed species by annoying them to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

Pursuant to section 11(a) and (b) of the Act, any person who knowingly violates section 9 of the Act or any permit, certificate, or regulation related to section 9, may be subject to civil penalties of up to \$25,000 for each violation or criminal penalties up to \$50,000 and/or imprisonment of up to one year.

Individuals and State and local agencies proposing an action that is expected to result in the incidental take of federally listed species are encouraged to apply for an incidental take permit under section 10(a)(1)(B) of the Act to be in compliance with the law. Such permits are issued by the Service when take is not the intention of and is incidental to otherwise legal activities. An application for an incidental take permit must be accompanied by a HCP. The regulatory standard under section 10 of the Act is that the effects of authorized incidental take must be minimized and mitigated to the maximum extent practicable. Under Act section 10, a proposed project also must not appreciably reduce the likelihood of the survival and recovery of the species in the wild, and adequate funding for a plan to minimize and mitigate impacts must be ensured.

Section 7 of the Act requires Federal agencies to ensure that their actions, including issuing permits, do not jeopardize the continued existence of listed species or destroy or adversely modify listed species' critical habitat. "Jeopardize the continued existence of..." pursuant to 50 CFR 402.2, means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. Issuance of an incidental take permit under section 10(a)(1)(B) of the Act by the Service is a Federal action subject to section 7 of the Act. As a Federal agency issuing a discretionary permit, the Service is required to consult with itself (i.e., conduct an internal consultation). Delivery of the HCP and a section 10(a)(1)(B) permit application initiates the section 7 consultation process within the Service.

The requirements of section 7 and section 10 substantially overlap. Elements unique to section 7 include analyses of impacts on designated critical habitat, analyses of impacts on listed plant species, if any, and analyses of indirect and cumulative impacts on listed species. Cumulative effects are effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area, pursuant to section 7(a)(2) of the Act. The action area is defined by the influence of direct and indirect impacts of covered activities. The action area may or may not be solely contained within the HCP boundary.

These additional analyses are included in this HCP to meet the requirements of section 7 and to assist the Service with its internal consultation.

1.5.2 The Section 10(a)(1)(B) Process - Habitat Conservation Plan Requirements and Guidelines

The Section 10(a)(1)(B) process for obtaining an incidental take permit has three primary phases: (1) the HCP development phase; (2) the formal permit application processing phase; and (3) the post-issuance phase.

During the HCP development phase, the project applicant prepares a plan that integrates the proposed project or activity with the protection of listed species. An HCP submitted in support of an incidental take permit application must include the following information:

- impacts likely to result from the proposed taking of the species for which permit coverage is requested;
- measures that will be implemented to monitor, minimize, and mitigate impacts; funding that will be made available to undertake such measures; and procedures to deal with unforeseen circumstances;
- alternative actions considered that would not result in take; and
- additional measures USFWS may require as necessary or appropriate for purposes of the plan.

The HCP development phase concludes and the permit processing phase begins when a complete application package is submitted to the appropriate permit-issuing office. A complete application package consists of: 1) an HCP, 2) an Implementing Agreement (IA), 3) a permit application, and 4) a \$100 fee from the applicant. An implementing agreement is not required for an HCP that qualifies as a low-effect HCP. The Service prepares an Intra-Service Section 7 Biological Opinion; and also prepares a Set of Findings, which evaluates the Section 10(a)(1)(B) permit application in the context of permit issuance criteria (see below). An Environmental Action Statement, Environmental Assessment, or Environmental Impact Statement serves as the Service's record of compliance with the National Environmental Policy Act (NEPA). The Service must publish a Notice of Availability of the HCP package in the Federal Register to allow for public comment. The draft NEPA document, HCP, and IA (if applicable) are made available for public review during this 30-day to 90-day comment period. A Section 10(a)(1)(B) incidental take permit is granted upon a determination by the Service that all requirements for permit issuance have been met. Statutory and regulatory criteria for issuance of the permit, pursuant to section 10(a)(2)(b) of the Act and 50 CFR 17.22 (b)(2) and 17.32 (b)(2) specify that:

- the taking will be incidental;
- the impacts of incidental take will be minimized and mitigated to the maximum extent practicable;
- adequate funding for the HCP and procedures to handle unforeseen

circumstances will be provided;

- the taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild;
- the applicant will provide additional measures that the Service requires as being necessary or appropriate; and
- the Service has received assurances, as may be required, that the HCP will be implemented.

During the post-issuance phase, the Permittee and other responsible entities implement the HCP, and USFWS monitors the Permittee's compliance with the HCP as well as the long-term progress and success of the HCP. The public is notified of permit issuance by means of the Federal Register.

1.5.3 National Environmental Policy Act

The purpose of the National Environmental Policy Act (NEPA) is two-fold: to ensure that Federal agencies examine environmental impacts of their actions (in this case deciding whether to issue an incidental take permit) and to utilize public participation. NEPA serves as an analytical tool on direct, indirect, and cumulative impacts of the proposed project alternatives to help the Service decide whether to issue an incidental take permit (ITP or section 10(a)(1)(B) permit). NEPA analysis must be done by the Service for each HCP as part of the incidental take permit application process.

1.5.4 National Historic Preservation Act

All Federal agencies are required to examine the cultural impacts of their actions (e.g. issuance of a permit). This may require consultation with the State Historic Preservation Office (SHPO) and appropriate American Indian tribes. All incidental take permit applicants are requested to submit a Request for Cultural Resources Compliance form to the Service. To complete compliance, the applicants may be required to contract for cultural resource surveys and possibly mitigation.

1.5.5 California Endangered Species Act (CESA)

The California Endangered Species Act (CESA) provides for the designation of native species or subspecies of fish, wildlife, and plants as endangered or threatened (CESA Section 2062-2067). The Mount Hermon June beetle, Zayante band-winged grasshopper, and Ben Lomond spineflower are not listed under CESA. Therefore, this HCP will not further address CESA permitting requirements.

1.5.6 California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) (Pub. Res. Code §21000 seq.) requires state and local governmental agencies to complete an environmental review of discretionary projects that could impact environmental resources. CEQA differs from

NEPA in that it requires that significant environmental impacts of proposed projects be reduced to a less-than significant level through adoption of feasible avoidance, minimization, or mitigation measures unless overriding considerations are identified and documented. As the lead agency, the District prepared an initial study and mitigated negative declaration for the project (Biotic Resources Group 2015). This CEQA compliance document incorporates the species protection measures and mitigation proposed for the species covered in this HCP.

1.5.7 County of Santa Cruz Sensitive Habitat Ordinance

The County oversees a Sensitive Habitat Protection Ordinance, which is designed to minimize disturbance in sensitive habitats and to protect these areas for their genetic, scientific, and educational values. The County defines a “sensitive habitat” as “any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments” (County of Santa Cruz 1994). Sensitive habitats include, but are not limited to, areas where sensitive species live, areas necessary for the survival of sensitive species, and any location where disturbance is likely to lower population numbers. Based on the findings of a biotic review, the County may require the project proponent to avoid, minimize, and mitigate impacts to the sensitive habitat by: (1) limiting the portion of sensitive habitat to be disturbed; (2) deeding an easement to protect undisturbed portions of this habitat; (3) restoring portions of degraded sensitive habitat; and/or (4) restricting land uses.

Sites that are occupied by the listed species are protected under the Sensitive Habitat Protection Ordinance. However, as a special district, the San Lorenzo Valley Water District is exempt from County zoning and planning regulations related to facilities for the storage or transmission of water (M. Johnston, pers. comm. 2015).

Nonetheless, the conservation strategy developed in this plan, which includes measures to avoid, minimize, and mitigate impacts to the federally-listed species as required in this incidental take permit, will overlap with requirements under the Sensitive Habitat Protection Ordinance.

Section 2

Project Description/ Activities Covered by Permit

2.1 Project Description

The San Lorenzo Valley Water District (District) is seeking to replace a dilapidated, 100,000-gallon, redwood water tank with a new 527,000-gallon, welded-steel water tank. The project will occur in the District's Easement A—an 0.443-acre area located in the northern portion of the County of Santa Cruz's Juvenile Probation Center parcel (APN 061-371-16), which is located at 3650 Graham Hill Road between the two of Felton and the City of Scotts Valley (Figures 1 and 2).

The existing 100,000 gallon tank, which is 30 feet in diameter and 20 feet tall, must be replaced because it is leaking and cannot be repaired because the wood is rotten. To provide adequate water for fire fighting, and to supply the approximately 700 existing households served by the water tank, the new tank will be 60 feet in diameter and 32 feet tall.

The tank replacement project will include the following additional improvements and activities:

- Installation of a concrete foundation on which the tank will be mounted;
- Installation of soldier beam retaining walls to hold back excavated slopes west and east of the tank;
- Installation of an eight-foot-wide access path around the base of the tank, for maintenance;
- Replacement/re-routing of a paved footpath to the telecommunications facility located north of the tank;
- installation of stormwater drains for runoff from the tank and paths; and
- re-routing utilities to avoid the tank and associated improvements.

The above activities will all occur within a 12,700 sf (0.292 acre) area located inside of the District's easement in the northern portion of the parcel, more or less centered on the existing tank. Construction vehicles, equipment, and materials needed to create and assemble the metal tank will be staged in a 20' x 200' (4,000 sf or 0.092 acre) area located on an existing natural surface access road approximately 1,000 feet south-southeast of the tank replacement area (Figure 2). This location will reduce impacts relative to staging in the intact habitat adjacent to the tank replacement area.

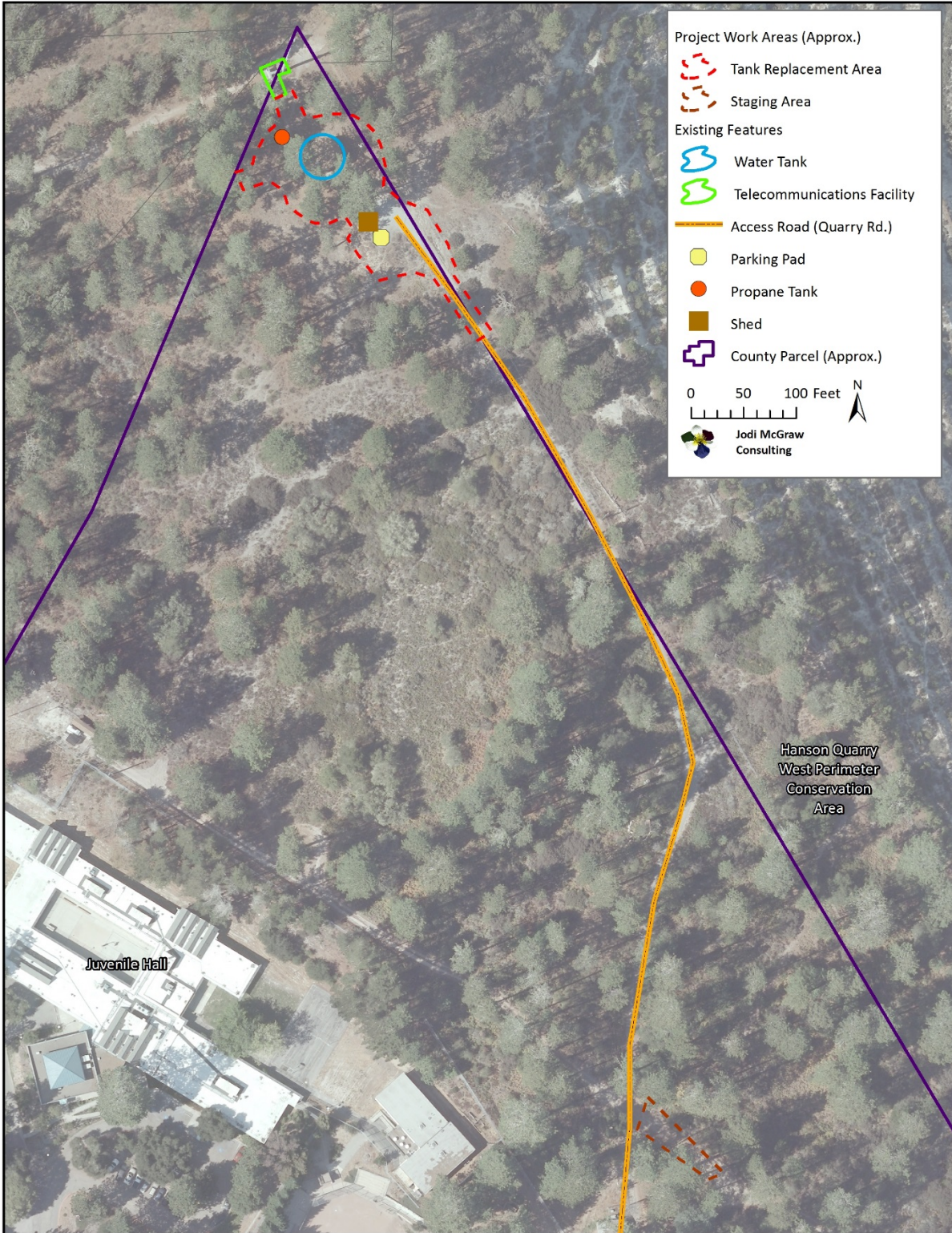


Figure 2: Location of proposed project work areas as well as existing features within the County of Santa Cruz parcel at 3650 Graham Hill Road, Felton, Santa Cruz County, California.

Table 1: Size of proposed project areas (Figure 2).

Project Area	Area	
	Square Feet	Acres
Tank Replacement Area	12,700	0.292
Staging Area	4,000	0.092
Total	16,700	0.383

2.2 Activities Covered by Permit

An incidental take permit is requested to cover impacts to the listed species that may occur during implementation of the project. The following is the sequence of anticipated steps to complete the project, showing the estimated duration of each.

1. **Remove Vegetation (1 week):** Three mature ponderosa pine (*Pinus ponderosa*) within the footprint of the new tank, pathway, and retaining wall will be removed. Additional herbs, shrubs, and smaller trees that will impede work will also be removed.
2. **Temporarily Relocate Shed and Propane Tank (1 week):** An existing, 4.25' X 8' shed that houses the District's two-way radio repeater, which boosts the radio signal in the Felton/Scotts Valley areas, will be temporarily moved to the area north of the existing location. The area will be used for the temporary water tanks. Additionally, the existing propane tank that powers the adjacent telecommunications facility will need to be relocated to accommodate the new walkway.
3. **Install Temporary Water Tanks (1 week):** Three 10,000 gallon polyethylene water tanks will be installed on the existing parking area (current shed location). This step may require some light grading to level the site.
4. **Remove Existing Tank (2 weeks):** The existing redwood tank will be dismantled and trucks will be used to haul the wood planks and metal stays from the site.
5. **Creation of the Water Tank Pad (8 weeks):** Land within the tank pad will be excavated, compacted, and then the concrete ring upon which the tank will sit will be poured; the ring will be filled with oiled sand, which is designed to reduce rust. Soldier beam walls constructed of steel beams and wood lagging will be installed to hold back the adjacent slopes to the northeast and southwest of the tank.
6. **Tank Assembly and Installation (8 weeks):** The steel tank will be erected on the pad and the coated.
7. **Installation of the Walkways (2 weeks):** The walkway around the tank and the re-routed walkway to the telecommunications tower will be graded, compacted, and paved.
8. **Installation of Storm Drain Outlet and Protection (two days):** An outlet for storm drains on the tank and adjacent walkway will be installed northwest of the tank, in the location of the existing drainage swale. The outlet will feature geotextile fabric and rocks to dissipate the energy of the runoff.

Additional tasks will take place off-site to prepare the tank, and may occur concurrently with the tasks above, or add to the timeframe. Project delays due to weather or the availability of materials or work crews could lengthen the construction period. As a result, a three-year incidental take permit is being requested to ensure completion of this anticipated six-month project.

The covered activities are further described in Section 4.1, which assess their impacts on the covered species.

Draft

Section 3

Environmental Setting/ Biological Resources

3.1 Environmental Setting

3.1.1 Climate

Located in central Santa Cruz County, the project area experiences a Mediterranean climate, characterized by cool, wet winters and hot, dry summers. Summer temperatures range from 45°F to 95°F, with an average of 68°F. Winter temperatures range from 36°F to 65°F, with an average of 51°F.

Annual precipitation is 44 inches, with most falling as rain. The rainy season is from October to May, with the majority of the rainfall occurring between December and March.

3.1.2 Topography/Geology

The project site is located on a south-facing slope of Mount Hermon. A portion of the project area has been previously graded to install the existing water tank and a telecommunications facility upslope, including to install parking area. The project site is located at approximately 880 feet above mean sea level, just 30 feet below the peak of Mount Hermon.

The soil in the area of the proposed project is a light to medium, grey to grey brown, loose sand soil characteristic of the Zayante series, which is an excessively well-drained, low-nutrient soil derived from the weathering of marine sediments and sandstones of the Santa Margarita Formation (U.S. Department of Agriculture 1980). Exposed soil within portions of the proposed project disturbance envelope footprint has been modified by land uses. Specifically, the access road and existing parking pad where the temporary tanks will be installed has been compacted and features base rock in the upper horizon. Similarly, soil in the dirt access road that will be used for staging has been compacted as a result of prior vehicle use. Soil on the north and eastern portions of the existing tank have been inundated as a result of chronic water leaks from the tank.

3.1.3 Hydrology/Streams, Rivers, Drainages

The project site is located on the western portion of the Lower San Lorenzo River Subwatershed near the border of the Bean Creek Subwatershed of the San Lorenzo Watershed. The San Lorenzo River is located 1.1 miles west of the project area; Bean Creek is located 0.6 miles north of the project area.

The project area is within upland habitat and not within a flood zone or alluvial fan.

3.1.4 Existing Land Use

The proposed project will occur within the District's 0.433-acre easement located in the northern portion of the County of Santa Cruz's 28-acre parcel. The parcel is partially developed and features the following improvements (Figure 2):

- **Juvenile Hall:** a facility constructed beginning in 1968, which currently consists of 18,039 ft² of buildings, an approximately 0.5-acre fenced yard north of the buildings, and approximately 2 acres of asphalt and gravel parking lots used by facility staff and visitors, as well as people using the baseball field.
- **Michael Gray Field:** an approximately 1.5-acre baseball field used by the community, which was developed in 1986.
- **A telecommunications facility:** a 550-sf fenced enclosure near the top of Mount Hermon contains a monopole supporting cellular telecommunications, as well as emergency services antennas, and associated power and telecommunications equipment boxes; a propane tank that supplies the equipment is located outside of the fenced enclosure.
- **Public Water Facility:** The San Lorenzo Valley Water District operates three water wells in addition to the existing 30-foot diameter, 100,000 gallon redwood tank.
- **Access Roads:** An approximately 0.27 mile long, ten-foot wide paved road labeled in some databases as "Quarry Road" provides access to the parking area on the south side of the existing water tank (Figure 2). This road is used by personnel to access the telecommunications facility north of the tank as well as District personnel accessing the tank. Additionally, a 0.24 mile long, 10 to 20-foot wide natural surface road connects the District's wells on the eastern and western portions of the parcel to the paved access road (Quarry Road).

The 12,700 square foot disturbance envelope surrounding the existing tank features existing improvements including: a) a 30-foot diameter, 20' foot tall water tank, b) the northern terminus of the paved access road, c) the leveled parking area with rock surface, d) a wooden boardwalk on the northeastern perimeter of the tank, e) the existing propane tank for the telecommunications facility, f) a 4.25' x 8' shed for the water tank, and g) a drainage ditch that diverts storm water from the tank to the adjacent habitat (Figure 2).

3.1.5 Plant Communities

The remainder of the parcel supports native sandhills communities characteristic of the sandhills ecosystem which occurs on Zayante soils in central Santa Cruz County.

- **Ponderosa Pine Forest:** This community, which is the predominate type within the County parcel, is characterized by relatively dense canopy of ponderosa pine, coast live oak (*Quercus agrifolia*), and pacific madrone (*Arbutus menziesii*). The tree understory is comprised primarily of shrubs including silverleaf manzanita (*Arctostaphylos silvicola*), Santa Cruz Mountains manzanita (*A. crustaceae* ssp. *crinita*), coffee berry (*Frangula californica*), poison oak (*Toxicodendron diversilobum*), and sticky monkeyflower (*Mimulus aurantiacus*); herbs including bracken fern (*Pteridium aquilinum* var. *pubescens*) and cudweed (*Pseudognaphalium beneolens*) occur in canopy gaps.
- **Silverleaf manzanita chaparral with ponderosa pine:** Located downslope of the tank replacement area, this community is dominated by silverleaf manzanita and features scattered Santa Cruz Mountains manzanita and sticky monkeyflower; native herbaceous plants occur in the canopy gaps and include Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*) and holly leaf navarretia (*Navarretia atractyloides*).
- **Sand Parkland:** The area southwest of the tank supports open sand parkland, which is characterized by a relatively sparse stand (<30% canopy cover) of ponderosa pine, a lack of woody shrubs, and a diverse suite of native herbaceous plants and subshrubs including silver bush lupine (*Lupinus albifrons* var. *albifrons*), Ben Lomond buckwheat (*Eriogonum nudum* var. *decurrens*), common sandaster (*Corethrogyne filaginifolia*), sessile false goldenaster (*Heterotheca sessiliflora* ssp. *echioides*), and Ben Lomond spineflower. This community also supports a suite of non-native annual grasses and forbs that includes smooth cat's ears (*Hypochaeris glabra*), riggut brome (*Bromus diandrus*), rattlesnake grass (*Briza maxima*), sheep's sorrel (*Rumex acetosella*).

The drainage from the existing water tank gives rise to a human-created wetland that supports species adapted to higher soil moisture including flat tall flatsedge (*Cyperus eragrostis*), spreading rush (*Juncus patens*) fringed willow-leaf herb (*Epilobium ciliatum* ssp. *ciliatum*), and Canadian horseweed (*Erigeron canadensis*), as well as a grove of juvenile Pacific madrone trees, which line the channel.

3.1.6 Adjacent Land Use

The County parcel is located atop Mount Hermon. On its eastern border is the Hanson Quarry Property, which features a relatively narrow conservation area that separates the County parcel from the approximately 185-acre sand quarry further east. Across Graham Hill Road to the south is the 1,750-acre Henry Cowell State Park. To the east, the parcel is contiguous with open space land managed by the Mount Hermon Association as part of its private conference center (Figure 1).

The community of Mount Hermon and the neighborhood known as Whispering Pines, both of which feature relatively high-density residential development, are located just 0.5

miles northwest and 0.3 miles southeast of the proposed project area, respectively (Figure 1). These communities, which were developed in early and middle portions of the last century, are included in the "Mount Hermon" and "Whispering Pines" planning units in the *Interim Programmatic Habitat Conservation Plan for the Endangered Mount Hermon June Beetle and Ben Lomond Spineflower* (USFWS et al. 2011).

3.2 Covered Species

Take coverage is requested for three federally listed endangered species: Mount Hermon June beetle, Zayante band-winged grasshopper, and Ben Lomond spineflower.

3.2.1 Mount Hermon June beetle (*Polyphylla barbata*)

Status and Distribution

The Mount Hermon June beetle is a member of the family Scarabaeidae (Insecta: Coleoptera; Figure 3). The Mount Hermon June beetle was listed as federally endangered on January 24, 1997 (USFWS 1997). Critical habitat has not been designated for this species.

The Mount Hermon June beetle occurs in association with Zayante sand soil in central Santa Cruz County. Outcroppings of Zayante soils support a unique ecosystem known as the Zayante (or Santa Cruz) Sandhills (Sandhills). Within the Sandhills, the Mount Hermon June beetle has been recorded from approximately 150 locations in the vicinity of Mount Hermon, Felton, Ben Lomond, Zayante, Scotts Valley, and Bonny Doon (Arnold 2004, USFWS et al. 2011).

While the entire known range of the Mount Hermon June beetle encompasses 10,000 acres, suitable habitat for the endangered insect is only known to occur within approximately 2,800 acres (McGraw 2004b) of that area. The amount of habitat which is presently occupied by the Mount Hermon June beetle is unknown.

Habitat Characteristics

The Mount Hermon June beetle occurs in the various plant assemblages or communities of the Sandhills, including those broadly categorized as coast range ponderosa pine forest and northern maritime chaparral. The endangered beetle has also been observed in areas where native Sandhills plant species have been removed, including those that are disturbed through development or feature ornamental or other non-native plant species (Arnold 2004). Mount Hermon June beetle also inhabits ecotones between Sandhills communities and non-Sandhills vegetation, including coast live oak woodland and mixed evergreen forests (J. McGraw pers. obs.).

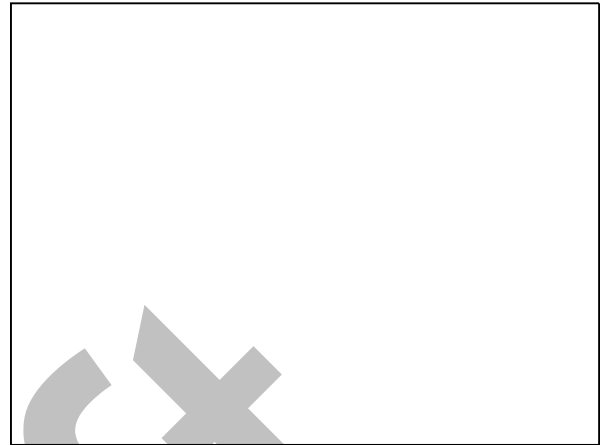


Figure 3: Mount Hermon June beetle adult male (left) and larva (right). Photographs by Jodi McGraw.

Occurrence within the Project Area

Mount Hermon June beetles have been recorded on the project parcel on numerous occasions; the species occurs at relatively high abundance within the sand parkland community on the northern portion of the parcel (Arnold 2004, McGraw 2006, 2010, 2011, 2012, 2013; USFWS 2009).

Given the numerous documented occurrences of Mount Hermon June beetle with the project parcel, and the occurrence of Zayante soils, which provide suitable habitat for the species, within the proposed project area, the species is assumed to inhabit all open soil not covered by impervious surfaces, including the paved road and existing water tank.

Abundance of the Mount Hermon June beetle likely varies within the project area, reflecting variable habitat conditions. Abundance is anticipated to be low in the rocked parking area and the dirt access road that will be used for a staging area, where plant cover is low, limiting the availability of plant roots and mycorrhizae on which the larvae feed. Nonetheless, *Polyphylla* larvae have been recovered from areas lacking aboveground plant cover during monitoring of prior projects (McGraw 2015b).

Mount Hermon June beetle abundance may also be low in the portions of the project footprint that are inundated as a result of leaks and drainage from the water tank, as the saturated soils may not provide appropriate habitat conditions for this fossorial species.

The remainder of the project area features high-quality habitat for Mount Hermon June beetle, which includes relatively loose sand soil and relative dense cover of herbaceous plants, as well as sparse cover of ponderosa pines. As a result of its relatively high density of Mount Hermon June beetles, the sand parkland habitat

southwest of the project area is often used as a 'reference' or 'control' site in presence/absence surveys designed to evaluate occupancy in other sites. During such surveys, adult male Mount Hermon June beetles are recovered at high abundance in black light traps located in this area (McGraw 2009, 2010, 2011a, 2012, 2013, 2014b, 2015a).

Life History

The Mount Hermon June beetle is univoltine (i.e., has only one generation per year). The majority of the life cycle of the Mount Hermon June beetle occurs beneath the soil surface. Though little research has been conducted on below-ground stages of the life cycle of the Mount Hermon June beetle (e.g., eggs, larvae, pupae, and portions of the adult stage), information can be cautiously inferred from other species of *Polyphylla* that are well-studied, including the tenlined June beetle (*Polyphylla decemlineata*).

The life cycle of the Mount Hermon June beetle is estimated to require two to three years. After mating during the summer, adult females lay eggs beneath the soil surface on, or in close proximity to, host plant roots. Eggs hatch into larvae that feed on roots of host plants. As the larvae grow, they molt from first to second, and finally third instars. Third instar larvae pupate below the soil surface, and eventually male and female adults emerge from pupae. Adult emergence and seasonal activity often begins in May and continues through about mid-August (activity period). However, seasonal activity may vary from year to year depending on weather conditions (Arnold 2004).

Mount Hermon June beetles are polyphagous, or generalist feeders. Frass pellets of *Polyphylla* larva obtained from Mount Hermon June beetle mating locations contained tissue from flowering plants, ferns, and fungi (Hill and O'Malley 2009).

During the summer, adult Mount Hermon June beetles are active between approximately 7:00 p.m. and 10:00 p.m., with peak activity usually between 8:45 p.m. and 9:30 p.m. At dusk, adult males emerge from the soil, fly up through herbs and shrubs, and then fly low to the ground in search of flightless females, which emerge from the soil but remain on the surface of the ground and can be found by males which sense their pheromones. After mating occurs on the soil surface, females burrow underground where they presumably lay eggs.

A seasonal capture-recapture study suggested that adult males live no longer than eight days and that most males have home ranges of less than a few acres (Arnold 2001). The maximum dispersal distance documented for adult male Mount Hermon June beetles is 923 feet (Arnold 2000). Similar data on lifespan and dispersal of females are lacking at this time because they are so infrequently observed.

The Mount Hermon June beetle can be distinguished from three congeners (species of the same genus) which also occur in central Santa Cruz County by the presence of

relatively dense, long, erect hairs that are scattered over the elytra (leathery forewings), and short erect hairs on the pygidium (last abdominal segment) (Young 1967, 1988). Adult males are typically 20 millimeters (mm) long and 9.7 mm wide, while the slightly larger females are approximately 22 mm long and 12 mm wide (Hill and O'Malley 2009).

3.2.2 Zayante band-winged grasshopper (*Trimerotropis infantilis*)

Status

The Zayante band-winged grasshopper is a member of the family Acrididae (Insecta: Orthoptera; Figure 4). The species was listed as federally endangered on January 24, 1997 (USFWS 1997). Critical habitat has been designated for this species in 2001 (USFWS 2001).

Description and Life History

The Zayante band-winged grasshopper is a small (0.5-0.9 inch), pale grey to light brown grasshopper (that features pale yellow hindwings, pale blue tibiae and a band across the eyes (Figure 4). This univoltine species features a one-year lifecycle in which it undergoes hemimetabolous (incomplete) metamorphosis. During the adult flight season, which is between May and October (USFWS 2001), grasshoppers mate and lay eggs which overwinter in the soil.



Figure 4: Zayante band-winged grasshopper. Photograph by Jodi McGraw.

Little information is available about the timing and factors influencing egg hatching. Nymphs have been observed as early as April, suggesting eggs hatch in early spring. The timing of the flight season appears to be influenced by temperature; McGraw (2014) found that the peak of the flight season in the Quail Hollow Quarry Conservation areas was negatively correlated with mean average daily temperature between November 1 and October 31.

Nymphs (immatures) develop through five instars during the spring and early summer. Adults are observed as early as May (USFWS 2001), although adult activity typically peaks in July and August (Arnold 2004). Adults remain active until the first hard rainfall event, which typically occurs in October or early November (Arnold 2004).

Distribution and Habitat Characteristics

The Zayante band-winged grasshopper occurs in the sandhills ecosystem, which occurs on Zayante sand soil in central Santa Cruz County. Zayante band-winged grasshoppers are known from approximately 20 historic locations, though are currently thought to occur in just five primary areas in the vicinity of Mount Hermon, Felton, Ben Lomond, Zayante, and Scotts Valley (Arnold 2004, USFWS 2009). The amount of

habitat which is presently occupied by the Zayante band-winged grasshopper is unknown; however, given the limited distribution of open sandhills habitat, it is likely less than 500 acres.

Within the sandhills, the species is primarily associated with open, sunlit areas that are sparsely vegetated, including open sand parkland habitat. The species is most commonly observed within the five sand parkland plant associations (i.e. vegetation types) within the Sandhills, where it feeds on silver bush lupine (*Lupinus albifrons* var. *albifrons*) and golden aster (*Heterotheca sessiliflora* ssp. *echioides*), as well as grasses (Poaceae; Chu 2002). However, Zayante band-winged grasshopper is also observed within the other associations, which occur as a complex mosaic within the sandhills.

Critical Habitat

In 2001, the Service designated 10,560 acres in central Santa Cruz County within the known distribution of the Zayante band-winged grasshopper as critical habitat for the Zayante band-winged grasshopper. The primary constituent elements of critical habitat for the Zayante band-winged grasshopper are the presence of Zayante soils, the occurrence of Zayante Sandhills habitat and the associated plant species, and certain microhabitat conditions, including areas that receive large amounts of sunlight, widely scattered tree and shrub cover, bare or sparsely vegetated ground, and loose sand (USFWS 2001).

This proposed project occurs within the boundaries of designated critical habitat for the Zayante band-winged grasshopper. Areas of sand parkland that surround the tank constitute critical habitat for this species.

Occurrence within the Project Area

The Zayante band-winged grasshopper occurs in the sand parkland habitat atop Mount Hermon (McGraw 2011b), and in the adjacent Western Perimeter Set Aside of the Hanson Quarry, to the east of the project area. A 2011 presence/absence survey of the County parcel failed to detect the species; however, it was observed in adjacent sand parkland habitat 200 feet north of the water tank. Additionally, the species was reportedly observed sunning in the graveled portion of the access road that lies between the existing probation water tank and the Quarry Road (Arnold and Bandel 2014).

3.3.3 Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*)

Description and Conservation Status

The Ben Lomond spineflower is a small annual herb of the buckwheat family (Polygonaceae). It can grow up to 10 inches high, but more typically grows no more than a few inches above ground. Flower clusters and associated structures are pink with small distinct heads. Whorls of bracts below the flowers are 0.06 to 0.09 inch long and have pink margins (Figure 5).

The Ben Lomond spineflower was listed as federally endangered on February 4, 1994 (USFWS 1994). Critical habitat has not been designated for the Ben Lomond spineflower.



Figure 5: Ben Lomond spineflower inflorescence (left) and patch of plants (right). Photographs by Jodi McGraw.

Distribution and Habitat Requirements

The Ben Lomond spineflower is endemic to the Sandhills and restricted to sandy soils of the Zayante series. Specifically, the Ben Lomond spineflower requires sandy soils in open, sparsely vegetated areas (McGraw and Levin 1998, McGraw 2004a,b). The core of current and historical populations of the species occurs in the vicinity of Mount Hermon, Felton, Ben Lomond, Zayante, Scotts Valley, and Bonny Doon. Population sizes vary widely from year to year due to interannual variability in climate, particularly rainfall (McGraw 2004b). No information is available regarding the current or historical number of populations. However, a very rough estimate of total potential habitat is approximately 900 to 2,000 acres (USFWS 2007).

Life History

The Ben Lomond spineflower is a short-lived annual species. Seeds germinate in late

fall after the first substantial rains. Plants form a basal rosette of leaves in the winter, bolt in late February and early March, flower March-May, then seed between June and July. (McGraw and Levin 1998, McGraw 2004a, McGraw 2004b). In open habitat, the Ben Lomond spineflower can reach seedling densities of hundreds to thousands per square meter (Kluse and Doak 1999; McGraw 2004b). When in bloom, the Ben Lomond spineflower often appears as a spreading mat of small, showy, pink flowers.

Occurrences within the Project Area

The Ben Lomond spineflower occurs patchily and at overall low frequency and abundance within the County parcel, where it is found in canopy gaps in the silverleaf manzanita chaparral and areas of sparse herbaceous plant cover in the sand parkland. Surveys of the project area during May and June 2015 for this project identified occurrences of this species along the paved access road (Biotic Resources Group 2015) and on the south and west-facing slope of the leveled parking pad that will be used for the temporary tanks (J. McGraw, pers. obs.). These areas feature frequent soil disturbances which create opportunities for the Ben Lomond spineflower to establish, survive, and reproduce in Sandhills areas that are otherwise dominated by competitive, non-native herbaceous plants (McGraw 2004a, 2004b).

3.3 Other Sandhills Endangered Species in Region

The Sandhills communities support other special-status plant and animal species, including three other federally-endangered species (Table 2). Santa Cruz kangaroo rat (*Dipodomys venustus venustus*) occurs within County's parcel and the Western Perimeter Set Aside of the Hanson Quarry (Biosearch Associates 2013). This nocturnal small mammal was observed in two traps located 150' north of Graham Hill Road, along the paved access road on the eastern portion of the project area (Biosearch Associates 2013). Impacts to this species during construction will be avoided by conducting construction during daylight hours and installing construction fencing (ESA fencing) to restrict vehicle access to the paved roadway; erecting such fencing around the project footprint will prevent impacts to adjacent habitat.

Ben Lomond buckwheat occurs scattered throughout the disturbance envelope centered on the probation tank, including on the slope that will be excavated to widen the pad, and the area along the Quarry Road where equipment will be parked to assemble the new tank.

Silverleaf manzanita is widespread on the County's parcel though does not occur within the disturbance envelope of the proposed project. The species lines the Quarry Road and occurs adjacent to, though not within, the section of dirt road proposed for staging.

Table 2: Occurrence of special-status species within the Santa Cruz Sandhills within

the San Lorenzo Valley Water District Project Area

Common Name	Status	Occurrence Within	
		Project Area	Project Parcel
Santa Cruz kangaroo rat (<i>Dipodomys venustus venustus</i>)	California Species of Special Concern	Present	Present
Mount Hermon June beetle (<i>Polyphylla barbata</i>)	Federally Endangered	Present	Present
Zayante band-winged grasshopper (<i>Trimerotropis infantilis</i>)	Federally Endangered	Present	Present
Ben Lomond spineflower (<i>Chorizanthe pungens</i> var. <i>hartwegiana</i>)	Federally Endangered; List 1B.1 ¹	Present	Present
Santa Cruz wallflower (<i>Erysimum teretifolium</i>)	Federally Endangered; California Endangered; List 1B.1	Absent	Absent
silverleaf manzanita (<i>Arctostaphylos silvicola</i>)	List 1B.3	Present	Present
Ben Lomond buckwheat (<i>Eriogonum nudum</i> var. <i>decurrens</i>)	List 1B.1	Present	Present

¹ Most rare, threatened, or endangered plants in California and elsewhere (CNPS 2015)

Section 4

Potential Biological Impacts/ Take Assessment

4.1 Direct and Indirect Impacts

4.1.1 Direct Impacts

The proposed project to cause take of Mount Hermon June beetles and Zayante band-winged grasshopper and impacts to the Ben Lomond spineflower by causing mortality of individuals and both permanent and temporary habitat loss. Computer aided design (CAD) drawings of the proposed project were used to calculate the following aspects of each project, which are listed in Table 3:

1. **Footprint:** The actual area of the project improvements and activities, including the new tank area.
2. **Adjacent Disturbance:** The area adjacent to the project footprint that will be disturbed (covered, displaced, etc.) during construction.
3. **Total Disturbance Envelope:** The footprint plus the adjacent disturbance.
4. **Non-Habitat within the Disturbance Envelope:** The area within the Total Disturbance Envelope that does not consist of habitat, because it is already covered by existing, impervious surfaces, including the existing tank and adjacent pavement.
5. **Total Habitat Disturbed:** The Total Disturbance Envelope minus the Non-Habitat within the Disturbance Envelope.
6. **Temporary Habitat Disturbance:** The area of habitat that will be disturbed to construct the project, but will *not* be permanently impacted as by covering with impervious surfaces, and instead will be restored following implementation of the project.
7. **Permanent Habitat Disturbance:** The Total Habitat Disturbed minus that area of Temporary Habitat Disturbance.

Permanent Habitat Loss

Replacement of the probation water tank and associated improvements will result in the permanent loss of 4,500 ft² (0.103 acre) of habitat (Table 3). This is the area of existing open soil that will be permanently covered by the footprint of the project components. Much or all of this area provides breeding habitat for the Mount Hermon June beetle and potentially suitable habitat for dispersal and feeding of Zayante band-winged grasshopper, though the latter species is unlikely to breed in this area based on the low frequency of observations and the dense

vegetation and high shade conditions it creates. This area was not occupied by the Ben Lomond spineflower.

The 4,500 ft² (0.103 acre) of habitat that will be lost has been degraded as a result of prior land use activities, including installation and maintenance of the existing water tank and adjacent telecommunications tower. These activities have compacted the soil and reduced the abundance of plants and thus the food supply for the listed insects. Nonetheless, the habitat supports native plants including Ben Lomond buckwheat, Ben Lomond spineflower, ponderosa pine, coast live oak, and silver bush lupine, among other native species that occur in the sandhills and may be important for the listed species.

Temporary Habitat Loss

Vegetation removal and soil disturbance are anticipated to cause temporary habitat loss within 10,500 ft² (0.241 acres). Of this, 6,500 sf surrounds the existing probation tank, and includes a mix of intact sand parkland habitat, and areas such as the parking pad which have been degraded as a result of soil compaction and installation of base rock. The area of relatively intact habitat includes 925 sf (0.021 acres) occupied by the Ben Lomond spineflower.

The remaining 4,000 sf of habitat that will be temporarily disturbed is located in the staging area along the dirt access road south of the tank. This habitat is highly degraded as a result of prior vehicle use, which has compacted the soil and removed all aboveground plant cover. The soil likely still features roots from adjacent vegetation, and may be occupied by Mount Hermon June beetles which has been recovered in such denuded areas. The fossorial species could be further impacted by compaction associated with vehicle use and parking, and materials stockpiling and lay down during construction. Such activities will not impact Zayante band-winged grasshopper or Ben Lomond spineflower, which do not occur in this portion of the project parcel.

Following construction, the 6,500 sf area of habitat around the probation tank, which includes the 925-square-foot area occupied by the Ben Lomond spineflower. Restoration will include recontouring the soil and sowing seed of native plant species collected on site, including the seed salvaged from Ben Lomond spineflower during the summer prior to construction (2016). Given the species' adaptation to soil disturbance (McGraw 2004), the Ben Lomond spineflower population is anticipated to increase relative to what is currently found within the site (13 plants in 2015). Mount Hermon June beetles are anticipated to recolonize the disturbed soil following restoration, which is similarly anticipated to restore the plant community structure and species composition of the sand parkland habitat that supports Zayante band-winged grasshopper. Thus, the impacts to habitat for listed species in this area are anticipated to be temporary.

As the dirt access road used for staging will continue to be used by vehicles not associated with the project, it will not be restored; it may be naturally recolonized by native plants from seed in adjacent habitat or the soil seed bank if vehicle use is infrequent.

Table 3: Size (square feet) of temporary and permanent impacts in the two project areas (Figure 2). The habitat disturbed is the total disturbance envelope minus the area of non-habitat (e.g. existing impervious surfaces) within the project's total disturbance envelope. Habitat area disturbed that will ultimately be covered by impervious surfaces constitute permanent habitat removal, while adjacent areas of soil disturbance are temporary.

Column Identifier	Project Area (Square feet)			4	Habitat Disturbed (square feet)		
	1	2	3		5	6	7
Project Component	Footprint	Adjacent Disturbance	Total Disturbance Envelope (1+2)	Non-Habitat within Disturbance Envelope	Total (3-4)	Temporary	Permanent (5-6)
Tank Replacement	6,200	6,500	12,700	1,700	11,000	6,500	4,500
Staging	4,000	0	4,000	0	4,000	4,000	0
Total	10,200	6,500	16,700	1,700	15,000	10,500	4,500

4.1.2 Indirect Effects

Indirect impacts are effects caused by covered activities that may occur at a different time or in a different place than the direct impacts. The project is designed to minimize indirect effects for the Mount Hermon June beetle, Zayante band-winged grasshopper, and Ben Lomond spineflower. During construction, any exposed soil created during construction within the Mount Hermon June beetle flight season will be covered before 7 p.m. each night with tarps, to prevent dispersing males from burrowing into soil within the project area and then being impacted by ongoing construction. The District will not install outdoor lights, which might otherwise facilitate emergency maintenance of the tank at night and deter trespass and vandalism. Avoiding installation of outdoor night lights will prevent disruption of the species' breeding behavior, since male Mount Hermon June beetles are attracted to lights. Additionally, the District will install an 8-foot-wide pedestrian path rather than typical 15-foot-wide road around the tank for maintenance. This will avoid vehicle collisions with the listed insects in the area surrounding the tank. Any maintenance activities will be confined to this path and the adjacent area of permanent habitat loss.

4.2 Anticipated Take of Covered Species

4.2.1 Mount Hermon June Beetle

The proposed project could cause mortality of Mount Hermon June beetles that might occur within the 15,000 ft² (0.344 acre) of suitable habitat that will be disturbed and/or covered by as a result of the project. Anticipated to be implemented between December and April, the project would most likely affect larva and pupae, with a lower likelihood of causing take of adults. Impacts to individuals will be reduced by having a biologist on site to capture and relocate any beetles observed during construction, though some of these individuals may suffer morbidity or mortality due to translocation.

The project will also permanently remove 4,500 ft² (0.103 acre) of habitat for the Mount Hermon June beetle. Based on the consistently high density of Mount Hermon June beetle trapped during surveys of the site, much of this habitat surrounding the tank is considered to be of high quality for this species.

Following restoration, the Mount Hermon June beetle is anticipated to recolonize portions of the 6,500 sf area of temporary habitat disturbance where it might be eliminated as a result of construction activities, including vegetation removal and grading. The restoration will incorporate native plant species upon which the Mount Hermon June beetle feeds.

4.2.2 Zayante Band-Winged Grasshopper

The proposed project could impact Zayante band-winged grasshoppers within the 11,000 sf (0.253 ac) of potentially suitable habitat located in the tank replacement area. During the anticipated period of construction (December to April), the site may be occupied by eggs and nymphs; adults are less likely to be present during this time of year. The biologist on site will herd any Zayante band-winged grasshoppers out of harm's way, thus reducing impacts to individuals.

The project will also permanently remove 4,500 ft² (0.103 acre) of habitat for the Zayante band-winged grasshopper atop Mount Hermon. Due to the relatively dense tree canopy, dense litter cover on the soil surface, and only low frequency of observations of the species in this project area, relatively to adjoining habitat with more open canopy conditions where the species is more frequently observed, the habitat that will be removed by this project is considered to be of only moderate quality for Zayante band-winged grasshopper.

The Zayante band-winged grasshopper is anticipated to be able to utilize the 6,500 sf area of temporary habitat disturbance that will be restored following completion of the project. Restoration will be designed to re-create the plant community structure and species composition of open sand parkland habitat, in which this species primarily occurs.

4.2.3 Ben Lomond Spineflower

The proposed project will impact Ben Lomond spineflower seeds, seedlings, and flowering plants within the 11,000 sf (0.253 acre) disturbance envelope surrounding the existing tank. In 2015, 13 individual Ben Lomond spineflower were observed aboveground within a 925 sf (0.021 acres) east of the access road. The aboveground population may change in future years. Moreover, other portions of the project disturbance envelope may contain dormant seed of this species within the soil (i.e. a soil seed bank). Therefore, the project is anticipated to impact up to 11,000 sf of habitat with the potential to be occupied by Ben Lomond spineflower.

To limit the impacts on Ben Lomond spineflower, seed of aboveground plants will be salvaged prior to construction. The collected seed will be dispersed into suitable habitat as part of work to restore the 6,500 sf area of temporary habitat disturbance following completion of the project. Given the species' adaptation to disturbance, Ben Lomond spineflower populations are anticipated to be greater following completion of this project.

4.3 Effects on Critical Habitat

This proposed project occurs within the boundaries of designated critical habitat for the Zayante band-winged grasshopper. The sand parkland habitat that occurs within the 11,000 sf (0.344 acre) disturbance envelope surrounding the tank constitutes critical habitat for this species. Therefore, the proposed project will permanently remove 4,500 sf (0.103 acres) of critical habitat for the Zayante band-winged grasshopper. An additional 6,500 sf (0.149 acres) of critical habitat will be temporarily removed but then actively restored as part of the proposed project.

The staging area occurs on a denuded and likely compacted dirt road located in an area of otherwise dense ponderosa pine forest which does not feature the open, sparsely vegetated, loose sand soil that represents the primary constituent elements of critical habitat for the Zayante band-winged grasshopper. Critical habitat has not been designated for the Mount Hermon June beetle or Ben Lomond spineflower.

4.4 Anticipated Impacts of the Taking

Neither the mortality of the listed species occupying up to the 15,000 ft² (0.344 acre) of suitable habitat proposed to be disturbed during project construction, nor the permanent removal of

4,500 ft² (0.103 acre) of habitat due to replacement of the existing probation water tank with a larger tank, are anticipated to affect the viability of the three listed species within the Mount Hermon area, or persistence of the species as a whole. Moreover, the project is extremely unlikely to influence successful recovery of the endangered species. This assessment is made based on several interrelated factors including:

1. The small area of habitat that will be removed;
2. The degraded nature of portions of the habitat immediately surround the tank and in the staging area; and
3. The existing development within the project area.

As a result of historic land use, sandhills habitat surrounding the existing probation tank has been degraded. Despite this, the habitat may support persisting populations of the endangered Mount Hermon June beetle, which lives 99% of its live cycle below ground. Likewise, Ben Lomond spineflower likely features a below-ground seed bank from which populations can re-establish following disturbances which recreate suitable habitat (McGraw 2004a,b). The Zayante band-winged grasshopper can utilize areas of disturbance as well, particularly if the disturbances creates and maintain open, sunlit conditions characterized by sparse plant cover.

Nonetheless, occurrence of the project area within an existing utility easement area featuring water and telecommunications facilities greatly limits opportunities for permanent conservation through acquisition or conservation easements. The facilities located atop Mount Hermon are important for water supply and cellular telephone as well as emergency telecommunications.

Habitat outside of developed portion of the County parcel is of very high conservation value. It supports six of the seven endemic Sandhills species (Table 2). The site is utilized as a control or reference site for presence/absence surveys, as Mount Hermon June beetles are often observed at the site during the flight season. These surveys suggest that the density of Mount Hermon June beetle within the parcel is high, even relative to other conservation areas featuring high-quality sandhills habitat (McGraw 2009, 2010, 2011a, 2012, 2013, 2014b, and 2015a). Given the apparently large population, the relatively large size of the parcel, the intact nature of the habitat, and its location adjacent to other protected habitat (Henry Cowell State Park and Hanson Quarry Conservation Area), maintaining remaining habitat within the County parcel can promote persistence of the Mount Hermon June beetle, as well as other special-status species (Table 2). These sandhills species face numerous threats from on-going activities associated with development and associated land use, including: landscaping, irrigation, and mowing; night lighting; existing infrastructure, including buildings, recreational areas (swimming pool and play fields), and paths (USFWS et al. 2011).

4.5 Cumulative Impacts

In contrast with the analysis of cumulative impacts under section 7, section 10 of the Act and HCPs analyze cumulative impacts as incremental impacts of the action on the environment when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. The geographic area for analysis should be defined by the manifestation of direct or indirect impacts as a result

of covered activities. Cumulative impacts under section 10 of the Act can result from individually minor but collectively significant actions taking place over a period of time.

The impacts of the proposed project on the persistence of the endangered Mount Hermon June beetle are very low, owing not only to the small size of the project, but also its occurrence in an already developed portion of the County's parcel. Other activities on the site, including maintenance and expansion of the telecommunications facility north of the tank site, and the County Juvenile Detention Facility in the southern portion of the parcel, may continue to reduce habitat for the species. Notably, the County is currently applying for permits to construct a multi-use facility within the existing fenced yard of the detention facility. This project is anticipated to impact 8,225 sf (0.189 acres) of habitat for Mount Hermon June beetle on site, though will not affect the other federally endangered species. As part of the County's habitat conservation plan for the project, the County proposes to mitigate impacts to the Mount Hermon June beetle by controlling invasive plants, including Portuguese broom (*Cytisus striatus*) and French broom (*Genista monspessulana*) within a 4.4-acre area of the parcel, including much of the area between the facility and the Probation Water Tank (McGraw 2015c). If implemented, that project will enhance habitat for Mount Hermon June beetle, as well as Ben Lomond spineflower and Zayante band-winged grasshopper within the County parcel.

Given its adjacency to protected lands, including Henry Cowell State Park and the Hanson Quarry West Perimeter Set Aside (Figure 2), it is unlikely that facility development within the County parcel will extirpate the Mount Hermon June beetle from the patch of sandhills habitat on which it occurs. Likewise, impacts to Ben Lomond spineflower in the 925 sf area are unlikely to impact the population, which instead is anticipated to increase as a result of revegetation efforts implemented as part of the project. Finally, expansion of the tank footprint is unlikely to affect persistence of the Zayante band-winged grasshopper in the sand parkland atop Mount Hermon. As a result, the cumulative impacts of this project on the persistence of the three federally listed species are anticipated to be small.

Section 5

Conservation Program/Measures to Minimize and Mitigate for Impacts

5.1 Biological Goals and Objectives

Section 10(a)(2)(A) of the Act requires that an HCP specify the measures that the permittee will take to minimize and mitigate to the maximum extent practicable the impacts of the taking of any federally listed animal species as a result of activities addressed by the plan.

As part of the “Five Point” Policy adopted by the Service in 2000, HCPs must establish biological goals and objectives (65 *Federal Register* 35242, June 1, 2000). The purpose of the biological goals is to ensure that the operating conservation program in the HCP is consistent with the conservation and recovery goals established for the species. The goals are also intended to provide to the applicant an understanding of why these actions are necessary.

These goals were developed based upon the species’ biology, threats to the species, the potential effects of the Covered Activities, and the scope of the HCP.

Goal 1: Avoid and minimize take of the Mount Hermon June beetle, Zayante band-winged grasshopper, and Ben Lomond spineflower within the project site.

Objective 1.1: Collect seed of Ben Lomond spineflower plants within the project disturbance envelope the summer preceding the project, and use the seed to restore the affected area post-project.

Objective 1.2: Monitor construction activities to: 1) capture and relocate any Mount Hermon June beetles observed during construction to intact habitat away from the construction activities, and 2) to herd out of harm’s way any Zayante band-winged grasshoppers observed in the project disturbance envelope.

Objective 1.3: Minimize removal of native Sandhills plant species.

Objective 1.4: Avoid landscaping with turf grass, weed matting, aggregate, and mulch.

Objective 1.5: Minimize night lighting during the flight season of the Mount Hermon June beetle.

Goal 2: Restore habitat within the area of temporary disturbance around the tank replacement area, to re-establish native plants including Ben Lomond spineflower, and restore habitat for the Mount Hermon June beetle and Zayante band-winged grasshopper.

Objective 2.1: Develop and implement a plan to restore habitat in the area of temporary impact, by controlling erosion and establishing native plants from site-collected propagules, including the Ben Lomond spineflower habitat salvaged from the impact area prior to project implementation, and host plants for the Mount Hermon June beetle and Zayante band-winged grasshopper.

Goal 3: Protect and manage habitat for the Mount Hermon June beetle, Zayante band-winged grasshopper, and Ben Lomond spineflower at an off-site location of high long-term conservation value to the species.

Objective 3.1: Set-aside, manage, and monitor habitat of high conservation value within the District's Olympia Wellfield. Alternatively, fund the protection, management, and monitoring habitat for the Mount Hermon June beetle through the purchase of conservation credits at a USFWS-approved conservation bank.

5.2 Avoidance, Minimization, and Mitigation Measures

Section 10 of the Act requires that all applicants submit HCPs that "minimize and mitigate" the impacts of take authorized by an incidental take permit, and that issuance of the permit will not "appreciably reduce the likelihood of the survival and recovery of the species in the wild." In general, HCPs should include mitigation programs that are based on sound biological rationale, practicable, and commensurate with the impacts of the project on species for which take is requested. Additionally, the Service encourages applicants to develop HCPs that contribute to the recovery of a listed species. If the proposed project is expected to result in permanent habitat loss, then the mitigation strategy must include compensatory mitigation consisting of the permanent preservation of suitable habitat or similar measures.

In accordance with these guidelines and the requirements of the Endangered Species Act, the Conservation Program of this HCP is intended to achieve its biological goals and objectives and to ensure and that the impacts of covered activities on the covered species are minimized and mitigated to the maximum extent practicable.

5.2.1 Measures to Minimize Impacts to the Covered Species

The following measures are designed to minimize impacts resulting from covered activities on the covered species by reducing impacts on individuals and habitat adjacent to the project area and existing development.

5.2.1.1: Salvage seed of the Ben Lomond spineflower and utilize it in restoration of the site.

During the summer prior to construction, a qualified biologist will collect the seed of all the Ben Lomond spineflower within the project impact area. The seed will be stored off site in appropriate climate-controlled conditions for use in the larger effort to restore temporarily disturbed habitat surrounding the tank (Measure 5.2.2.1).

5.2.1.2: Fence the perimeter of the project footprint to prevent inadvertent

impacts to adjacent habitat.

Prior to initiation of ground-disturbing activities, the perimeter of the project footprint will be fenced using orange construction fencing, in order to ensure that all ground-disturbance is confined to the impact area. The site will be monitored to ensure that the fence remains intact and that crews are limiting project activities to the project disturbance envelope.

5.2.1.3: If ground disturbing activities are conducted during the flight season of the Mount Hermon June beetle, cover exposed soil nightly to avoid impacts to dispersing males.

Adult male Mount Hermon June beetles actively search for mates and breed during the evenings for approximately 12-14 weeks sometime between May 1 and August 30. During this period, males and females may burrow into duff and soils at relatively shallow depths for protection during the daytime hours. Every attempt will be made to conduct soil disturbing aspects of the project outside of the adult flight season. If construction occurs during any part of the flight season, tarps or other impermeable material will be used to cover open soil each night by 7:00 p.m. This will prevent adult males from burrowing into the exposed area and then being impacted by subsequent soil disturbance (digging, grading, or covering).

5.2.1.4: Train all construction personnel regarding the covered species.

Prior to initiation of any ground-disturbance, a qualified biologist will conduct a pre-construction training that will be attended by all on-site construction personnel, to facilitate their implementation of species protection measures. The training will include a fact sheet that will provide information about the ecology and threats to the covered species, as well as other special-status species occurring in the project area, including the Santa Cruz kangaroo rat, Ben Lomond buckwheat, and silverleaf manzanita. The fact sheet will include pictures of each species and outline the avoidance and minimization measures that personnel must implement during the course of the project to protect them.

5.2.1.5: Monitor all ground-disturbing activities to reduce impacts to the covered species.

A qualified biologist will be on-site during all ground-disturbing activities when Mount Hermon June beetles or Zayante band-winged grasshoppers have the potential to be impacted by the project. Work crews will be instructed during the pre-construction training to cease activities that can impact the listed insects, until the biologist can safely remove them from the area. The biologist will herd out of harm's way any Zayante band-winged grasshoppers that are found in the project area. The biologist will capture and relocate any Mount Hermon June beetle to the intact habitat surrounding the impact area. Adults or larvae that are unearthed through soil disturbance will be re-buried at the approximate depth at which they

were unearthed. If an adult Mount Hermon June beetle is found on the soil surface, then it will be relocated to a portion of the project site outside of the impact area and left on the soil surface in a location protected by vegetation.

5.2.1.6: Avoid outdoor lighting.

Adult Mount Hermon June beetles are distracted by light during the night, which can disrupt breeding activity. The existing water tank and telecommunications facility lack night lights; instead, the nearest lights are 700 feet south at the Juvenile Detention Facility. Recognizing that installing night lights for emergency tank maintenance and to deter trespass and vandalism could disrupt breeding within the Mount Hermon June beetle population atop Mount Hermon, the District will not install any lights on the new tank facility as part of this project.

5.2.1.7: Avoid ground cover that degrade habitat for the listed species.

Mount Hermon June beetles emerge from under the soil surface to attract and locate mates. Zayante band-winged grasshoppers utilize areas of generally open, loose sandy soil lacking dense vegetation. The Ben Lomond spineflower is inhibited by competition from dense vegetation and also litter or other material that covers the soil surface. Accordingly, the District will not install any landscaping elements that impact these species, such as turf grass, dense ground cover plants (e.g. ivy), weed matting, aggregate, and mulch.

5.2.2 Measure to Mitigate Unavoidable Impacts

5.2.2.1: Restore temporarily disturbed habitat within the tank replacement.

Following completion of the project, the estimated 6,500 sf area surrounding the water tank that will not be covered by impervious surfaces, but will be disturbed as a result of construction activities including equipment access, vegetation clearing, and grading, will be restored.

The objective of the restoration will be to re-create the native plant structure and species composition of the sand parkland community within the area, which provides suitable habitat for the three covered species. The restoration methods will be described in a plan developed near the end of construction to address the post-project conditions including soils, hydrology, and existing vegetation. These will be evaluated to identify the specific restoration treatments, which are anticipated to include: 1) erosion control treatments that are compatible with the listed species, as needed, to stabilize the soil, 2) collection and dispersal of site-collected seed, to maintain the genetic integrity of the community on site, and 3) propagation and outplanting of native plants, as needed, to complement the plant that naturally recruit or establish from seed.

The restoration will incorporate the seed of the Ben Lomond spineflower that will be collected from the impact area prior to construction (Measure 5.2.2.1). Ben Lomond spineflower seed will be dispersed into portions of the restoration area that feature

appropriate soil and open canopy conditions. The restoration will also include Ben Lomond buckwheat, a special-status species endemic to the sandhills, which occurs throughout the tank replacement area.

The restoration will be designed to promote establishment of native plant species that are host plants or provide important habitat for the listed insects. These include silver bush lupine (*Lupinus albifrons* var. *albifrons*) and sessile false goldenaster (*Heterotheca sessiliflora* ssp. *echioides*), which are utilized by the Zayante band-winged grasshopper (Chu 2002), and broad range of native flowering plants and ferns (e.g. bracken fern, *Pteridium aquilinum* var. *pubescens*), which were identified as food plants for Mount Hermon June beetle larvae (Hill and O'Malley 2009).

The restoration plan will address any disturbance that occurs within intact habitat adjacent to the dirt access road that will be used for staging and materials lay down. Such impacts are anticipated to be prevented by erection of construction fencing between the edge of the road, and the adjacent habitat (Measure 5.2.1.2). The 4,000 sf of the existing dirt access road that will be used for staging area will not be restored and instead will remain open for ongoing utility and emergency access within the parcel.

5.2.2.2: Mitigate the direct impacts to individuals and permanent impacts habitat that will occur in a total of 15,000 ft² (0.344 acre) of habitat by protecting and managing 0.895 acres in the Olympia Wellfield, or purchasing 19,500 sf conservation credits at the Zayante Sandhills Conservation Bank.

To mitigate the unavoidable impacts to the listed species, the District will implement one of two alternative approaches to off-site mitigation (Table 4).

In Option 1, the District will set aside and manage 0.895 acres high-quality sandhills habitat which supports the three covered species within the Olympia Wellfield—a 170-acre property owned by the District and managed for water supply and watershed protection. Of the 0.895 acres, 0.413 acres will be set aside to mitigate the project's permanent impacts to 0.103 acres at a 4:1 ratio—this reflects the high quality of the habitat that will be lost in the tank replacement area. The remaining 0.482 acres will mitigate the temporary impacts of the project (0.241 acres) at a 2:1 ratio. This lower ratio is appropriate, as the 0.149 acres of habitat that will be temporarily impacted in the tank replacement area will be restored, and the 0.092 acres in the staging area consists of a dirt road that is already highly degraded habitat.

The 0.895 acres used as off-site mitigation for this project will be part of a larger approximately 5.5-acre area of high quality, sand parkland habitat that the District will set aside and manage within the Olympia Wellfield (Figure 6). The set aside will be located on the southern portion of the property as illustrated in Figure 4). This area features exceptional conservation value because it: 1) features intact sand parkland habitat, 2) supports known populations of six endemic sandhills species, including all four federally listed endangered sandhills species (Table 2), and 3) is located adjacent to other protected sandhills habitat, which it will expand and buffer. The District will use the remainder of this area (4.6 acres), as needed, to mitigate the impacts of future water supply projects that impact the listed species benefited

by the habitat protection and management. Such mitigation will be the subject of future plans or permitting documents developed pursuant Section 10(a)1(b) or Section 7 of the federal Endangered Species Act.

The precise boundaries of the habitat set aside, as well as the methods the District will use to manage and monitor the area, will be outlined in a habitat management and monitoring plan (HMMP), which will also describe the measures that will be taken to minimize adverse effects to the listed species resulting from the management and monitoring activities. The HMMP will be developed within six months of permit issuance, and will be subject to approval by the US Fish and Wildlife Service.

As an alternative to the off-site mitigation described above, the District may elect to purchase 19,500 sf conservation credits at the Zayante Sandhills Conservation Bank, which protects and restores habitat for all four federally-listed endangered sandhills species, including the three species covered by this plan (Table 2).

Of the 19,500 sf credits, 9,000 sf credits will be purchased to mitigate the 4,500 sf of permanent habitat impacts at a ratio of 2:1; this reflects the quality of much of the habitat surrounding the existing tank, which will be impacted by the replacement tank. An additional 10,500 sf credits will be purchased to mitigate the temporary habitat impacts at a ratio of 1:1. This lower ratio is appropriate because the 6,500 sf of habitat that will be temporarily impacted in the tank replacement area will be restored (Measure 5.2.1.1), and the 4,000 sf of habitat in the staging area consists of a dirt road that is already highly degraded.

Table 4: Optional approaches to off-site mitigation for unavoidable impacts to the covered species, showing the habitat impacts, proposed multiplier, which indicates the ratio at which mitigation is being provided relative to the impacts, and the resulting total acres or credits for mitigation.

Option	Summary	Habitat Impact Type	Impacts (ac.)	Multiplier	Mitigation (ac.)
1: Off-site mitigation at the District's Olympia Wellfield	Set aside and manage 5.5 acres of high-quality sand parkland, of which 0.895 acres will be used to mitigate the impacts of this project. ¹	Permanent	0.103	4	0.413
		Temporary	0.241	2	0.482
		Total	0.344		0.895
			Impacts (sf.)	Multiplier	Mitigation (sf credits)
2: Off-site mitigation at the Zayante Sandhills Conservation Bank	Purchase conservation credits being sold for the Ben Lomond Sandhills Preserve	Permanent	4,500	2	9,000
		Temporary	10,500	1	10,500
		Total	15,000		19,500

¹ The remaining 4.6 acres will be available as mitigation for future District projects, subject to USFWS approval and permitting.

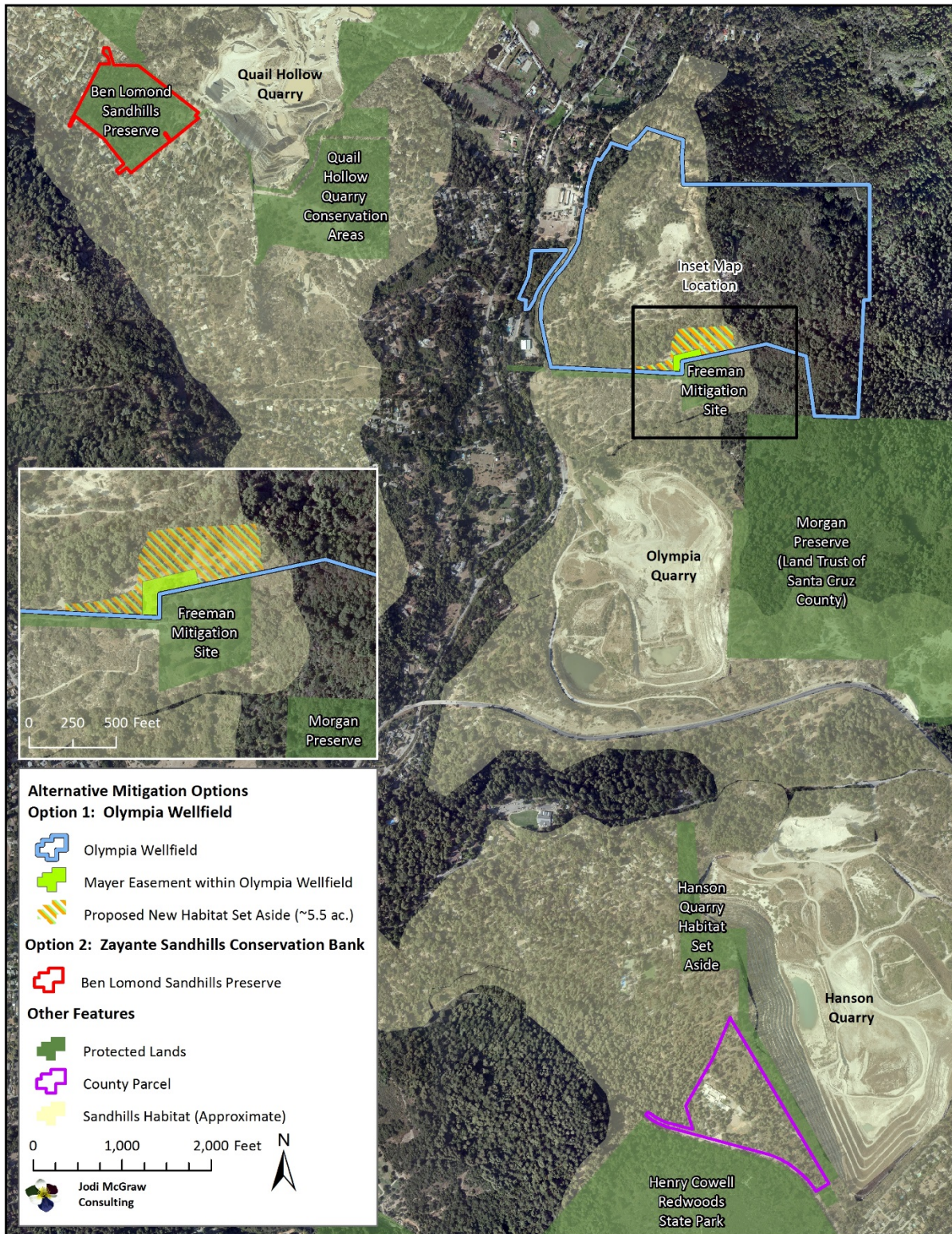


Figure 6: Location of the two alternative off-site mitigation areas, the District’s Olympia Wellfield and the Zayante Sandhills Conservation Bank’s Ben Lomond Preserve, with respect to the County of Santa Cruz parcel where the Probation Tank Replacement Project will occur (APN: 061-371-16).

5.4 MONITORING

Monitoring tracks compliance with the terms and conditions of the HCP and permit. This project will include compliance monitoring to track the permit holder's compliance with the requirements specified in the HCP and permit, as described below. It will also include biological effectiveness monitoring to evaluate effects of the habitat management at the habitat set-aside within the Olympia Wellfield, unless the District elects to instead purchase conservation credits from the Zayante Sandhills Conservation Bank, in which case effectiveness monitoring will be the responsibility of the bank operator.

5.4.1 Construction and Compliance Monitoring

Pre-construction Orientation: Prior to construction, a qualified biologist will conduct a construction crew training, in which individuals involved in construction will be provided a brief presentation about the biology of the covered species and will be shown pictures of the species during their various life stages (Figures 3-5) to aid their detection during construction. Construction personnel will be directed to cease work and immediately contact a biologist permitted to capture and relocate the Mount Hermon June beetle (larva or adults), or herd the Zayante band-winged grasshopper out of harm's way, should either species be observed within the project site.

Construction Monitoring: A qualified biologist will be present on-site during ground-disturbing activities to salvage and relocate any Mount Hermon June beetle or herd out of harm's way any Zayante band-winged grasshoppers. The biologist will also help the District ensure that the project impacts are confined to the designated project areas, and that open soil is covered nightly during the flight season to prevent Mount Hermon June beetles from entering the soil.

5.4.2 Effects Monitoring

To quantify the incidental take at the end of the project, a qualified biologist will calculate the area of soil disturbance and thus incidental take, and count the number of Mount Hermon June beetles and Zayante band-winged grasshoppers that were observed during construction. The biologist will also count the number of Ben Lomond spineflower plants in the impact area, prior to salvage of seed the summer before construction begins.

5.4.3 Access to Project Site

The permit holder shall allow representatives from the Service access to the project site to monitoring compliance with the terms and conditions of the HCP, and the effects of the project.

5.5 Reporting

By January 31 following each year of the permit, a qualified biologist will submit a report to the US Fish and Wildlife Service in order to document the status of the project. The report will include:

1. A brief summary of project activities accomplished during the reporting year (e.g. this includes development/construction activities, and other covered activities);

2. Project impacts;
3. Description of take that occurred (based on disturbance envelope);
4. Observations of any of the covered species;
5. Brief description of conservation strategy implemented;
6. Compliance monitoring results;
7. Description of any changed or unforeseen circumstances that occurred and how they were addressed;
8. Funding expenditures, balance, and accrual; and
9. Description of any minor or major amendments.

Should the District opt to mitigate impacts of the project at the Olympia Wellfield by setting aside and managing habitat, the report will also describe the habitat management conducted each year, the results of annual monitoring, and the plan for habitat management work the following year. The Habitat Management and Monitoring Plan prepared within 6-months of permit issuance will describe these and other contents of the annual report that will be prepared to document such off-site habitat mitigation. If the District instead elects to purchase conservation credits from the Zayante Sandhills Conservation Bank, monitoring will be the responsibility of the bank operator.

Section 6

Plan Implementation

6.1 Plan Implementation

The project will be implemented by the applicant, the San Lorenzo Valley Water District (District), and its contractors. Precise timing of the project will depend on when the incidental take permit is issued, with efforts made to avoid or minimize ground-disturbing activities during the flight season (Section 5.2.1).

6.2 Changed Circumstances

6.2.1 Summary of Circumstances

Section 10 regulations (69 *Federal Register* 71723, December 10, 2004 as codified in 50 Code of Federal Regulations (C.F.R.), Sections 17.22(b)(2) and 17.32(b)(2)) require that an HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. In addition, the HCP No Surprises Rule [50 CFR 17.22 (b)(5) and 17.32 (b)(5)] describes the obligations of the permittee and the Service. The purpose of the No Surprises Rule is to provide assurance to the non-Federal landowners participating in habitat conservation planning under the ESA that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee.

Changed circumstances are defined in 50 CFR 17.3 as changes in circumstances affecting a species or geographic area covered by an HCP that can reasonably be anticipated by plan developers and the Service and for which contingency plans can be prepared (e.g., the new listing of species, a fire, or other natural catastrophic event in areas prone to such event). If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program (e.g., the conservation management activities or mitigation measures expressly agreed to in the HCP), then the permittee will implement those measures as specified in the plan. However, if additional conservation management and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the plan's operating conservation program, the Service will not require these additional measures absent the consent of the permittee, provided that the HCP is being "properly implemented" (properly implemented means the commitments and the provisions of the HCP and the IA have been or are fully implemented).

Foreseeable changed circumstances within the project area of this HCP include:

- the new listing of a species; and
- the discovery of another federally-listed species (Table 2) within the project area.

6.2.2 Newly Listed Species

If a new species that is not covered by the HCP but that may be affected by activities covered by the HCP is listed under the Federal ESA during the term of the section 10 permit, the section 10 permit will be reevaluated by the Service and the HCP covered activities may be modified, as necessary, to insure that the activities covered under the HCP are not likely to jeopardize or result in the take of the newly-listed species or adverse modification of any newly designated critical habitat. The District shall implement the modifications to the HCP covered activities identified by the Service as necessary to avoid the likelihood of jeopardy to or take of the newly listed species or adverse modification of newly designated critical habitat. The District shall continue to implement such modifications until such time as the District has applied for and the Service has approved an amendment of the Section 10(a)(1)(B) permit, in accordance with applicable statutory and regulatory requirements, to cover the newly listed species or until the Service notifies the District in writing that the modifications to the HCP covered activities are no longer required to avoid the likelihood of jeopardy of the newly listed species or adverse modification of newly designated critical habitat.

The occurrence of a newly listed species at the project site during the course of the requested three-year permit is unlikely due to the small size of the project area, the degraded nature of the habitat, the land use history of the site.

6.2.3 Discovery of other currently listed species at the project site

In the event that one or more other already-listed endangered species are found at the site, the applicant will cease project activities that would likely result in incidental take of newly-discovered listed species, and apply for a permit amendment. It is very unlikely that other listed species will be discovered at the project site, due to the short duration of the project permit.

6.3 Unforeseen Circumstances

Unforeseen circumstances are defined in 50 CFR 17.3 as changes in circumstances that affect a species or geographic area covered by the HCP that could not reasonably be anticipated by plan developers and the Service at the time of the HCP's negotiation and development and that result in a substantial and adverse change in status of the covered species. The purpose of the No Surprises Rule is to provide assurances to non-Federal landowners participating in habitat conservation planning under the Act that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee.

In case of an unforeseen event, the permittee shall immediately notify the Service staff who have functioned as the principal contacts for the proposed HCP. In determining whether such an event constitutes an unforeseen circumstance, the Service shall consider, but not be limited to, the following factors: size of the current range of the affected species; percentage of range adversely affected by the HCP; percentage of range conserved by the HCP; ecological significance of that portion of the range affected by the HCP; level of knowledge about the affected species and the degree of specificity of the species' conservation program under the HCP; and whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

If the Service determines that additional conservation and mitigation measures are necessary to respond to the unforeseen circumstances where the HCP is being properly implemented, the additional measures required of the permittee must be as close as possible to the terms of the original HCP and must be limited to modifications within any conserved habitat area or to adjustments within lands or waters that already set-aside in the HCP's operating conservation program. Additional conservation and mitigation measures shall involve the commitment of additional land or financial compensation or restrictions on the use of land or other natural resources otherwise available for development or use under original terms of the HCP only with the consent of the permittee.

6.4 Amendments

6.4.1 Minor Amendments

Minor amendments are changes that do not affect the scope of the HCP's impact and conservation strategy, change amount of take, add new species, and change significantly the boundaries of the HCP. Examples of minor amendments include correction of spelling errors or minor corrections in boundary descriptions. The minor amendment process is accomplished through an exchange of letters between the permit holder and the Service's Field Office.

6.4.2 Major Amendments

Major amendments to the HCP and permit are changes that do affect the scope of the HCP and conservation strategy, increase the amount of take, add new species, and change significantly the boundaries of the HCP. Major amendments often require amendments to the Service's decision documents, including the NEPA document, the biological opinion, and findings and recommendations document. Major amendments will often require additional public review and comment.

6.5 Suspension/Revocation

The Service may suspend or revoke their permit if the District fails to implement the HCP in accordance with the terms and conditions of the permits or if suspension or revocation is

otherwise required by law. Suspension or revocation of the Section 10(a)(1)(B) permit, in whole or in part, by the Service shall be in accordance with 50 CFR 13.27-29, 17.32 (b)(8).

6.6 Permit Renewal

The applicant requests a three-year permit, to ensure that the covered activities, which are estimated to require six months, can be completed prior to permit expiration. The additional permit term will ensure that the work can be conducted during the appropriate season, regardless of when the permit is issued, and accommodate any delays.

Upon expiration, the Section 10(a)(1)(B) permit may be renewed without the issuance of a new permit, provided that the permit is renewable, and that biological circumstances and other pertinent factors affecting covered species are not significantly different than those described in the original HCP. To renew the permit, the property owner shall submit to the Service, in writing:

- a request to renew the permit; reference to the original permit number;
- certification that all statements and information provided in the original HCP and permit application, together with any approved HCP amendments, are still true and correct, and inclusion of a list of changes;
- a description of any take that has occurred under the existing permit; and
- a description of any portions of the project still to be completed, if applicable, or what activities under the original permit the renewal is intended to cover.

If the Service concurs with the information provided in the request, it shall renew the permit consistent with permit renewal procedures required by Federal regulation (50 CFR 13.22). If the property owners file a renewal request and the request is on file with the issuing Service office at least 30 days prior to the permits expiration, the permit shall remain valid while the renewal is being processed, provided the existing permit is renewable. However, the property owner may not take listed species beyond the quantity authorized by the original permit. If the property owner fails to file a renewal request within 30 days prior to permit expiration, the permit shall become invalid upon expiration. The District must have complied with all annual reporting requirements to qualify for a permit renewal. Should the District utilize the conservation bank for off-site mitigation, then the conservation bank operators must similarly have complied with all annual reporting requirements for the District's permit to be renewed.

6.7 Permit Transfer

If the proposed permit holder, the San Lorenzo Valley Water District, transfers the tank to another party during the period of the permit and that party agrees to implement the project and comply with the terms of the HCP, the permit can be transferred to the new project proponent.

In the event of sale or transfer of ownership of the property during the life of the permit, a new permit application, permit fee, and an Assumption Agreement will be submitted to the Service

by the new owner(s). The new owner(s) will commit to all requirements regarding the take authorization and mitigation obligations of this HCP unless otherwise specified in the Assumption Agreement and agreed to in advance with the Service.

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Section 7

Funding

7.1 Costs of HCP Implementation

Costs to implement the conservation strategy described in this plan are estimated in Table 5, which reflects costs for two alternative mitigation approaches (Table 4). In Option 1, the District will manage and monitor habitat within the 5.5-acre habitat set-aside located in the Olympia Wellfield. Costs for management and monitoring are assumed to average \$5,000 per year. In Option 2, the District will purchase conservation credits at the Zayante sandhills conservation bank (Section 5). Costs reflected in Table 5 are current as of the time of plan preparation and anticipated to be similar upon completion of the permitting process.

7.2 Funding Source(s)

As the applicant and project proponent, the District will pay for all costs associated with implementing the HCP (Table 5). If the District elects to mitigate the project impacts by managing and monitoring habitat within the Olympia Wellfield, it will either pay for these costs through annual budget appropriations, or establish a non-wasting endowment that will yield an average of \$5,000 per year based on a net capitalization rate of three percent; this rate is appropriate given the investment options available for local government agencies.

The District understands that failure to provide adequate funding and consequent failure to implement the terms of this HCP in full could result in temporary permit suspension or permit revocation. The District will prepare and submit to the USFWS annual reports that demonstrate implementation of the conservation strategy. As noted previously, the District will submit to the USFWS for review the Habitat Management and Monitoring Plan within 6-months of permit issuance. The District will begin implementing habitat management during the year the permit is issued, or during the following year, depending on the precise timing of permit issuance. Alternatively, the District will purchase the conservation credits prior to initiation of ground-disturbing activities.

Table 5: Estimated costs to implement the conservation strategy.

Measure	Strategy	Units		Costs (\$)	
		Type	Number	Per Unit	Total
Minimization Measure 5.2.1.1	Salvage Ben Lomond spineflower seed within the project disturbance envelope and store it for use in restoration	Biologist Labor Hours	12	105	1,260
Minimization Measure 5.2.1.2	Fence the perimeter of the project footprint using orange construction fencing (ESA fence)	100' roll of ESA Fence	20	30	600
Minimization Measure 5.2.1.3	Cover open soil in previously impervious portion(s) of project area with tarps to prevent burrowing during flight season	Tarps or other Impermeable Material	10	20	200
Minimization Measure 5.2.1.4	Biologist will conduct pre-construction trainings for project personnel	Biologist Labor Hours	10	105	1,050
Minimization Measure 5.2.1.5	Biologist will monitor ground-disturbing activities	Biologist Labor Hours	200	105	21,000
Effects Monitoring and Reporting	Biologist will assess project impacts and prepare three annual reports (12 hours per year for three years)	Biologist Labor Hours	36	105	3,780
Mitigation Measure 5.2.2.1: On-site Restoration	Restore an estimated 6,500 sf of temporarily disturbed habitat around the water tank	Annual work to prepare and implement plan	3	5000	15,000
Mitigation Measure 5.2.2.2: Off-Site Mitigation at Olympia Wellfield (Option 1)	Manage and monitor the 5.5-acre habitat set aside within the Olympia Wellfield in perpetuity	Non-wasting endowment to yield ~\$5,000/yr. for management ¹	1	166,667	166,667

Table 5: Estimated costs to implement the conservation strategy.

Measure	Strategy	Units		Costs (\$)	
		Type	Number	Per Unit	Total
Mitigation Measure 5.2.2.2: Off-Site Mitigation through the Conservation Bank (Option 2)	Purchase 19,500 square foot conservation credits at the Zayante Sandhills Conservation Bank	conservation credits	19,500	8.40	163,800
Total Costs with On-Site Mitigation (Option 1)					209,557
Total Costs with Off-Site Mitigation (Option 2)					206,690

¹ Assumes a 3% net capitalization rate

Section 8

Alternatives

8.1 Summary

Section 10(a)(2)(A)(iii) of the Endangered Species Act of 1973, as amended, [and 50 CFR 17.22(b)(1)(iii) and 17.32(b)(1)(iii)] requires that alternatives to the taking of species be considered and reasons why such alternatives are not implemented be discussed.

8.2 Alternative 1: No Action Alternative

Under the No Action Alternative, the District would not replace the tank and make the associated improvements, including paved walkways and an incidental take permit would not be requested or issued. Existing land use would continue in the proposed project area. The 11,000 ft² of habitat adjacent to the existing water tank facilities remain undisturbed by construction activities, though still impaired by land uses including maintenance of the existing tank and adjacent telecommunications facility. The existing tank would continue to be repaired to address leaks, which would otherwise continue to alter soil hydrology in ways that degrade habitat for the listed species including by reducing oxygen availability through inundation, and promoting dense wetland vegetation that is not typically found in the sandhills.

Under the No Action Alternative, the conservation measures proposed in this HCP would not be implemented. Accordingly, habitat within the Olympia Wellfield will remain unprotected from development of other land uses that can remove or degrade habitat. The habitat would continue to receive only intermittent management. Invasive shrubs and trees including Portuguese broom (*Cytisus striatus*) and silver wattle (*Acacia dealbata*) will likely continue to increase in abundance within the property.

Likewise, 119,500 ft² of conservation credits would not be purchased at the Zayante Sandhills Conservation Bank. This would reduce funds available for preservation, management, and monitoring of the high-quality preserve established to protect the covered species.

8.3 Alternative 2: Redesign Project (Reduced Take)

Under this alternative, the existing tank would be replaced with a new, 30-foot-diameter welded steel tank that would fit entirely within the existing tank's footprint and no paved walkways would be installed. Replacement of the tank would still result in temporary habitat loss to an estimated 1,257 sf of habitat within a 10-foot perimeter around the existing tank and an additional approximately 4,000 sf of temporary impacts during construction which result from equipment access to install the tank; however, this is less than half of the 11,000 sf of temporary (6,500 sf) and permanent (4,500 sf) habitat impacts that are anticipated to occur in the tank replacement area under the proposed project.

Due to engineering constraints, the maximum height of the 30' diameter tank is 30 feet, thus limiting its capacity to 158,630 gallons. Such a tank would not have sufficient capacity to meet

water demands calculated for the area, which are 525,200 gallons (Joregensen 2014). Specifically, the 158,630-gallon tank would not provide enough water for existing daily demand (123,300 gal.), fire storage (240,000 gal.) or other emergency storage (123,000 gal.) to address major power outages or other natural or human-created situation in which the tank will provide the only source of water. Failing to pave the area around the tank will increase soil saturation which will promote rusting and necessitate tank replacement or maintenance that could further degrade habitat through more frequent temporary habitat disturbance.

Under this option, the District would set aside and manage a smaller area at the Olympia Wellfield, or purchase fewer conservation credits from the Zayante Sandhills Conservation Bank; as a result, a smaller area of high-quality habitat would be protected and managed. This redesign would present a significant burden to the District and the population it serves, without significantly reducing the project impacts on the listed species. For these reasons, this redesign alternative has been rejected.

8.4 Alternative 3: Proposed Action (Permit Issuance)

Under the proposed action alternative, the District will replace the existing, dilapidated 100,000 gallon redwood tank with a new, 527,000 gallon welded steel tank and install paved walkways as described in Section 2. The proposed action will require the issuance of a Section 10(a)(1)(B) permit in order that the project can be implemented in compliance with the federal Endangered Species Act. The project could cause mortality to individuals potentially occurring within the 15,000 ft² area that will be disturbed, and permanently remove 4,500 ft² (0.103 acre) of habitat.

The District worked with the project engineers to minimize the impacts associated with the proposed project, by selecting a project design that has the smallest footprint and thus will disturb the least amount of habitat while still meeting the community's water supply needs. Specific aspects of the design which limited the impacts include (Cahill 2014):

1. Installing a single tank, rather than two adjacent tanks, although the latter affords better opportunities for maintenance;
2. Limiting the width of the access around the tank required for maintenance to just eight feet, which only accommodates pedestrian access, rather than the typical 15-foot-wide road, which enables vehicle access; and
3. Designing retaining walls that minimize the amount of disturbance to adjacent habitat while stabilizing the hillslope surrounding the tank. The soldier beam wall will have vertical piers that are drilled into place, rather than a foundation that would need to be excavated and poured and thus have a larger footprint.

Additionally, the District will implement avoidance and minimization measures designed to further limit impacts during tank installation (Section 5).

Moreover, the conservation measures proposed in the HCP will provide for greater benefits to the covered species than would result from the No Action alternative. Specifically, under the Proposed Action, the District will protect and manage habitat for the Mount Hermon June beetle, Zayante band-winged grasshopper, and Ben Lomond spineflower, as well as the Ben Lomond wallflower, within a 5.5-acre habitat set aside at the Olympia Wellfield. Alternatively, the District will secure 19,500 ft² conservation credits in the Zayante Sandhills Conservation Bank, thus ensuring the preservation, management, and monitoring of the covered species in the Ben Lomond Sandhills Preserve—a relatively large, contiguous, and high-quality habitat. The

Proposed Action thus provides greater conservation benefits than the No Action and Redesigned Project Alternative, while best meeting the needs of the applicant. Therefore, the Proposed Action is the preferred alternative.

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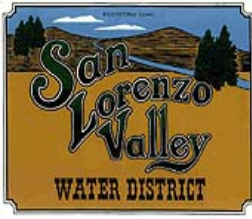
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Appendix A Project Plans

These 65% plans were developed by Mesiti-Miller Engineering for the San Lorenzo Water District's Probation Tank Replacement Project. The final version of the HCP will feature the final plans.

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NOTICE OF GRANT FUNDING AVAILABILITY

2015 EDUCATION GRANT PROGRAM

DATA COLLECTION/RESTORATION GRANTS

SAN LORENZO VALLEY WATER DISTRICT

August 24, 2015

The San Lorenzo Valley Water District is now inviting proposals for Data Collection/ Restoration Grants to be awarded through its 2015 Education Grant Program.

WHAT IS THE MISSION OF THE EDUCATION GRANT PROGRAM?

The mission of the Education Grant Program is to provide funding for educational and other projects that enhance the understanding of the San Lorenzo River watershed or improve the watershed's environmental health. The District's Education Grant Program funds two types of grants--Classic Watershed Grants, and Data Collection/ Restoration Grants. The 2015 Classic Watershed Grants have already been awarded.

DATA COLLECTION/ RESTORATION GRANTS: The District is now accepting applications for 2015 Data Collection/ Restoration Grants, which are designed to supply needed information or address acknowledged restoration needs with respect to District-owned lands.

Your proposal should address one of the following Recommended Project Areas, identified by the District to provide priority information/restoration needs for the Olympia Watershed Property:

1. TBD
2. TBD

For background information about these project areas, please refer to the District's website (http://www.slvwd.com/_WatershedProjects.htm#OlyProjects).

You are encouraged to apply if you are a scientist, restoration practitioner, student or citizen group with experience in designing and implementing similar projects.

Funding level: The aggregate amount of grant funding available for 2015 is \$15,000. The District will consider funding up to two (2) Data Collection/Restoration Grants , with up to \$XXXX for Project Area 1 and up to \$XXXX for Project Area 2.

Application deadline: Applications for Data Collection/Restoration Grants may be submitted to the District beginning Monday, August 24, 2015 and must be received by the District by Friday, October 2, 2015.

-FREQUENTLY ASKED QUESTIONS -
WATERSHED DATA COLLECTION/RESTORATION GRANTS

Who is eligible to apply?

Scientists, restoration practitioners, students, groups, and organizations are eligible for grant funding.

What features are we looking for in projects?

The District gives highest priority to projects that exhibit some or all of these features:

- Project is within one of the District's Recommended Project Areas (see previous page)
- Applicant has experience and expertise in the project area
- Project is designed with an appropriate seasonal timeline for the proposed work
- Project has a work plan that can be completed within 1 – 2 years
- Project has potential to incorporate volunteers and increase public knowledge of environmental issues

What qualities will make my project stand out?

The San Lorenzo Valley Water District will give the highest consideration to projects that exhibit

Some or all of the following selection criteria:

- Applicant has successfully completed similar projects
- Applicant has demonstrated knowledge of the project area
- Applicant has demonstrated potential for achieving the highest value for amount of funding proposed
- The proposed project is described in relation to completed or ongoing projects on District land within the project area

What types of projects does the District discourage?

Projects that are outside the Recommended Project Area list are discouraged because the District's Environmental Committee has carefully selected and recommended the highest priority project areas for funding. Please do not propose projects suitable for funding as Classic Watershed Grants, such as outdoor education for students and the public, including watershed hikes, day camps and school curriculum. The next round of funding for Classic Watershed Grants will likely be in January 2016.

How do I apply?

Email your completed application to: jmichelsen@slvwd.com or mail to: Jen Michelsen, San Lorenzo Valley Water District, 13060 Highway 9, Boulder Creek, CA 95006.

How do I get more information?

If you have any questions or need additional information or assistance with the grant proposal application or review process, please consult the District website at <http://www.slvwd.com>, or contact Jen Michelsen, Environmental Analyst at the San Lorenzo Valley Water District at (831) 430-4627 or jmichelsen@slvwd.com.

What format should my application follow?

The District encourages brief and concise grant proposals, which meet the formatting guidelines listed in Attachment 1, Formatting Guidelines.

What do I need to do when my project is completed?

All successful grant applicants will be required to submit a written narrative report documenting the accomplishments of the completed project AND a financial report that accounts for all expenditures of Education Grant Program funds.

How are applications reviewed and awards decided?

The San Lorenzo Valley Water District Education Grant Program awards grants on a competitive basis, using the following procedure:

1. District staff screens all applications to ensure that they meet the application format guidelines.
2. The District's Education Program Advisory Commission reads and evaluates all of the screened applications in terms of the selection criteria.
3. Based on their evaluation, the Education Program Advisory Commission recommends grant funding awards to the Board of Directors.
4. The Board of Directors, at their sole discretion, decides which grant proposals to fund and the amounts to be funded for each proposal. All decisions of the Board of Directors are final. Generally, the Board of Directors will award grants within six (6) weeks of the proposal application deadline.
5. Staff notifies all applicants in writing of the Board's decision.
6. Following grant awards, funds are normally available for disbursement within twenty-one (21) calendar days.



The Olympia Watershed has a heavy infestation of French broom and other exotic invasive broom species, which need to be systematically controlled.

**ATTACHMENT 1- FORMATTING GUIDELINES
WATERSHED DATA COLLECTION/RESTORATION GRANT**

Each grant proposal application has two (2) parts: the **Application Narrative** and the **Budget Summary**. Use only paper clips to fasten your proposal; do not bind or staple.

Application Narrative

The Application Narrative shall not exceed four (4) single-sided 8-1/2" x 11" pages or two (2) double-sided pages, with minimum 1-inch margins. Number all pages. The designated contact person shall sign the Application Narrative. Please include the following information:

- 1. Name of Individual(s)/Organization Submitting Proposal:** Provide the full and correct name of the individual(s)/organization that will receive the grant and be responsible for the project.
- 2. Name, Address, Telephone Number(s) and Email Address of Contact Person:** Provide the name, address, telephone number(s) and email address of one (1) contact individual who carries the proposal/project responsibilities.
- 3. Title of Project and Recommended Project Area:** Provide a descriptive title of your project, and identify the Recommended Project Area where it fits.
- 4. Amount of Funds Requested:** Identify the total amount of San Lorenzo Valley Water District Education Grant Program funds you are requesting for your project.
- 5. Briefly describe and summarize your project.** You may include photographs and/or maps.
- 6. Briefly describe how your proposed project relates to ongoing or completed projects within the Recommended Project Area.**
- 7. Briefly describe why this project is needed.** What specific issues will your project address?
- 8. Briefly describe your scope of work/work plan.** Explain exactly what you are going to do and how you are going to accomplish your project. You may use drawings, photographs and/or maps.
- 9. If you require maps to define your project,** please download, print, and mark-up existing maps provided on the District website (http://www.slvwd.com/_WatershedProjects.htm#OlyProjects)
- 10. Identify the overall goal(s) and primary objective(s) of your project/program.** Objectives are the "real world" things you will do as a means of achieving your goals.
- 11. Describe how you will show that your project has achieved its stated goal(s) and proposed objective(s).**
- 12. Describe your qualifications to complete the grant proposal.**
- 13. Identify the key participants and leadership of your proposed project.** If you represent a group or organization, identify the stated purpose of your group or organization.
- 14. If you will use volunteers, explain how you will recruit them.**
- 15. Explain how your project will increase public knowledge of environmental issues affecting District lands.**
- 13. Identify specific timelines & milestones for project completion & the final project report.**
- 14. If applicable, describe your proposed project's monitoring program.**
- 15. Identify any other source(s) of funding for your proposed project.** Include any matching funds, materials, services, equipment, personnel and/or other resources.

Budget Summary

Include a separate, one-page Budget Summary which provides a clear and concise budget for your proposed project.

2015 Data Collection / Restoration Program Grant Schedule

Date

Mon., Aug 24	Announce grant funding availability; post to website; distribute press release; coordinate email distribution with Holly
Fri., Oct 2	Deadline for application submittal
Fri., October 16	Staff screens applications; copies and distributes to Commissioners for evaluation
Fri., October 30	Grant application evaluations due back from commissioners
Nov. 3 or 4 (Tues. or Wed)	Commission meets to recommend funding
Thursday, Nov 12	Staff submits info for Board packet
Th., Nov. 19	Board votes on commission recommendations