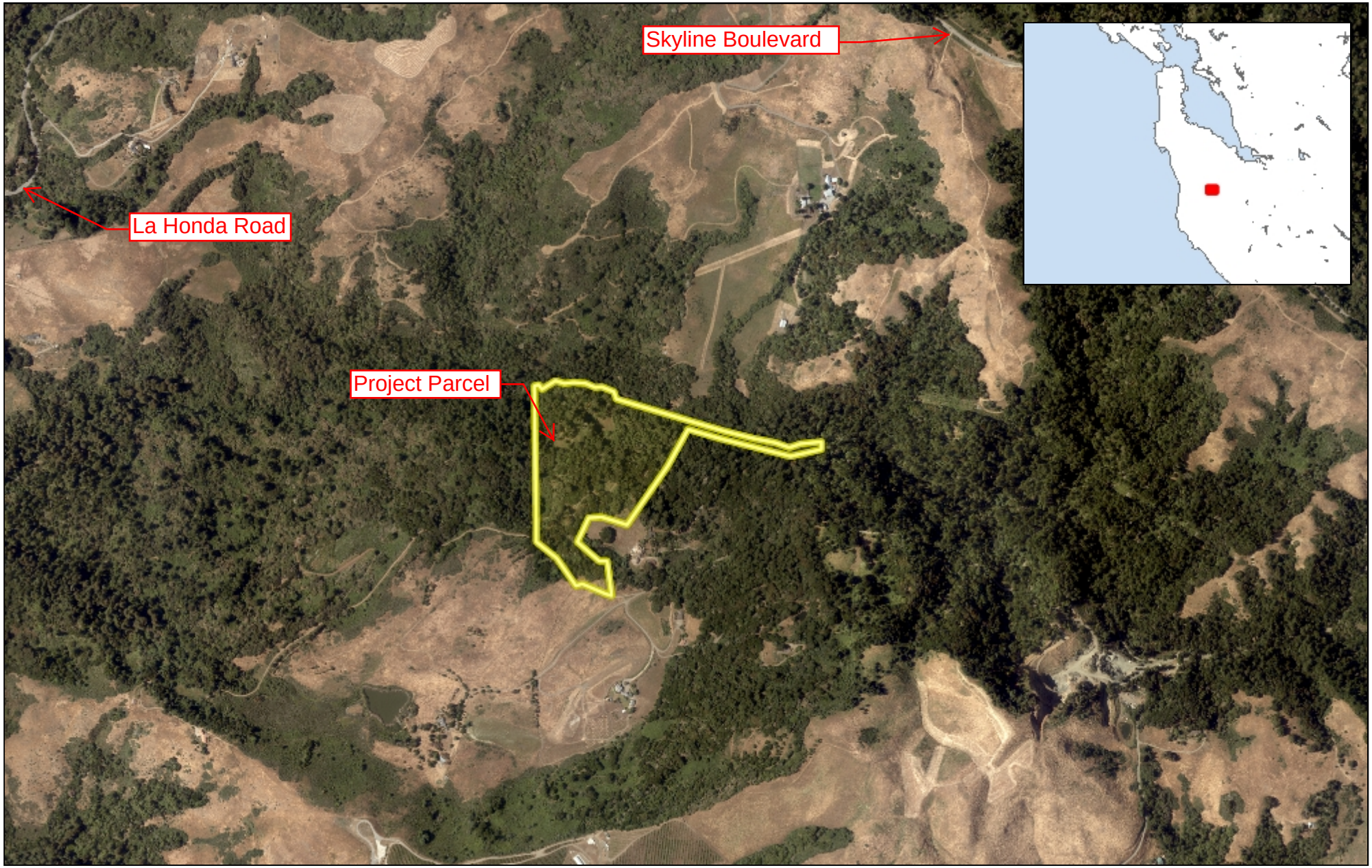
San Mateo County

County San Mateo, CA



0.57 0 0.28 0.57 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

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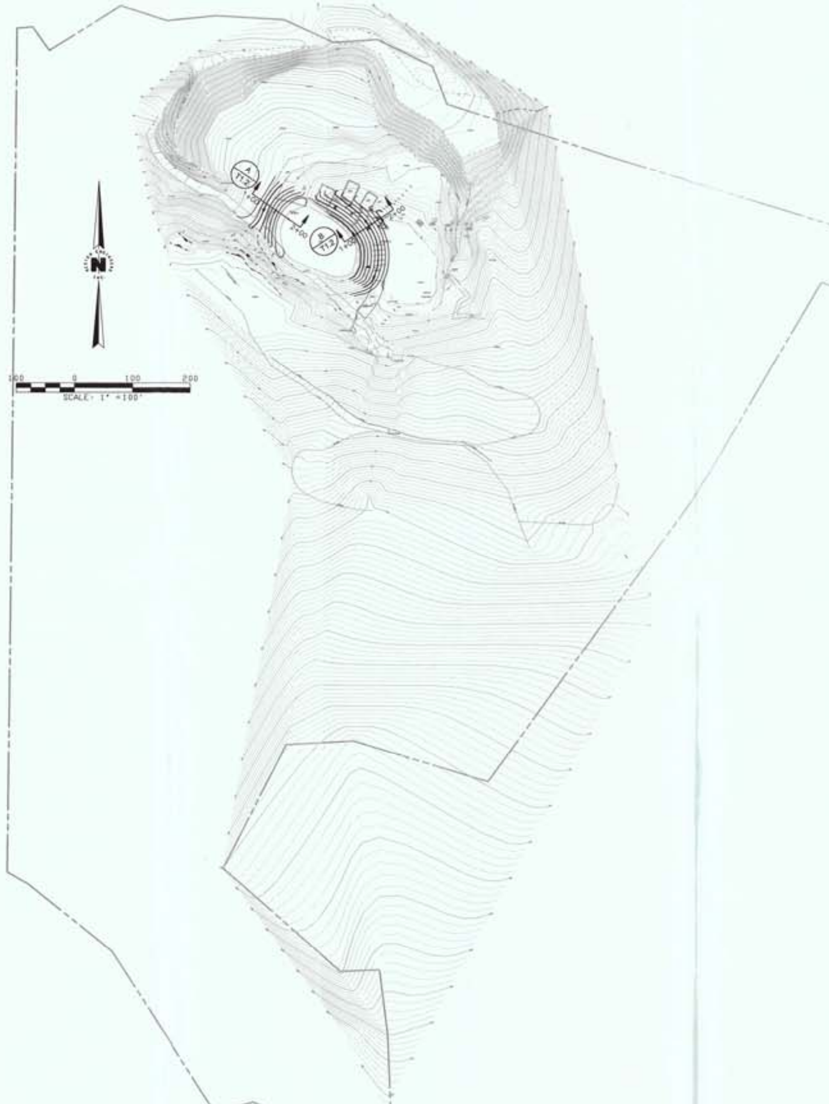
This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION



VICINITY MAP

SCALE: NTS

NOTES

1. DISTANCES ARE EXPRESSED IN FEET AND DECIMALS THEREOF.
2. THIS IS NOT AN ALTA SURVEY. NOT ALL ENTITLEMENTS OR ENCUMBRANCES ARE NECESSARILY SHOWN.
3. THIS DRAWING DOES NOT REPRESENT A BOUNDARY SURVEY.
4. TOPOGRAPHIC INFORMATION SHOWN HEREIN REPRESENTS FIELD DATA PROVIDED FROM OWNER. BESTOR ENGINEERS, INC. ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF FIELD DATA.
5. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC SURVEY WERE OBTAINED FROM VARIOUS SOURCES. THE SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF THEIR DELINEATION AS SHOWN ON THIS PLAN.
6. ANY IMPROVEMENTS SHALL BE DONE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERS REPORT PREPARED BY US SOILS ON OCTOBER 11, 2013 AND THE J.F. CONSULTING, INC. GEOTECHNICAL REPORT DATED JULY 27 2016.

BENCHMARK

ASSUMED BENCHMARK.

BASIS OF BEARING

ASSUMED BASIS OF BEARING.

LEGEND

ED	EDGE OF DRIVEWAY
FF	FINISH FLOOR
GB	GRADE BREAK
HB	HOSE BIB
INV	INVERT ELEVATION
SD	STORM DRAIN
TYP	TYPICAL
UG	UNDERGROUND
WV	WATER VALVE

EDGE OF PAVEMENT
FLOWLINE
STORM DRAIN
WATER

GRADE BREAK
CONTOUR
SPOT ELEVATION
(770) PROPOSED CONTOUR
2:1 SLOPE & DIRECTION

TREE LEGEND

10"T	EXISTING TREE & TYPE
4",6"	STUMP WITH SIZE
X	TREE TO BE REMOVED
T	TREE (MISC)

REVISIONS
REVISION 10/26/2016
REVISION 11/11/2016

DESIGNED BY	STAFF
DRAWN BY	STAFF

DATE:

ENGINEER

RCE:

H. PATRICK WARD
No. 29811
CIVIL
STATE OF CALIFORNIA

EXP:

PRELIMINARY
NOT FOR CONSTRUCTION

BESTOR ENGINEERS, INC.
CIVIL ENGINEERING - SURVEYING - LAND PLANNING
9701 BLUE LARKSPUR LANE, MONTEREY, CALIFORNIA 93940

PREPARED FOR: DREAMWORKS CONSTRUCTION

TOPOGRAPHIC SURVEY

LANGLEY HILL ROAD

SAN MATEO, CALIFORNIA

SCALE:	AS SHOWN
DATE:	9/29/16
SHEET:	T1.0
WO:	6955.00

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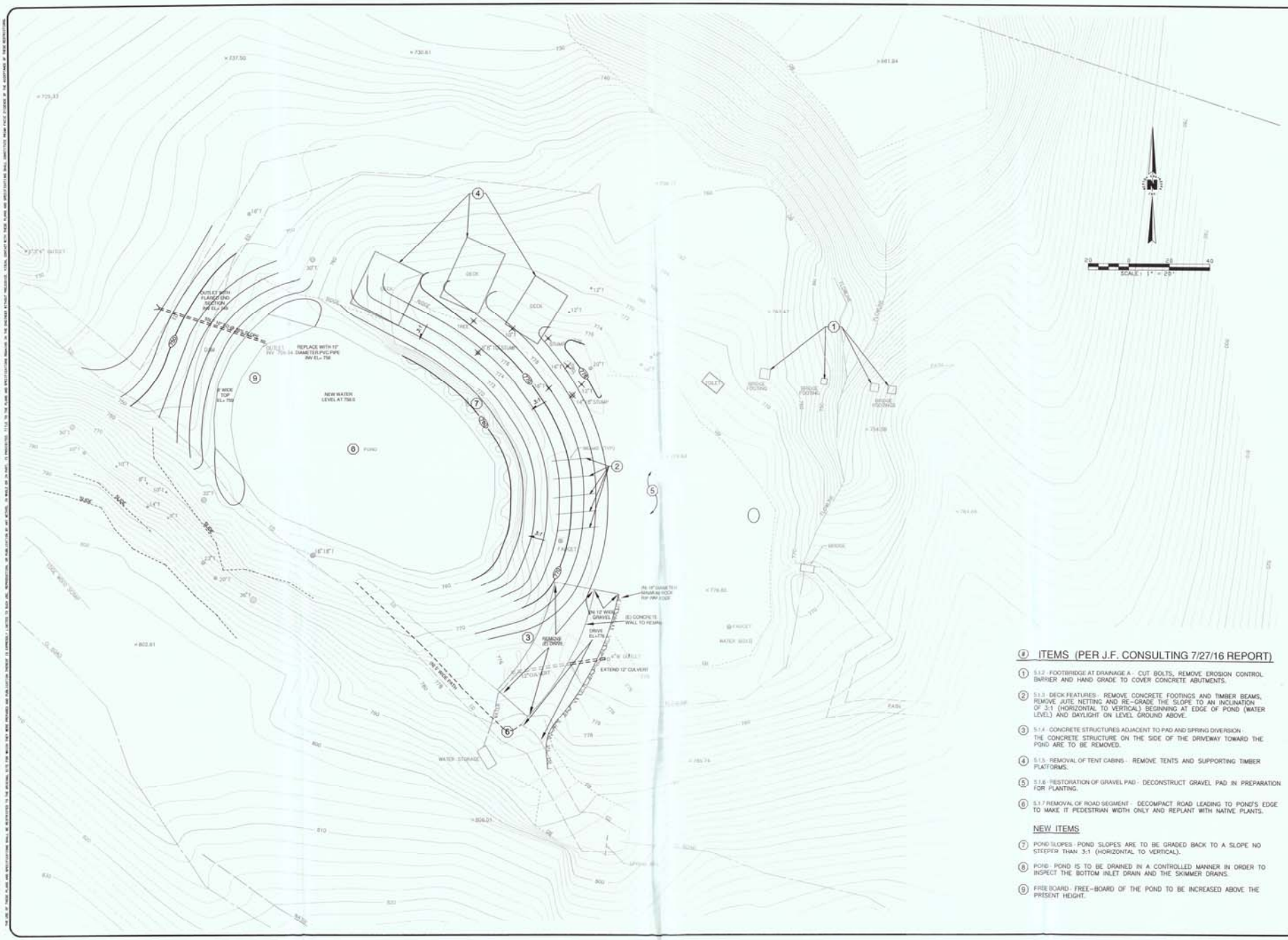

ITEMS (PER J.F. CONSULTING 7/27/16 REPORT)

1. 5.3.2 - FOOTBRIDGE AT DRAINAGE A - CUT BOLTS, REMOVE EROSION CONTROL BARRIER AND HAND GRADE TO COVER CONCRETE ABUTMENTS.
2. 5.3.3 - DECK FEATURES - REMOVE CONCRETE FOOTINGS AND TIMBER BEAMS, REMOVE JUTE NETTING AND RE-GRADE THE SLOPE TO AN INCLINATION OF 3:1 (HORIZONTAL TO VERTICAL) BEGINNING AT EDGE OF POND (WATER LEVEL) AND DAYLIGHT ON LEVEL GROUND ABOVE.
3. 5.1.4 - CONCRETE STRUCTURES ADJACENT TO PAD AND SPRING DIVERSION - THE CONCRETE STRUCTURE ON THE SIDE OF THE DRIVEWAY TOWARD THE POND ARE TO BE REMOVED.
4. 5.1.5 - REMOVAL OF TENT CABINS - REMOVE TENTS AND SUPPORTING TIMBER PLATFORMS.
5. 5.1.6 - RESTORATION OF GRAVEL PAD - DECONSTRUCT GRAVEL PAD IN PREPARATION FOR PLANTING.
6. 5.1.7 REMOVAL OF ROAD SEGMENT - DECOMPACT ROAD LEADING TO POND'S EDGE TO MAKE IT PEDESTRIAN WIDTH ONLY AND REPLANT WITH NATIVE PLANTS.

NEW ITEMS

7. POND SLOPES - POND SLOPES ARE TO BE GRADED BACK TO A SLOPE NO STEEPER THAN 3:1 (HORIZONTAL TO VERTICAL).
8. POND - POND IS TO BE DRAINED IN A CONTROLLED MANNER IN ORDER TO INSPECT THE BOTTOM INLET DRAIN AND THE SKIMMER DRAINS.
9. FREE BOARD - FREE-BOARD OF THE POND TO BE INCREASED ABOVE THE PRESENT HEIGHT.

REVISIONS
REVISION 10/28/2016
REVISION 11/1/2016

DESIGNED BY	STAFF
DRAWN BY	STAFF
DATE:	
ENGINEER	
RCE:	
EXP:	

PRELIMINARY
NOT FOR CONSTRUCTION

BESTOR ENGINEERS, INC.
CIVIL ENGINEERING - SURVEYING - LAND PLANNING
6701 BLUE LARKSPUR LANE, MONTEREY, CALIFORNIA 93940

PREPARED FOR: DREAMWORKS CONSTRUCTION

TOPOGRAPHIC SURVEY

LANGLEY HILL ROAD

SAN MATEO, CALIFORNIA

SCALE:	1" = 20'
DATE:	9/29/16
SHEET:	T1.1
WO:	6955.00

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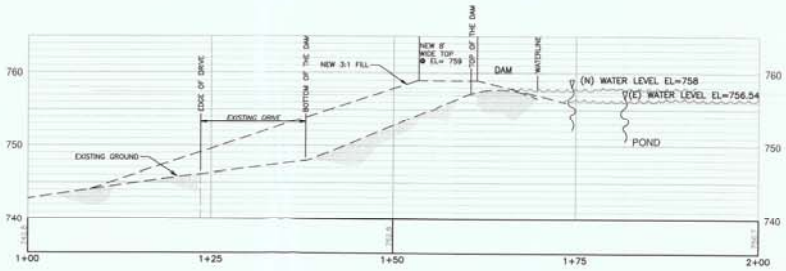
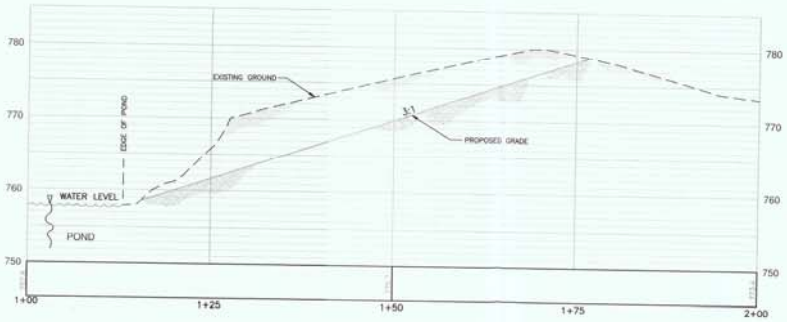


SECTION A-A

SCALE: HORIZ. 1"=8'
VERT. 1"=8'



SECTION B-B

SCALE: HORIZ. 1"=8'
VERT. 1"=8'

REVISIONS
REVISION 10/26/2016
REVISION 11/11/2016

DESIGNED BY	STAFF
DRAWN BY	STAFF

DATE:

ENGINEER
RCE:

EXP:

PRELIMINARY
NOT FOR CONSTRUCTION

BESTOR ENGINEERS, INC.
CIVIL ENGINEERING - SURVEYING - LAND PLANNING
#701 BLUE LARKSPUR LANE, MONTEREY, CALIFORNIA 93940

PREPARED FOR: DREAMWORKS CONSTRUCTION

PROFILES

LANGLEY HILL ROAD

SAN MATEO, CALIFORNIA

SCALE: AS SHOWN
DATE: 9/29/16
SHEET: T1.2
WO: 6955.00

UPDATED BIOLOGICAL RESOURCES EVALUATION

70 Langley Hill Road
San Mateo County, California

Prepared for:
Greenheart Development
621 High Street
Palo Alto, CA 94301

Prepared by:
MIG|TRA Environmental Sciences, Inc.
2635 N. First Street, Suite 149
San Jose, CA 95134
(650) 327-0429

March 2017

Table of Contents

Table of Figures

List of Tables

Summary of Biological Findings

- The study area contains suitable habitat for five special-status animals: California red-legged frog (*Rana draytonii*, federal Threatened, state Species of Special Concern), foothill yellow-legged frog (*Rana boylii*, state Species of Special Concern), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*, state and federal Endangered, state Fully Protected species), long-eared owl (*Asio otus*, California species of special concern), and western pond turtle (*Actinemys marmorata*, California species of special concern). Measures are recommended to avoid impacts to these species.
- Drainages on site flow to Woodruff Creek, a tributary to La Honda Creek, which is a tributary to San Gregorio Creek. Steelhead (*Oncorhynchus mykiss*, federal Threatened) and coho salmon (*Oncorhynchus kisutch*, federal Endangered) are known to occur in San Gregorio Creek (NOAA 2010). Protection of water quality, including management of sediment and pollutants, is necessary to protect these federally listed species.
- The study area supports habitat for three special-status plants: western leatherwood (*Dirca occidentalis*), Dudley's lousewort (*Pedicularis dudleyi*), and white-flowered rein orchid (*Piperia candida*). None of the project activities currently proposed are expected to impact these species. If the project changes and requires removal of native vegetation, it is recommended that rare plant surveys be done at the appropriate time of year to detect the plants, and that their removal be avoided.
- The study area contains water bodies that fall within the jurisdiction of the state and federal governments including the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB) and California Department of Fish and Wildlife (CDFW). The project site is within designated Critical Habitat for California red-legged frog.
- An evaluation of potential impacts and recommended measures to avoid significant impacts to biological resources is provide in Chapter 5.

Chapter 1 Introduction

1.1 Introduction

This report describes the biological resources within an approximately 5-acre study area that is a portion of a 39-acre parcel located at 70 Langley Hill Road in San Mateo County, California. The property is regulated by San Mateo County (County). The landowner undertook several unpermitted modifications around an existing pond at the property in 2012/2013. County inspection of these modifications resulted in implementation of mandatory erosion control measures and a requirement for a biological report. Moving forward, the property owner wishes to address red-tag items identified by the County to remedy their violation. The biological report is required to describe the biological resources within the study area, applicable regulatory permits, and future avoidance and mitigation measures to implement during actions taken to remedy red-tag items. The actions are listed in section 1.4 and discussed further in Chapter 5.

1.2 Environmental Setting

Location and Surrounding Land Uses

The study area is located on a privately-owned property in the Santa Cruz Mountains on the west side of Skyline Boulevard in San Mateo County (Figure 1). The property is accessed by a dirt road and is primarily undeveloped. The property is 39 acres in size and ranges in elevation from 980 to 1,420 feet (Figure 2). A dirt access road winds through the property descending toward the property's northern boundary and the study area which contains a pond, three tent cabins, a composting toilet, and a gravel pad. Several side roads intersect the main access road. Various foot trails cross the property as well.

The property is heavily wooded and supports numerous drainages and springs as well as two ponds. Woodruff Creek, a perennial stream that drains to San Gregorio Creek, is located adjacent to the property's northern boundary. The steep south creek bank of Woodruff Creek is within the property boundary, and the project is at least 100 feet higher than the creek. Surrounding parcels are similar: primarily forested and with limited development. There are a few residences and a vineyard/winery (Clos de la Tech) in the area.

Study Area

The property owner developed an approximately 2-acre area to create a private retreat/campground at the north end of the property (Figure 2 and Figure 3). The existing access road extends over a concrete structure and piped spring to a large dirt pad (approximately 8,000 square feet) covered in gravel. The artificial pond was built by a previous property owner by excavating soil, building an earthen berm and capturing the flows of adjacent springs. The parcel contains numerous springs, and the pond is filled by both a spring that naturally flows into it and a spring that is diverted into the pond (Figure 3). The spring flow is piped through the concrete structure in a 12-inch polyethylene pipe.

The water from these springs is captured in the pond until the depth is such that the water overflows into pipes that convey the water to a tributary to Woodruff Creek (see discussion of Drainage B in the next paragraph). Three tent cabins with wooden decks on raised footings are located adjacent to the pond. A composting toilet was installed at the edge of the pad and at the top of bank of a tributary to Woodruff Creek (Drainage A, Figure 3). A foot bridge was going to be built across Drainage A, and bridge footings were installed, but the bridge was not built. The owner had installed the footings and beams for a deck adjacent to the pond when the County issued a stop-work order. The tent cabins, toilet, bridge footings, and partial deck are the facilities that have been recently constructed. In addition, the property owner graded earthen benches in the bank of the pond for a multi-level deck not yet installed. Photos of the study area are provided in Appendix A.

The pond is fed by a spring that has been piped and diverted into the pond and a spring that flows into the pond from the southeast (Charles Hartsog Soils Report 2013). The pond is approximately 11,000 square feet in size. There are three four-inch vertical pipes in the pond for pond overflow. Water overflows into these pipes and discharges at the toe of the berm face, eventually flowing into Woodruff Creek through a tributary drainage (Figure 3, referred to as Drainage B in this report). The pond holds water year-round.

There is a segment of earthen road that connects the entrance road to another earthen road on the west side of the pond that leads down along Drainage B. This short segment of road is directly adjacent to the pond, is not used as a road, and is redundant with a road behind the tent cabins so it is not required for access (Figure 3).

Drainage A (Figure 3) drains surface water and water from a spring. The composting toilet is located at the top of this tributary's west bank at the eastern end of the dirt pad. The toilet contains all waste within a buried container and does not leach into the soil. As noted above, the property owner had begun to build a bridge over Drainage A. Cement footings are located at the top of bank on either side of the drainage. Some soil disturbance has occurred on the two banks and the County required erosion control measures here (described below).

A large amount of woody material primarily from downed trees had been collected and piled behind the tent cabins and at the edge of the property. This pile was at the top of a steep ravine that is also the south bank of Woodruff Creek. The significant weight of the wood caused the embankment to collapse into the ravine, although it appears that little, if any, material fell into the creek. The collapse mimicked a natural slope failure which provides habitat for early colonizing plant species and small wildlife species including insects, reptiles, amphibians and mammals.

Numerous springs and drainages occur on the 39-acre property. In addition to the artificial pond, the property contains a second, seasonal pond located above the study area (Figure 2 and Photo 13). As the entire property is sloped toward Woodruff Creek, drainages on site flow to the creek and therefore are assumed to be waters of the U.S. and of the State of California and under the jurisdiction of the U.S. Army Corps of Engineers and the California Water Resources Control Board/Regional Water Quality Control

Board. Woodruff Creek is a tributary to La Honda Creek which drains to San Gregorio Creek. San Gregorio Creek flows 12 miles southwest through steep and forested canyons until it meets the Pacific Ocean at San Gregorio State Beach near San Gregorio. The National Marine Fisheries Service has identified San Gregorio Creek a Coho salmon (*Oncorhynchus kisutch*, federal Endangered) and steelhead (*Oncorhynchus mykiss*, federal Threatened) stream, and both species are assumed present in San Gregorio Creek (NOAA 2010). La Honda Creek, located in the La Honda Creek watershed to the north of the San Gregorio watershed is known to support steelhead as well as suitable habitat for Coho salmon. It is not known if these species occur in Woodruff Creek.

The County, upon discovery of the unpermitted work on the property in 2013, ordered a stop work and required the installation of erosion control measures. The following erosion control measures were installed, and a re-inspection of these measures was done in late 2015 and again in May 2016:

- Gravel laid over the entire dirt pad;
- Jute netting and straw wattles installed below the bridge pads at Drainage A;
- Jute netting and straw wattles installed over the earthen benches and along the entire slope between the pond and pad (east and north sides of pond);
- Jute netting and straw wattles installed over the berm face down to the toe; and,
- Sterile grass seed spread over bare ground areas at the berm face down to the toe.

1.3 Purpose and Need

The County requested an analysis of the potential biological impacts and permit requirements for actions proposed to remedy the red-tagged items. The Applicant consulted MIG|TRA biologists regarding the biological resources at the site to inform the restoration design. This report assesses the potential impacts of the currently proposed actions, and identifies the Avoidance and Minimization Measures (AMMs) required to prevent significant impacts.

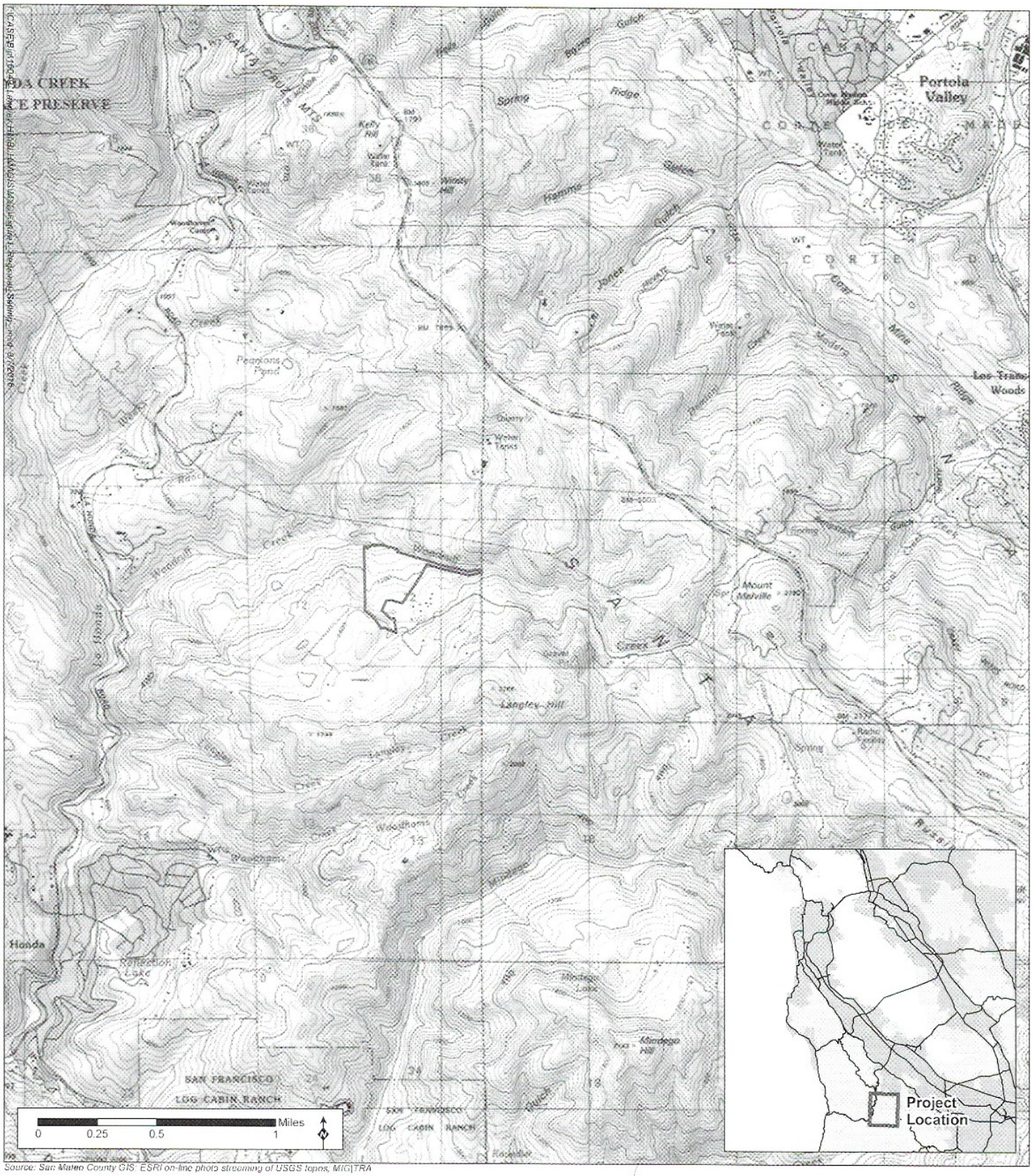
1.4 Project Description

The owner plans to proceed with actions that will remove the red-tag items that currently violate County code and/or regulations, including the following, as summarized in a letter provided by JF Consulting Geotechnical Services (dated July 27 2016):

- Cut the footbridge footing bolts flush with the footings and hand grade around the footings to bury them and restore a natural condition;
- Remove the silt fencing downslope of the footbridge footings;
- Remove the deck footings/beams at the edge of the pond;
- Regrade the north and east banks of the pond to a 3:1 slope where steep terraces are currently present in order to stabilize the slope (this requires spring diversion, draining the pond and the removal of one native bay tree);

- Remove the gravel pad within ten feet of the pond and spring and 25 feet of the top of slope adjacent to Drainage A, decompact, and revegetate these areas;
- Remove the concrete wall adjacent to the pond and restore the area to a 3:1 slope (requires spring diversion and draining the pond);
- Remove the tent cabins and footings;
- Inspect the drainage structures and the base of the existing berm (this requires spring diversion and draining the pond);
- Construct a new berm adjacent to the outward side of the existing berm on the west side of the pond; and
- Decompact the dirt road bordering the south side of the pond and revegetate with native species.

The wood debris pile on the embankment described in Section 1.2 will be left in place, and not moved, per recommendations in the prior biological report. The impacts and AMMs to minimize the impacts for these activities are discussed in Chapter 5.

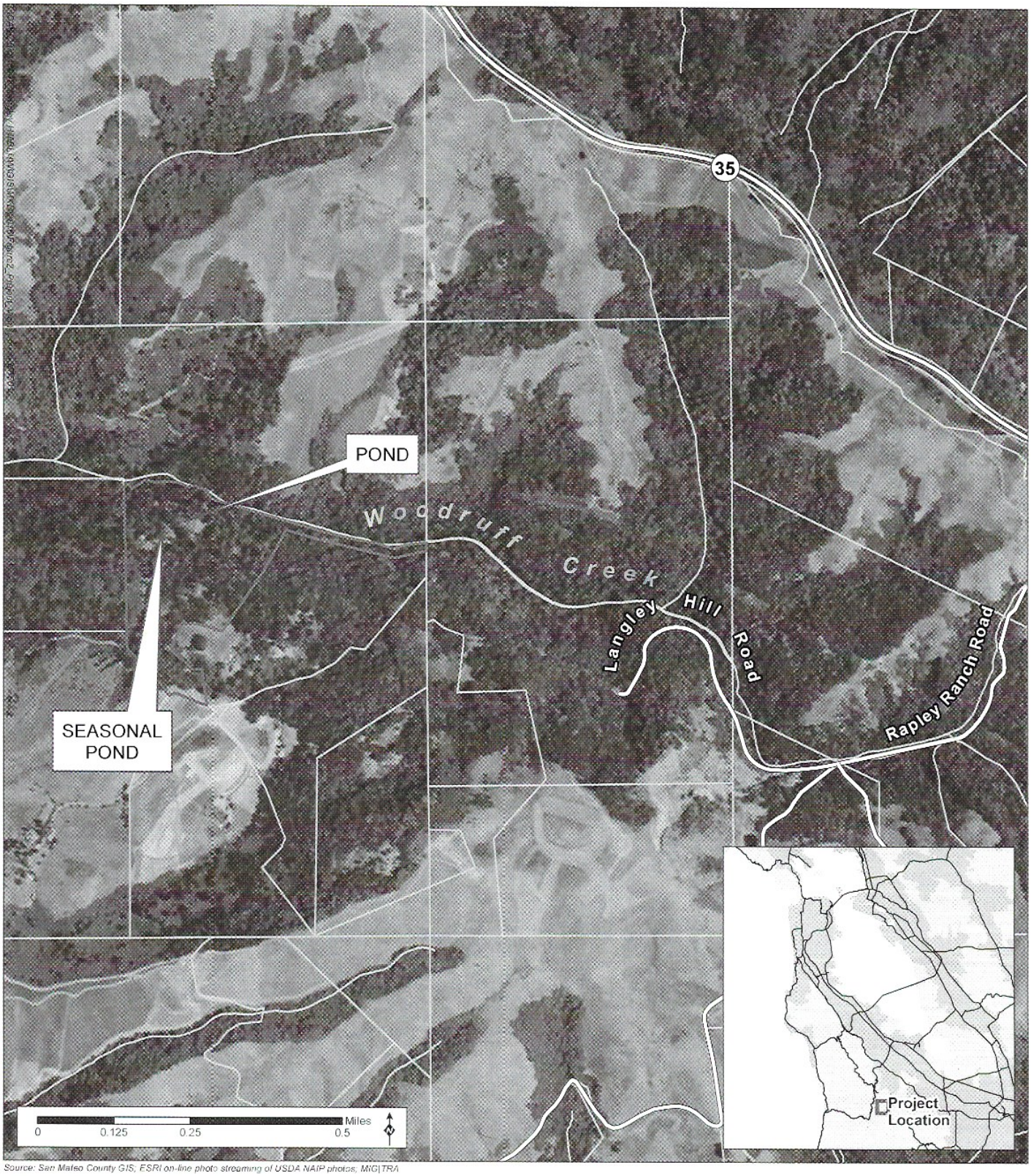


Source: San Mateo County GIS, ESRI on-line photo streaming of USGS topos, MIG|TRA

Project Parcel

Figure 1 Regional Setting

70 Langley Hill, Woodside

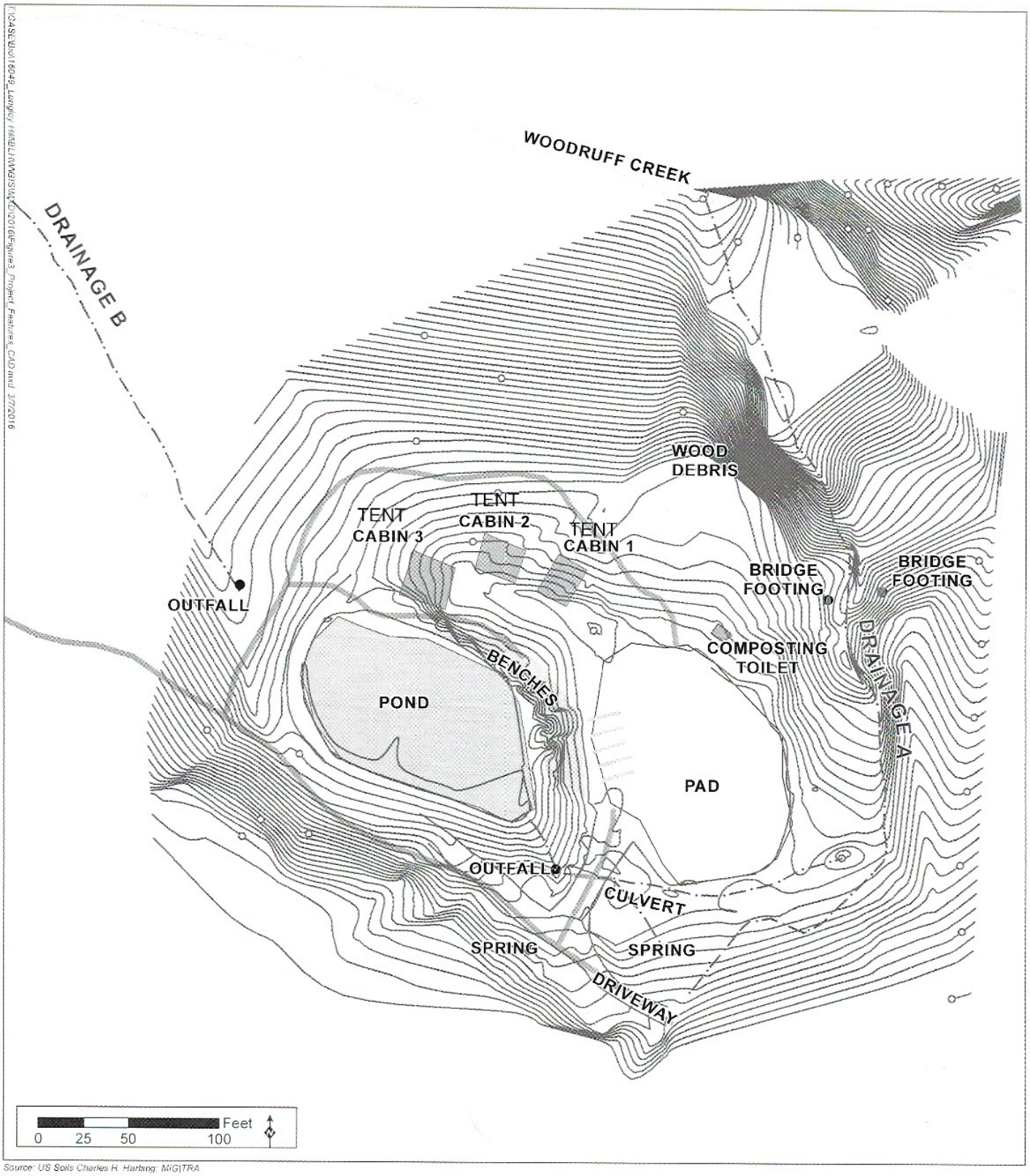


Source: San Mateo County GIS; ESRI on-line photo streaming of USDA NAIP photos; MIG|TRA

- Project Parcel
- Active San Mateo Parcels (APN)
- Streams
- Streets

Figure 2 Project Vicinity

70 Langley Hill, Woodside



Source: US Soils Charles H. Hartsog; MIG|TRA

- Roads
- Beams
- Bridge footing
- Composting toilet
- Culvert
- Earthen benches
- Gravel pad
- Pond
- Tent cabin

Figure 3 Project Features

70 Langley Hill, Woodside

MIG TRA

Chapter 2 Methodology

2.1 Database Searches and Literature Review

MIG|TRA reviewed the information listed below to determine what special-status species are documented to occur in the project region and that may occur within the study area.

- A records search of CDFW's California Natural Diversity Database (CNDDB) for the Mindego and La Honda USGS 7.5-minute quadrangles (CNDDB 2016);
- CNPS 8th update of the *Online Inventory of Rare and Endangered Plants of California* (CNPS 2015); and,
- USFWS California Natural Diversity Database (IPaC) resource list for the project area (U.S. Fish and Wildlife Service 2016).

2.2 Field Survey

A survey of the study area was conducted by Autumn Meisel, Senior Biologist, and Sarah Daniels, Biologist and GIS Specialist, of MIG|TRA Environmental Sciences on October 8, 2013. The site was surveyed on foot from approximately 12:15 PM to 2:30 PM. A reconnaissance-level survey was conducted of the biological study area, and habitats, plants and wildlife present were noted.

During the site visit, study area features were noted by MIG|TRA staff using a GPS unit accurate to approximately 5 meters. Precise location of project features and topography of the study area were delineated in CAD by the project geologist (Hartsog), and these data were supplied to MIG|TRA.

A second site visit was conducted on October 17, 2013 by Autumn Meisel and Tay Peterson, MIG|TRA Senior Project Manager. The purpose of the second site visit was to review potential permitting scenarios with respect to impacts to Waters of the U.S. and state.

A site meeting with CDFW Environmental Scientist Suzanne DeLeon was held in November 2015 to discuss the project and to ask for recommendations from CDFW on how to proceed with the removal of red tag items and restoration of the site. Conversations with CDFW are ongoing, and this report was finalized during agency consultation in order to provide the County with information on biological resources on site.

Chapter 3 Results

This section describes vegetation communities present on site, common wildlife expected, special-status species present or potentially present on site, and regulated waters. Photos of the study area are provided in Appendix A.

3.1 Vegetation

The site supports primarily mixed evergreen forest. Dominant tree species include Douglas fir (*Pseudotsuga menziesii*), California bay (*Umbellularia californica*), coast live oak (*Quercus agrifolia*), and big leaf maple (*Acer macrophyllum*). Other woody species observed to a lesser extent include tan oak (*Notholithocarpus densiflorus*), white alder (*Alnus rhombifolia*), California buckeye (*Aesculus californica*), and toyon (*Heteromeles arbutifolia*). The ground water is high and many springs are present on the property. Thus vegetation found along the drainages does not differ greatly from that found elsewhere in the study area. The understory is dominated by thimbleberry (*Rubus parviflorus*), stinging nettle (*Urtica dioica*), Himalayan blackberry (*Rubus armeniacus*), poison oak (*Toxicodendron diversilobum*), and a variety of ferns.

3.2 Riparian Habitat

Riparian vegetation requires or tolerates soil moisture levels in excess of that available in adjacent terrestrial areas, and is typically associated with the banks, edges, and or terrestrial limits of freshwater bodies and watercourses. Typically, riparian vegetation can be distinguished from adjacent upland vegetation as it forms a visually distinct and structurally separate linear plant assemblage. Freshwater bodies and watercourses do not always support riparian vegetation.

Several drainages within the study area convey water to Woodruff Creek. Vegetation found along these corridors is dominated by thimbleberry, nettle, ferns, and Himalayan blackberry and thus is similar to that found throughout the study area. The study area does not support a riparian vegetation community that is distinct from the assemblage of upland plants.

3.3 Wildlife

The study area is primarily forested and provides habitat for a variety of common birds, insects, reptiles, and amphibians. Numerous species of passerine birds common in the region may forage or nest in shrubs and trees on site. The study area does not support habitat for federally threatened and state endangered marbled murrelet (*Brachyramphus marmoratus*) as it is located too far from the ocean and does not support old growth redwoods.

Several mammals such as coyote (*Canis latrans*), mule deer (*Odocoileus hemionus*), and northern raccoon (*Procyon lotor*) may also forage or move through the site. No houses of the San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), a state species of special concern, were observed within the study area during any of the site visits. Snakes

and amphibians such as Santa Cruz garter snake (*Thamnophis atratus atratus*), Pacific treefrog (*Pseudacris regilla*), slender salamander (*Batrachoseps attenuatus*) and arboreal salamander (*Aneides lugubris*) may occur on site. Bats such as hoary bat (*Lasiurus cinereus*) and little brown myotis (*Myotis lucifugus*) may roost within trees on site as the presence of a year round water source within the pond is an attraction for roosting bats.

It is unknown if any fish species have been planted within the pond. During the site visit in November 2015 a small splash was heard in the middle of the pond that was consistent with a fish and not an amphibian. However, the water is murky and no fish could be observed from the edge of the pond.

3.4 Special-Status Species

Special-status species are plants and animals that are legally protected under the ESA, CESA, or other such regulations, as well as species considered sufficiently rare by the scientific community to qualify for such listing. For the purposes of this report, special-status species comprise species in one or more of the categories listed below.

- Species listed or proposed for listing as threatened or endangered under the ESA (50 Code of Federal Regulations [CFR] 17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the Federal Register [proposed species]).
- Species that are candidates for possible future listing as threatened or endangered under the ESA (73 Federal Register [FR] 75176).
- Species listed or proposed for listing by the state of California as threatened or endangered under CESA (14 CCR 670.5).
- Species that meet the definitions of rare or endangered under CEQA (State CEQA Guidelines, Section 15380).
- Plants listed as rare under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 *et seq.*).
- Plants considered by CNPS to be "rare, threatened, or endangered in California" (Lists 1B and 2).
- Animal species listed as of special concern by CDFW.
- Animals fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [amphibians and reptiles]).

3.4.1 Animals

Based on a review of the CNDDB, IPaC, and the preparer's knowledge of sensitive species, five special-status wildlife species (California red-legged frog, foothill yellow-legged frog, San Francisco garter snake, long-eared owl and western pond turtle) were identified as having the potential to occur in the study area. Two more fish species, steelhead and coho salmon, were determined to have potential to occur downstream of the study area in waters hydrologically connected to the site. This determination is based

on the presence of suitable habitat or the location of the study area within the species' known range. Each of these species is discussed below.

3.4.1.1 California red-legged frog (*Rana draytonii*, State Species of Special Concern and Federal Threatened)

California red-legged frog (CRF) breeds in slow-moving or still water, preferably ponds, pools and marshes that support vegetation such as cattail, bulrush and willows. This species often breeds in man-made pools such as stock ponds. During the non-breeding season, it may use a variety of aquatic habitats including streams, springs, springs and water traps. However, the species is not restricted to aquatic habitats. It will use upland areas, especially during the winter months when it is wet, sometimes for weeks or months at a time. Red-legged frog is capable of moving long distances overland when conditions are appropriate. It will also seek shelter in moist areas such as leaf litter or mammal burrows when waters recede.

CRF oviposits its eggs in ponds and pools in slow-moving creeks during the winter and early spring. Tadpoles hatch after one to two weeks and transform into frogs after four to seven months. Young frogs do not mature into breeding adults for three to four years. Tadpoles are thought to feed on algae, while adults feed on insects and small vertebrates. CRF is vulnerable to predators during its aquatic development and thus it is usually absent from suitable habitat that contains introduced aquatic predators such as bullfrogs and various fish. It also requires adequate cover in the form of deep pools and/or emergent vegetation. CRF is adapted to seasonal ponds that dry in late summer/early fall. These ponds typically dry slowly, allowing any young of the year to complete metamorphosis and leave the pond for upland cover. Ponds that dry seasonally generally do not support bullfrogs, which require perennial water to persist.

There are numerous records of CRF in the vicinity of the study area (CNDDB 2016). The nearest location is approximately 1.5 miles to the southeast in a pond on the Russian Ridge Open Space Preserve, 0.25 mile northwest of Mindego Lake. There are no records in the CNDDB of CRF having been recorded in Woodruff Creek.

The pond within the study area may provide breeding habitat for CRF, however the lack of cover or emergent vegetation and the potential for fish or bullfrogs to be present reduce the habitat quality for breeding. California red-legged frog may forage and disperse through the drainages on site, and may breed in the vegetated ponds located in close proximity to the study area. The project site is within Critical Habitat (SNM-2) for CRF.

3.4.1.2 Foothill yellow-legged frog (*Rana boylii*, State Species of Special Concern)

Foothill yellow-legged frogs (FYF) are found near rocky streams in a variety of habitats, including valley-foothill riparian, mixed conifer, coastal scrub, chaparral, and wet meadow types. Within these habitats, the FYF requires shallow, flowing water in small to moderate-sized streams containing some cobble-sized or larger substrate. The microhabitat provided by the cobble substrate is utilized for ovipositing eggs and as a

significant refuge for larvae and post metamorphosis frogs. Like CRF, because FYF are vulnerable to predators during their aquatic development, they are usually absent from suitable habitat that contains introduced aquatic predators such as bullfrogs and various fish.

Between late March and early June, FYF oviposit egg masses on the downstream side of cobbles and boulders in slow moving water. It is speculated that FYF take two years from egg laying to reach adult size. The adult diet consists of aquatic and terrestrial insects. Significant seasonal movements or migrations from breeding areas have not been reported, however FYF have been documented underground and beneath surface objects more than 155 feet from water.

There is one record of foothill yellow-legged frog in the project vicinity, when one adult was recorded in Pescadero Creek in 1999, approximately 5 miles south of the study area (CNDDB 2016). The drainages within the study area lack the structural complexity and volume of water to provide breeding habitat for FYF, although the species could disperse through the study area. The pond does not provide suitable breeding habitat for FYF.

3.4.1.3 San Francisco garter snake (*Thamnophis sirtalis tetrataenia*, State and Federal Endangered; State Fully Protected)

The preferred habitat of San Francisco garter snake (SFGS) is a densely vegetated pond near an open hillside where they can sun themselves, feed, and find cover in rodent burrows; however, considerably less ideal habitats can be successfully occupied. Temporary ponds and other seasonal freshwater bodies are also used. Emergent and bankside vegetation such as cattails (*Typha* spp.), bulrushes (*Scirpus* spp.) and spike rushes (*Juncus* spp. and *Eleocharis* spp.) are preferred and used for cover. The area between stream and pond habitats and grasslands or banks is used for basking; while nearby dense vegetation or water often provide escape cover. Snakes also use floating algal or rush mats, if available.

Adult snakes sometimes estivate (enter a dormant state) in rodent burrows during summer months when ponds dry. On the coast, snakes hibernate during the winter in upland small mammal burrows, but further inland, if the weather is suitable, snakes may be active year-round. San Francisco garter snakes forage extensively in aquatic habitats. Adult snakes feed primarily on California red-legged frogs. They may also feed on juvenile bullfrogs, but they are unable to feed on the larger adults. Adult bullfrogs likely prey on smaller SFGS, and may be a contributing factor in their decline. Newborn and juvenile SFGS depend heavily upon Pacific tree frogs as prey.

San Francisco garter snake has been recorded in close proximity to the project area. One record of SFGS occurs approximately one mile to the north in a sag pond. Another record for SFGS occurs approximately 1.5 miles to the south in a pond on the Russian Ridge Open Space Preserve (CNDDB 2016). Vegetated ponds in close proximity to the study area provide suitable habitat for the snake. The species is not expected to breed or forage in the pond within the study area due to the lack of cover provided within or on the margins of the pond. However, the species could disperse through the study area.

3.4.1.4 Long-eared Owl

The long-eared owl (*Asio otus*) is a California species of special concern that nests in evergreen trees, particularly conifers, and uses the old stick nests of other birds such as crows and ravens. The long-eared owl hunts over open country by night. It is very long winged, like the similar short-eared owl, and glides slowly on stiff wings when hunting. Its food is mainly rodents, small mammals, and birds. The long-eared owl's breeding season is from February to July.

The lack of open habitat for foraging makes the project site less desirable for nesting or foraging for the long-eared owl, although presence is not ruled out.

3.4.1.5 Western Pond Turtle

Western pond turtle (*Actinemys marmorata*) is a California species of special concern. It is often seen basking above the water, but will quickly slide into the water when it feels threatened. The species is active from around February to November and may be active during warm periods in winter. Western pond turtle hibernates underwater, often in the muddy bottom of a pool and may estivate during summer droughts by burying itself in soft bottom mud. When creeks and ponds dry up in summer, some turtles that inhabit creeks will travel along the creek until they find an isolated deep pool, others stay within moist mats of algae in shallow pools while many turtles move to woodlands above the creek or pond and bury themselves in loose soil where they will overwinter.

During site visits the margin of the pond was walked and no western pond turtle was observed, although the pond and Woodruff Creek do provide suitable habitat for the species.

3.4.1.6 Steelhead (*Oncorhynchus mykiss*), Federal Threatened

Steelhead are anadromous forms of *O. mykiss*, spending some time in both fresh- and saltwater. The older juvenile and adult life stages occur in the ocean, until the adults ascend freshwater streams to spawn. Eggs (laid in gravel nests), alevins (gravel dwelling hatchlings), fry (juveniles newly emerged from stream gravels) and young juveniles all rear in freshwater until they become large enough to migrate to the ocean to finish rearing and maturing to adults. Coastal California steelhead usually live in freshwater for 2 years, then spend 1 or 2 years in the ocean before returning to their natal stream to spawn. Steelhead may spawn one to four times over their life. Adult steelhead typically return to tributaries of San Francisco Bay between November and April, with peak spawning occurring in January and February. Adult steelhead are generally not present in streams between May and October – a period coinciding with traditional construction windows for projects near streams.

Steelhead are known to occur in San Gregorio Creek, to which Woodruff Creek is a tributary (NOAA 2010). Although steelhead would not occur on site, impacts to the water quality of drainages on site could adversely affect downstream water quality which could, in turn, impact steelhead and steelhead habitat.

3.4.1.7 Coho salmon (*Oncorhynchus kisutch*), Federal Endangered

Coho salmon are a species of anadromous fish in the salmon family. Coho spends approximately the first half of its life cycle rearing and feeding in streams and small freshwater tributaries. Spawning habitat is small streams with stable gravel substrates. The remainder of the life cycle is spent foraging in estuarine and marine waters of the Pacific Ocean.

Adults return to their stream of origin to spawn and die, usually at around three years old. Young coho spend one to two years in their freshwater natal streams, often spending the first winter in off-channel sloughs, before undergoing a transformation to the smolt life-stage. Smolts migrate to the ocean in late March through July. Some fish leave fresh water in the spring, spend summer in brackish estuarine ponds and then migrate back into fresh water in the fall. Coho salmon live in the salt water for one to three years before returning to spawn. Some precocious males known as "jacks" return as two-year-old spawners. In its freshwater stages, coho feeds on plankton and insects, and switches to a diet of small fishes as adults in the ocean.

Coho salmon are known to occur in San Gregorio Creek, to which Woodruff Creek is a tributary (NOAA 2010). Although coho salmon would not occur on site, impacts to water quality caused by site activities could adversely affect downstream water quality which could, in turn, impact coho salmon and coho salmon habitat.

3.4.2 Special-Status Plants

Three special-status plant species were identified as having the potential to occur in the study area. This determination is based on the presence of suitable habitat and soils and the known history of the species to occur in the region. These plants include Dudley's lousewort (*Pedicularis dudleyi*, CNPS 1B.2), white-flowered rein orchid (*Piperia candida*, CNPS 1B.2), and western leatherwood (*Dirca occidentalis*, CNPS 1B.2). None of these three species have been observed within the study area during site visits performed by MIG|TRA, however, a focused survey has not been conducted.

Dudley's lousewort is a perennial herb that blooms from April to June, and is found in maritime chaparral, cismontane woodland, and North Coast coniferous forest. It is known from the central coast, Santa Cruz Mountains, and the outer south coast ranges. In the Santa Cruz Mountains it is found in deep leaf litter in redwood forest.

The white-flowered rein orchid is a perennial herb that blooms from March to September, and is found in broadleaf upland forest, lower montane coniferous forest, and North Coast coniferous forest in open to shady sites, occasionally on serpentine soils. It is known from the San Francisco Bay Area and northwestern California.

Western leatherwood is a deciduous shrub that grows on moist and shaded slopes and blooms January to March, and is known only from the San Francisco Bay Area.

None of these species has been observed within the study area, although a focused survey for rare plants has not been conducted, and presence cannot be ruled out.

Chapter 4 Biological Impact Assessment, Avoidance and Minimization Measures, and Regulatory Considerations

This section identifies the potential direct and indirect impacts to biological resources of the project activities described in Chapter 1 and recommends Avoidance and Minimization Measures (AMMs) to protect biological resources during project activities.

4.1 Wood debris pile on embankment

Impacts: As discussed under the environmental setting, a large amount of woody material piled on the embankment above Woodruff Creek eventually collapsed the slope and the material fell down into the steep ravine toward Woodruff Creek. The material did not block the creek channel.

AMM-1: It is recommended that the material on the slope failure be left in place and that no action be taken to remove it. Removal would cause more disturbance of the embankment and could result in adverse impacts to the creek caused by debris and soil falling into the creek channel and affecting creek flows. In addition, the debris may now provide habitat for roosting bats, reptiles, and birds. Removal of the debris may negatively impact wildlife.

4.2 Bury Footbridge Concrete Footings at Drainage A and Remove Erosion Control Fencing

Impacts: The project leaves the concrete footings in place, cuts off the bolts that pose a safety hazard, and removes the erosion control fencing downslope of the footings. The footings would be buried by hand to match the existing grade. Leaving the footings in place is not expected to result in an impact to biological resources. The erosion control fencing should be removed after the footings are buried.

AMMs: No avoidance and minimization measures are recommended.

4.3 Remove Deck Footings and Regrade Pond Bank Terraces

Impacts: The removal of the deck footings will require minimal earth disturbance in an area that does not contain biological resources and will not result in significant impacts to biological resources. Draining the pond and re-grading the terraced side of the pond to a 3:1 slope could result in significant biological impacts that would be avoided with the AMMs listed below. The activities could impact water quality and potential habitat for CRF in the pond and for steelhead and coho downstream. Construction noise is expected to be short term and not result in significant disturbance to biological resources. One native bay laurel tree would be removed during grading. Re-grading the banks to a 3:1 slope will improve geotechnical stability, reduce erosion and sediment impacts to the pond and downstream waters, and create a more natural pond environment for wildlife

use, and would be better for biological resources than the current configuration. AMMs to prevent erosion and pollution, protect special-status species, and replace the bay tree, are recommended to be incorporated into the construction plans and permit applications.

AMM-2: The geotechnical report recommends diverting the spring that feeds the pond into Drainage A. We recommend that the spring(s) that feed the pond be diverted through piping around the pond to Drainage B, since they are in the watershed of Drainage B. We recommend that the water drained from the pond either be stored temporarily and returned to the pond, or be diverted to Drainage B with appropriate pollution prevention measures.

AMM-3: The project shall include water protection measures when diverting the springs and draining the pond. For example, a water-tight coffer dam(s) should be constructed to capture the spring water upstream of the pond, and water diverted through a suitably sized pipe from upstream of the coffer dam around the side of the pond to a discharge point at Drainage B. The coffer dam should be constructed of a non-erodible material which does not contain soil or fine sediment. The coffer dam and diversion should remain in place until construction is complete and the pond can be filled again. The flow diversions must be done in a manner that prevents pollution and siltation and that provides flows to Drainage B. The discharge point should be protected from erosion and siltation using filter fabric or other suitable method that requires minimal disturbance to Drainage B and potential impacts to water quality downstream.

AMM-4: A CDFW-approved qualified biologist shall conduct a pre-construction survey prior to any work in the spring, pond, or drainage areas, no longer than 48 hours in advance of the start of work. If work is delayed after the inspection, or if work moves to a new area, an additional pre-construction survey is required.

Resumes of biologists and biological monitors shall be provided to CDFW for review and approval well in advance of project work.

AMM-5: Prior to any project or construction activities, the biological monitor or qualified biologist shall conduct an education session on species that may be present at the project work site. The training shall include basic identification of the species, their basic habits, where they could be encountered in the work area, and procedures to follow if they are encountered. Any personnel joining the work crew later shall receive the same training before beginning work.

AMM-6: Any native trees removed for the project shall be replaced at a 6:1 ratio for oaks, a 3:1 ratio for other native trees, and a 1:1 ratio for non-native species. All replacement trees shall be native species found to occur in the adjacent forested areas. The bay laurel that is planned to be removed should be replaced by 3 native 15-gallon trees. The trees need to be watered the first year to ensure establishment, and monitored for survival for five years. Trees that die need to be replaced.

AMM-7: In order to prevent noise impacts to nesting long-eared owls, heavy equipment use should be timed outside of the nesting season. If grading occurs during the nesting

season of raptors and migratory birds, a focused survey for active nests must be completed by a CDFW-approved qualified biologist within 15 days prior to the beginning of project-related activities. Surveys will be conducted in all suitable habitat located at the project work site, in staging and storage areas, and within 1,000 feet of the project work site. If project work is halted for 15 days or more, a new survey is required. The nesting season is February 1 to September 15.

AMM-8: If active nests are found, the qualified biologist shall confer with CDFW regarding the appropriate action to comply with the Migratory Bird Treaty Act. The project may be delayed, or a buffer may be established around the nest. The results depend on the location of the nest relative to project activities, and what project activities are planned.

AMM-9: The pond must be drained slowly in late summer, over approximately a full month in August/September, so that any CRF present can naturally exit. Beyond that timeframe the pond can be drained more quickly until it rains. Once it rains in the fall the pond should not be drained until the following August. Water pumped from the pond should be pumped into a holding tank or settling pond, or other method that allows silt to settle out before the water is allowed to enter Drainage B, or otherwise prevents silt from impacting water quality downstream.

AMM-10: Standard Best Management Practices for erosion control and stormwater pollution prevention shall be employed during and after construction to protect water quality onsite and downstream. Stormwater management and water quality protection measures may include the use of straw wattles to catch sediment, covering stockpiles during rain events, covering exposed slopes with jute netting, and re-seeding/planting graded areas. The erosion control, slope protection, or other water quality protection measures shall not include plastic/synthetic netting because it ensnares amphibians and reptiles and could impact special-status species.

AMM-11: All new plantings/seeds should be comprised of native species known to occur in the surrounding natural habitat. No plants listed by the California Invasive Plant Council shall be included in the revegetation specifications. Revegetated areas should be monitored for revegetation success and kept free of non-native invasive weed species until the native vegetation has grown in and become dominant.

AMM-12: Upland habitat for special-status species shall be protected during construction activities. Staging areas should be established in areas already impacted by grading, and not in vegetated areas. The upper, seasonal pond near the worksite should be protected from disturbance or modification because it provides habitat for special-status species.

AMM-13: Vehicle fueling or maintenance shall not be conducted adjacent to the pond, and any vehicles parked in the area should have a drip pan under them to prevent oil, gasoline, lubricants, or other chemicals from leaking onto the ground near the pond or spring.

AMM-14: Wildlife exclusion fencing should be installed around the perimeter of the pond construction area during grading activities and should be regularly inspected by a biological monitor. If any trenches or holes are dug, they should be covered at the end of each day, inspected for trapped wildlife each morning, and the length of time that they are open should be minimized. If trapped wildlife is discovered, the wildlife should be removed by the CDFW-approved biological monitor.

4.4 Remove Concrete Structure Adjacent to Pond and Regrade Slope

Impacts: A concrete road structure between the end of the access road and the pad is built across a spring-fed channel, and the water is conveyed through a 12-inch plastic pipe imbedded in the concrete. Water collects upstream of this structure and wetland vegetation has developed. Below the culvert, soil is eroding as water flows down a narrow earthen rill to the pond. Possible options are to leave it in place, remove it and replace it with a small bridge (free span) over the drainage, or replace it with a new culvert that discharges closer to the pond edge in order to correct for the erosion created by the existing elevation of the outfall. The geotechnical report recommends that the concrete structure on the side of the driveway toward the pond be removed, and that the area be graded to create a 3:1 slope from the pond's edge to level ground above. The road would be re-aligned upstream and the existing upslope concrete wall would remain. The impacts for this activity are the same as for the Pond Bank Terraces described in Section 5.3, assuming that this work would including draining the pond.

AMMs: This activity requires the same AMMs listed for the Pond Bank Terraces in Section 5.3, assuming that this work requires spring diversion and pond draining.

4.5 Removal of Tent Cabins

Impacts: The County may require that the unpermitted tent cabins be removed. From a biological perspective, there is no strong argument for either preservation or removal of the tent cabins. If removal is required, an option is to leave the supporting foundation piers in place and remove only the tent structures in order to avoid or minimize ground disturbance. Lessening ground disturbance as feasible reduces potential impacts to nearby water ways and vegetation. The geotechnical report recommends removing the tents and supporting wooden platforms, either removing or breaking off the upper portions of the concrete footings and covering them with topsoil and re-vegetating the area. AMMs are recommended to minimize impacts to biological resources during de-construction. AMM-11, above, would also apply.

AMM-15: Construction debris should immediately be placed in a truck or bin for removal off site, rather than piled on the ground. Piles may attract reptiles and amphibians that could then be disturbed or injured when the material is later collected. Following cabin removal, disturbed soil shall be stabilized as needed and native plants installed (per AMM-11).

4.6 Restoration of Gravel Pad

Impacts: Equipment, such as a Bobcat or bulldozer, would be required to remove portions of the gravel pad so that it is pulled back from the pond by at least 10 feet and from Drainage A by 25 feet, then these areas would be de-compacted and restored to natural habitat. These activities could impact biological resources if water quality is impaired, or if equipment is not staged correctly.

AMMs: Follow AMMs 4, 5, 7, 8, 10, 11, 12, 13, and 14 to protect biological resources during this activity.

4.7 Removal of Road Segment

Impacts: The geotechnical report recommends de-compacting the road segment adjacent to the west side of the pond to make it pedestrian width only and restoring the rest with native vegetation. Restoration of this area would have a beneficial impact on biological resources associated with the pond and surrounding habitats.

AMMs: Follow AMMs 4, 5, 10, 11, 12, 13, and 14 for this activity to minimize impacts on biological resources.

4.8 Pond Drainage Infrastructure Inspection and Possible Replacement

Impacts: The geotechnical report recommends that the pond be drained in a controlled manner in order to inspect the bottom inlet drain and the skimmer drains, because the drain pipes may be under sized and were hurriedly backfilled, such that there is a potential risk of dam failure and a sudden release of all the water in the pond. Because draining the pond could adversely affect special-status species that could occur there, and could impact water quality downstream and impact special-status species off-site, AMMs regarding the methods used to drain the pond and protect water quality are recommended. These measures are described above for the Pond Terraces Grading project (5.2, above). It is assumed that the pond would be allowed to re-fill once the inspection/repairs are complete.

AMMs: Apply AMMs 2, 3,4,5, and 9 to this activity to prevent significant impacts to biological resources.

4.9 New Pond Embankment

Impacts: The geotechnical report recommends that the free-board of the pond be increased above the present height by constructing a new pond embankment down slope and adjacent to the existing embankment. The soil for this embankment would be native soil generated on site in reducing slope inclinations to 3:1. The top of the embankment should be about 8 feet wide and should be level, according to the report. The outboard slope of the embankment should be no steeper than 3:1 (horizontal to vertical). The embankment would be located in an area of barren ground that does not support vegetation. If burrows are present in this area the project could result in a significant impact to special-status species that use burrows in upland habitat.

AMM-16: A qualified biologist should inspect the area where the new embankment is proposed for the presence of burrows. Burrows should be excavated by a biologist permitted to move special status species before construction begins.

In addition, AMMs 4, 5, 7, 8, 10, 11, 12, 13, and 14 should be followed to prevent significant impacts to biological resources.

Table 1: Avoidance and Minimization Measures

AMM #	AMM	ACTIVITY
1	It is recommended that the material on the slope failure be left in place and that no action be taken to remove it. Removal would cause more disturbance of the embankment and could result in adverse impacts to the creek caused by debris and soil falling into the creek channel and affecting creek flows. In addition, the debris may now provide habitat for roosting bats, reptiles, and birds. Removal of the debris may negatively impact wildlife.	5.1
2	The geotechnical report recommends diverting the spring that feeds the pond into Drainage A. We recommend that the spring(s) that feed the pond be diverted through piping around the pond to Drainage B, since they are in the watershed of Drainage B. We recommend that the water drained from the pond either be stored temporarily and returned to the pond, or be diverted to Drainage B with appropriate pollution prevention measures.	5.3, 5.8
3	The project shall include water protection measures when diverting the springs and draining the pond. For example, a water-tight coffer dam(s) should be constructed to capture the spring water upstream of the pond, and water diverted through a suitably sized pipe from upstream of the coffer dam around the side of the pond to a discharge point at Drainage B. The coffer dam should be constructed of a non-erodible material which does not contain soil or fine sediment. The coffer dam and diversion should remain in place until construction is complete and the pond can be filled again. The flow diversions must be done in a manner that prevents pollution and siltation and that provides flows to Drainage B. The discharge point should be protected from erosion and siltation using filter fabric or other suitable method that requires minimal disturbance to Drainage B and potential impacts to water quality downstream.	5.3, 5.4, 5.8
4	A CDFW-approved qualified biologist shall conduct a pre-construction survey prior to any work in the	5.3, 5.4, 5.6, 5.7, 5.8, 5.9

Table 1: Avoidance and Minimization Measures		
AMM #	AMM	ACTIVITY
	spring, pond, or drainage areas, no longer than 48 hours in advance of the start of work. If work is delayed after the inspection, or if work moves to a new area, an additional pre-construction survey is required. Resumes of biologists and biological monitors shall be provided to CDFW for review and approval well in advance of project work.	
5	Prior to any project or construction activities, the biological monitor or qualified biologist shall conduct an education session on species that may be present at the project work site. The training shall include basic identification of the species, their basic habits, where they could be encountered in the work area, and procedures to follow if they are encountered. Any personnel joining the work crew later shall receive the same training before beginning work	5.3, 5.4, 5.6, 5.7, 5.8, 5.9
6	Any native trees removed for the project shall be replaced at a 6:1 ratio for oaks, a 3:1 ratio for other native trees, and a 1:1 ratio for non-native species. All replacement trees shall be native species found to occur in the adjacent forested areas. The bay laurel that is planned to be removed should be replaced by 3 native 15-gallon trees. The trees need to be watered the first year to ensure establishment, and monitored for survival for five years. Trees that die need to be replaced.	5.3, 5.4,
7	In order to prevent noise impacts to nesting long-eared owls, heavy equipment use should be timed outside of the nesting season. If grading occurs during the nesting season of raptors and migratory birds, a focused survey for active nests must be completed by a CDFW-approved qualified biologist within 15 days prior to the beginning of project-related activities. Surveys will be conducted in all suitable habitat located at the project work site, in staging and storage areas, and within 1,000 feet of the project work site. If project work is halted for 15 days or more, a new survey is required. The nesting season is February 1 to September 15.	5.3, 5.4, 5.6, 5.9
8	If active nests are found, the qualified biologist shall confer with CDFW regarding the appropriate action to comply with the Migratory Bird Treaty Act. The project may be delayed, or a buffer may be established around the nest. The results depend on the location of the nest relative to project activities,	5.3, 5.4, 5.6, 5.9

Table 1: Avoidance and Minimization Measures		
AMM #	AMM	ACTIVITY
	and what project activities are planned.	
9	The pond must be drained slowly in late summer, over approximately a full month in August/September, so that any CRF present can naturally exit. Beyond that timeframe the pond can be drained more quickly until it rains. Once it rains in the fall the pond should not be drained until the following August. Water pumped from the pond should be pumped into a holding tank or settling pond, or other method that allows silt to settle out before the water is allowed to enter Drainage B, or otherwise prevents silt from impacting water quality downstream.	5.3, 5.4, 5.8
10	Standard Best Management Practices for erosion control and stormwater pollution prevention shall be employed during and after construction to protect water quality onsite and downstream. Stormwater management and water quality protection measures may include the use of straw wattles to catch sediment, covering stockpiles during rain events, covering exposed slopes with jute netting, and re-seeding/planting graded areas. The erosion control, slope protection, or other water quality protection measures shall not include plastic/synthetic netting because it ensnares amphibians and reptiles and could impact special-status species.	5.3, 5.4, 5.6, 5.7, 5.9
11	All new plantings/seeds should be comprised of native species known to occur in the surrounding natural habitat. No plants listed by the California Invasive Plant Council shall be included in the revegetation specifications. Revegetated areas should be monitored for revegetation success and kept free of non-native invasive weed species until the native vegetation has grown in and become dominant.	5.3, 5.4, 5.5, 5.6, 5.7, 5.9
12	Upland habitat for special-status species shall be protected during construction activities. Staging areas should be established in areas already impacted by grading, and not in vegetated areas. The upper, seasonal pond near the worksite should be protected from disturbance or modification because it provides habitat for special-status species.	5.3, 5.4, 5.6, 5.7, 5.9
13	Vehicle fueling or maintenance shall not be conducted adjacent to the pond, and any vehicles parked in the area should have a drip pan under them to prevent oil, gasoline, lubricants, or other chemicals from leaking onto the ground near the	5.3, 5.4, 5.6, 5.7, 5.9

Table 1: Avoidance and Minimization Measures		
AMM #	AMM	ACTIVITY
	pond or spring.	
14	Wildlife exclusion fencing should be installed around the perimeter of the pond construction area during grading activities and should be regularly inspected by a biological monitor. If any trenches or holes are dug, they should be covered at the end of each day, inspected for trapped wildlife each morning, and the length of time that they are open should be minimized. If trapped wildlife is discovered, the wildlife should be removed by the CDFW-approved biological monitor.	5.3, 5.4, 5.6, 5.7, 5.9
15	Construction debris should immediately be placed in a truck or bin for removal off site, rather than piled on the ground. Piles may attract reptiles and amphibians that could then be disturbed or injured when the material is later collected. Following cabin removal, disturbed soil shall be stabilized as needed and native plants installed	5.5

Table 2: Summary of Activities Requiring Avoidance and Mitigation Measures	
Section Number	**Activity**
5.1	Wood Debris Pile on Embankment
5.2	Foot Bridge Concrete Footings and Erosion Control Fencing
5.3	Deck Footings and Pond Bank Terraces
5.4	Remove Concrete Structure Adjacent to Pond and Regrade Slope
5.5	Removal of Tent Cabins
5.6	Restoration of Gravel Pad
5.7	Removal of Road Segment
5.8	Pond Drainage Infrastructure Inspection and Possible Replacement
5.9	New Pond Embankment

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U.S. Fish and Wildlife Service (USFWS). 2016. IPaC Trust Resource Report, prepared for Langley Hill Road project area on Nov. 1, 2015.

Appendix A: Representative Photos of the Project Site, October 2013

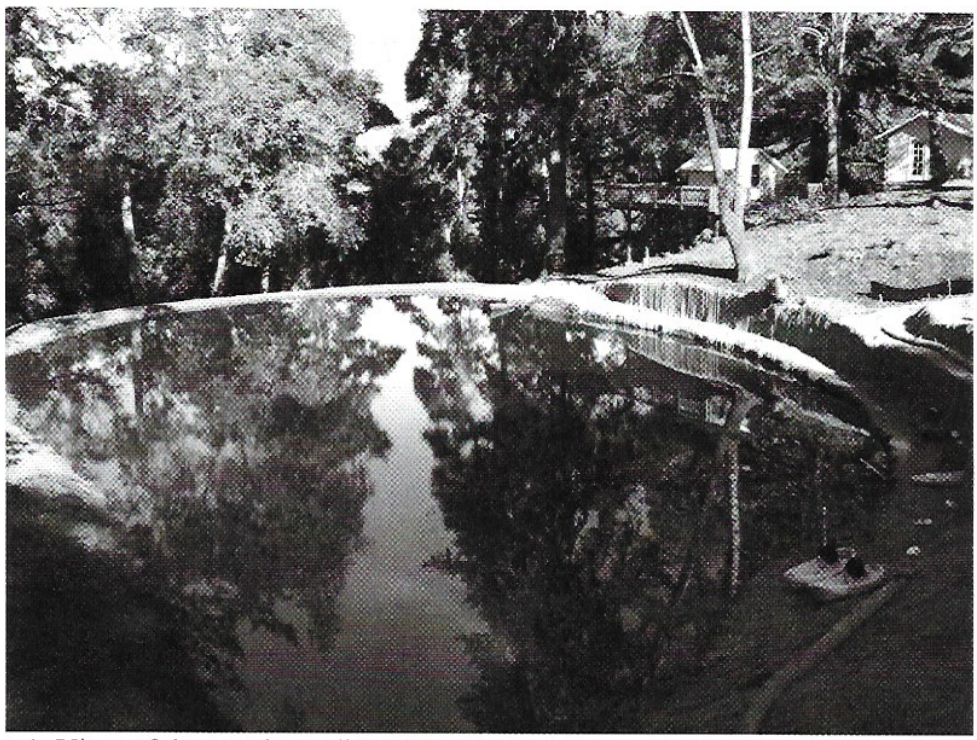

Photo 1. View of the pond standing above the inlet. Two of three tent cabins can be seen in the background. To the right is the terracing that has been blanketed in erosion control netting.

Photo 2. View of the pond and deck terracing from the outlet side. Drainage feeding pond can be seen in the upper right side.

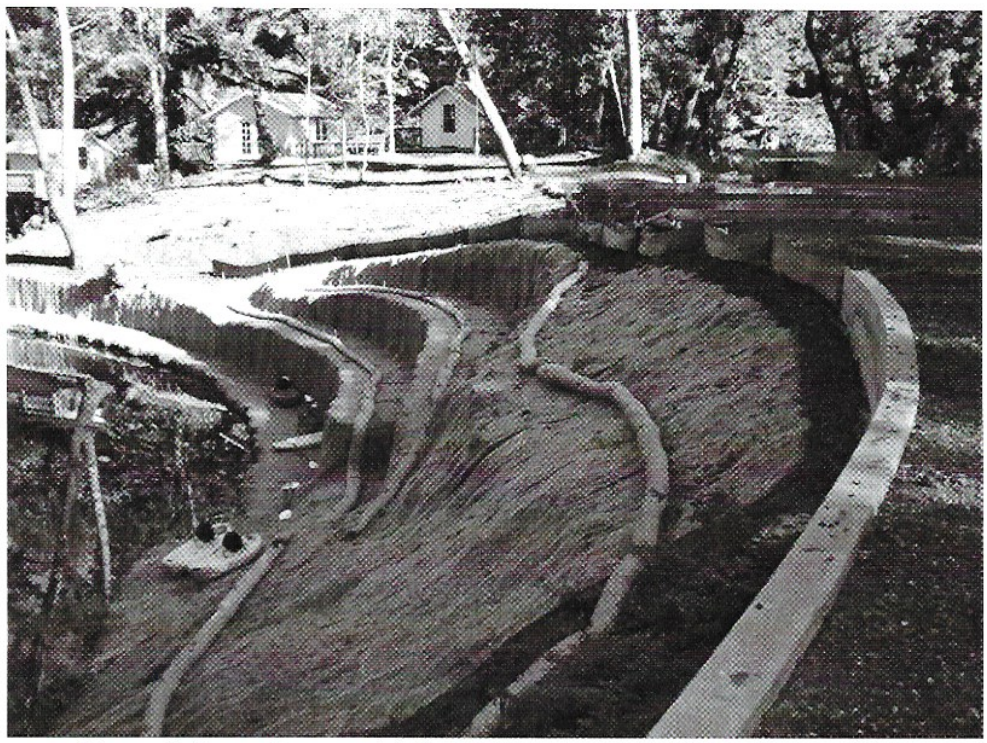

Photo 3. Terracing, partial deck construction, and three tent cabins.

Photo 4. Dirt and gravel pad, presumable made from excavated fill when the pond was created.

Photo 5. Composting toilet positioned at the edge of the pad.

Photo 6. A culvert conveys from a spring to the pond.

Photo 7. The upstream side of the culvert that discharges to the pond.

Photo 8. The pond's earthen berm. One of the vertical pipes for outflow can be seen in the bottom left.

Photo 9. The face of the earthen berm with erosion control straw wattles installed per County requirement.

Photo 9. The toe of the berm, erosion control netting and seeding that has sprouted. The culvert discharges into drainage B just below the silt fence.

Photo 10. Large wood debris pile that collapsed the ravine embankment.

Photo 11. Concrete bridge footing for a planned bridge at drainage A. The County required erosion control measures implemented on the steep drainage banks.

Photo 12. Drainage A in the location where the concrete bridge footings were poured.

Photo 13. Second pond located on the subject property

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