

PROPERTY MANAGEMENT PLAN



APPLICANT

Anthony “Tony” Lamperti

PROJECT LOCATION

**1111 Sulphur Bank Drive
Clearlake Oaks, CA 95423**

PROJECT PARCEL

Lake County APNs 006-520-11

PROJECT PROPERTY

**Lake County APNs 006-520-10, 11, & 12;
006-540-02 & 08; and 010-002-37 & 53**

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PROJECT DESCRIPTION

Mr. Anthony Lamperti is seeking a Major Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 1111 Sulphur Bank Drive near Clearlake Oaks, California on Lake County APN 006-520-11 (Project Parcel). Mr. Lamperti's proposed commercial cannabis cultivation operation will be composed of ten (10) A-Type 3 "Medium Outdoor" cultivation areas, with a combined canopy area of 432,800 ft². The total cultivation area of the proposed cannabis cultivation operation (as defined in Chapter 21, Article 27 of the Lake County Code), including the combined outdoor cultivation/canopy areas, a 120 ft² Security Center and a 120 ft² Pesticides & Agricultural Chemicals Storage Area, is 433,040 ft².

The Project Property is composed of seven parcels totaling approximately 257 acres (Lake County APNs 006-520-10, 11, & 12, 006-540-02 & 08, and 010-002-37 & 53), all of which are owned by Pluth Homestead Ranch, LLC. Mr. Dennis Pluth (Managing Member of Pluth Homestead Ranch, LLC) has given Mr. Lamperti permission to establish the proposed cultivation operation and conduct the proposed cannabis cultivation activities, once the appropriate permits and licenses have been obtained. Mr. Lamperti obtained coverage as a Tier 2 Low Risk Discharger under the State Water Resources Control Board's Cannabis General Order for the Project Property on June 10th, 2020.

The Project Parcel is located approximately one mile north of Clearlake, CA, and 1,250 feet south of the Community of Clearlake Oaks, CA. The Clearlake Oaks Sewage Treatment Plant is located just north of the Project Parcel. The Project Parcel is accessed via gravel access roads off of Sulphur Bank Drive, which connects to Highway 20 one-half mile north of the Project Property. The Project Parcel has been used for extensive and intensive agricultural production since at least the 1970s (+40 years). The Project Parcel has been improved with two groundwater wells and two accessory agricultural structures ("barns") that are used to store hay, tools, and equipment, and to house livestock. The proposed cultivation operation will be established in areas/fields of the Project Property that have been plowed, planted, and irrigated to produce hay and alfalfa continuously over the last four decades. No trees or vegetation will be removed to establish the proposed cultivation operation.

The Project Property is located within the Schindler Creek-Frontal Clear Lake Watershed (HUC12) and directly adjacent to Clear Lake. An unnamed ephemeral Class III watercourse flows from south to north through the eastern half of the Project Property, and another unnamed ephemeral Class III watercourse flows from east to west through the southern portion of the Project Property. There are also two seasonal ponds in the western half of the Project Property (on the Project Parcel). The larger of the two seasonal ponds supports aquatic wildlife and a lacustrine wetland (reed marsh). No cannabis cultivation activities nor agricultural chemicals storage will occur within 100 feet of any surface waterbody, including the two seasonal ponds.

The proposed outdoor cultivation areas will be enclosed with 6-foot tall galvanized woven wire fences, covered with privacy screen where necessary to screen the cultivation area(s) from public view. Additionally, a line of olive trees (vegetative screening) will be planted on the Project Property west of the proposed cultivation operation, to obscure the view of the proposed cultivation operation from Clear Lake. The growing medium of the proposed outdoor cultivation/canopy areas will be native soil amended with compost, worm castings, and organic dairy manure, with drip irrigation systems covered in white plastic mulch (to conserve water resources). All water for the proposed cultivation operation will come from an existing onsite groundwater well located at Latitude 39.01236° and Longitude -122.65807°.

Only outdoor cannabis cultivation, harvesting, and preservation activities will be conducted onsite. Cannabis cultivated on and harvested from the Project Parcel, will be dried within temporary drying facilities established within the proposed cultivation/canopy areas, then transported to State of California-licensed processing and manufacturing facilities for processing and/or extraction. Prior to being transported offsite, each cannabis plant will be weighed, and its weight will be recorded in the California Cannabis Track-and-Trace system. Mr. Lamperti will adhere to the reporting requirements of the California Cannabis Track-and-Trace system at all times, to record and report all cannabis transfers and movements.

SITE PLANS AND MAPS

Sheet 1 – Location Map

Sheet 2 – Surrounding Area Aerial

Sheet 3 – Commercial Cannabis Cultivation Exclusion Zones

Sheet 4 – Existing Conditions Site Plan

Sheet 5 – Proposed Conditions Site Plan

Sheet 6 – Cultivation Site Plan with Canopy

Sheet 7 – Security Site Plan

Sheet 8 – Security Center Layout

Sheet 9 – Erosion and Sediment Control Plan

LOCATION MAP

1111 Sulphur Bank Drive
Clearlake Oaks, CA 95423
Lake County APNs:
006-520-10, 11, & 12
006-540-02 & 08
010-002-37 & 53

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



Lake County, CA

1111 Sulphur Bank Drive

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Print Date: 8/16/2021

All parcel boundaries are approximate. Discrepancies in acreage, shape and location are common. This map is not the legal survey document to be used in single site determinations. Consult your deed for a legal parcel description.

COMMERCIAL CANNABIS CULTIVATION EXCLUSION ZONES

PROJECT PROPERTY
Lake County APNs:
006-520-10, 11, & 12
006-540-02 & 08
010-002-35, 37, & 53
(~340 Acres)










Lake County APNs:
006-520-10, 11, & 12
006-540-02 & 08
010-002-35, 37, & 53
(~340 Acres)

Area of Proposed Cultivation Operation

PROJECT PARCEL
1111 Sulphur Bank Drive
Clearlake Oaks, CA 95423
Lake County APN 006-520-11

1111 Sulphur Bank Drive
Clearlake Oaks, CA 95423
Lake County APN 006-520-11

Legend

-  Parcels
 -  Road Easement
 -  Parcel Numbers
 -  City Limits
 -  Highways
 -  Roads
 -  County
 -  1000' Buffer from Community Growth Boundaries
 -  1000' Buffer from Federal Indian Trust Lands

Lake County IT Dept. Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, NPS, NITC Air (Geotitles), Google, Cadastre IL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, Swisstopo, IGN, Canada, OpenStreetMap contributors, and the GIS User Community, Lake County I.T. Dept.

Lake County, CA

1111 Sulphur Bank Drive

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Print Date: 6/2/2020

All parcel boundaries are *approximate*. Discrepancies in acreage, shape and location are common. This map is not the legal survey document to be used in single site determinations. Consult your deed for a legal parcel description.

CLEAR LAKE

Proposed Outdoor
Cultivation Areas

Project Property

SULPHUR BANK RD

SULPHUR BANK MINE RD

Sources: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Lake County Indep't, Lake County I.T.



Lake County, CA

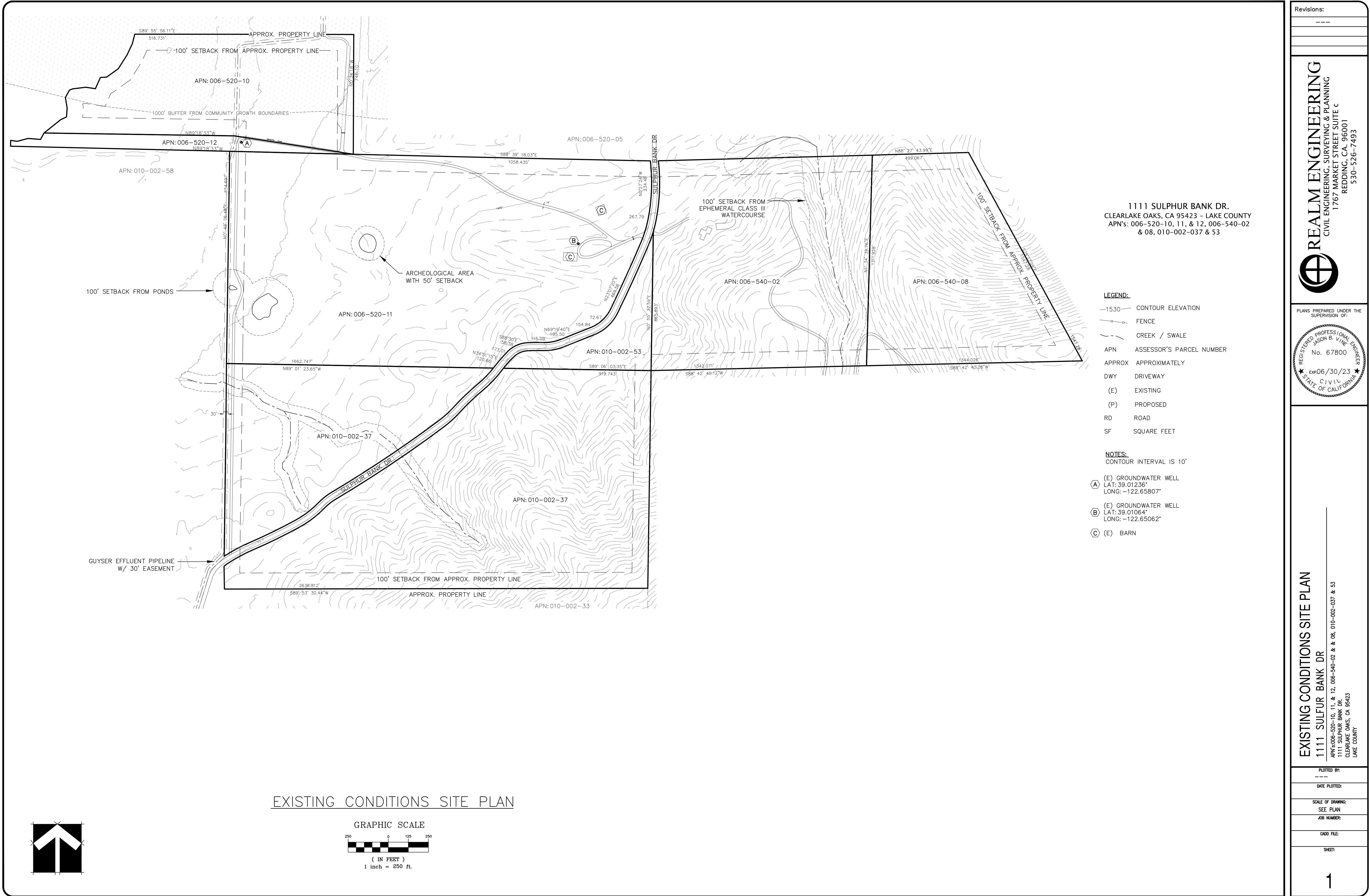
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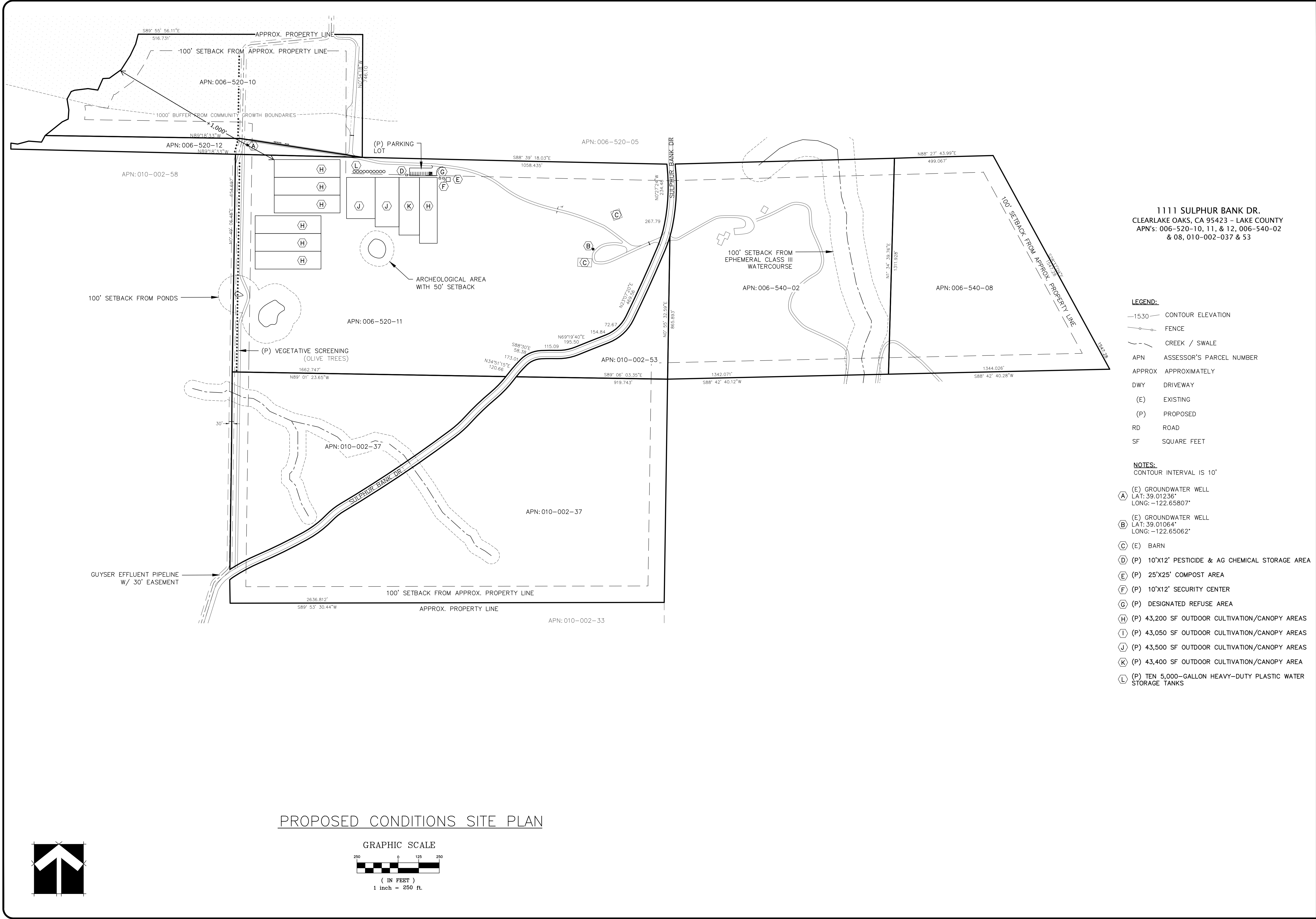
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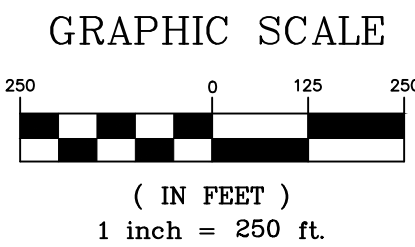
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Print Date: 8/16/2021





PROPOSED CONDITIONS SITE PLAN



LEGEND:

- 1530 CONTOUR ELEVATION
- FENCE
- CREEK / SWALE
- APN ASSESSOR'S PARCEL NUMBER
- APPROX APPROXIMATELY
- DWY DRIVEWAY
- (E) EXISTING
- (P) PROPOSED
- RD ROAD
- SF SQUARE FEET

NOTES:

- CONTOUR INTERVAL IS 10'
- (A) (E) GROUNDWATER WELL
LAT: 39.01236°
LONG: -122.65807°
- (B) (E) GROUNDWATER WELL
LAT: 39.01064°
LONG: -122.65062°
- (C) (E) BARN
- (D) (P) 10'X12' PESTICIDE & AG CHEMICAL STORAGE AREA
- (E) (P) 25'X25' COMPOST AREA
- (F) (P) 10'X12' SECURITY CENTER
- (G) (P) DESIGNATED REFUSE AREA
- (H) (P) 43,200 SF OUTDOOR CULTIVATION/CANOPY AREAS
- (I) (P) 43,050 SF OUTDOOR CULTIVATION/CANOPY AREAS
- (J) (P) 43,500 SF OUTDOOR CULTIVATION/CANOPY AREAS
- (K) (P) 43,400 SF OUTDOOR CULTIVATION/CANOPY AREA
- (L) (P) TEN 5,000-GALLON HEAVY-DUTY PLASTIC WATER STORAGE TANKS

Revisions:

REALM ENGINEERING

CIVIL ENGINEERING, SURVEYING & PLANNING

1767 MARKET STREET SUITE C

REDDING, CA. 96001

530-526-7493

PLANS PREPARED UNDER THE SUPERVISION OF:

REGISTERED PROFESSIONAL ENGINEER

JASON B. VINE

No. 67800

EXP 06/30/23

CIVIL

STATE OF CALIFORNIA

PROPOSED CONDITIONS SITE PLAN

1111 SULFUR BANK DR

APN: 006-520-10, 11, & 12, 006-540-02 & 08, 010-002-037 & 53

1111 SULPHUR BANK DR.

CLEARLAKE OAKS, CA 95423

LAKE COUNTY

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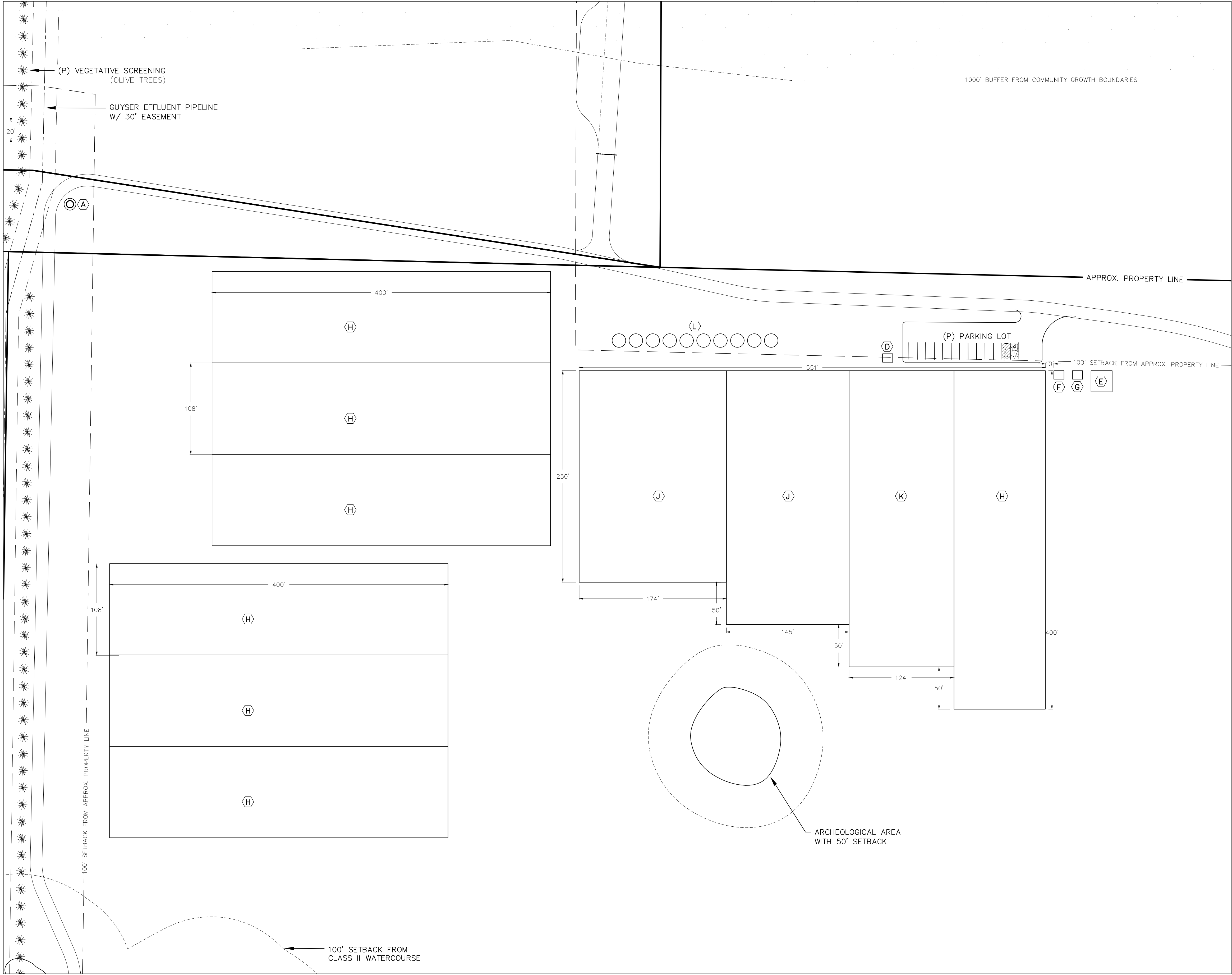
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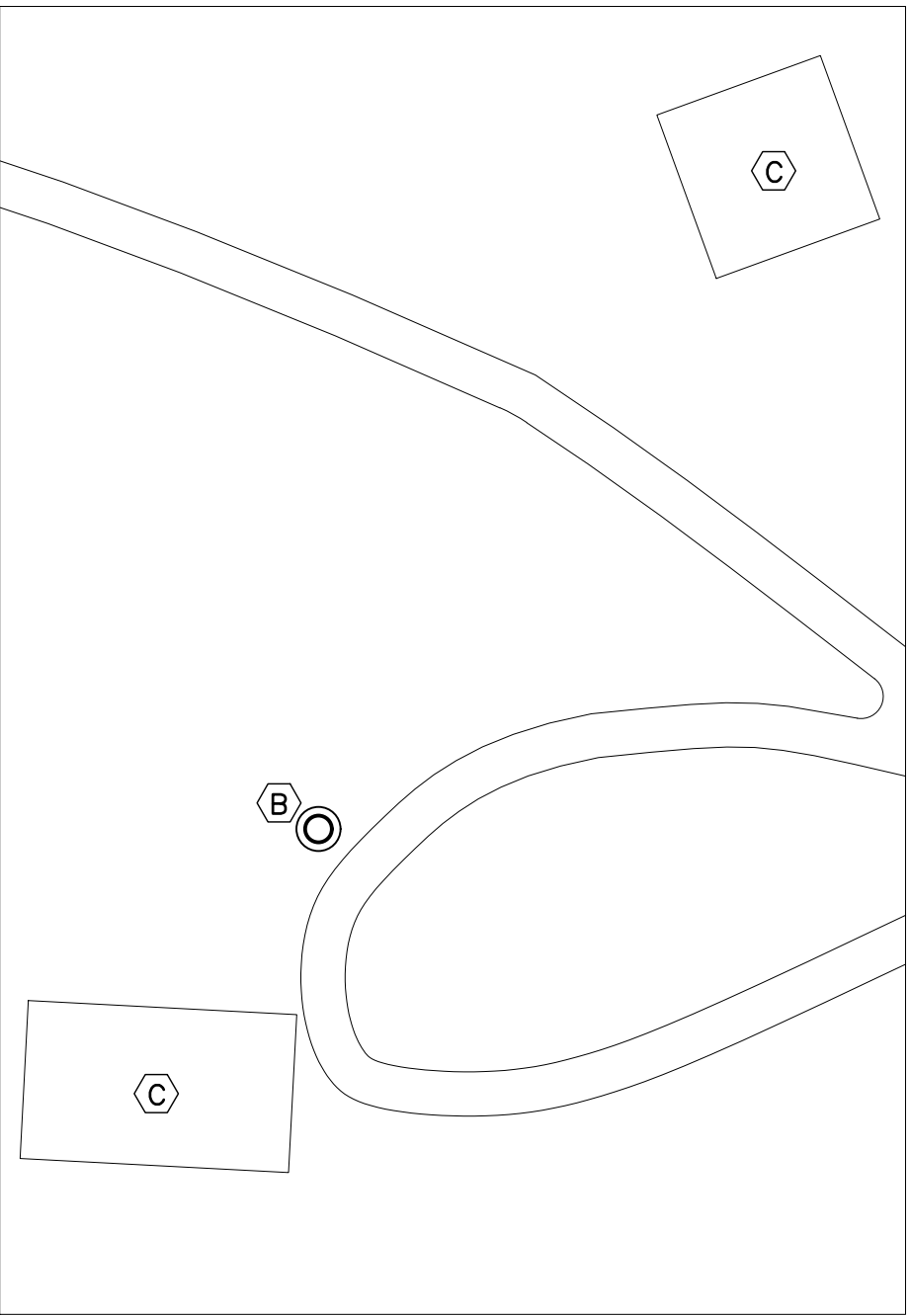
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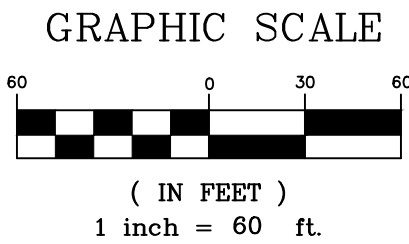
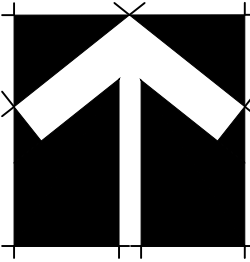


- LEGEND:**
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CULTIVATION SITE PLAN WITH CANOPY



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530-526-7493

PLANS PREPARED UNDER THE SUPERVISION OF:

REGISTERED PROFESSIONAL ENGINEER
JASON B. VINE
No. 67800
EXP 06/30/23
CIVIL
STATE OF CALIFORNIA

CULTIVATION SITE PLAN WITH CANOPY

1111 SULFUR BANK DR
APN 506-520-10, 11, & 12, 006-540-02 & 08, 010-002-037 & 53
1111 SULFUR BANK DR.
CLEARLAKE OAKS, CA 94623
LAKE COUNTY

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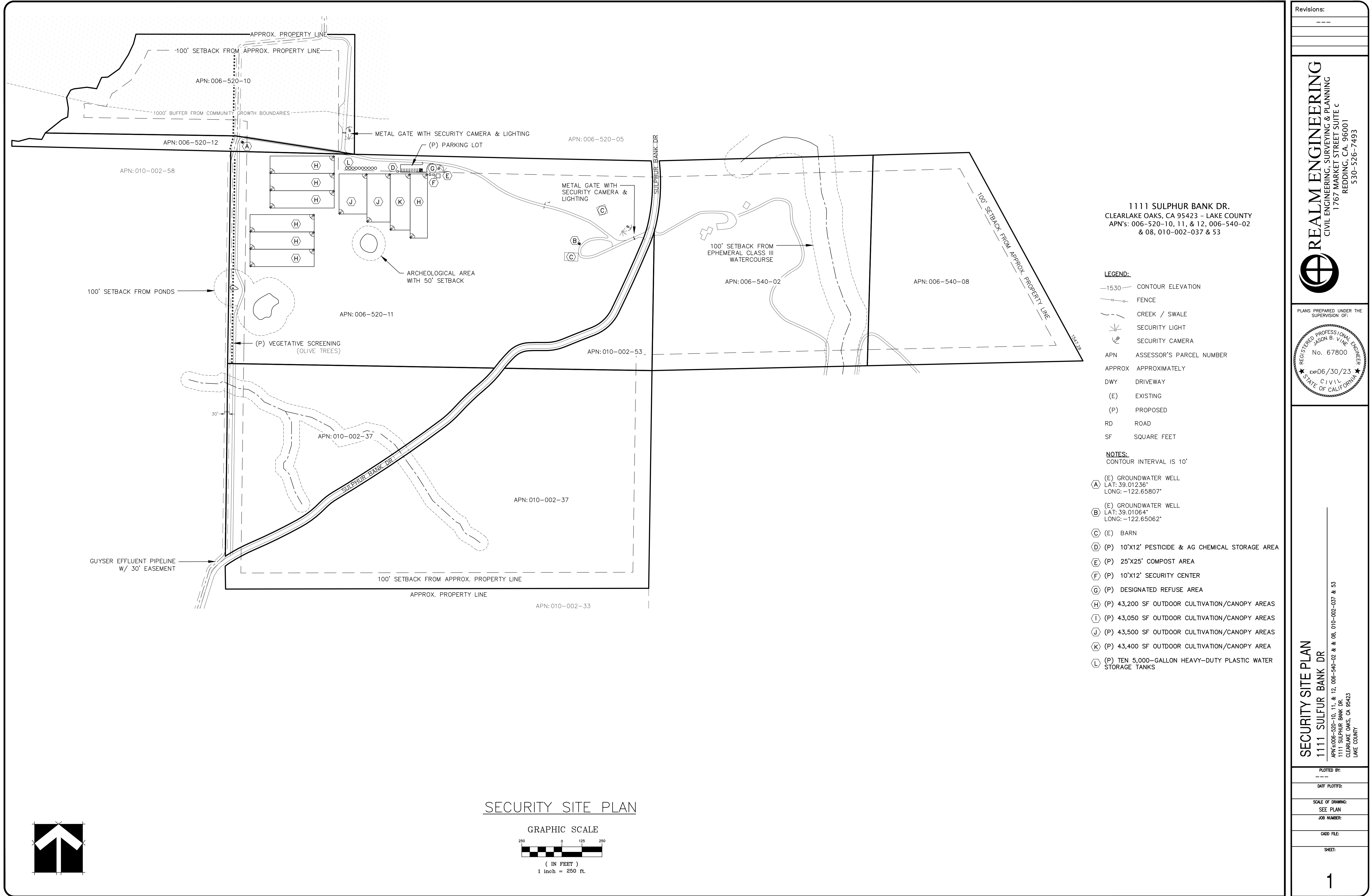
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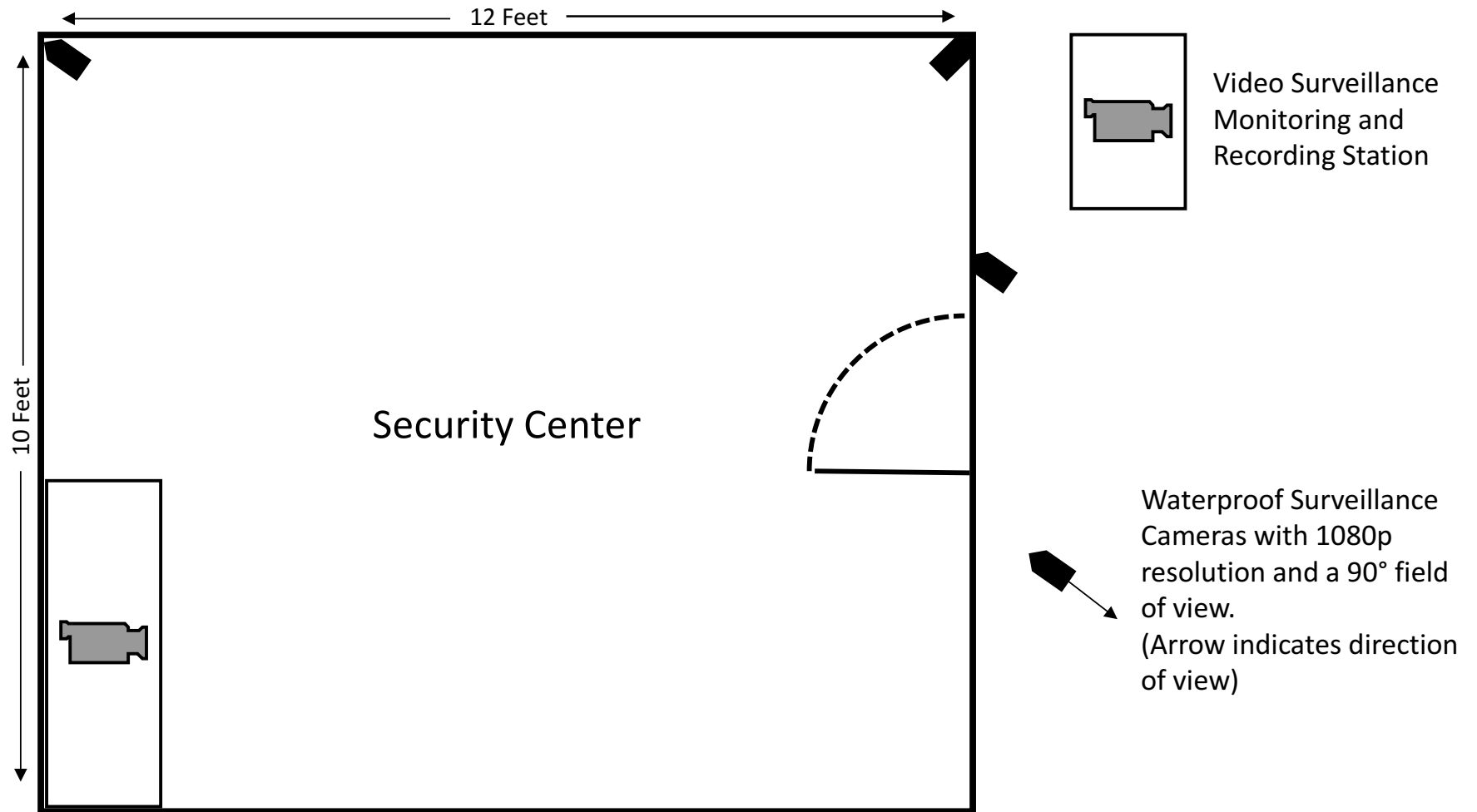
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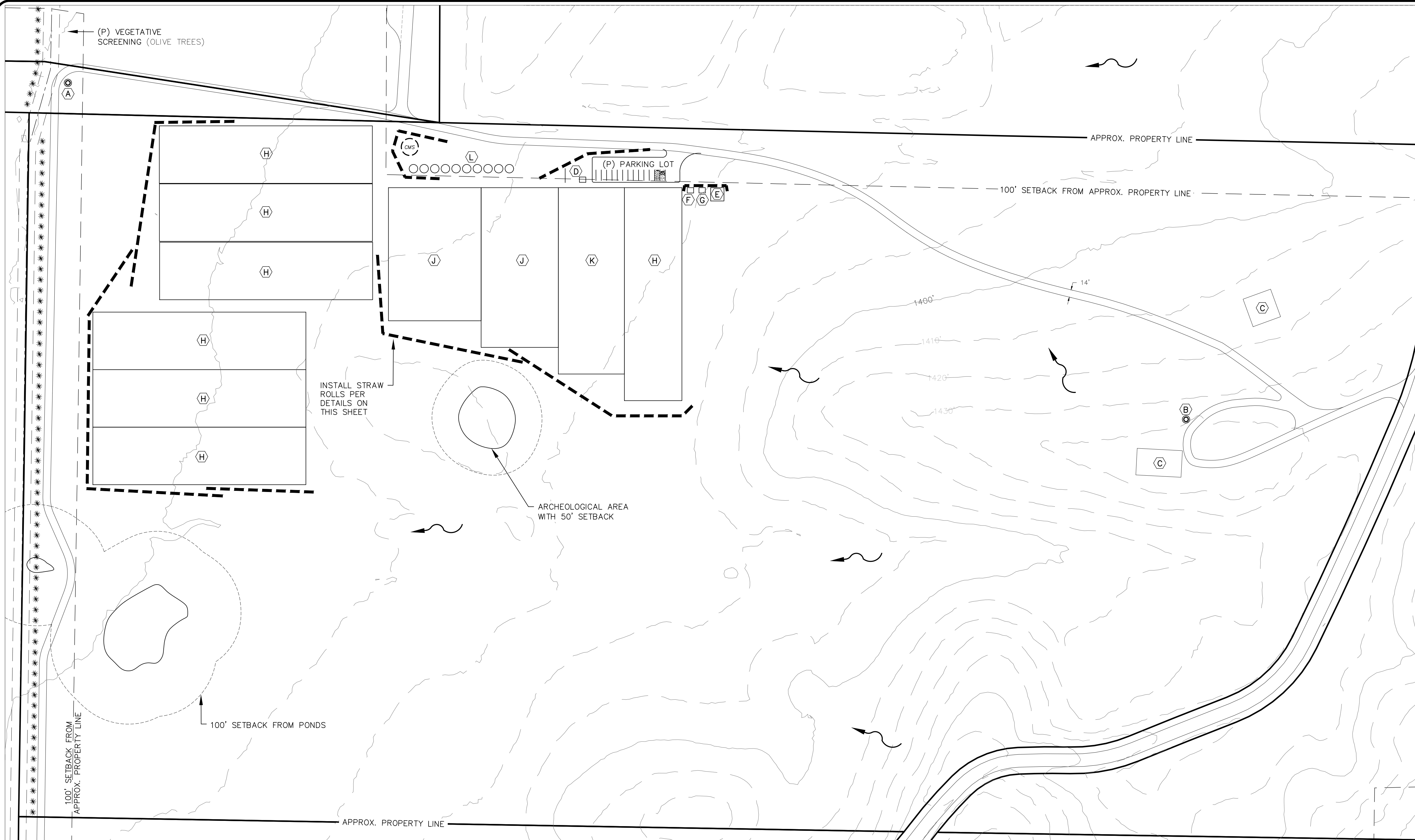
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Proposed Security Center (Wooden Shed)





- EXISTING TREES
- DRAINAGE PATTERNS
- STRAW ROLLS (ADJUST TO SUIT FIELD CONDITIONS)
- DISCHARGE POINT
- SAMPLING LOCATION
- CONSTRUCTION MATERIALS STORAGE AREA

- LEGEND:
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- FENCE
- CREEK / SWALE
- ASSESSOR'S PARCEL NUMBER
- APPROXIMATELY
- DRIVEWAY
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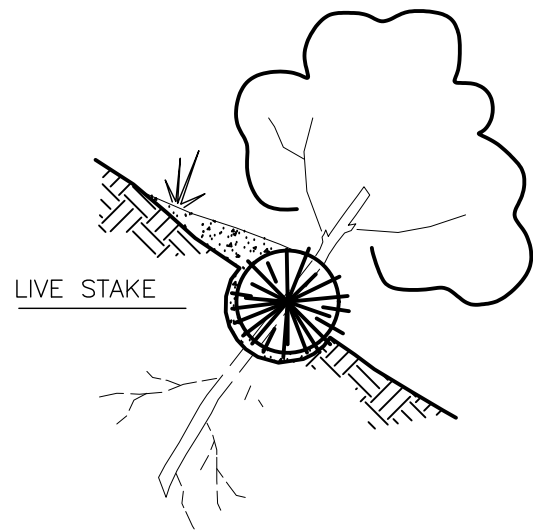
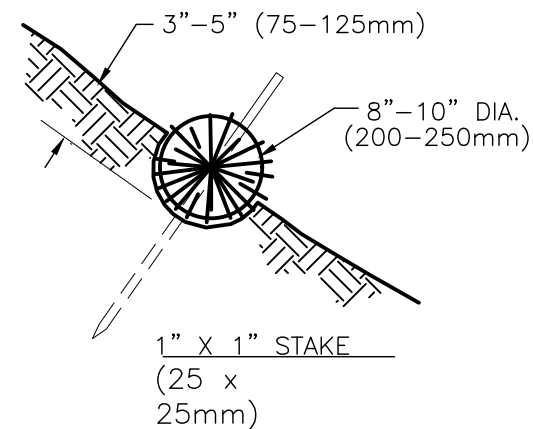
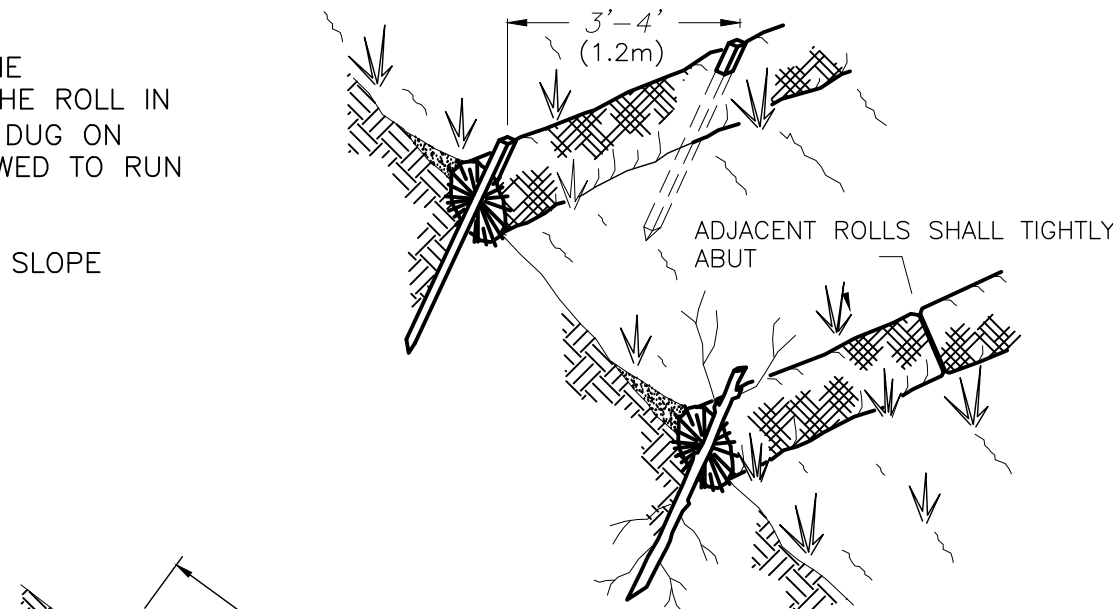
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- (L) TEN 5,000-GALLON HEAVY-DUTY PLASTIC WATER STORAGE TANKS

EROSION & SEDIMENT CONTROL NOTES:

- CONTRACTOR IS TO IMPLEMENT BEST MANAGEMENT PRACTICES (BMPs) TO CONTROL EROSION CONTROL AND REDUCE THE OFF-SITE DISCHARGE OF SEDIMENT TO THE MAXIMUM EXTENT PRACTICABLE.
- EROSION CONTROL BMPs SHALL BE IN PLACE AND MAINTAINED ALL YEAR ROUND.
- HE CONTRACTOR SHALL FOLLOW THE GUIDELINES FROM THE "CALIFORNIA STORMWATER BMP HANDBOOK" FOR THE MEASURES SHOWN OR STATED ON THESE PLANS.
- CONTRACTOR MUST ENSURE THAT THE CONSTRUCTION SITE IS PREPARED PRIOR TO THE ONSET OF ANY STORM.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED. CHANGES TO THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE MADE TO MEET FIELD CONDITIONS ONLY WITH THE APPROVAL OF OR AT THE DIRECTION OF THE QUALIFIED SWPPP PRACTITIONER (QSP).
- THIS PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO ANTICIPATED FIELD CONDITIONS. VARIATIONS MAY BE MADE TO THE PLAN IN THE FIELD SUBJECT TO THE APPROVAL OF OR AT THE DIRECTION OF A REPRESENTATIVE OF LAKE COUNTY.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED BEFORE AND AFTER ALL STORMS TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
- CONTRACTOR SHALL MAINTAIN A LOG AT THE SITE OF ALL INSPECTIONS OR MAINTENANCE OF BMPs, AS WELL AS, ANY CORRECTIVE CHANGES TO THE BMPs OR EROSION AND SEDIMENT CONTROL PLAN.
- THE CONTRACTOR SHALL INSTALL THE STABILIZED CONSTRUCTION ENTRANCE PRIOR TO COMMENCEMENT OF GRADING. LOCATION OF THE ENTRANCE MAY BE ADJUSTED BY THE CONTRACTOR TO FACILITATE GRADING OPERATIONS. ALL CONSTRUCTION TRAFFIC ENTERING THE PAVED ROAD MUST CROSS THE STABILIZED CONSTRUCTION ENTRANCE.
- ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE SWEEPED AT THE END OF EACH WORKING DAY OR AS NECESSARY.
- ANY LOOSE GROUND FROM EXCAVATING GRADING OPERATIONS SHALL BE SECURED PRIOR TO ANY RAIN EVENT. STRAW OR TARP ALL DISTURBED OR EXCAVATED GROUND.
- CONTRACTOR SHALL PLACE GRAVEL BAGS AROUND ALL NEW DRAINAGE STRUCTURE OPENINGS IMMEDIATELY AFTER THE STRUCTURE OPENING IS CONSTRUCTED. THESE GRAVEL BAGS SHALL BE MAINTAINED AND REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED.
- AS A MINIMUM, ALL GRADED AREAS AND EXPOSED SOIL WITHIN THE PROJECT SHALL BE SEEDED PER THE REQUIREMENTS OF LAKE COUNTY.
- DUST GENERATION MUST BE MINIMIZED AND A WATER TRUCK MUST BE AVAILABLE ON-SITE FOR ADEQUATE DUST CONTROL.

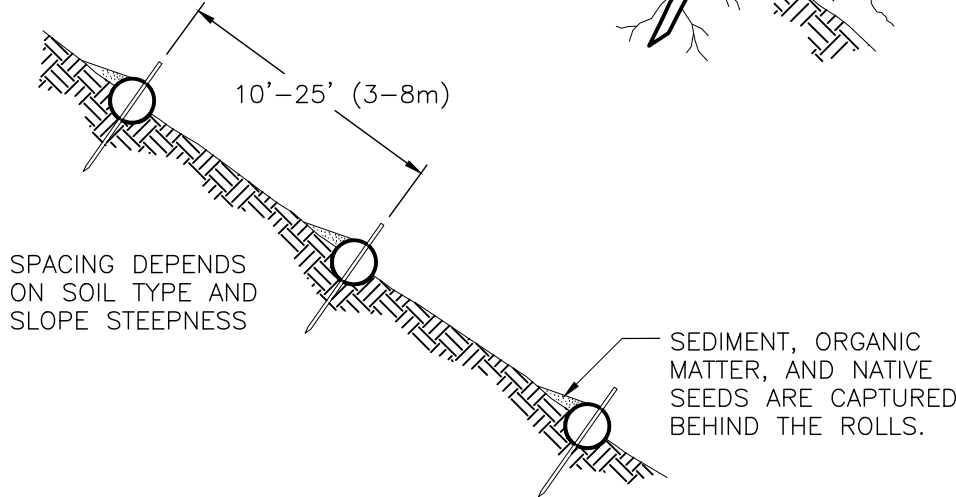
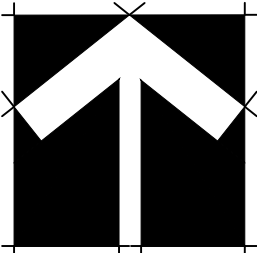
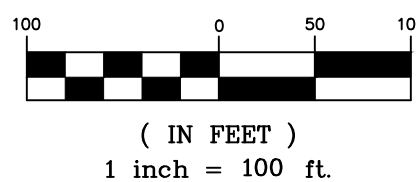
STRAW ROLL DETAILS

- STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"-5" (75-125mm) DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.
- STRAW ROLLS MUST BE PLACED ALONG SLOPE CONTOURS



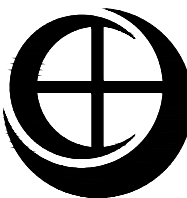
EROSION & SEDIMENT CONTROL PLAN

GRAPHIC SCALE

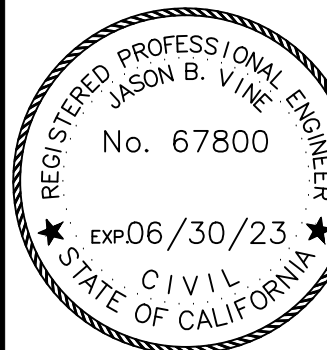


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CLEARLAKE OAKS, CA 94623
LAKE COUNTY

PLOTTED BY:

DATE PLOTTED:

8/20/21

SCALE OF DRAWING:

SEE PLAN

JOB NUMBER:

ADD FILE:

SHEET:

SECTION – C

AIR QUALITY MANAGEMENT PLAN

Air Quality Management Plan

Purpose and Overview

Mr. Anthony Lamperti is seeking a Major Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 1111 Sulphur Bank Drive near Clearlake Oaks, California on Lake County APN 006-520-11 (Project Parcel). Mr. Lamperti's proposed commercial cannabis cultivation operation will be composed of ten (10) A-Type 3 "Medium Outdoor" cultivation areas (ranging from 43,200 ft² to 43,500 ft² in size), a 10' X 12' (120 ft²) Pesticide & Agricultural Chemicals Storage Area (proposed wooden shed), and a 10' X 12' (120 ft²) Security Room/Building (proposed wooden shed). The growing medium of the proposed outdoor cultivation/canopy areas will be native soil amended with compost, worm castings, and organic dairy manure, with drip irrigation systems covered in white plastic mulch (to conserve water resources). All water for the proposed cultivation operation will come from an existing onsite groundwater well located at Latitude 39.01236° and Longitude -122.65807°.

This Air Quality Management Plan (AQMP) is designed to promote the health, safety, welfare and environmental quality of the community, operational staff, and the Project Property. In-line with the directives of the Lake County Air Quality Management District, this AQMP includes measures to monitor and evaluate the performance of the plan, as well as ensure that all data and information is reported to the County of Lake and the proper local agencies. This AQMP identifies equipment and activities that may cause odor, contaminants, or other air quality hazards, and measures that operational staff will be required to follow to mitigate/minimize the amount of air pollution and particulates generated from the proposed cultivation operation. This AQMP also includes an Odor Response Program that establishes responsible parties and procedures for operational staff to follow in the event of an odor complaint.

Equipment or Activities that May Cause the Issuance of Air Contaminants

The following sources are anticipated to be the most significant emitters of odor, air pollutants, and particles from the proposed cultivation operation. However, no single source or combined sources are anticipated to be harmful or detrimental to neighboring residences or the community of Lake County.

Gasoline and Diesel Powered Equipment: The proposed cultivation operation will generate small amounts of carbon dioxide from the operation of small gasoline engines (tillers, weed eaters, lawnmowers, etc...), a utility tractor (diesel engine), and from vehicular traffic associated with staff commuting. The generation of carbon dioxide is partially offset by the cultivation of plants, which remove carbon dioxide in the air for photosynthesis.

Fugitive Dust: The proposed cultivation operation may generate fugitive dust emissions through ground-disturbing activities, uncovered soil or compost piles, and vehicle or truck trips on unpaved roads. Fugitive dust will be controlled by applying gravel or crushed rock to the primary access roads and parking areas of the Project Property, by delaying ground disturbing activities until site conditions are not windy, by wetting soils with a mobile water tank and hose during ground disturbing activities, and by eliminating and/or covering soil stockpiles.

Odors: Cannabis cultivation can generate objectionable odors, particularly when the plants are mature/flowering in the cultivation area(s), or when being processed (drying, curing, trimming) after harvest. No significant odor impacts are anticipated from the proposed cultivation operation, due to the generous setbacks provided from property lines, neighboring residences, and outdoor activity areas. Additionally, the proposed cultivation operation will be located directly adjacent to the Clearlake Oaks Sewage Treatment Plant.

Odor Response Program

A Community Liaison/Emergency Contact will be made available to Lake County Officials/Staff and the Lake County Sheriff's Office at all times to address any needs or issues that may arise. The Community Liaison/Emergency Contact will be responsible for responding to odor complaints 24 hours a day, seven days a week, including holidays. Mr. Lamperti will provide the name, cell phone number, and email address of the Community Liaison/Emergency Contact to all interested County Departments, Law Enforcement Officials, and neighboring property owners and residents. Mr. Lamperti will encourage neighboring residents to contact the Community Liaison/Emergency Contact to resolve any operating problems before contacting County Officials/Staff.

When an odor complaint is received, the Community Liaison/Emergency Contact will immediately take action to determine the source of the odor for which the complaint was received (cultivation area or other). Then mitigation methods will be immediately implemented to reduce/eliminate odors from emanating from the source. Depending on the source, mitigation measures include erecting windscreens and/or the installation of air pollution/odor control equipment.

Community Liaison/Emergency Contact Information

The Community Liaison/Emergency Contact for the proposed cultivation operation is Mr. Anthony Lamperti. Mr. Lamperti's cell phone number is (707) 799-3000, and his email address is lamperti@sonic.net. There is one residence within 250 feet of the Project Parcel's boundaries, located at 781 Sulphur Bank Drive (Lake County APN 006-520-04). The residents of this residence, as well as the owners of all properties within 250 feet of the Project Parcel, have already received Mr. Lamperti's contact information.

SECTION – D

**CULTURAL RESOURCES
EVALUATION (CONFIDENTIAL)**

SECTION – E

BIOLOGICAL RESOURCES ASSESSMENT

**BIOLOGICAL RESOURCES ASSESSMENT FOR THE
CANNABIS CULTIVATION OPERATION AT
1111 SULPHUR BANK DRIVE, CLEARLAKE OAKS, CALIFORNIA**

April 14, 2020
Revised May 26, 2020

Applicant:

Tony Lamperti
1111 Sulphur Bank Drive, Clearlake Oaks, CA 95423

Prepared by:

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1. INTRODUCTION

1.1. PROJECT LOCATION AND DESCRIPTION

Natural Investigations Company conducted a biological resources assessment for a cannabis cultivation operation on a 77-acre parcel (APN 006-520-11) at 1111 Sulphur Bank Drive, Clearlake Oaks, California. The proposed project is a cannabis cultivation operation in a 2-acre cultivation compound that is located on a livestock pasture. A second cultivation compound (6 acres) was also identified that may be used as an alternate or expanded facility. For this assessment, the Project Area was defined as the cultivation areas plus the ancillary facilities, and this 8.1-acre area was the subject of the impact analysis. The entire 77-acre property was defined as the Study Area. The Study Area is defined to identify biological resources adjacent to the Project Area, and is the area subject to potential indirect effects from Project implementation.

1.2. PURPOSE AND SCOPE OF ASSESSMENT

This Biological Resources Assessment was prepared to assist in compliance with the California Environmental Quality Act and the state and federal Endangered Species Acts. This assessment also functions to fulfill requirements for obtaining enrollment (a Notice of Applicability) in the State Water Resources Control Board's Order WQ 2019-0007-DWQ General Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (General Order).

This assessment provides information about the biological resources within the Study Area, the regulatory environment affecting such resources, any potential Project-related impacts upon these resources, and finally, to identify mitigation measures and other recommendations to reduce the significance of these impacts. The specific scope of services performed for this assessment consisted of the following tasks:

- Compile all readily-available historical biological resource information about the Study Area;
- Spatially query state and federal databases for any occurrences of special-status species or habitats within the Study Area and vicinity;
- Perform a reconnaissance-level field survey of the Study Area, including photographic documentation;
- Inventory all flora and fauna observed during the field survey;
- Characterize and map the habitat types present within the Study Area, including any potentially-jurisdictional water resources;
- Evaluate the likelihood for the occurrence of any special-status species;
- Assess the potential for the Project to adversely impact any sensitive biological resources;
- Recommend mitigation measures designed to avoid or minimize Project-related impacts; and
- Prepare and submit a report summarizing all of the above tasks.

The scope of services does not include other services that are not described in this Section, such as formal aquatic resource delineations or protocol-level surveys for special-status species.

1.3. REGULATORY SETTING

The following section summarizes some applicable regulations of biological resources on real property in California.

1.3.1. Special-status Species Regulations

The United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service implement the Federal Endangered Species Act of 1973 (FESA) (16 USC §1531 et seq.). Threatened

and endangered species on the federal list (50 CFR §17.11, 17.12) are protected from “take” (direct or indirect harm), unless a FESA Section 10 Permit is granted or a FESA Section 7 Biological Opinion with incidental take provisions is rendered. Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed species may be present in the project area and determine whether the proposed project will have a potentially significant impact upon such species. Under FESA, habitat loss is considered to be an impact to the species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC §1536[3], [4]). Therefore, project-related impacts to these species or their habitats would be considered significant and would require mitigation. Species that are candidates for listing are not protected under FESA; however, USFWS advises that a candidate species could be elevated to listed status at any time, and therefore, applicants should regard these species with special consideration.

The California Endangered Species Act of 1970 (CESA) (California Fish and Game Code §2050 *et seq.*, and CCR Title 14, §670.2, 670.51) prohibits “take” (defined as hunt, pursue, catch, capture, or kill) of species listed under CESA. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Section 2081 establishes an incidental take permit program for state-listed species. Under CESA, California Department of Fish and Wildlife (CDFW) has the responsibility for maintaining a list of threatened and endangered species designated under state law (CFG Code 2070). CDFW also maintains lists of species of special concern, which serve as “watch lists.” Pursuant to requirements of CESA, an agency reviewing proposed projects within its jurisdiction must determine whether any state-listed species may be present in the Study Area and determine whether the proposed project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation.

California Fish and Game Code Sections 4700, 5050, and 5515 designates certain mammal, amphibian, and reptile species “fully protected”, making it unlawful to take, possess, or destroy these species except under issuance of a specific permit. The California Native Plant Protection Act of 1977 (CFG Code §1900 *et seq.*) requires CDFW to establish criteria for determining if a species or variety of native plant is endangered or rare. Section 19131 of the code requires that landowners notify CDFW at least 10 days prior to initiating activities that will destroy a listed plant to allow the salvage of plant material.

Many bird species, especially those that are breeding, migratory, or of limited distribution, are protected under federal and state regulations. Under the Migratory Bird Treaty Act of 1918 (16 USC §703-711), migratory bird species and their nests and eggs that are on the federal list (50 CFR §10.13) are protected from injury or death, and project-related disturbances must be reduced or eliminated during the nesting cycle. California Fish and Game Code (§3503, 3503.5, and 3800) prohibits the possession, incidental take, or needless destruction of any bird nests or eggs. Fish and Game Code §3511 designates certain bird species “fully protected”, making it unlawful to take, possess, or destroy these species except under issuance of a specific permit. The Bald and Golden Eagle Protection Act (16 USC §668) specifically protects bald and golden eagles from harm or trade in parts of these species.

California Environmental Quality Act (CEQA) (Public Resources Code §15380) defines “rare” in a broader sense than the definitions of threatened, endangered, or fully protected. Under the CEQA definition, CDFW can request additional consideration of species not otherwise protected. CEQA requires that the impacts of a project upon environmental resources must be analyzed and assessed using criteria determined by the lead agency. Sensitive species that would qualify for listing but are not currently listed may be afforded protection under CEQA. The CEQA Guidelines (§15065) require that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines (§15380) provide for assessment of unlisted species as rare or endangered under

CEQA if the species can be shown to meet the criteria for listing. Plant species on the California Native Plant Society (CNPS) Lists 1A, 1B, or 2 are typically considered rare under CEQA. California “Species of Special Concern” is a category conferred by CDFW on those species that are indicators of regional habitat changes or are considered potential future protected species. While they do not have statutory protection, Species of Special Concern are typically considered rare under CEQA and thereby warrant specific protection measures.

1.3.2. Water Resource Protection

Real property that contains water resources are subject to various federal and state regulations and activities occurring in these water resources may require permits, licenses, variances, or similar authorization from federal, state and local agencies, as described next.

The Federal Water Pollution Control Act Amendments of 1972 (as amended), commonly known as the Clean Water Act (CWA), established the basic structure for regulating discharges of pollutants into “waters of the United States”. Waters of the US includes essentially all surface waters, all interstate waters and their tributaries, all impoundments of these waters, and all wetlands adjacent to these waters. CWA Section 404 requires approval prior to dredging or discharging fill material into any waters of the US, especially wetlands. The permitting program is designed to minimize impacts to waters of the US, and when impacts cannot be avoided, requires compensatory mitigation. The US Army Corps of Engineers (USACE) is responsible for administering Section 404 regulations. Substantial impacts to jurisdictional wetlands may require an Individual Permit. Small-scale projects may require only a Nationwide Permit, which typically has an expedited process compared to the Individual Permit process. Mitigation of wetland impacts is required as a condition of the CWA Section 404 Permit and may include on-site preservation, restoration, or enhancement and/or off-site restoration or enhancement. The characteristics of the restored or enhanced wetlands must be equal to or better than those of the affected wetlands to achieve no net loss of wetlands.

Under CWA Section 401, every applicant for a federal permit or license for any activity which may result in a discharge to a water body must obtain State Water Quality Certification that the proposed activity will comply with State water quality standards. The California State Water Resources Control Board is responsible for administering CWA Section 401 regulations.

Section 10 of the Rivers and Harbors Act of 1899 requires approval from USACE prior to the commencement of any work in or over navigable Waters of the US, or which affects the course, location, condition or capacity of such waters. Navigable waters of the United States are defined as waters that have been used in the past, are now used, or are susceptible to use, as a means to transport interstate or foreign commerce up to the head of navigation. Rivers and Harbors Act Section 10 permits are required for construction activities in these waters.

California Fish and Game Code (§1601 - 1607) protects fishery resources by regulating “*any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.*” CDFW requires notification prior to commencement, and issuance of a Lake or Streambed Alteration Agreement, if a proposed project will result in the alteration or degradation of “waters of the State”. The limit of CDFW jurisdiction is subject to the judgment of the Department; currently, this jurisdiction is interpreted to be the “stream zone”, defined as “*that portion of the stream channel that restricts lateral movement of water*” and delineated at “*the top of the bank or the outer edge of any riparian vegetation, whichever is more landward*”. CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the CDFW and the applicant is the Streambed Alteration Agreement. Projects that require a Streambed Alteration Agreement may also require a CWA 404 Section Permit and/or CWA Section 401 Water Quality Certification.

For construction projects that disturb one or more acres of soil, the landowner or developer must obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ).

The State Water Resources Control Board's Order WQ 2019-0007-DWQ General Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities protects receiving water bodies from water-quality impacts associated with cannabis cultivation using a combination of Best Management Practices, buffer zones, sediment and erosion controls, site management plans, inspections and reporting, and regulatory oversight.

1.3.3. Tree Protection

At the State level, in areas inside timberland, any tree removal is subject to the conditions and requirements set forth in the Z'berg-Nejedly Forest Practice Act and the California Forest Practice Rules. If development of a project will result in the removal of commercial tree species, one of the following permits is needed: Less than 3 Acre Conversion Exemption; Christmas Tree; Dead, Dying or Diseased, Fuelwood, or Split Products Exemption; a Public Agency, Public and Private Utility Right of Way Exemption; a Notice of Exemption from Timberland Conversion Permit for Subdivision; or an Application for Timberland Conversion Permit.

Lake County does not have a specific ordinance protecting native trees. However, under the Cannabis Ordinance 3084, Section 4, Subsection iii) Prohibited Activities (a) Tree Removal, Lake County restricts tree removal as follows:

"The removal of any commercial tree species as defined by the California Code of Regulations section 895.1, Commercial Species for the Coast Forest District and Northern Forest District, and the removal of any true oak species (Quercus species) or Tan Oak (Notholithocarpus species) for the purpose of developing a cannabis cultivation site should be avoided and minimized. This shall not include the pruning of any such tree species for the health of the tree or the removal of such trees if necessary for safety or disease concerns."

During the permitting process, Lake County requires mitigation for the removal of protected trees; typical mitigation is tree replacement at a ratio of 2:1 or 3:1.

ENVIRONMENTAL SETTING

The Study Area is located within the Inner North Coast Range geographic subregion, which is contained within the Northwestern California geographic subdivision of the larger California Floristic Province (Baldwin et al. 2012). This region has a Mediterranean-type climate, characterized by distinct seasons of hot, dry summers and wet, moderately-cold winters. The Study Area and vicinity is in climate Zone 14 “Northern California’s Inland Areas with Some Ocean Influence”, with maritime air moderating temperatures that would otherwise be hotter in summer and colder in the winter (Sunset, 2020).

The topography of the Study Area is a west-facing slope of the foothills of the mountains ringing Clear Lake. The elevation ranges from approximately 1,350 feet to 1,410 feet above mean sea level. Drainage runs east, and flows into Clear Lake. Prior to the establishment of this cultivation operation, land uses were livestock pasture and stables.

2. METHODOLOGY

2.1. PRELIMINARY DATA GATHERING AND RESEARCH

Prior to conducting the field survey, the following information sources were reviewed:

- Any readily-available previous biological resource studies pertaining to the Study Area or vicinity
- United States Geologic Service (USGS) 7.5 degree-minute topographic quadrangles of the Study Area and vicinity
- Aerial photography of the Study Area
- California Natural Diversity Database (CNDDDB), electronically updated monthly by subscription
- USFWS species list (IPaC Trust Resources Report).

2.2. FIELD SURVEY

Consulting biologist Tim Nosal, MS. conducted a reconnaissance-level field survey on March 30, 2020. A complete coverage, variable-intensity pedestrian survey was performed, and modified to account for differences in terrain, vegetation density, and visibility. All visible fauna and flora observed were recorded in a field notebook, and identified to the lowest possible taxon. Survey efforts emphasized the search for any special-status species that had documented occurrences in the CNDDDB within the vicinity of the Study Area and those species on the USFWS species list (Appendix 1).

When a specimen could not be identified in the field, a photograph or voucher specimen (depending upon permit requirements) was taken and identified in the laboratory using a dissecting scope where necessary. Dr. Graening holds the following scientific collection permits: CDFW Scientific Collecting Permit No. SC-006802; and CDFW Plant Voucher Specimen Permit 09004. Tim Nosal holds CDFW Plant Voucher Specimen Permit 2081(a)-16-102-V. Taxonomic determinations were facilitated by referencing museum specimens or by various texts, including the following: Powell and Hogue (1979); Pavlik (1991); (1993); Brenzel (2012); Stuart and Sawyer (2001); Lanner (2002); Sibley (2003); Baldwin et al. (2012); Calflora (2020); CDFW (2020b,c); NatureServe 2020; and University of California at Berkeley (2020a,b).

The locations of any special-status species sighted were marked on aerial photographs and/or georeferenced with a geographic positioning system (GPS) receiver. Habitat types occurring in the Study Area were mapped on aerial photographs, and information on habitat conditions and the suitability of the habitats to support special-status species was also recorded. The Study Area was also informally assessed for the presence of potentially-jurisdictional water features, including riparian zones, isolated wetlands and vernal pools, and other biologically-sensitive aquatic habitats

2.3. MAPPING AND OTHER ANALYSES

Locations of species' occurrences and habitat boundaries within the Study Area were digitized to produce the final habitat maps. The boundaries of potentially jurisdictional water resources within the Study Area were identified and measured in the field, and similarly digitized to calculate acreage and to produce informal delineation maps. Geographic analyses were performed using geographical information system software (ArcGIS 10, ESRI, Inc.). Vegetation communities (assemblages of plant species growing in an area of similar biological and environmental factors), were classified by Vegetation Series (distinctive associations of plants, described by dominant species and particular environmental setting) using the CNPS Vegetation Classification system (Sawyer and Keeler-Wolf, 1995). Informal wetland delineation methods consisted of an abbreviated, visual assessment of the three requisite wetland parameters (hydrophytic vegetation, hydric soils, hydrologic regime) defined in the US Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987). Wildlife habitats were classified according to the CDFW's California Wildlife Habitat Relationships System (CDFW, 2020c). Species' habitat requirements and life histories were identified using the following sources: Baldwin et al. (2012); CNPS (2020), Calflora (2020); CDFW (2020a,b,c); and University of California at Berkeley (2020a,b).

3. RESULTS

3.1. INVENTORY OF FLORA AND FAUNA FROM FIELD SURVEY

All plants detected during the field survey of the Study Area are listed in Appendix 2. The following animals were detected within the Study Area during the field survey: Northern Pacific treefrog (*Pseudacris regilla*); Botta's pocket gopher (*Thomomys bottae*); California ground squirrel (*Otospermophilus beecheyi*); cattle (*Bos taurus*); Columbian black-tailed deer (*Odocoileus hemionus columbianus*); coyote (*Canis latrans*); dog (*Canis lupis familiaris*); sheep (*Ovis aries*); acorn woodpecker (*Melanerpes formicivorus*); American crow (*Corvus brachyrhynchos*); bushtit (*Psaltiriparus minimus*); California scrub jay (*Aphelocoma californica*); California towhee (*Melospiza crissalis*); Canada goose (*Branta canadensis*); common raven (*Corvus corax*); Eurasian collared-dove (*Streptopelia decaocto*); mallard (*Anas platyrhynchos*); mourning dove (*Zenaidura macroura*); Nuttall's woodpecker (*Picoides nuttallii*); oak titmouse (*Baeolophus inornatus*); red-tailed hawk (*Buteo jamaicensis*); red-winged blackbird (*Agelaius phoeniceus*); sparrow (Emberizidae); turkey vulture (*Cathartes aura*); white-breasted nuthatch (*Sitta carolinensis*) and other common songbirds.

3.2. VEGETATION COMMUNITIES AND WILDLIFE HABITAT TYPES

3.2.1. Terrestrial Vegetation Communities

The Study Area contains the following terrestrial vegetation communities, which are discussed here and are delineated in the Exhibits:

Ruderal/Disturbed: These areas consist of disturbed or converted natural habitat that is now either in ruderal state, graded, or urbanized with gravel roads, or structure and utility placement. Vegetation within this habitat type consists primarily of nonnative weedy or invasive species or ornamental plants lacking a consistent community structure. The disturbed and altered condition of these lands greatly reduces their habitat value and ability to sustain rare plants or diverse wildlife assemblages.

Annual Grassland: The flatter topography of the parcel consists largely of annual grassland habitat, heavily grazed by sheep and cattle. This vegetation is comprised of non-native grasses and native and non-native herbs including hare wall barley (*Hordeum murinum*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), white clover (*Trifolium repens*), shepherd's purse (*Capsella bursa-pastoris*), fillaree (*Erodium* spp), henbit (*Lamium amplexicaule*), Menzies fiddleneck (*Amsinckia menziesii*), and miner's lettuce (*Claytonia perfoliata*). This vegetation can be classified as the Holland Type "Non-native Grassland," and "Annual grassland" habitat type by CDFW's WHR.

Mixed Oak Woodland: The majority of the Study Area is vegetated with oak woodland habitat. The open canopy of the woodland is comprised of blue oak (*Quercus douglasii*), interior live oak (*Quercus wislizeni*) and occasional two-petaled ash (*Fraxinus dipetala*). The understory within this habitat consists of poison-oak (*Toxicodendron diversilobum*), hare wall barley, soft chess, ripgut brome, hedgehog dogtail grass (*Cynosurus echinoides*), miner's lettuce (*Claytonia* spp.), milk thistle (*Silybum maritimum*), chickweed (*Stellaria media*) and other annual grasses and herbs.. This vegetation can be classified as "*Quercus (agrifolia, douglasii, garryana, kelloggii, lobata, wislizeni)* Forest Alliance (Sawyer et al, 2009)" or as the Holland Type "Oak Forest".

3.2.2. Wildlife Habitat Types

Wildlife habitat types were classified using CDFW's Wildlife Habitat Relationship System. The Study Area contains the following wildlife habitat types: Montane Hardwood; Annual Grassland; Fresh Emergent; Pasture; and Urban.

3.2.3. Critical Habitat and Special-status Habitat

No critical habitat for any federally-listed species occurs within the Study Area. No special-status habitats were detected within the Study Area during the field survey. The CNDDDB reported no special-status habitats within the Study Area. The CNDDDB reported the following special-status habitats in a 10-mile radius outside of the Study Area: Clear Lake Drainage Resident Trout Stream; Clear Lake Drainage Cyprinid/Catostomid Stream; Clear Lake Drainage Seasonal Lakefish Spawning Stream; Northern Basalt Flow Vernal Pool; Northern Volcanic Ash Vernal Pool; Coastal and Valley Freshwater Marsh and Great Valley Mixed Riparian Forest.

3.2.4. Habitat Plans and Wildlife Corridors

Wildlife movement corridors link remaining areas of functional wildlife habitat that are separated primarily by human disturbance, but natural barriers such as rugged terrain and abrupt changes in vegetation cover are also possible. Wilderness and open lands have been fragmented by urbanization, which can disrupt migratory species and separate interbreeding populations. Corridors allow migratory movements and act as links between these separated populations.

Although there are no designated wildlife corridors, the open space within the Study Area allows unrestricted animal movement. No fishery resources exist in the Study Area, but Clear Lake is a fishery resource. The Study Area is not located within any adopted Habitat Conservation Plan or Natural Community Conservation Plan.

3.3. LISTED SPECIES AND OTHER SPECIAL-STATUS SPECIES

For the purposes of this assessment, "special status" is defined to be species that are of management concern to state or federal natural resource agencies, and include those species that are:

- Listed as endangered, threatened, proposed, or candidate for listing under the Federal Endangered Species Act;
- Listed as endangered, threatened, rare, or proposed for listing, under the California Endangered Species Act of 1970;
- Designated as endangered or rare, pursuant to California Fish and Game Code (§1901);
- Designated as fully protected, pursuant to California Fish and Game Code (§3511, §4700, or §5050);
- Designated as a species of special concern by CDFW;
- Plants considered to be rare, threatened or endangered in California by the California Native Plant Society (CNPS); this consists of species on Lists 1A, 1B, and 2 of the CNPS Ranking System; or
- Plants listed as rare under the California Native Plant Protection Act.

3.3.1. Reported Occurrences of Listed Species and Other Special-status Species

A list of special-status plant and animal species that have occurred within the Study Area and vicinity was compiled based upon the following:

- Any previous and readily-available biological resource studies pertaining to the Study Area;
- Informal consultation with USFWS by generating an electronic Species List (Information for Planning and Conservation website at <https://ecos.fws.gov/ipac/>); and
- A spatial query of the CNDDDB.

The CNDDDB was queried and any reported occurrences of special-status species were plotted in relation to the Study Area boundary using GIS software (see exhibits).

The CNDDDB reported 4 special-status species occurrences within the Study Area: eel-grass pondweed (*Potamogeton zosteriformis*); Townsend's big-eared bat (*Corynorhinus townsendii*); pallid bat (*Antrozous pallidus*) and osprey (*Pandion haliaetus*). Three of these occurrences are an artifact of the mapping process that maps imprecise or vague locations, and are not likely to occur on site. Suitable habitat for three of the species (eel-grass pondweed, Townsend's big-eared bat and pallid bat) is not found on site. Suitable nesting habitat for the osprey is on site, although no nest was observed during the field survey. Within a 10-mile buffer of the Study Area boundary, the CNDDDB reported several special-status species occurrences, summarized in the following table.

A USFWS species list was generated online using the USFWS' IPaC Trust Resource Report System (see Appendix 1). This list is generated using a regional and/or watershed approach and does not necessarily indicate that the Study Area provides suitable habitat. The following listed species should be considered in the impact assessment:

- Northern Spotted Owl (*Strix occidentalis caurina*) Threatened
- California Red-legged Frog (*Rana draytonii*) Threatened
- Delta Smelt (*Hypomesus transpacificus*) Threatened
- Burke's Goldfields (*Lasthenia burkei*) Endangered

Migratory birds should also be considered in the impact assessment.

Table 1. Special-status Species Reported by CNDDDB in the Vicinity of the Study Area

Common Name Scientific Name	Status*	General Habitat	Microhabitat
Red-bellied newt <i>Taricha rivularis</i>	CSSC	Found in coastal woodlands and redwood forests along the coast of Northern California	A stream or river dweller. Larvae retreat into veg and under stones during the day.
Foothill yellow-legged frog <i>Rana boylei</i>	CCT/CSSC	Partly-shaded, shallow streams & riffles with a rocky substrate in a variety of habitats.	Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.
Osprey <i>Pandion haliaetus</i>	WL	Ocean shore, bays, fresh-water lakes, and larger streams.	Large nests built in tree-tops within 15 miles of a good fish-producing body of water.
Golden eagle <i>Aquila chrysaetos</i>	FP; WL	Rolling foothills, mountain areas, sage-juniper flats, & desert.	Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.
Prairie falcon <i>Falco mexicanus</i>	WL	Inhabits dry, open terrain, either level or hilly.	Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FT/CE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Nests in riparian jungles of willow, often mixed with cottonwoods, w/ lower story of blackberry, nettles, or wild grape.
Clear Lake hitch <i>Lavinia exilicauda chi</i>	CT	Found only in Clear Lake, Lake Co, and associated ponds. Spawns in streams flowing into Clear Lake.	Adults found in the limnetic zone. Juveniles found in the nearshore shallow-water habitat hiding in the vegetation.
Sacramento perch <i>Archoplites interruptus</i>	CSSC	Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley.	Prefers warm water. Aquatic vegetation is essential for young. Tolerates wide range of physio-chemical water conditions.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	CSSC	Throughout California in a wide variety of habitats. Most common in mesic sites.	Roosts in the open, hanging from walls & ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.
Pallid bat <i>Antrozous pallidus</i>	CSSC	Deserts, grasslands, shrublands, woodlands & forests. Most common in open, dry habitats with rocky areas for roosting.	Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.
North American porcupine <i>Erethizon dorsatum</i>	CSSC	Coast ranges, Klamath Mountains, southern Cascades, Modoc Plateau, Sierra Nevada and Transverse Ranges.	Montane conifer and wet meadow habitats.
Western pond turtle <i>Emys marmorata</i>	CSSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, be	Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying
An isopod <i>Calasellus californicus</i>	CSSC	Known from Lake, Napa, Marin, Santa Cruz and Santa Clara Counties.	
Brownish dubiraphian riffle beetle <i>Dubiraphia brunnescens</i>	CSSC	Aquatic; known only from the NE shore of Clear Lake, Lake County.	Inhabits exposed, wave-washed willow roots.
Wilbur Springs shorebug <i>Saldula usingeri</i>	CSSC	Requires springs/creeks with high concentrations of Na, Cl, & Li.	Found only on wet substrate of spring outflows.
Obscure bumble bee <i>Bombus caliginosus</i>	CSSC		
Borax Lake cuckoo wasp <i>Hedychridium milleri</i>	CSSC	Endemic to Central California. Only collection is from the type locality.	External parasite of wasp and bee larva.
Clear Lake pyrg <i>Pyrgulopsis ventricosa</i>	CSSC	Restricted to Seigler Creek drainage in the south end of the Clear Lake Basin.	Freshwater.
Loch Lomond button-celery <i>Eryngium constancei</i>	FE/CE/1B.1	Vernal pools.	Volcanic ash flow vernal pools. 460-855 m.

Small-flowered calycadenia <i>Calycadenia micrantha</i>	1B.2	Chaparral, valley and foothill grassland, meadows and seeps.	Rocky talus or scree; sparsely vegetated areas. Occasionally on roadsides; sometimes on serpentine. 5-1500 m.
Greene's narrow-leaved daisy <i>Erigeron greenei</i>	1B.2	Chaparral.	Serpentine and volcanic substrates, generally in shrubby vegetation. 80-1005 m.
Pappose tarplant <i>Centromadia parryi</i> ssp. <i>parryi</i>	1B.2	Coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland.	Vernally mesic, often alkaline sites. 2-420m.
Burke's goldfields <i>Lasthenia burkei</i>	FE/CE/1B.1	Vernal pools, meadows and seeps.	Most often in vernal pools and swales. 15-600 m.
Colusa layia <i>Layia septentrionalis</i>	1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Scattered colonies in fields and grassy slopes in sandy or serpentine soil. 145-1095m.
Hall's harmonia <i>Harmonia hallii</i>	1B.2	Chaparral.	Serpentine hills and ridges. Open, rocky areas within chaparral. 500-900 m.
Bent-flowered fiddleneck <i>Amsinckia lunaris</i>	1B.2	Cismontane woodland, valley and foothill grassland.	50-500m.
Watershield <i>Brasenia schreberi</i>	2B.3	Freshwater marshes and swamps.	Aquatic from water bodies both natural and artificial in California.
Cascade downingia <i>Downingia willamettensis</i>	2B.2	Cismontane woodland, valley and foothill grasslands.	Lake margins and vernal pools.
Legenere <i>Legenere limosa</i>	1B.1	Vernal pools.	In beds of vernal pools. 1-880 m.
San Joaquin spearscale <i>Extriplex joaquinana</i>	1B.2	Chenopod scrub, alkali meadow, playas, valley and foothill grassland.	In seasonal alkali wetlands or alkali sink scrub with <i>Distichlis spicata</i> , <i>Frankenia</i> , etc. 1-835 m.
Oval-leaved viburnum <i>Viburnum ellipticum</i>	2B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	215-1400 m.
Lake County stonecrop <i>Sedella leiocarpa</i>	FE/CE/1B.1	Valley and foothill grassland, vernal pools, cismontane woodland.	Level areas that are seasonally wet and dry out in late spring; substrate usually of volcanic origin. 365-790 m.
Raiche's manzanita <i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>	1B.1	Chaparral, lower montane coniferous forest.	Rocky, serpentine sites. Slopes and ridges. 450-1000 m.
Konocti manzanita <i>Arctostaphylos manzanita</i> ssp. <i>elegans</i>	1B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	Volcanic soils. 395-1615 m.
Jepson's milk-vetch <i>Astragalus rattanii</i> var. <i>jepsonianus</i>	1B.2	Cismontane woodland, valley and foothill grassland, chaparral.	Commonly on serpentine in grassland or openings in chaparral. 180-1000 m.
Anthony Peak lupine <i>Lupinus antoninus</i>	1B.2	Upper montane coniferous forest, lower montane coniferous forest.	Open areas with surrounding forest; rocky sites. 1220-2285 m.
Woolly meadowfoam <i>Limnanthes floccosa</i> ssp. <i>floccosa</i>	4.2	Chaparral, cismontane woodland, valley and foothill grassland, vernal pools.	Vernally wet areas, ditches, and ponds. 60-1335 m.
Glandular western flax <i>Hesperolinon adenophyllum</i>	1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Serpentine soils; generally found in serpentine chaparral. 150-1315 m.
Two-carpellate western flax <i>Hesperolinon bicarpellatum</i>	1B.2	Serpentine chaparral.	Serpentine barrens at edge of chaparral. 60-1005 m.
Drymaria-like western flax <i>Hesperolinon drymarioides</i>	1B.2	Closed-cone coniferous forest, chaparral, cismontane woodland, valley and foothill grassland.	Serpentine soils, mostly within chaparral. 390-1000m.
Sharsmith's western flax <i>Hesperolinon sharsmithiae</i>	1B.2	Chaparral.	Serpentine substrates. 270-300 m.
Marsh checkerbloom <i>Sidalcea oregana</i> ssp.	1B.2	Meadows and seeps, riparian forest.	Wet soil of streambanks, meadows. 1100-2300 m.

<i>hydrophila</i>			
Brandegee's eriastrum <i>Eriastrum brandegeae</i>	1B.1	Chaparral, cismontane woodland.	On barren volcanic soils; often in open areas. 425-840 m.
Baker's navarretia <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	1B.1	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest.	Vernal pools and swales; adobe or alkaline soils. 5-1740 m.
Few-flowered navarretia <i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	FE/CT/1B.1	Vernal pools.	Volcanic ash flow, and volcanic substrate vernal pools. 400-855 m.
Many-flowered navarretia <i>Navarretia leucocephala</i> ssp. <i>plieantha</i>	FE/CE/1B.2	Vernal pools.	Volcanic ash flow vernal pools. 30-950 m.
Bolander's horkelia <i>Horkelia bolanderi</i>	1B.2	Lower montane coniferous forest, chaparral, meadows, valley and foothill grassland.	Grassy margins of vernal pools and meadows. 450-1100 m.
Pink creamsacs <i>Castilleja rubicundula</i> var. <i>rubicundula</i>	1B.2	Chaparral, meadows and seeps, valley and foothill grassland.	Openings in chaparral or grasslands. On serpentine. 20-900 m.
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	CE/1B.2	Marshes and swamps (freshwater), vernal pools.	Clay soils; usually in vernal pools, sometimes on lake margins. 10-2375 m.
Adobe-lily <i>Fritillaria pluriflora</i>	1B.2	Chaparral, cismontane woodland, foothill grassland.	Usually on clay soils; sometimes serpentine. 60-705 m.
California satintail <i>Imperata brevifolia</i>	2B.1	Coastal scrub, chaparral, riparian scrub, mojavean scrub, meadows and seeps (alkali), riparian scrub.	Mesic sites, alkali seeps, riparian areas. 0-1215 m.
Eel-grass pondweed <i>Potamogeton zosteriformis</i>	2B.2	Marshes and swamps.	Ponds, lakes, streams. 0-1860 m.

*Definitions of Status Codes: FE = Federally listed as endangered; FT = Federally listed as threatened; FPE = Federally proposed for listing as endangered; FPT = Federally proposed for listing as threatened; FC = Candidate for Federal listing; MB = Migratory Bird Act; CE = California State listed as endangered; CT = California State listed as threatened; CSSC = California species of special concern; CR = California rare species; CFP = California fully protected species; CNPS (California Native Plant Society) List 1A = Plants presumed extinct in California by CNPS; CNPS List 1B = CNPS designated rare or endangered plants in California and elsewhere; and CNPS List 2 = CNPS designated rare or endangered plants in California, but more common elsewhere. Global Ranking: G1 = Critically Imperiled; G2 = Imperiled; G3 = Vulnerable. State Ranking: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable.

**Copied verbatim from CNDDB, unless otherwise noted.

3.3.2. Listed Species or Special-status Species Observed During Field Survey

During the field survey, no special-status species were detected within the Project Area or the surrounding Study Area.

3.3.3. Potential for Listed Species or Special-status Species to Occur in the Study Area

The non-native grasslands within the Study Area have a low potential for harboring special-status plant species due to the dominance of aggressive non-native grasses and forbs. The ponds are not permanent waterbodies, and are unlikely to sustain aquatic special-status species. The oak woodland habitat has a moderate potential to sustain special-status species. The woodlands also function as nesting habitat for various bird species, including osprey.

3.4. POTENTIALLY-JURISDICTIONAL WATER RESOURCES

The USFWS National Wetland Inventory reported no water features within the Study Area (see Exhibits).

An informal assessment for the presence of potentially-jurisdictional water resources within the Study Area was also conducted during the field survey. For purposes of this biological site assessment, non-wetland waters were classified using the California Forest Practice Rules. The California Forest Practice Rules define a Class I watercourse as 1) a watercourse providing habitat for fish always or seasonally, and/or 2) providing a domestic water source; a Class II watercourse is 1) a watercourse capable of supporting non-fish aquatic species, or 2) a watercourse within 1000 feet of a watercourse that seasonally or always has fish present; a Class III watercourse is a watercourse with no aquatic life present and that shows evidence of being capable of transporting sediment to Class I and Class II waters during high water flow conditions.

The field survey determined that the Project Area does not contain any channels or wetlands. The following water features were detected within the larger Study Area during the field survey (see Exhibits): 1 ephemeral pond; and 1 intermittent pond with lacustrine wetlands (reed marsh).

Note that linear features on the aerial that appear to be watercourses were determined to be upland, grass-lined swales.

There are no vernal pools or other isolated wetlands in the Study Area.

4. IMPACT ANALYSES AND MITIGATION MEASURES

This section establishes the impact criteria, then analyzes potential Project-related impacts upon the known biological resources within the Study Area, and then suggests mitigation measures to reduce these impacts to a less-than-significant level.

4.1. IMPACT SIGNIFICANCE CRITERIA

The significance of impacts to biological resources depends upon the proximity and quality of vegetation communities and wildlife habitats, the presence or absence of special-status species, and the effectiveness of measures implemented to protect these resources from Project-related impacts. As defined by CEQA, the Project would be considered to have a significant adverse impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a special-status species in local or regional plans, policies, or regulations, or by USFWS or CDFW
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by USFWS or CDFW
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites
- Conflict with any county or municipal policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved governmental habitat conservation plan.

4.2. IMPACT ANALYSIS

The following discussion evaluates the potential for Project-related activities to adversely affect biological resources. The Project boundaries were digitized and then overlaid on the habitat map using GIS to quantify potential impacts. Historical aerial photos were also analyzed for changes in land use.

4.2.1. Potential Direct / Indirect Adverse Effects Upon Special-status Species

- *Will the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

No special-status species were detected within the Project Area or surrounding Study Area. The non-native grasslands within the Study Area have a low potential for harboring special-status plant species due to the dominance of aggressive non-native grasses and forbs. The ponds are not permanent waterbodies, and are unlikely to sustain aquatic special-status species. The oak woodland habitat has a moderate potential to sustain special-status species. The woodlands also function as nesting habitat for various bird species, including osprey.

The project areas are 700 feet from the nearest pond and wetland, and at least as far from the nearest channel. The project will be established in pasture land and avoid the oak woodlands. As designed, no

special-status species will be impacted. If future cultivation operations expand into the oak woodlands, a pre-construction special-status species survey is recommended.

Recommended Mitigation Measures

The Study Area contains suitable nesting habitat for various bird species because of the presence of trees and poles. However, no nests or nesting activity was observed in the project area during the field survey. Trees must be inspected for the presence of active bird nests before tree felling or ground clearing. If active nests are present in the project area during construction of the project, CDFW should be consulted to develop measures to avoid “take” of active nests prior to the initiation of any construction activities. Avoidance measures may include establishment of a buffer zone using construction fencing or the postponement of vegetation removal until after the nesting season, or until after a qualified biologist has determined the young have fledged and are independent of the nest site.

4.2.2. Potential Direct / Indirect Adverse Effects Upon Special-status Habitats or Natural Communities or Corridors

- *Will the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

The Study Area is not within any designated listed species' critical habitat. The Study Area contains one special-status habitat: lacustrine wetlands in the larger of the 2 ponds. Project implementation will not impact any special-status habitats, and maintains a 700-foot vegetative buffer.

Recommended Mitigation Measures

No mitigation is necessary.

4.2.3. Potential Direct / Indirect Adverse Effects On Jurisdictional Water Resources

- *Will the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

There are 2 water resources within the Study Area: 2 stock ponds. Potential adverse impacts to water resources could occur during construction by modification or destruction of stream banks or riparian vegetation, the filling of wetlands, or by increased erosion and sedimentation in receiving water bodies due to soil disturbance. However, the cultivation areas have been designed with 700-foot setbacks from watercourses and situated in flat pasture. Because of these avoidance measures, no impacts to water resources will occur.

If the total area of ground disturbance from installation of the cultivation operation is 1 acre or more, the Cultivator must enroll for coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ). Implementation of a stormwater pollution prevention plan, and erosion control plan, along with regular inspections, will ensure that construction activities do not pollute receiving waterbodies.

Potential adverse impacts to water resources could occur during operation of cultivation activities resources by discharge of sediment or other pollutants (fertilizers, pesticides, human waste, etc.) into

receiving waterbodies. However, the project proponent must file a Notice of Intent and enroll in Cannabis Cultivation Order WQ 2019-0007-DWQ. Compliance with this Order will ensure that cultivation operations will not significantly impact water resources by using a combination of Best Management Practices (BMPs), buffer zones, sediment and erosion controls, site management plans, inspections and reporting, and regulatory oversight.

It is recommended that a formal delineation of jurisdictional waters be performed before construction work, or ground disturbance, is performed near any watercourse.

Recommended Mitigation Measures

No impacts were identified, and therefore no mitigation measures are proposed.

4.2.4. Potential Impacts to Wildlife Movement, Corridors, etc.

- *Will the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Clear Lake is a fishery. Although no mapped wildlife corridors (such as the California Essential Habitat Connectivity Area layer in CNDDDB) exist within or near the Study Area, the open space in the Study Area facilitate animal movement and migrations. While the Study Area may be used by wildlife for movement or migration, the Project would not have a significant impact on this movement because it would not block movement and the majority of the open space in the Study Area would still be available.

Implementation of the proposed project would necessitate erection of security fences around the cultivation compounds. These fences do not allow animal movement and may act as a local barrier to wildlife movement. However, the fenced cultivation areas are surrounded by open space, allowing wildlife to move around these fenced areas. Thus, implementation of the proposed project is a less than significant impact upon wildlife movement. Implementation of the project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Recommended Mitigation Measures

No mitigation is necessary.

4.2.5. Potential Conflicts With Ordinances, Habitat Conservation Plans, etc.

- *Will the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*
- *Will the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

Construction of the project will not require the removal of trees protected by Lake County and CALFIRE. The project does not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or another approved governmental habitat conservation plan. The Study Area is not within the coverage area of any adopted Habitat Conservation Plan or Natural Community Conservation Plan.

Recommended Mitigation Measures

No mitigation is necessary.

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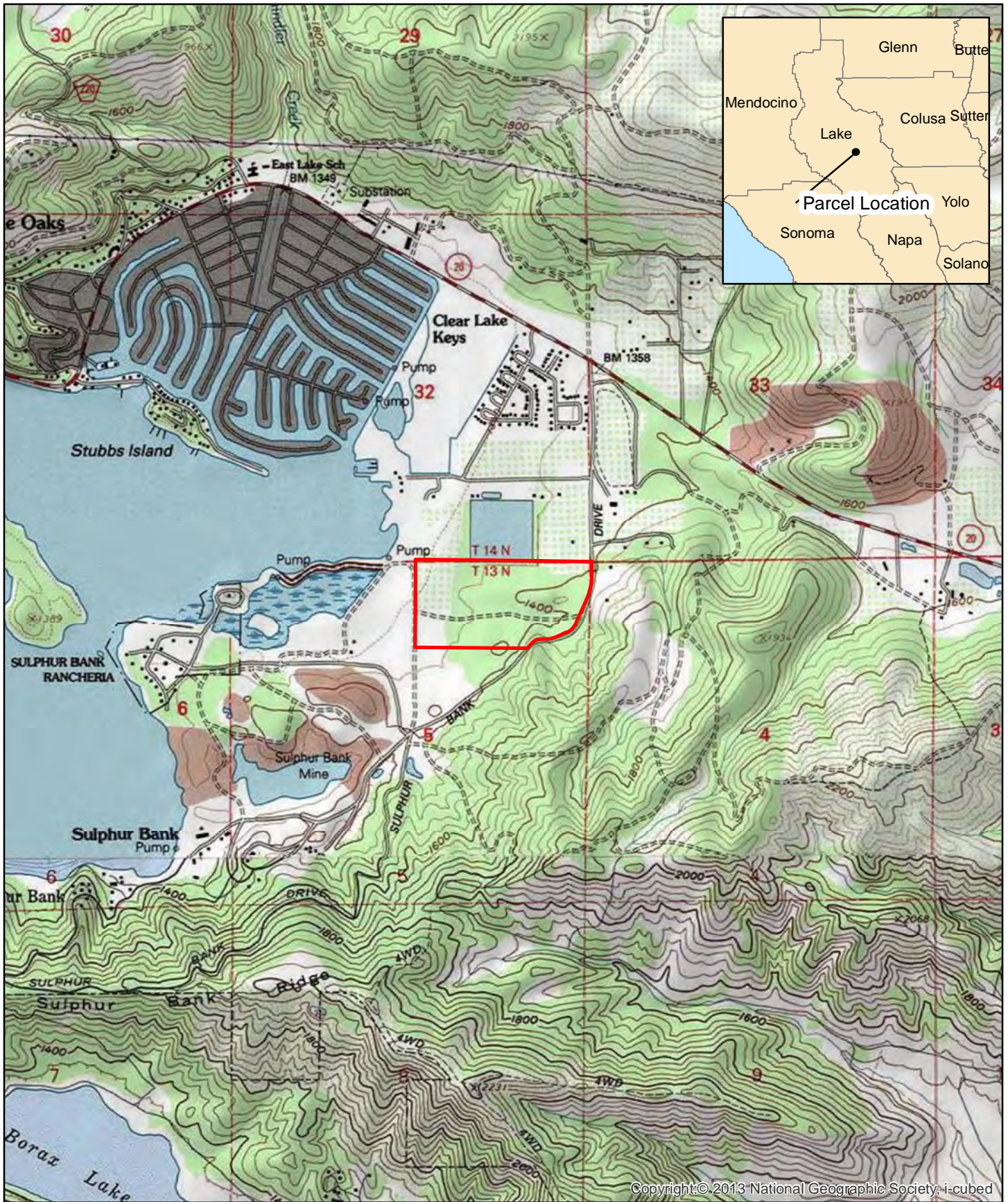
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EXHIBITS



Parcel Location

0 0.5 1 Kilometers

0 0.5 1 Miles

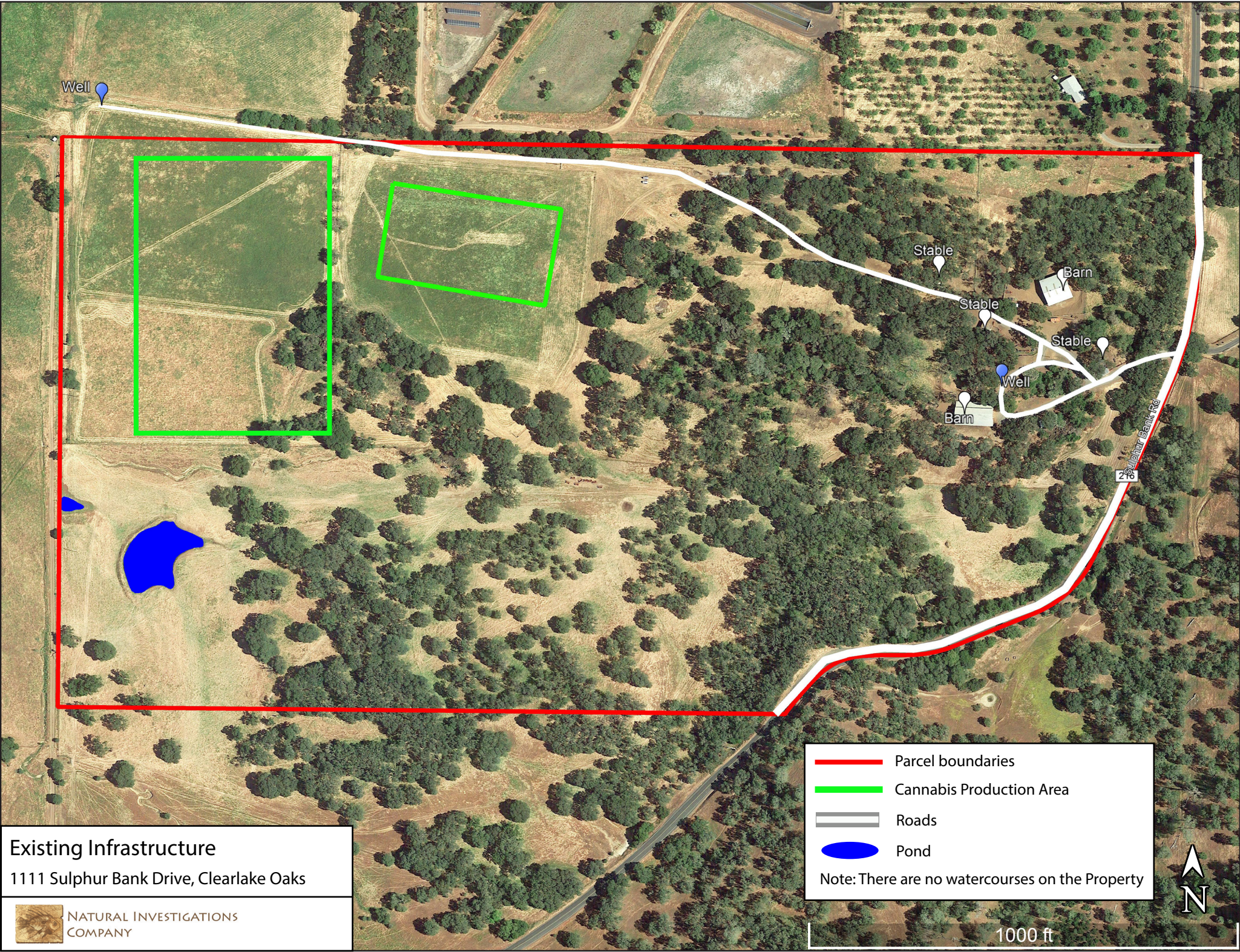


1:24,000

1111 Sulphur Bank Drive
Parcel Location Map



NATURAL
INVESTIGATIONS
COMPANY



Existing Infrastructure

1111 Sulphur Bank Drive, Clearlake Oaks



NATURAL INVESTIGATIONS
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Parcel boundaries

Cannabis Production Area

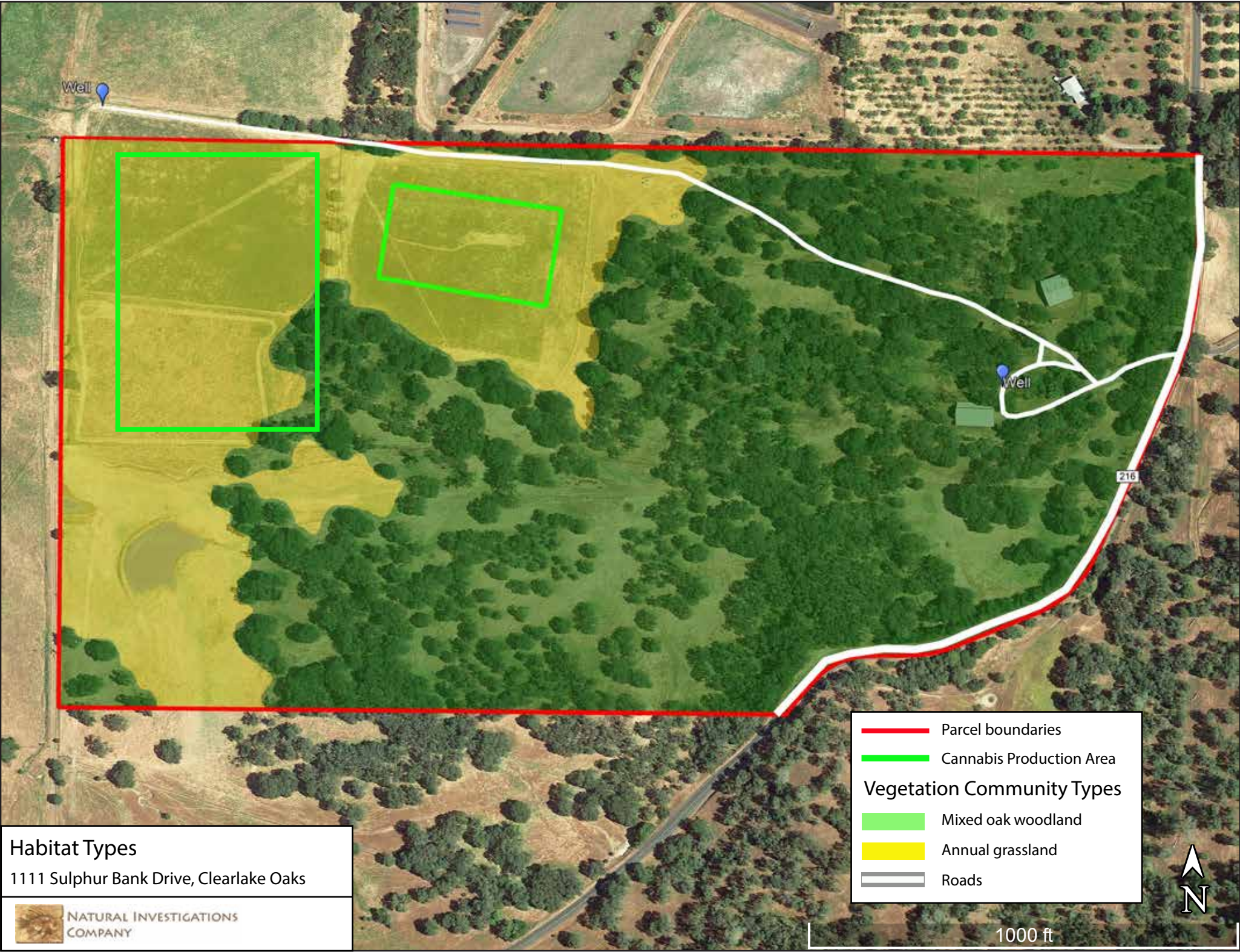
Roads

Pond

Note: There are no watercourses on the Property



1000 ft



Parcel boundaries

Cannabis Production Area

Vegetation Community Types

Mixed oak woodland

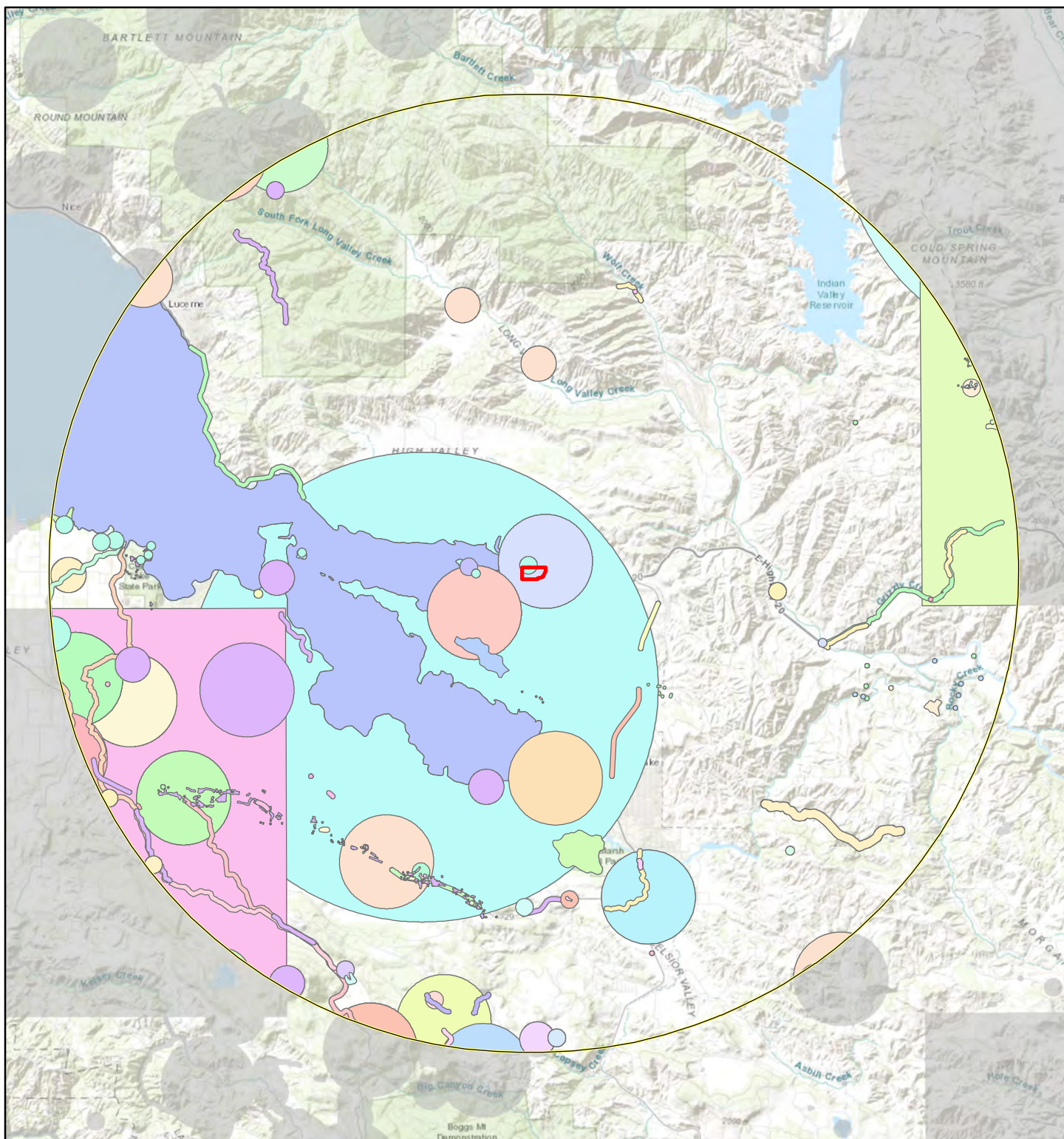
Annual grassland

Roads

Habitat Types

1111 Sulphur Bank Drive, Clearlake Oaks

 NATURAL INVESTIGATIONS COMPANY



Parcel Location 10 Mile Buffer

1:190,000 1 inch = 3 miles
 0 3 6
 Miles



Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. Natural Investigations Company can not guarantee the accuracy and content of electronic files. The master file is stored by Natural Investigations Company and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission. Data Sources: California Department of Fish and Wildlife. 2020. RareFind 5.x, California Natural Diversity Data Base. Biogeographic Data Branch, Sacramento, California. (updated monthly by subscription service)

Special-Status Species Occurrences Map

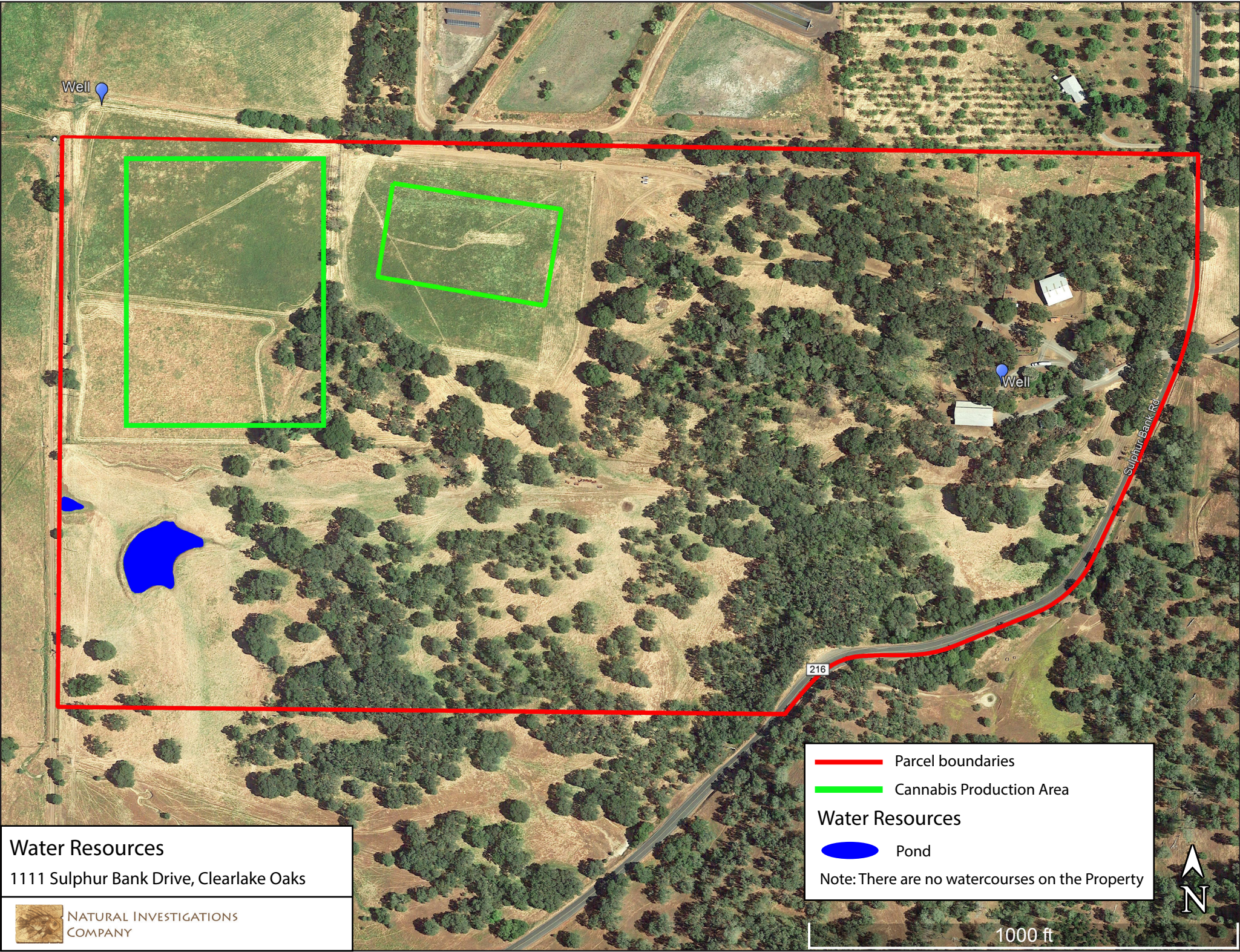
1111 Sulphur Bank Drive

Clearlake Oaks 1996 Quadrangle: Township 13N, Range 7W, Section 5



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Well

Well

Sulphur Bank Rd


216


Water Resources

1111 Sulphur Bank Drive, Clearlake Oaks




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 Parcel boundaries

 Cannabis Production Area

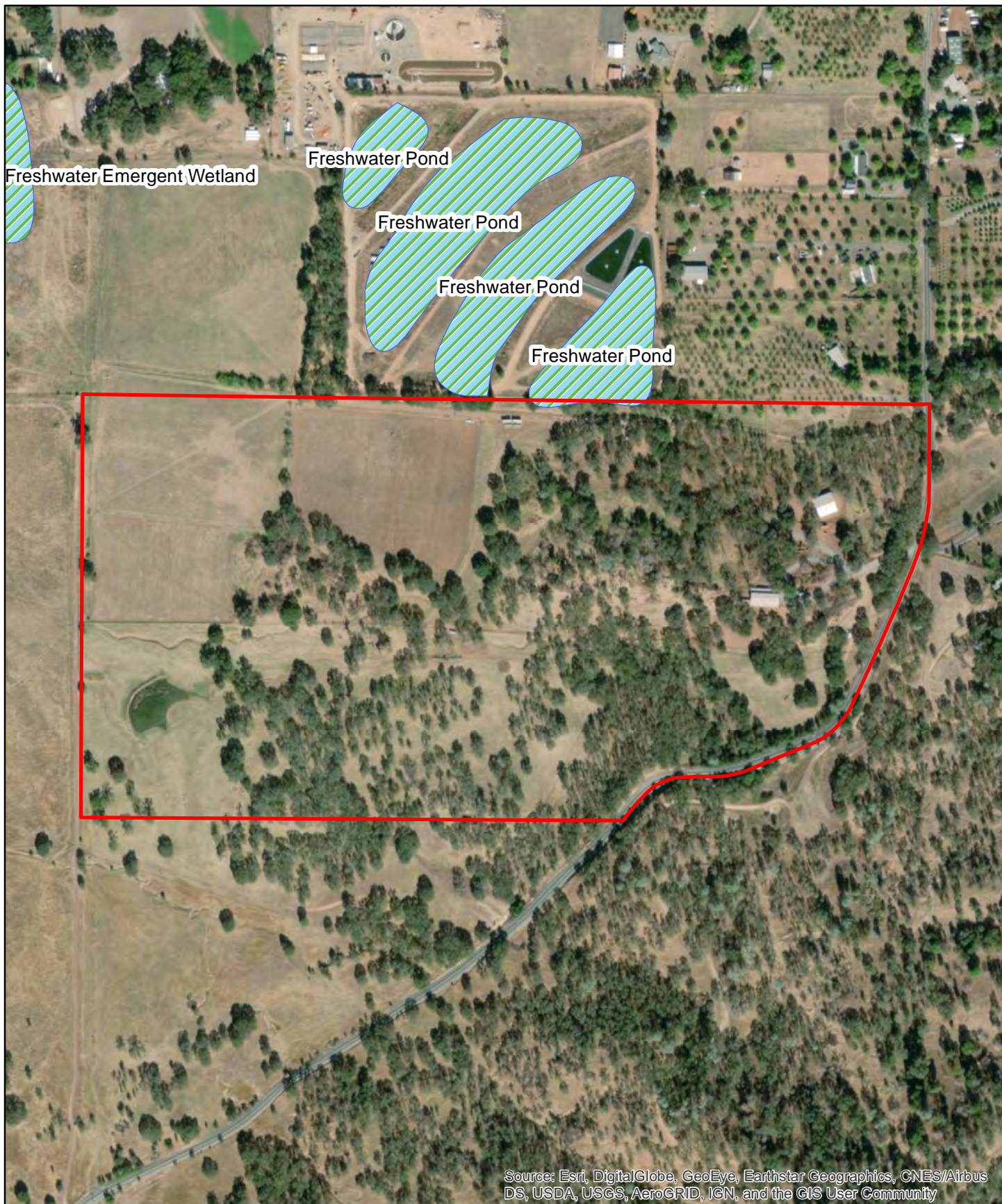
Water Resources

 Pond

Note: There are no watercourses on the Property



1000 ft



	Parcel Location	<div>0 125 250</div> <div>Meters</div>		1111 Sulphur Bank Drive National Wetlands Inventory Features Map
	Wetlands and Channels	<div>0 500 1,000</div> <div>Feet</div>		

1:5,000

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APPENDIX 1: USFWS SPECIES LIST



United States Department of the Interior

FISH AND WILDLIFE SERVICE

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



In Reply Refer To:

March 20, 2020

Consultation Code: 08ESMF00-2020-SLI-1392

Event Code: 08ESMF00-2020-E-04422

Project Name: 1111 Sulphur Bank Drive

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

To Whom It May Concern:

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

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

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

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2020-SLI-1392

Event Code: 08ESMF00-2020-E-04422

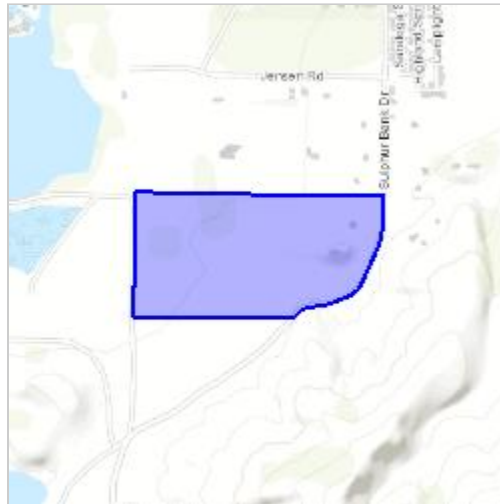
Project Name: 1111 Sulphur Bank Drive

Project Type: ** OTHER **

Project Description: Bio Assessment

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/39.010372212348614N122.6537608703238W>



Counties: Lake, CA

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

Birds

NAME	STATUS
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/205/office/11420.pdf	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Flowering Plants

NAME	STATUS
Burke's Goldfields <i>Lasthenia burkei</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4338	Endangered

Critical habitats

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

APPENDIX 2: CHECKLIST OF PLANTS DETECTED IN THE STUDY AREA

Appendix 2:

Plants Observed at 1111 Sulphur Bank Drive, Clearlake Oaks on March 30, 2020

Common Name	Scientific Name
California buckeye	<i>Aesculus californicus</i>
Menzie's fiddleneck	<i>Amsinckia menziesii</i> ssp. <i>menziesii</i>
Slender wild oat	<i>Avena barbata</i>
Common blennosperma	<i>Blennosperma nanum</i> var. <i>nanum</i>
Mustard	<i>Brassica</i> sp
Brodiaea	<i>Brodiaea</i> sp.
Ripgut brome	<i>Bromus diandrus</i>
Soft chess	<i>Bromus hordeaceus</i>
Red maids	<i>Calandrinia menziesii</i>
Shepherds purse	<i>Capsella bursa-pastoris</i>
Field owl's clover	<i>Castilleja campestris</i>
Yellow star thistle	<i>Centaurea solstitialis</i>
Sticky mouse-eared chickweed	<i>Cerastium glomeratum</i>
Western redbud	<i>Cercis occidentalis</i>
Wavy leaved soap plant	<i>Chlorogalum pomeridianum</i>
Bull thistle	<i>Cirsium vulgare</i>
Narrow leaved miner's lettuce	<i>Claytonia parviflora</i>
Miner's lettuce	<i>Claytonia perfoliata</i>
Western white clematis	<i>Clematis ligusticifolia</i>
Hedgehog dogtail grass	<i>Cynosurus echinoides</i>
Pale spikerush	<i>Eleocharis macrostachya</i>
Fillaree	<i>Erodium botrys</i>
Fillaree	<i>Erodium cicutarium</i>
Italian ryegrass	<i>Festuca perennis</i>
Two petal ash	<i>Fraxinus dipetala</i>
Cleavers	<i>Galium aparine</i>
Cut leaf geranium	<i>Geranium dissectum</i>
Wand tarplant	<i>Holocarpha virgata</i>
Hare wall barley	<i>Hordeum murinum</i>
Northern California black walnut	<i>Juglans hindsii</i>
English walnut	<i>Juglans regia</i>
Henbit	<i>Lamium amplexicaule</i>
Shining peppergrass	<i>Lepidium nitidum</i>
Common meadowfoam	<i>Limnanthes douglasii</i>
Pink honeysuckle	<i>Lonicera hispidula</i>
Miniature lupine	<i>Lupinus bicolor</i>
Cheese weed	<i>Malva parviflora</i>
Horehound	<i>Marrubium vulgare</i>
Pineapple weed	<i>Matricaria discoidea</i>
Harding grass	<i>Phalaris aquatica</i>
Rusty popcorn flower	<i>Plagiobothrys nothofulvus</i>
Popcorn flower	<i>Plagiobothrys</i> sp.
English plantain	<i>Plantago lanceolata</i>
Annual bluegrass	<i>Poa annua</i>
Bulbous bluegrass	<i>Poa bulbosa</i>
Kentucky bluegrass	<i>Poa pratensis</i>
Sierra plum	<i>Prunus subcordata</i>
Blue oak	<i>Quercus douglasii</i>
Interior live oak	<i>Quercus wislizeni</i>

Western buttercup	<i>Ranunculus occidentalis</i>
Holly leaf redberry	<i>Rhamnus ilicifolia</i>
Himalayan blackberry	<i>Rubus armeniacus</i>
Blue elderberry	<i>Sambucus nigra ssp. caerulea</i>
Hardstem bulrush	<i>Schoenoplectus acutus</i>
California beeplant	<i>Scrophularia californica</i>
Old man of spring	<i>Senecio vulgare</i>
Milk thistle	<i>Silybum marinum</i>
Chickweed	<i>Stellaria media</i>
Common snowberry	<i>Symphoricarpos albus</i>
Dandelion	<i>Taraxacum officinalis</i>
Tall sock destroyer	<i>Torilis arvensis</i>
Poison-oak	<i>Toxicodendron diversilobum</i>
White clover	<i>Trifolium repens</i>
Johnny tuck	<i>Triphysaria eriantha</i>
Dwarf nettle	<i>Urtica urens</i>
Field speedwell	<i>Veronica arvensis</i>

APPENDIX 3: SITE PHOTOS









**BOTANICAL SURVEY REPORT
FOR THE
CANNABIS CULTIVATION OPERATION AT
1111 SULPHUR BANK DRIVE, CLEARLAKE OAKS, CALIFORNIA**

July 10, 2021

Prepared by:

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Natural Investigations Company, Inc.
3104 O Street, #221, Sacramento, CA 95816



NATURAL INVESTIGATIONS CO.

WWW.NATURALINVESTIGATIONS.COM

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1. PROJECT LOCATION AND DESCRIPTION

Property address, APN, acreage, etc.: a 77-acre parcel (APN 006-520-11) at 1111 Sulphur Bank Drive, Clearlake Oaks, California

Brief project description: a cannabis cultivation operation in a 2-acre cultivation compound that is located on a livestock pasture. A second cultivation compound (6 acres) was also identified that may be used as an alternate or expanded facility.

2. BIOLOGICAL SETTING

The Property is located within the Inner North Coast Range geographic subregion, which is contained within the Northwestern California geographic subdivision of the larger California Floristic Province (Baldwin et al. 2012). This region has a Mediterranean-type climate, characterized by distinct seasons of hot, dry summers and wet, moderately-cold winters. The Property and vicinity is in climate Zone 14 “Northern California’s Inland Areas with Some Ocean Influence”, with maritime air moderating temperatures that would otherwise be hotter in summer and colder in the winter (Sunset, 2020).

The topography of the Property is a west-facing slope of the foothills of the mountains ringing Clear Lake. The elevation ranges from approximately 1,350 feet to 1,410 feet above mean sea level. Drainage runs east, and flows into Clear Lake. Prior to the establishment of this cultivation operation, land uses were livestock pasture and stables. The Property has had years of heavy use as sheep and cattle pasture.

3. SURVEY METHODOLOGY

Survey methodology followed the following protocols:

- California Department of Fish and Wildlife. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities.
- U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed, proposed and candidate plants. Sacramento Fish and Wildlife Office, Sacramento, California. 2 pp.
- California Native Plant Society. 2001. CNPS botanical survey guidelines.

3.1. PRELIMINARY DATA GATHERING AND RESEARCH

Prior to conducting the field survey, the following information sources were reviewed:

- Aerial photography of the Project Area (current and historical)
- United States Geologic Service 7.5 degree-minute topographic quadrangles
- USFWS National Wetland Inventory
- USDA Natural Resources Conservation Service soil survey maps
- California Natural Diversity Database (CNDDDB), electronically updated monthly by subscription
- California Native Plant Society’s database *Inventory of Rare and Endangered Plants of California* (online edition).

The following reference sites were visited: Deemed not necessary.

3.2. FIELD SURVEYS

Dates of botanical field surveys (indicating the botanical field surveyor(s) that surveyed each area on each survey date), and total person-hours spent: Tim Nosal, MS., March 30, 2020, majority of day; April 6, 2021, half day; July 7, 2021, half day.

Note: The qualifications of the botanical field surveyors and report authors are summarized at the end of this report.

Description of Survey Area: The survey area was the project area (the 2-acre cultivation compound plus a possible second cultivation compound of 6 acres , totaling 8 acres) plus a buffer of several hundred feet.

Note: A map of the survey area relative to the project area is shown in the Exhibits.

A variable-intensity pedestrian survey was performed, and modified to account for differences in terrain, vegetation density, and visibility. All visible taxa observed were recorded in a field notebook. Survey efforts emphasized the search for any special-status species that had documented occurrences in the CNDDDB within the vicinity of the Project Area and those species on the CNPS or USFWS species lists.

Taxa were identified to the taxonomic level necessary to determine whether or not they are a special status plant. When a specimen could not be identified in the field, a photograph was taken and/or a specimen was pressed and identified in the laboratory using a dissecting scope where necessary. Dr. Graening holds the following scientific collection permits: CDFW Scientific Collecting Permit No. SC-006802; and CDFW Plant Voucher Specimen Permit 09004. Tim Nosal holds CDFW Plant Voucher Specimen Permit 2081(a)-16-102-V. Taxonomic determinations were facilitated by referencing museum specimens or by various texts, including the following: Powell and Hogue (1979); Pavlik (1991); (1993); Brenzel (2012); Stuart and Sawyer (2001); Lanner (2002); Sibley (2003); Baldwin et al. (2012); Calflora (2021); CDFW (2021b,c); NatureServe 2021; and University of California at Berkeley (2021a,b).

3.3. MAPPING AND OTHER ANALYSES

The locations of any special-status species or vegetation communities sighted were marked on aerial photographs and/or georeferenced with a geographic positioning system (GPS) receiver. Vegetation community types occurring in the Survey Area were mapped on aerial photographs, and information on habitat conditions and the suitability of the habitats to support special-status species was also recorded. Locations of any species' occurrences and sensitive natural community boundaries detected within the Project Area were digitized to produce the final maps. Geographic analyses were performed using geographical information system software (ArcGIS 11, ESRI, Inc.). Vegetation communities (assemblages of plant species growing in an area of similar biological and environmental factors), were classified by Vegetation Series (distinctive associations of plants, described by dominant species and particular environmental setting) using the CNPS Vegetation Classification system (Sawyer and Keeler-Wolf, 1995). Species' habitat requirements and life histories were identified using the following sources: Baldwin et al. (2012); CNPS (2021), Calflora (2021); CDFW (2021a,b,c); and University of California at Berkeley (2021a,b).

3.4. Previous Studies

The following previous studies have been performed:

- Natural Investigations Co. 202x. Biological Resources Assessment for the Cannabis Cultivation Operation at 1111 Sulphur Bank Drive, Clearlake Oaks, California

Natural Investigations Company conducted a botanical survey during the biological resources assessment. No special-status plant species were detected within the Project Area or the surrounding Property.

3.5. List of Sensitive Natural Communities with Potential to Occur in the Region

According to the results of a spatial query of the CNDDDB, there are no reported no special-status habitats within the Project Area or surrounding Property boundary. Within the surrounding region (County-level), the CNDDDB has mapped the following special-status habitats: Serpentine Bunchgrass; Northern Volcanic Ash Vernal Pool; Coastal and Valley Freshwater Marsh; Northern Basalt Flow Vernal Pool; Northern Volcanic Ash Vernal Pool; Northern Interior Cypress Forest; and Northern Vernal Pool.

Within the surrounding region, the following California Sensitive Natural Communities occur (listed in higher-order primary life forms: CDFG 2003; CDFW 2019):

- 32.000.00 Coast Scrub
 - 32.xxx.xx scrub with dominant *Artemisia*, *Baccharis*, *Eriogonum*, etc.
- 37.000.00 Chaparral
 - 37.1xx.xx Chamise Chaparral [*Adenostoma fasciculatum*]
 - 37.2xx.xx Chaparral with *Ceanothus* as principal indicator
 - 37.3xx.xx Chaparral with Manzanita [*Arctostaphylos* spp.] as principal indicator
 - 37.4xx.xx Chaparral with Oak [*Quercus* spp.] as principal indicator
- 40.000.00 Grass & Herb Dominated Communities
 - 41.xxx.xx Native Grassland
- 42.000.00 Non-native Grassland
 - certain rare associations
- 44.000.00 Vernal pools
 - all associations
- 45.000.00 Meadow and seeps not dominated by grasses
 - 45.11x.xx *Carex* marsh, meadow
 - 45.2xx.xx *Eleocharis* marsh, meadow
- 52.000.00 Marsh
 - all associations
- 60.000.00 Riparian and bottomland habitat
 - all associations
- 71.000.00 Oak Woodlands and Forests
 - 71.100.15 *Quercus agrifolia* – *Quercus garryana* – *Quercus kelloggii*
 - 71.060.xx Coast live oak woodland and forest
 - 71.050.xx Canyon live oak forest and woodland
 - 71.020.xx Blue oak woodland and forest
 - 71.070.xx Engelmann oak woodland and forest
 - 71.040.xx Valley oak woodland and forest
 - 71.080.xx Interior live oak woodland and forest
- 72.000.00 Upland Walnut Woodlands and Forests [*Juglans* spp.]
- 73.000.00 Tanoak Forest and Woodland
- 73.200.00 Pacific Madrone [*Arbutus menziesii*]

- 74.000.00 California bay forest and woodland
- 75.000.00 California Buckeye Woodland [*Aesculus californica*]
- 80.000.00 Coniferous Upland Forest and Woodland
 - various associations of *Calocedrus*, *Pinus*, or *Abies*

No sensitive natural communities were identified that could occur specifically in the Project Area. Some of these sensitive natural communities occur outside the Project Area on the Property.

3.6. List of Special Status Plants with Potential to Occur in the Region

A list of special-status plant species with potential to occur in the region was compiled based upon the following (see Appendix):

- A spatial query of the CNDDDB using a 10-mile buffer around the Property boundary.
- A 9-quadrangle query of the California Native Plant Society's database *Inventory of Rare and Endangered Plants of California* (online edition).

The databases were queried and any reported occurrences of special-status species were plotted in relation to the Project Area boundary using GIS software (see exhibits). The CNDDDB reported one special-status species occurrences within the Property—eel-grass pondweed (*Potamogeton zosteriformis*)—but this is an artifact of the mapping process. The collection record is: "CLEAR LAKE NEAR WYGALS RESORT AT SOUTH END OF LAKE. EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB IN GENERAL VICINITY OF SOUTH END OF CLEAR LAKE." Suitable habitat for eel-grass pondweed does not occur on the Property. Within a 10-mile buffer of the Property boundary, the CNDDDB reported several special-status species occurrences, summarized in the Appendix.

The Project Area contains the following habitat type: annual grassland on soil derived from alluvium from sedimentary parent material. The Project Area contains suitable habitat for the following special-status plant species: Bent-flowered fiddleneck (*Amsinckia lunaris*) and Oval-leaved viburnum (*Viburnum ellipticum*). Outside the Project Area, and on the surrounding Property, the oak woodland habitat has a moderate potential to sustain special-status species. The ponds are not permanent waterbodies, and are unlikely to sustain aquatic special-status species.

4. RESULTS

4.1. LIST OF PLANT TAXA DETECTED DURING FIELD SURVEY(S)

All plant taxa detected during the botanical field surveys are listed in the following table. During the botanical field surveys, no special-status plant taxa were detected within the Project Area.

Deposition locations of voucher specimens: n/a

**Plants Observed at 1111 Sulphur Bank Drive, Clearlake
on March, 30, 2020, April 6, 2021, and July 7, 2021**

Common Name	Scientific Name
California buckeye	<i>Aesculus californicus</i>
Red root pigweed	<i>Amaranthus retroflexus</i>
Common fiddleneck	<i>Amsinckia menziesii</i>
Bur-chervil	<i>Anthriscus caucalis</i>
Slender wild oat	<i>Avena barbata</i>
Cultivated oat	<i>Avena sativa</i>
Common blennosperma	<i>Blennosperma nanum var. nanum</i>
Mustard	<i>Brassica sp</i>
Brodiaea	<i>Brodiaea sp.</i>
Ripgut brome	<i>Bromus diandrus</i>
Soft chess	<i>Bromus hordeaceus</i>
Red maids	<i>Calandrinia menziesii</i>
Marijuana	<i>Cannabis sp.</i>
Shepherd's purse	<i>Capsella bursa-pastoris</i>
Western bittercress	<i>Cardamine oligosperma</i>
Italian thistle	<i>Carduus pycnocephalus</i>
Field owl's clover	<i>Castilleja campestris</i>
Yellow star thistle	<i>Centaurea solstitialis</i>
Common mouse-eared chickweed	<i>Cerastium fontanum</i>
Sticky mouse-eared chickweed	<i>Cerastium glomeratum</i>
Western redbud	<i>Cercis occidentalis</i>
Lamb's quarters	<i>Chenopodium album</i>
Wavy leaved soap plant	<i>Chlorogalum pomeridianum</i>
Bull thistle	<i>Cirsium vulgare</i>
Miner's lettuce	<i>Claytonia perfoliata</i>
Western white clematis	<i>Clematis ligusticifolia</i>
Field bindweed	<i>Convolvulus arvensis</i>
Dove weed	<i>Croton setiger</i>
Bermuda grass	<i>Cynodon dactylon</i>
Hedgehog dogtail grass	<i>Cynosurus echinatus</i>
Orchard grass	<i>Dactylis glomerata</i>
Jerusalem oak goosefoot	<i>Dysphania botrys</i>
Pale spikerush	<i>Eleocharis macrostachya</i>
Tall willowherb	<i>Epilobium brachycarpum</i>
Tufted lovegrass	<i>Eragrostis pectinacea var. pectinacea</i>
Broad leaved filaree	<i>Erodium botrys</i>
Red-stemmed filaree	<i>Erodium cicutarium</i>
White stemmed filaree	<i>Erodium moschatum</i>
Tall fescue	<i>Festuca arundinacea</i>
Rattail sixweeks grass	<i>Festuca myuros</i>
Italian ryegrass	<i>Festuca perennis</i>
California coffeeberry	<i>Frangula californica</i>

Common Name	Scientific Name
Two petal ash	<i>Fraxinus dipetala</i>
Common fumatory	<i>Fumaria officinalis</i>
Cleavers	<i>Galium aparine</i>
Carolina geranium	<i>Geranium carolinianum</i>
Cut leaf geranium	<i>Geranium dissectum</i>
Dove's foot geranium	<i>Geranium molle</i>
Western marsh cudweed	<i>Gnaphalium palustre</i>
Shortpod mustard	<i>Hirschfeldia incana</i>
Wand tarplant	<i>Holocarpha virgata</i>
Hare wall barley	<i>Hordeum murinum</i>
Northern California black walnut	<i>Juglans hindsii</i>
English walnut	<i>Juglans regia</i>
Prickly lettuce	<i>Lactuca serriola</i>
Henbit	<i>Lamium amplexicaule</i>
Shining peppergrass	<i>Lepidium nitidum</i>
Upright peppergrass	<i>Lepidium strictum</i>
Common meadowfoam	<i>Limnanthes douglasii</i>
Pink honeysuckle	<i>Lonicera hispidula</i>
Miniature lupine	<i>Lupinus bicolor</i>
Common mallow	<i>Malva neglecta</i>
Cheese weed	<i>Malva parviflora</i>
Horehound	<i>Marrubium vulgare</i>
Pineapple weed	<i>Matricaria discoidea</i>
California burclover	<i>Medicago polymorpha</i>
Alfalfa	<i>Medicago sativa</i>
Coyote tobacco	<i>Nicotiana attenuata</i>
Harding grass	<i>Phalaris aquatica</i>
Tomatillo	<i>Physalis philadelphica</i>
Pokeweed	<i>Phytolacca americana</i>
Pea	<i>Pisum sp.</i>
Rusty popcorn flower	<i>Plagiobothrys nothofulvus</i>
Popcorn flower	<i>Plagiobothrys sp.</i>
English plantain	<i>Plantago lanceolata</i>
Annual bluegrass	<i>Poa annua</i>
Bulbous bluegrass	<i>Poa bulbosa</i>
Kentucky bluegrass	<i>Poa pratensis</i>
Knot grass	<i>Polygonum arenastrum</i>
Purslane	<i>Portulaca oleracea</i>
Yellow devil's claw	<i>Proboscidea lutea</i>
Sierra plum	<i>Prunus subcordata</i>
Blue oak	<i>Quercus douglasii</i>
Valley oak	<i>Quercus lobata</i>
Interior live oak	<i>Quercus wislizeni var. wislizeni</i>
Western buttercup	<i>Ranunculus occidentalis</i>
Buttercup	<i>Ranunculus sp.</i>

Common Name	Scientific Name
Holly leaf redberry	<i>Rhamnus ilicifolia</i>
Himalayan blackberry	<i>Rubus armeniacus</i>
Dock	<i>Rumex sp.</i>
Blue elderberry	<i>Sambucus nigra ssp. caerulea</i>
Hardstem bulrush	<i>Schoenoplectus acutus</i>
California beeplant	<i>Scrophularia californica</i>
Old man of spring	<i>Senecio vulgare</i>
Milk thistle	<i>Silybum maritimum</i>
Tumble mustard	<i>Sisymbrium altissimum</i>
Sow thistle	<i>Sonchus oleraceus</i>
Chickweed	<i>Stellaria media</i>
Common snowberry	<i>Symphoricarpos albus</i>
Dandelion	<i>Taraxacum officinalis</i>
Tall sock destroyer	<i>Torilis arvensis</i>
Poison-oak	<i>Toxicodendron diversilobum</i>
White clover	<i>Trifolium repens</i>
Clover	<i>Trifolium sp.</i>
Johnny tuck	<i>Triphysaria eriantha</i>
Annual stinging nettle	<i>Urtica urens</i>
Common mullein	<i>Verbascum thapsus</i>
Field speedwell	<i>Veronica arvensis</i>
Bird's-eye speedwell	<i>Veronica persica</i>
Spring vetch	<i>Vicia sativa</i>

4.2. LIST OF VEGETATION COMMUNITIES DETECTED DURING FIELD SURVEY(S)

The Property contains the following terrestrial vegetation communities, which are discussed here and are delineated in the Exhibits:

Ruderal/Disturbed: These areas consist of disturbed or converted natural habitat that is now either in ruderal state, graded, or urbanized with gravel roads, or structure and utility placement. Vegetation within this habitat type consists primarily of nonnative weedy or invasive species or ornamental plants lacking a consistent community structure. The disturbed and altered condition of these lands greatly reduces their habitat value and ability to sustain rare plants or diverse wildlife assemblages.

Annual Grassland: The flatter areas of the Property consists largely of annual grassland habitat, heavily grazed by sheep and cattle. This vegetation is comprised of non-native grasses and native and non-native herbs including hare wall barley (*Hordeum murinum*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), white clover (*Trifolium repens*), shepherd's purse (*Capsella bursa-pastoris*), filaree (*Erodium* spp.), henbit (*Lamium amplexicaule*), Menzies fiddleneck (*Amsinckia menziesii*), and miner's lettuce (*Claytonia perfoliata*). This vegetation can be classified as the Holland Type "Non-native Grassland".

Mixed Oak Woodland: The majority of the Property is vegetated with oak woodland habitat. The open canopy of the woodland is comprised of blue oak (*Quercus douglasii*), interior live oak (*Quercus wislizeni*) and occasional two-petaled ash (*Fraxinus dipetala*). The understory within this habitat consists of poison-oak (*Toxicodendron diversilobum*), hare wall barley, soft chess, ripgut brome, hedgehog dogtail grass (*Cynosurus echinoides*), miner's lettuce (*Claytonia* spp.), milk thistle (*Silybum maritimum*), chickweed (*Stellaria media*) and other annual grasses and herbs.. This vegetation can be classified as "*Quercus* (*agrifolia*, *douglasii*, *garryana*, *kelloggii*, *lobata*, *wislizeni*) Forest Alliance (Sawyer et al, 2009)" or as the Holland Type "Oak Forest".

More specifically, the following terrestrial natural communities occur in the Project Area (as categorized by CDFW 2019):

- 42.040.000 California Annual Grassland
- 11300 Disturbed Habitat
- 12000 Urban/Developed

In the grassland community, the following species occur in order of dominance: wall barley (*Hordeum murinum*); Broadleaf filaree (*Erodium botrys*); Red-stemmed filaree (*Erodium cicutarium*); Shepherd's purse (*Capsella bursa-pastoris*).

During the botanical field survey, no sensitive vegetation communities were detected within the Project Area.

4.3. Adequacy of Botanical Field Survey(s)

Potential for a false negative botanical field survey: Unlikely since multiple surveys were performed and genera most likely to occur in the Project Area are conspicuous.

Did climatic conditions affect the botanical field survey results? Year 2021 was unusually hot and dry.

Did the timing of botanical field surveys affect the comprehensiveness of botanical field surveys?

Botanical field surveys have been performed in early, middle, and late season, which is very comprehensive. The Project Area contains suitable habitat for the following special-status plant species: Bent-flowered fiddleneck (*Amsinckia lunaris*) and Oval-leaved viburnum (*Viburnum ellipticum*). One species of fiddleneck was observed within the Project Area – common fiddleneck (*Amsinckia menziesii*). This species was in flower and identification was made with a high degree of confidence. No other species of *Amsinckia* were observed on the property. No species of *Viburnum* were observed within the property. No special status plant species were observed. It is unlikely that special status plant species are present within the Project Area. Additional botanical field surveys are not deemed necessary.

5. POTENTIAL PROJECT IMPACTS

5.1. Special-status Plant Populations

The Project Area contains suitable habitat for the following special-status plant species: Bent-flowered fiddleneck (*Amsinckia lunaris*) and Oval-leaved viburnum (*Viburnum ellipticum*). No special-status plant species were detected in the Project Area during the botanical field surveys. The non-native grasslands within the Project Area have a low potential for harboring special-status plant species due to the dominance of aggressive non-native grasses and forbs. The Project Area is a sheep pasture that has been heavily grazed for decades. In addition, much of the Project Area has been converted to cannabis cultivation. It is unlikely that special status plant species are present within the Project Area. Additional special status plant surveys are not deemed necessary. Special-status species are more likely to occur in sensitive and rare habitats, which are lacking in the Project Area. Sensitive / special-status habitats were detected within the Property in the following areas: the ponds and the oak woodland habitat. However, project implementation will not affect these habitats. Thus, implementation of the proposed project will not directly impact any known special status plant population.

Indirect impacts could occur from the loss of suitable habitat for regionally-occurring special-status species. The Project Area contains the following general habitat types: non-native annual grassland; and urbanized. Cattle and sheep grazing have degraded the habitat quality in the Project Area. The Project Area contains no sensitive habitats or aquatic habitats such as wetlands or channels, which are more likely to harbor rare plants. Some regionally-occurring special-status species can utilize the habitat types in the Project Area. However, project implementation will have a less-than significant impact upon habitat loss for regionally-occurring special-status species for numerous reasons. Ground disturbance will occur on less than 20 percent of the Property. This leaves the majority of the natural habitats undisturbed on the Property. Cattle grazing has degraded the habitat quality in the Project Area, making it less suitable for special-status species. Finally, the majority of regionally-occurring special-status species require habitat types that will not be disturbed, such as riparian, wetland, chaparral, and serpentine soil. For these reasons, project implementation will have a less than significant indirect or cumulative impact upon special-status species.

5.2. Sensitive Natural Communities

The Project Area does not contain any sensitive natural community type. Project implementation will have a less-than significant impact upon sensitive natural communities for numerous reasons. Sensitive natural communities on the Property were avoided in project design of cultivation compound locations, including aquatic buffers of at least 100 feet. Project implementation will not involve removal of significant amount of oak trees. Although project implementation may disturb some oak woodland community, the vast majority of oak woodland communities on the Property will not be disturbed or involved in the project. For these reasons, project implementation will have a less than significant impact (direct, indirect, and cumulative) upon sensitive natural communities.

6. MITIGATION MEASURES / RECOMMENDATIONS

The project proponents and cultivators implemented mitigation by design. Mitigation has been employed in the design phase by inventorying sensitive habitats and water resources on the Property and then avoiding all sensitive habitats in selection of cultivation compound locations and sizes. The cultivation compounds were designed with minimum of 100-foot setbacks from all aquatic habitats (ponds, channels and wetlands) and the avoidance of sensitive terrestrial habitats. The project design also includes vegetative buffers between cultivation compounds and sensitive habitats, and an erosion control plan and pollution prevention plan will be implemented. For these reasons, no additional mitigation measures are deemed necessary.

No special status plant species were observed within the Property on 3 different survey dates spread out over the entire botanical season. It is unlikely that special status plant species are present within the Project Area. Additional special status plant surveys are deemed not necessary.

7. QUALIFICATIONS OF BOTANICAL FIELD SURVEYORS AND REPORT AUTHORS

G.O. GRAENING, Ph.D., M.S.E.

Dr. Graening holds a PhD in Biological Sciences and a Master of Science in Biological and Agricultural Engineering. Dr. Graening is an adjunct Professor at California State University at Sacramento, and is an active researcher in the area of conservation biology; his publication list is available online at <http://www.csus.edu/indiv/g/graeningg/pubs.htm>. Dr. Graening is also a Certified Arborist (ISA # WE-6725A). Dr. Graening has 24 years of experience in environmental assessment, including previous employment with The Nature Conservancy, Tetra Tech Inc., and CH2M Hill, Inc.

TIMOTHY R. D. NOSAL, M.S.

Mr. Nosal holds a B.S. and M.S. in Biological Sciences. Mr. Nosal has statewide experience performing sensitive plant and animal surveys in addition to terrestrial vegetation investigations. Mr. Nosal has over 25 years of experience in botanical surveys, environmental assessment, and teaching with employers that include California Department of Fish and Wildlife, State Water Resources Control Board, American River College, MTI College and Pacific Municipal Consultants. Mr. Nosal has intensive experience with the flora of the Pine Hill region includes leading numerous field trips exploring the botany of the region, co-authoring a fuel management plan for Pine Hill, and a Master's thesis on Stebbins's morning glory (*Calystegia stebbinsii*), an endangered plant of this region.

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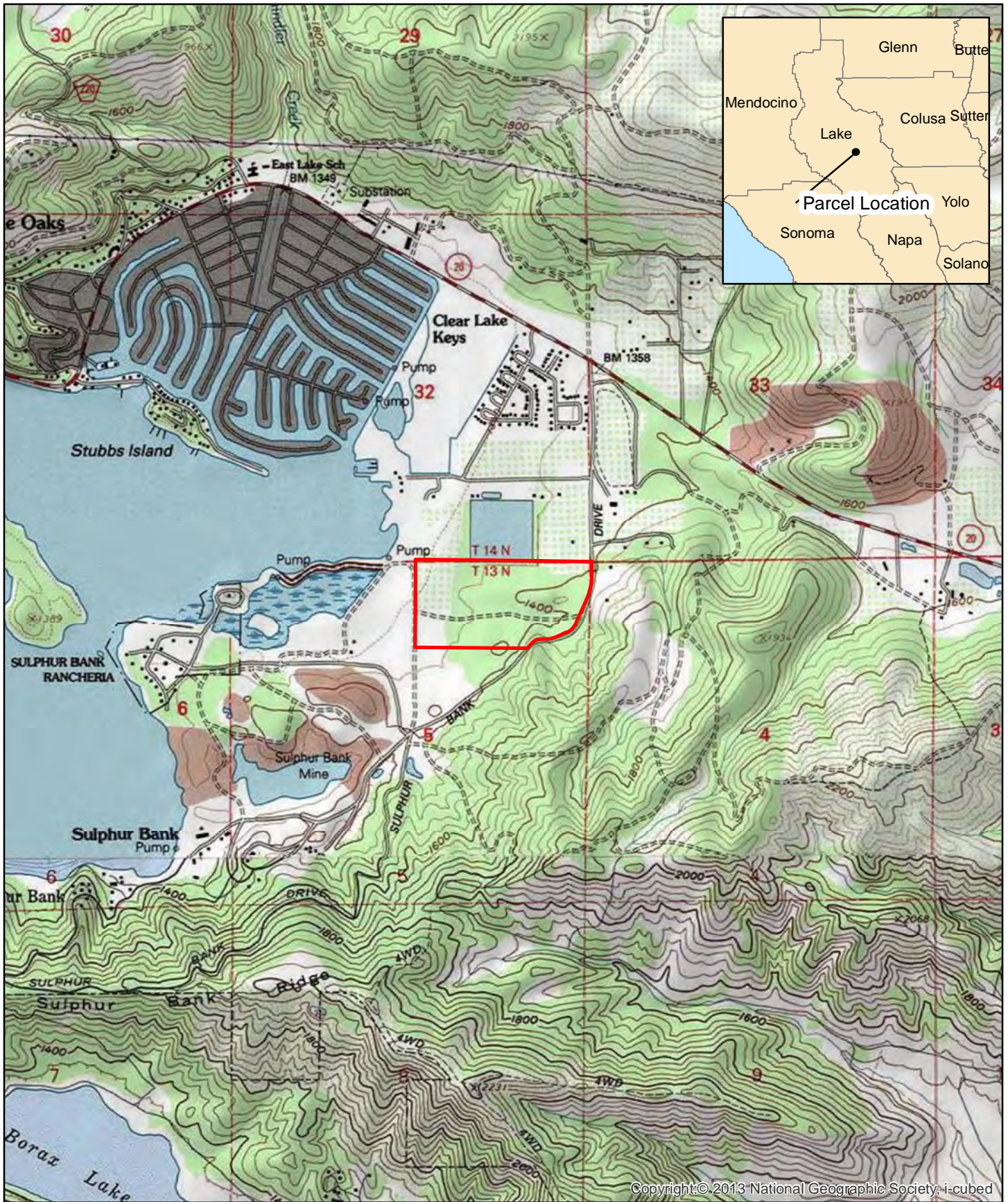
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EXHIBITS



Parcel Location

0

0.5

1

Kilometers

0

0.5

1

Miles





1:24,000

1111 Sulphur Bank Drive
Parcel Location Map



NATURAL
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Botanical Field Survey Coverage

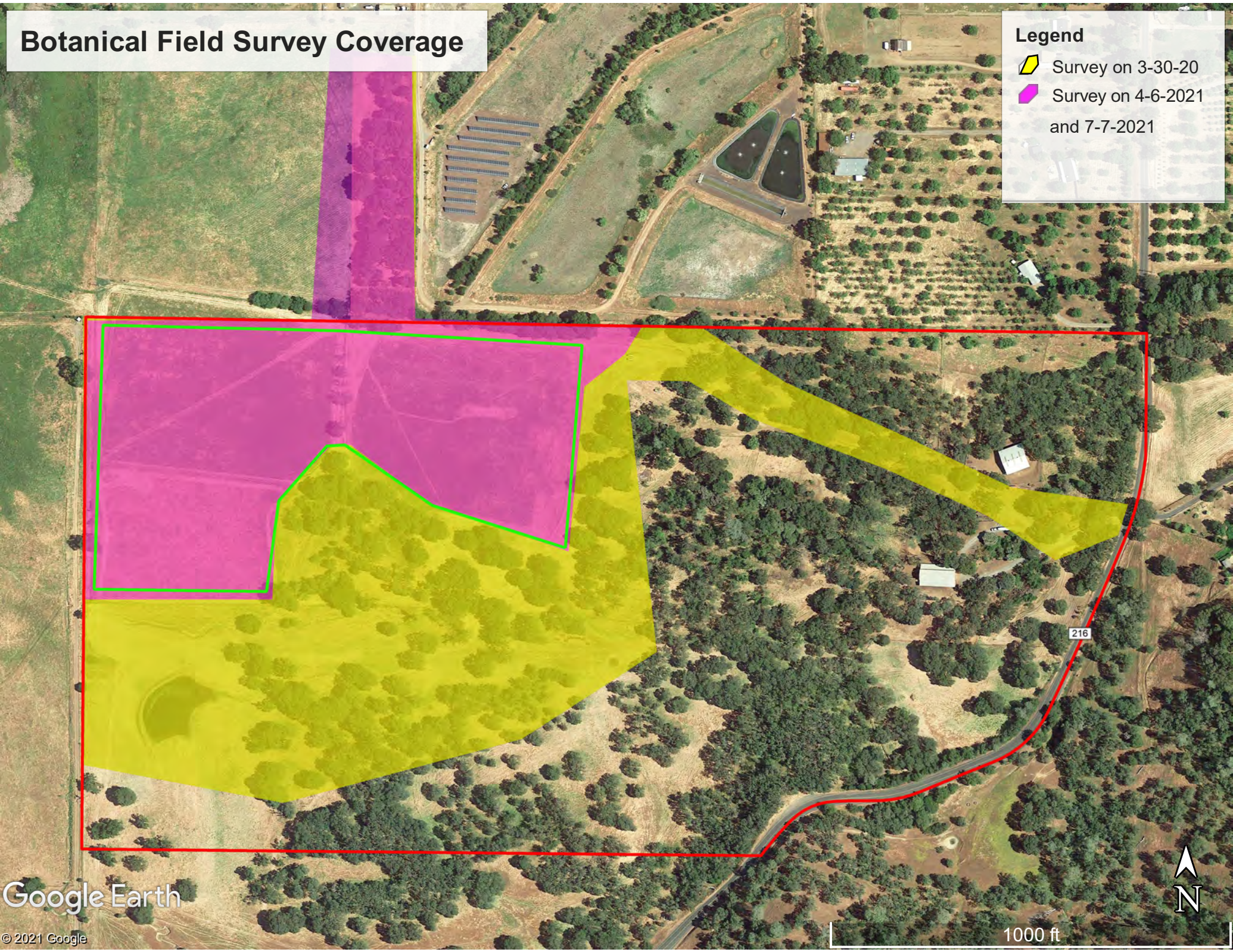
- Legend**
-  Survey on 3-30-20
 -  Survey on 4-6-2021 and 7-7-2021

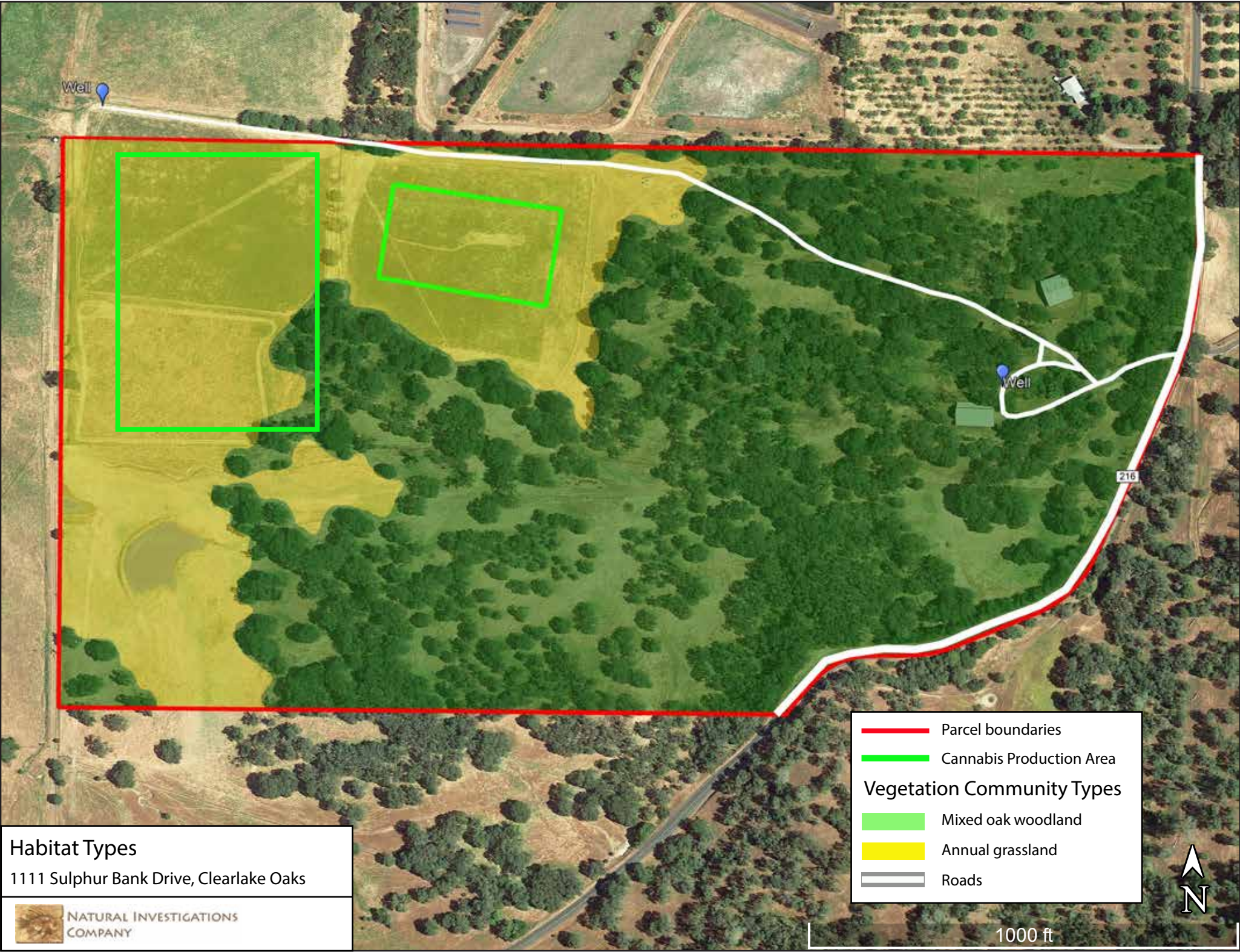
Google Earth

© 2021 Google



1000 ft





Parcel boundaries

Cannabis Production Area

Vegetation Community Types

Mixed oak woodland

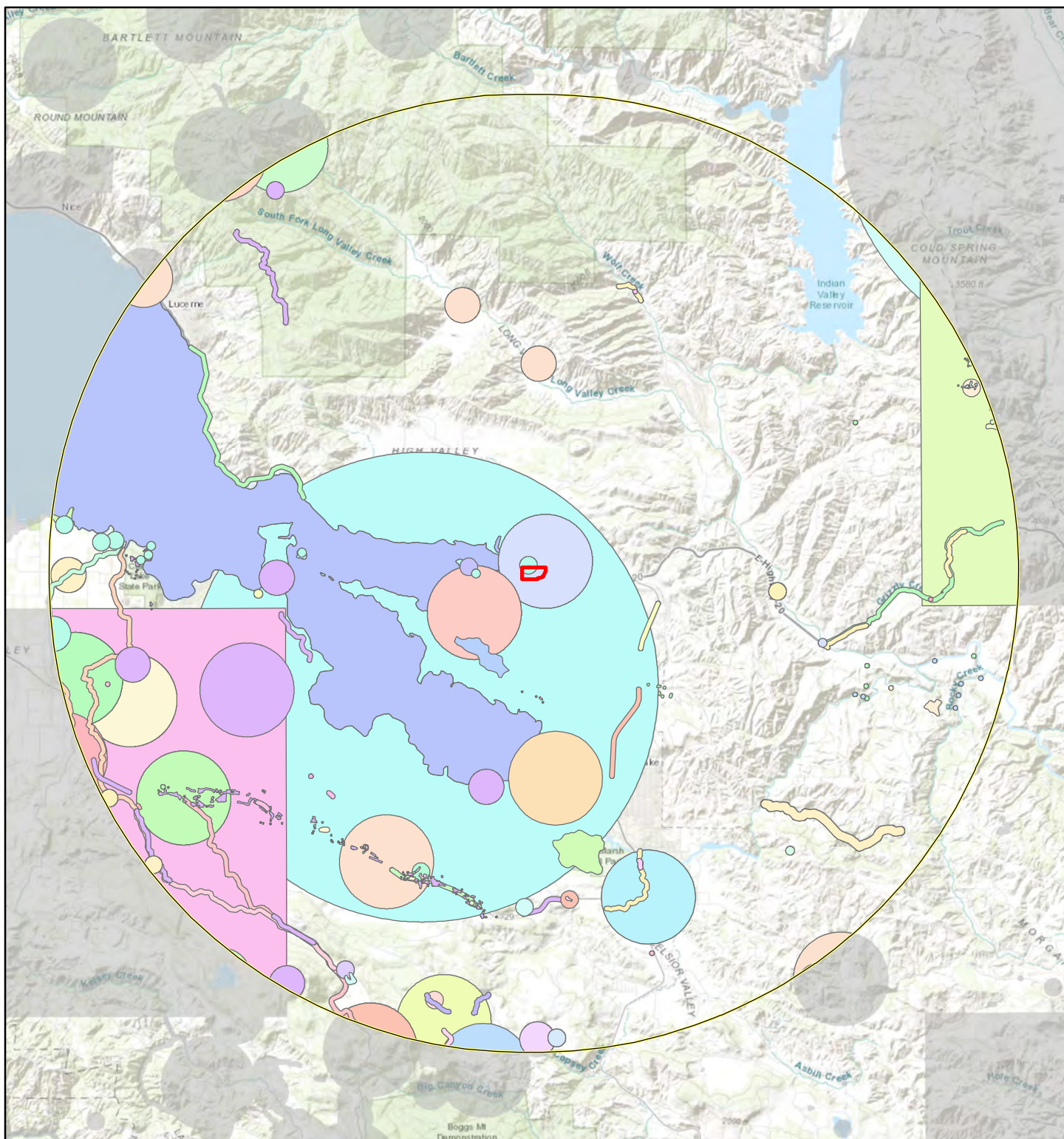
Annual grassland

Roads

Habitat Types

1111 Sulphur Bank Drive, Clearlake Oaks

 NATURAL INVESTIGATIONS COMPANY



Parcel Location 10 Mile Buffer

1:190,000 1 inch = 3 miles
 0 3 6 Miles



Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. Natural Investigations Company can not guarantee the accuracy and content of electronic files. The master file is stored by Natural Investigations Company and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission. Data Sources: California Department of Fish and Wildlife. 2020. RareFind 5.x, California Natural Diversity Data Base. Biogeographic Data Branch, Sacramento, California. (updated monthly by subscription service)

Special-Status Species Occurrences Map

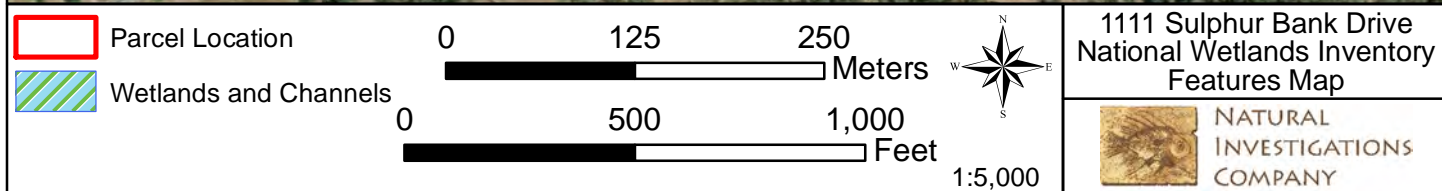
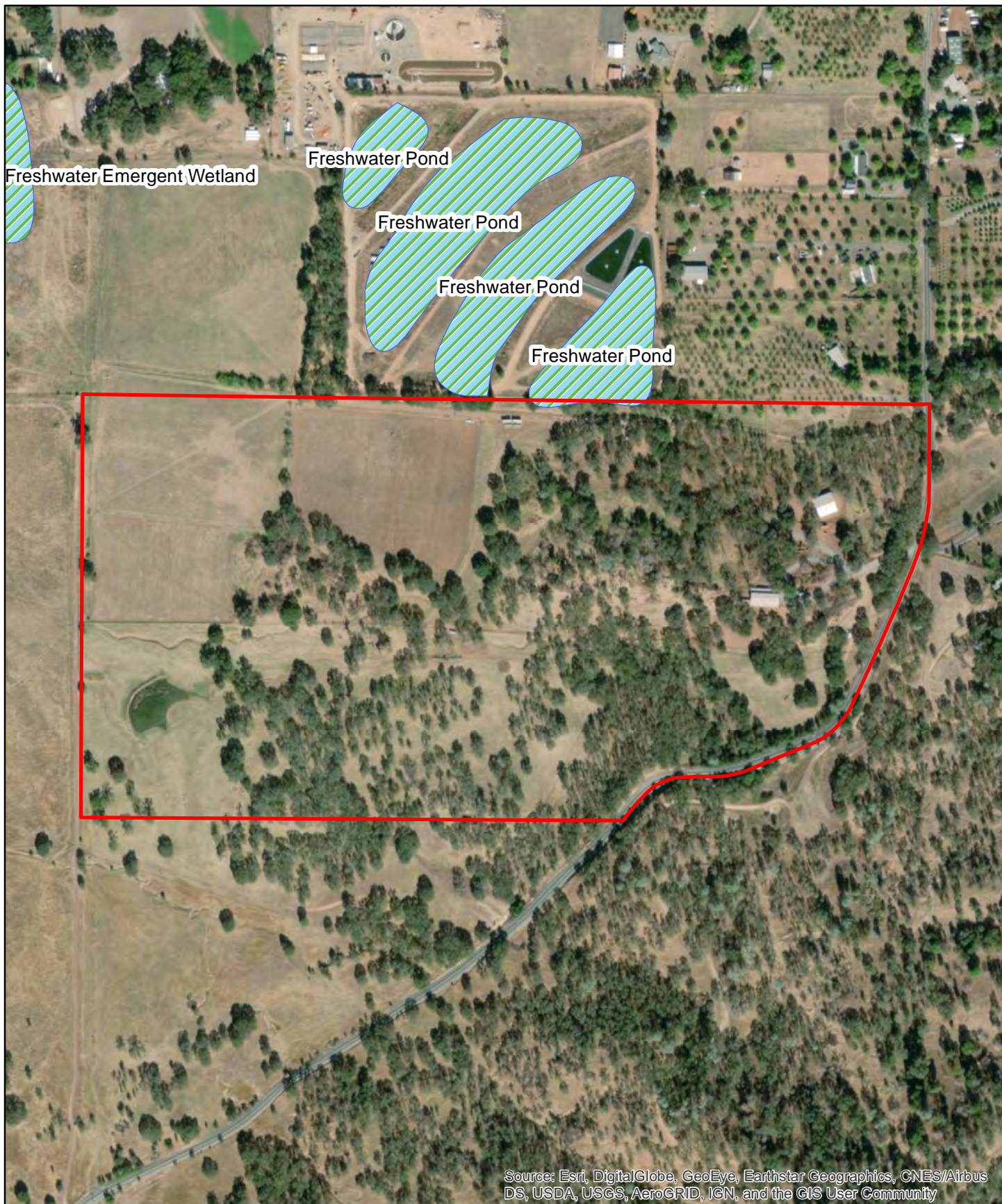
1111 Sulphur Bank Drive

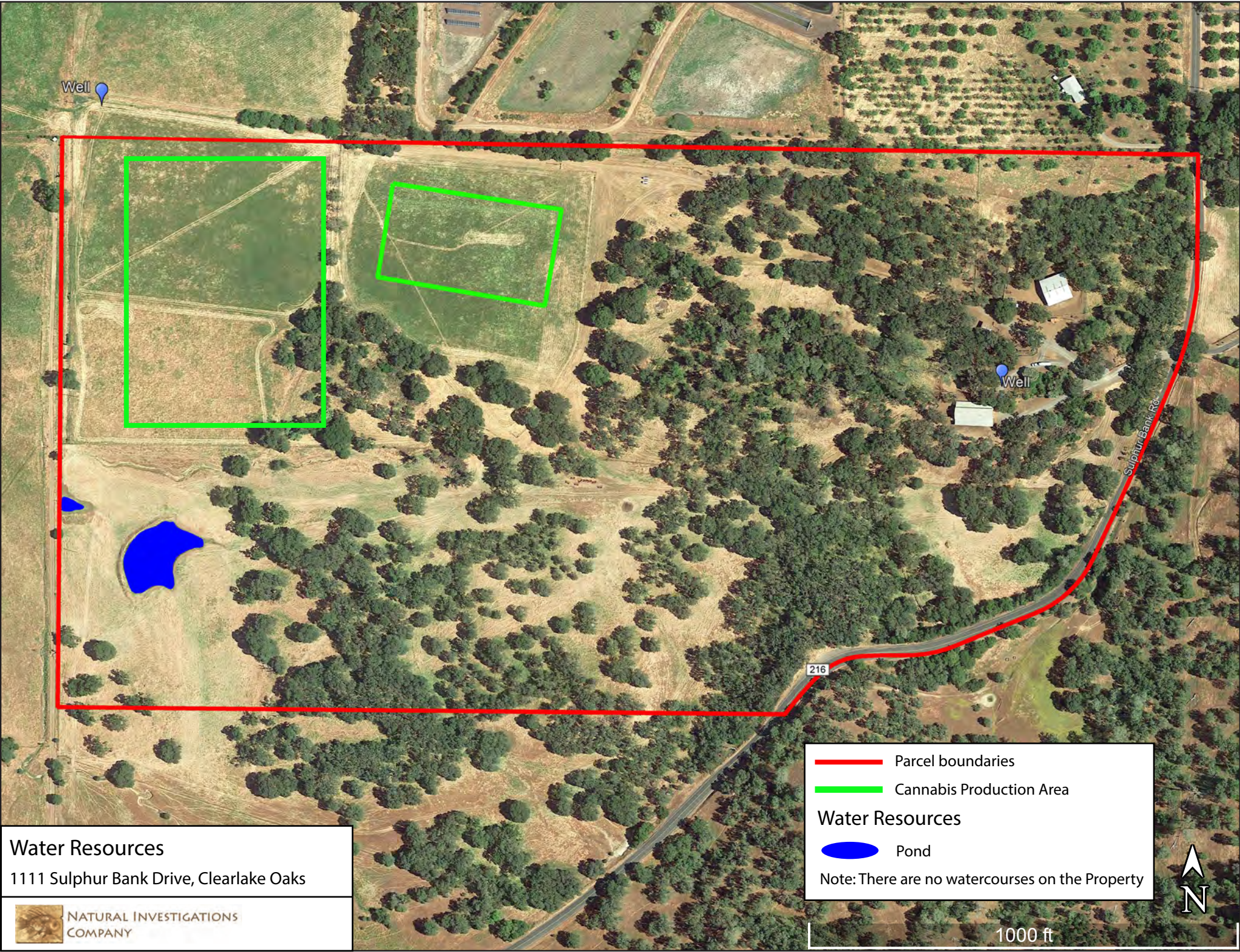
Clearlake Oaks 1996 Quadrangle: Township 13N, Range 7W, Section 5



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Well

Well

Sulphur Bank Rd

216

Parcel boundaries

Cannabis Production Area

Water Resources

Pond

Note: There are no watercourses on the Property



1000 ft

Water Resources

1111 Sulphur Bank Drive, Clearlake Oaks

 NATURAL INVESTIGATIONS
COMPANY

APPENDIX: CNDDDB AND CNPS SPECIES LISTS

Special-status Species Reported by CNDDDB in the Vicinity of the Project Area

Common Name Scientific Name	Status*	General Habitat	Microhabitat
Loch Lomond button-celery <i>Eryngium constancei</i>	FE/CE/1B.1	Vernal pools.	Volcanic ash flow vernal pools. 460-855 m.
Small-flowered calycadenia <i>Calycadenia micrantha</i>	1B.2	Chaparral, valley and foothill grassland, meadows and seeps.	Rocky talus or scree; sparsely vegetated areas. Occasionally on roadsides; sometimes on serpentine. 5-1500 m.
Greene's narrow-leaved daisy <i>Erigeron greenei</i>	1B.2	Chaparral.	Serpentine and volcanic substrates, generally in shrubby vegetation. 80-1005 m.
Pappose tarplant <i>Centromadia parryi</i> ssp. <i>parryi</i>	1B.2	Coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland.	Vernally mesic, often alkaline sites. 2-420m.
Burke's goldfields <i>Lasthenia burkei</i>	FE/CE/1B.1	Vernal pools, meadows and seeps.	Most often in vernal pools and swales. 15-600 m.
Colusa layia <i>Layia septentrionalis</i>	1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Scattered colonies in fields and grassy slopes in sandy or serpentine soil. 145-1095m.
Hall's harmonia <i>Harmonia hallii</i>	1B.2	Chaparral.	Serpentine hills and ridges. Open, rocky areas within chaparral. 500-900 m.
Bent-flowered fiddleneck <i>Amsinckia lunaris</i>	1B.2	Cismontane woodland, valley and foothill grassland.	50-500m.
Watershield <i>Brasenia schreberi</i>	2B.3	Freshwater marshes and swamps.	Aquatic from water bodies both natural and artificial in California.
Cascade downingia <i>Downingia willamettensis</i>	2B.2	Cismontane woodland, valley and foothill grasslands.	Lake margins and vernal pools.
Legenere <i>Legenere limosa</i>	1B.1	Vernal pools.	In beds of vernal pools. 1-880 m.
San Joaquin spearscale <i>Extriplex joaquinana</i>	1B.2	Chenopod scrub, alkali meadow, playas, valley and foothill grassland.	In seasonal alkali wetlands or alkali sink scrub with <i>Distichlis spicata</i> , <i>Frankenia</i> , etc. 1-835 m.
Oval-leaved viburnum <i>Viburnum ellipticum</i>	2B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	215-1400 m.
Lake County stonecrop <i>Sedella leiocarpa</i>	FE/CE/1B.1	Valley and foothill grassland, vernal pools, cismontane woodland.	Level areas that are seasonally wet and dry out in late spring; substrate usually of volcanic origin. 365-790 m.
Raiche's manzanita <i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i>	1B.1	Chaparral, lower montane coniferous forest.	Rocky, serpentine sites. Slopes and ridges. 450-1000 m.
Konociti manzanita <i>Arctostaphylos manzanita</i> ssp. <i>elegans</i>	1B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	Volcanic soils. 395-1615 m.
Jepson's milk-vetch <i>Astragalus rattanii</i> var. <i>jepsonianus</i>	1B.2	Cismontane woodland, valley and foothill grassland, chaparral.	Commonly on serpentine in grassland or openings in chaparral. 180-1000 m.
Anthony Peak lupine <i>Lupinus antoninus</i>	1B.2	Upper montane coniferous forest, lower montane coniferous forest.	Open areas with surrounding forest; rocky sites. 1220-2285 m.
Woolly meadowfoam <i>Limnanthes floccosa</i> ssp. <i>floccosa</i>	4.2	Chaparral, cismontane woodland, valley and foothill grassland, vernal pools.	Vernally wet areas, ditches, and ponds. 60-1335 m.
Glandular western flax <i>Hesperolinon adenophyllum</i>	1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Serpentine soils; generally found in serpentine chaparral. 150-1315 m.
Two-carpellate western flax <i>Hesperolinon bicarpellatum</i>	1B.2	Serpentine chaparral.	Serpentine barrens at edge of chaparral. 60-1005 m.
Drymaria-like western flax <i>Hesperolinon drymarioides</i>	1B.2	Closed-cone coniferous forest, chaparral, cismontane woodland, valley and foothill grassland.	Serpentine soils, mostly within chaparral. 390-1000m.
Sharsmith's western flax <i>Hesperolinon sharsmithiae</i>	1B.2	Chaparral.	Serpentine substrates. 270-300 m.

Marsh checkerbloom <i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	1B.2	Meadows and seeps, riparian forest.	Wet soil of streambanks, meadows. 1100-2300 m.
Brandegee's eriastrum <i>Eriastrum brandegeae</i>	1B.1	Chaparral, cismontane woodland.	On barren volcanic soils; often in open areas. 425-840 m.
Baker's navarretia <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	1B.1	Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest.	Vernal pools and swales; adobe or alkaline soils. 5-1740 m.
Few-flowered navarretia <i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	FE/CT/1B.1	Vernal pools.	Volcanic ash flow, and volcanic substrate vernal pools. 400-855 m.
Many-flowered navarretia <i>Navarretia leucocephala</i> ssp. <i>plieantha</i>	FE/CE/1B.2	Vernal pools.	Volcanic ash flow vernal pools. 30-950 m.
Bolander's horkelia <i>Horkelia bolanderi</i>	1B.2	Lower montane coniferous forest, chaparral, meadows, valley and foothill grassland.	Grassy margins of vernal pools and meadows. 450-1100 m.
Pink creamsacs <i>Castilleja rubicundula</i> var. <i>rubicundula</i>	1B.2	Chaparral, meadows and seeps, valley and foothill grassland.	Openings in chaparral or grasslands. On serpentine. 20-900 m.
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	CE/1B.2	Marshes and swamps (freshwater), vernal pools.	Clay soils; usually in vernal pools, sometimes on lake margins. 10-2375 m.
Adobe-lily <i>Fritillaria pluriflora</i>	1B.2	Chaparral, cismontane woodland, foothill grassland.	Usually on clay soils; sometimes serpentine. 60-705 m.
California satintail <i>Imperata brevifolia</i>	2B.1	Coastal scrub, chaparral, riparian scrub, Mojavean scrub, meadows and seeps (alkali), riparian scrub.	Mesic sites, alkali seeps, riparian areas. 0-1215 m.
Eel-grass pondweed <i>Potamogeton zosteriformis</i>	2B.2	Marshes and swamps.	Ponds, lakes, streams. 0-1860 m.

*Definitions of Status Codes: FE = Federally listed as endangered; FT = Federally listed as threatened; FPE = Federally proposed for listing as endangered; FPT = Federally proposed for listing as threatened; FC = Candidate for Federal listing; MB = Migratory Bird Act; CE = California State listed as endangered; CT = California State listed as threatened; CSSC = California species of special concern; CR = California rare species; CFP = California fully protected species; CNPS (California Native Plant Society) List 1A = Plants presumed extinct in California by CNPS; CNPS List 1B = CNPS designated rare or endangered plants in California and elsewhere; and CNPS List 2 = CNPS designated rare or endangered plants in California, but more common elsewhere. Global Ranking: G1 = Critically Imperiled; G2 = Imperiled; G3 = Vulnerable. State Ranking: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable.

**Copied verbatim from CNDDDB, unless otherwise noted.

Special-status Species Reported by CNP in the Vicinity of the Project Area (9-quadrangle Area)

Common name <i>Scientific name</i>	Status	Bloom	Habitat
Bent-flowered fiddleneck <i>Amsinckia lunaris</i>	1B.2	Mar-Jun	Coastal bluff scrub, Cismontane woodland, Valley and foothill grassland
Twig-like snapdragon <i>Antirrhinum virga</i>	4.3	Jun-Jul	Chaparral, Lower montane coniferous forest
Konocti manzanita <i>Arctostaphylos manzanita ssp. elegans</i>	1B.3	(Jan)Mar-May(Jul)	Chaparral, Cismontane woodland, Lower montane coniferous forest
Raiche's manzanita <i>Arctostaphylos stanfordiana ssp. raichei</i>	1B.1	Feb-Apr	Chaparral, Lower montane coniferous forest (openings)
Serpentine milkweed <i>Asclepias solanoana</i>	4.2	May-Jul(Aug)	Chaparral, Cismontane woodland, Lower montane coniferous forest
Brewer's milk-vetch <i>Astragalus breweri</i>	4.2	Apr-Jun	Chaparral, Cismontane woodland, Meadows and seeps, Valley and foothill grassland (open, often gravelly)
Cleveland's milk-vetch <i>Astragalus clevelandii</i>	4.3	Jun-Sep	Chaparral, Cismontane woodland, Riparian forest
Jepson's milk-vetch <i>Astragalus rattanii var. jepsonianus</i>	1B.2	Mar-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland
Mexican mosquito fern <i>Azolla microphylla</i>	4.2	Aug	Marshes and swamps (ponds, slow water)
Big-scale balsamroot <i>Balsamorhiza macrolepis</i>	1B.2	Mar-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland
Watershield <i>Brasenia schreberi</i>	2B.3	Jun-Sep	Marshes and swamps (freshwater)
Indian Valley brodiaea <i>Brodiaea rosea ssp. rosea</i>	CE/3.1	May-Jun	Closed-cone coniferous forest, Chaparral, Cismontane woodland, Valley and foothill grassland
Pink star-tulip <i>Calochortus uniflorus</i>	4.2	Apr-Jun	Coastal prairie, Coastal scrub, Meadows and seeps, North Coast coniferous forest
Small-flowered calycadenia <i>Calycadenia micrantha</i>	1B.2	Jun-Sep	Chaparral, Meadows and seeps (volcanic), Valley and foothill grassland
Four-petaled pussypaws <i>Calyptidium quadripetalum</i>	4.3	Apr-Jun	Chaparral, Lower montane coniferous forest
Mt. Saint Helena morning-glory <i>Calystegia collina ssp. oxyphylla</i>	4.2	Apr-Jun	Chaparral, Lower montane coniferous forest, Valley and foothill grassland
Three-fingered morning-glory <i>Calystegia collina ssp. tridactylosa</i>	1B.2	Apr-Jun	Chaparral, Cismontane woodland
Porcupine sedge	2B.1	May-Jun	Marshes and swamps (streambanks)

Common name Scientific name	Status	Bloom	Habitat
<i>Carex hystericina</i>			
Klamath sedge <i>Carex klamathensis</i>	1B.2		Chaparral, Cismontane woodland, Meadows and seeps
Pink creamsacs <i>Castilleja rubicundula</i> var. <i>rubicundula</i>	1B.2	Apr-Jun	Chaparral (openings), Cismontane woodland, Meadows and seeps, Valley and foothill grassland
Rincon Ridge ceanothus <i>Ceanothus confusus</i>	1B.1	Feb-Jun	Closed-cone coniferous forest, Chaparral, Cismontane woodland
Dwarf soaproot <i>Chlorogalum pomeridianum</i> var. <i>minus</i>	1B.2	May-Aug	Chaparral (serpentine)
Tracy's clarkia <i>Clarkia gracilis</i> ssp. <i>tracyi</i>	4.2	Apr-Jul	Chaparral (openings, usually serpentine)
Serpentine collomia <i>Collomia diversifolia</i>	4.3	May-Jun	Chaparral, Cismontane woodland
Serpentine bird's-beak <i>Cordylanthus tenuis</i> ssp. <i>brunneus</i>	4.3	Jul-Aug	Closed-cone coniferous forest, Chaparral, Cismontane woodland
Serpentine cryptantha <i>Cryptantha dissita</i>	1B.2	Apr-Jun	Chaparral (serpentine)
Swamp larkspur <i>Delphinium uliginosum</i>	4.2	May-Jun	Chaparral, Valley and foothill grassland
Brandegee's eriastrum <i>Eriastrum brandegeae</i>	1B.1	Apr-Aug	Chaparral, Cismontane woodland
Tracy's eriastrum <i>Eriastrum tracyi</i>	CR/3.2	May-Jul	Chaparral, Cismontane woodland, Valley and foothill grassland
Greene's narrow-leaved daisy <i>Erigeron greenei</i>	1B.2	May-Sep	Chaparral (serpentine or volcanic)
Snow Mountain buckwheat <i>Eriogonum nervulosum</i>	1B.2	Jun-Sep	Chaparral (serpentine)
Tripod buckwheat <i>Eriogonum tripodum</i>	4.2	May-Jul	Chaparral, Cismontane woodland
Loch Lomond button-celery <i>Eryngium constancei</i>	FE/CE/1B.1	Apr-Jun	Vernal pools
Adobe-lily <i>Fritillaria pluriflora</i>	1B.2	Feb-Apr	Chaparral, Cismontane woodland, Valley and foothill grassland
Purdy's fritillary <i>Fritillaria purdyi</i>	4.3	Mar-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	CE/1B.2	Apr-Aug	Marshes and swamps (lake margins), Vernal pools
Hall's harmonia <i>Harmonia hallii</i>	1B.2	Apr-Jun	Chaparral (serpentine)

Common name <i>Scientific name</i>	Status	Bloom	Habitat
Glandular western flax <i>Hesperolinon adenophyllum</i>	1B.2	May-Aug	Chaparral, Cismontane woodland, Valley and foothill grassland
Two-carpellate western flax <i>Hesperolinon bicarpellatum</i>	1B.2	May-Jul	Chaparral (serpentine)
Lake County western flax <i>Hesperolinon didymocarpum</i>	CE/1B.2	May-Jul	Chaparral, Cismontane woodland, Valley and foothill grassland
Drymaria-like western flax <i>Hesperolinon drymarioides</i>	1B.2	May-Aug	Closed-cone coniferous forest, Chaparral, Cismontane woodland, Valley and foothill grassland
Sharsmith's western flax <i>Hesperolinon sharsmithiae</i>	1B.2	May-Jul	Chaparral
Bolander's horkelia <i>Horkelia bolanderi</i>	1B.2	(May)Jun-Aug	Chaparral, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland
California satintail <i>Imperata brevifolia</i>	2B.1	Sep-May	Chaparral, Coastal scrub, Mojavean desert scrub, Meadows and seeps (often alkali), Riparian scrub
Burke's goldfields <i>Lasthenia burkei</i>	FE/CE/1B.1	Apr-Jun	Meadows and seeps (mesic), Vernal pools
Colusa layia <i>Layia septentrionalis</i>	1B.2	Apr-May	Chaparral, Cismontane woodland, Valley and foothill grassland
Legenere <i>Legenere limosa</i>	1B.1	Apr-Jun	Vernal pools
Bristly leptosiphon <i>Leptosiphon acicularis</i>	4.2	Apr-Jul	Chaparral, Cismontane woodland, Coastal prairie, Valley and foothill grassland
Woolly meadowfoam <i>Limnanthes floccosa</i> ssp. <i>floccosa</i>	4.2	Mar-May(Jun)	Chaparral, Cismontane woodland, Valley and foothill grassland, Vernal pools
Anthony Peak lupine <i>Lupinus antoninus</i>	1B.2	May-Jul	Lower montane coniferous forest, Upper montane coniferous forest
Cobb Mountain lupine <i>Lupinus sericatus</i>	1B.2	Mar-Jun	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest
Heller's bush-mallow <i>Malacothamnus helleri</i>	3.3	May-Jul	Chaparral (sandstone), Riparian woodland (gravel)
Mt. Diablo cottonweed <i>Micropus amphibolus</i>	3.2	Mar-May	Broadleafed upland forest, Chaparral, Cismontane woodland, Valley and foothill grassland
Little mouseltail <i>Myosurus minimus</i> ssp. <i>apus</i>	3.1	Mar-Jun	Valley and foothill grassland, Vernal pools (alkaline)
Baker's navarretia <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	1B.1	Apr-Jul	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools
Few-flowered navarretia <i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	FE/CT/1B.1	May-Jun	Vernal pools (volcanic ash flow)

Common name <i>Scientific name</i>	Status	Bloom	Habitat
Many-flowered navarretia <i>Navarretia leucocephala</i> ssp. <i>plieantha</i>	FE/CE/1B.2	May-Jun	Vernal pools (volcanic ash flow)
Slender Orcutt grass <i>Orcuttia tenuis</i>	FT/CE/1B.1	May-Sep(Oct)	Vernal pools
Howell's broomrape <i>Orobancha valida</i> ssp. <i>howellii</i>	4.3	Jun-Sep	Chaparral (serpentinite or volcanic)
Michael's rein orchid <i>Piperia michaelii</i>	4.2	Apr-Aug	Coastal bluff scrub, Closed-cone coniferous forest, Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest
Eel-grass pondweed <i>Potamogeton zosteriformis</i>	2B.2	Jun-Jul	Marshes and swamps (assorted freshwater)
Lake County stonecrop <i>Sedella leiocarpa</i>	FE/CE/1B.1	Apr-May	Cismontane woodland, Valley and foothill grassland, Vernal pools
Cleveland's ragwort <i>Senecio clevelandii</i> var. <i>clevelandii</i>	4.3	Jun-Jul	Chaparral (serpentinite seeps)
Marsh checkerbloom <i>Sidalcea oregana</i> ssp. <i>hydrophila</i>	1B.2	(Jun)Jul-Aug	Meadows and seeps, Riparian forest
Bearded jewelflower <i>Streptanthus barbiger</i>	4.2	May-Jul	Chaparral (serpentinite)
Green jewelflower <i>Streptanthus hesperidis</i>	1B.2	May-Jul	Chaparral (openings), Cismontane woodland
Marsh zigadenus <i>Toxicoscordion fontanum</i>	4.2	Apr-Jul	Chaparral, Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps
Napa bluecurls <i>Trichostema ruygtii</i>	1B.2	Jun-Oct	Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland, Vernal pools
Oval-leaved viburnum <i>Viburnum ellipticum</i>	2B.3	May-Jun	Chaparral, Cismontane woodland, Lower montane coniferous forest

APPENDIX: SITE PHOTOS









SECTION – F

GROUNDS MANAGEMENT PLAN

Grounds Management Plan

Purpose and Overview

Mr. Anthony Lamperti is seeking a Major Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 1111 Sulphur Bank Drive near Clearlake Oaks, California on Lake County APN 006-520-11 (Project Parcel). Mr. Lamperti's proposed commercial cannabis cultivation operation will be composed of ten (10) A-Type 3 "Medium Outdoor" cultivation areas (ranging from 43,200 ft² to 43,500 ft² in size), a 10' X 12' (120 ft²) Pesticide & Agricultural Chemicals Storage Area (proposed wooden shed), and a 10' X 12' (120 ft²) Security Room/Building (proposed wooden shed). The growing medium of the proposed outdoor cultivation/canopy areas will be native soil amended with compost, worm castings, and organic dairy manure, with drip irrigation systems covered in white plastic mulch (to conserve water resources). All water for the proposed cultivation operation will come from an existing onsite groundwater well located at Latitude 39.01236° and Longitude -122.65807°.

This Grounds Management Plan is intended to ensure that the Project Property is well maintained in order to protect the public health, safety and welfare, as well as the natural environment of Lake County. This Grounds Management Plan outlines how Mr. Lamperti and his employees will properly store agricultural chemicals and equipment, manage solid waste, maintain roads and defensible space, and prevent the attraction, harborage, and proliferation of pests and diseases due to unsanitary conditions.

Chemicals Storage and Effluent

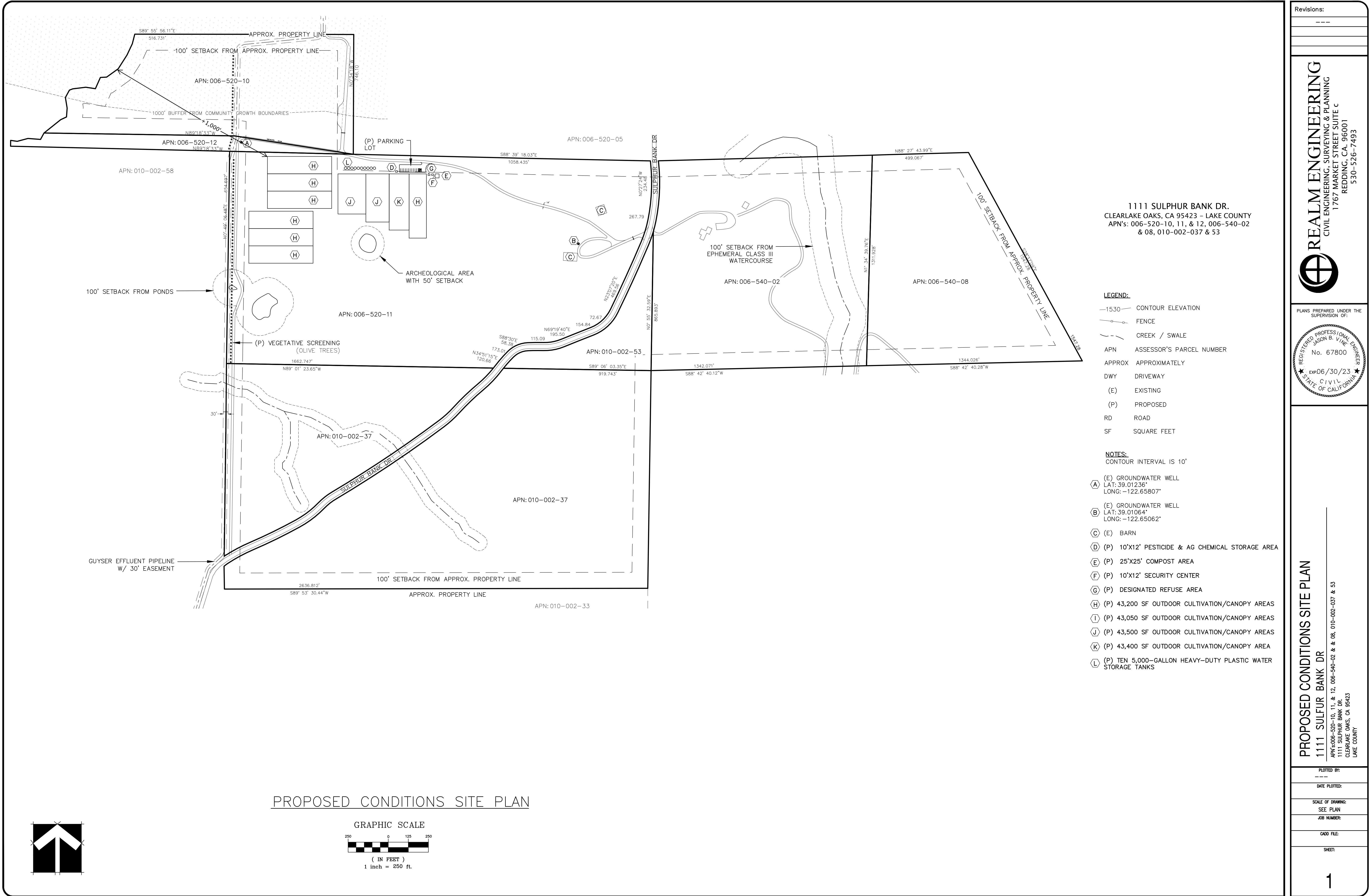
Chemicals stored and used at/by the proposed cultivation operation include fertilizers/nutrients, pesticides, and petroleum products (Agricultural Chemicals). All fertilizers/nutrients and pesticides, when not in use, will be stored in their manufacturer's original containers/packaging, undercover, and at least 100 feet from surface water bodies, inside the secure Pesticides & Agricultural Chemicals Storage Area (proposed wooden shed). Petroleum products will be stored under cover, in State of California-approved containers with secondary containment, and separate from pesticides and fertilizers within the existing onsite barn (metal barn with concrete foundation/floor). Spill containment and cleanup equipment will be maintained within the secure Pesticides and Agricultural Chemicals Storage Area. No effluent is expected to be produced by the proposed cultivation operation.

Solid Waste Management

The types of solid waste that will be generated from the proposed cultivation operation include gardening materials and wastes (such as used plastic mulch and spent plastic fertilizer/pesticide bags and bottles) and general litter from staff/personnel. All solid waste will be stored in bins with secure fitting lids, located directly adjacent to the proposed cultivation areas. At no time will the bins be filled to a point that their lids cannot fit securely. Solid waste from the bins will be deposited into a trailer (“dump trailer”), and hauled away to a Lake County Integrated Waste Management facility, at least every seven (7) days/weekly. The Eastlake Landfill is the closest Lake County Integrated Waste Management facility to the project site. Most, if not all, of the solid waste generated by the proposed cultivation operation can and will be deposited at this facility.

Site Maintenance

When not in use, all equipment will be stored in its proper designated area upon completion of the task for which the equipment was needed. Any refuse created during the work day will be placed in the proper waste disposal receptacle at the end of each shift, or at a minimum upon completion of the task assigned. Any refuse which poses a risk for contamination or personal injury will be disposed of immediately. 100 feet of defensible space will be established and maintained around the proposed cultivation operation for fire protection and to ensure safe and sanitary working conditions. Areas of defensible space will be mowed and trimmed regularly around the cultivation operation to provide for visibility and security monitoring. Access roads and parking areas will be graveled to prevent the generation of fugitive dust, and vegetative ground cover will be preserved throughout the entire site to filter and infiltrate stormwater runoff from access roads, parking areas, and the proposed cultivation operation. Portable restroom facilities will be made available for use whenever staff are onsite and regularly serviced to ensure a safe and sanitary working environment.



SECTION – G

SECURITY MANAGEMENT PLAN

Security Management Plan

Purpose and Overview

Mr. Anthony Lamperti is seeking a Major Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 1111 Sulphur Bank Drive near Clearlake Oaks, California on Lake County APN 006-520-11 (Project Parcel). Mr. Lamperti's proposed commercial cannabis cultivation operation will be composed of ten (10) A-Type 3 "Medium Outdoor" cultivation areas (ranging from 43,200 ft² to 43,500 ft² in size), a 10' X 12' (120 ft²) Pesticide & Agricultural Chemicals Storage Area (proposed wooden shed), and a 10' X 12' (120 ft²) Security Room/Building (proposed wooden shed). The growing medium of the proposed outdoor cultivation/canopy areas will be native soil amended with compost, worm castings, and organic dairy manure, with drip irrigation systems covered in white plastic mulch (to conserve water resources). All water for the proposed cultivation operation will come from an existing onsite groundwater well located at Latitude 39.01236° and Longitude -122.65807°.

The purpose of this Security Management Plan (SMP) is to minimize criminal activity, provide for safe and secure working environments, protect private property and prevent damage to the environment. This SMP includes a description of the security measures that will be implemented at/by the proposed cultivation operation to prevent unauthorized access and theft or diversion of cannabis, a description of the proposed video surveillance system, and protocols that will be followed to ensure overall site security. This SMP is also designed to be compliant with the regulations for cannabis cultivation authored by the CDFA's CalCannabis Licensing program, as well as the regulations established by the California Bureau of Cannabis Control for state-licensed cannabis businesses.

Secured Entry and Access

The Project Parcel is accessed via private gravel and native soil surfaced access roads off of Sulphur Bank Drive. Metal gates control access to the private access roads from Sulphur Bank Drive. The gates will be closed and locked outside of core operating/business hours (8am to 6pm) and whenever Mr. Lamperti or his managerial personnel are not present.

6-foot woven wire fences will be erected around the proposed cultivation areas. Privacy Screen/Cloth will be installed on the fences where necessary to screen the cultivation area from public view. Posts will be set into the ground at not more than 10-foot intervals, and terminal posts will be set into concrete footings. Secured entry and access to the cultivation area(s) will be controlled via locking gates that will be locked whenever Mr. Lamperti or his managerial personnel are not present. All gates will be secured with heavy duty chains and commercial grade padlocks. Only Mr. Lamperti, Mr. Pluth (landowner), and approved managerial staff will be able to unlock the gates of the Project Property.

100 feet of defensible space (vegetation management) will be established and maintained around the proposed cultivation areas and associated facilities for fire protection and to provide for visibility and security monitoring. Motion-sensing alarms and security lights will be installed at the metal gates controlling access to the proposed cultivation operation, to alert personnel when someone/something has entered onto the premises. Motion-sensing security lights will be installed on all external corners of the proposed cultivation areas. All lighting will be fully shielded, downward casting and will not spill over onto other properties or the night sky.

Personnel will be instructed to notify Mr. Lamperti or his managerial staff immediately if/when suspicious activity is detected. Mr. Lamperti or his managerial staff will investigate the suspicious activity for potential threats, issues, or concerns. Mr. Lamperti and/or his managerial staff will contact the Lake County Sheriff's Office immediately if/when a threat is detected. When a visitor arrives at the proposed cultivation operation via the main entrance during core operating/business hours, they will be immediately greeted by a member of Mr. Lamperti's managerial staff. The staff member will verify the visitor's identification and appropriate documentation/credentials. They will then be assigned an escort to show the visitor to the appropriate area(s), in accordance to their approved itinerary. No visitors will ever be left unattended.

Video Surveillance

Mr. Lamperti will use a color capable closed-circuit television (CCTV) system with a minimum camera resolution of 1080p at a minimum of 30 frames per second to record activity in all sensitive areas. All cameras will be equipped with motion sensing technology to activate the cameras when motion is detected, and all cameras (exterior and interior) will be waterproof. The CCTV system will feed into a Monitoring and Recording Station inside the Security Center (proposed wooden building), where video from the CCTV system will be digitally recorded. Video recordings will display the current date and time, and all recordings will be kept a minimum of 90 days, and 7 years for any corresponding reported incidents caught on tape. Video management software of the Monitoring and Recording Station will be capable of supporting remote access, and will be equipped with a failure notification system that immediately notifies Mr. Lamperti and his managerial staff of any interruptions or failures. All sensitive areas covered by the video surveillance system will have adequate lighting to illuminate the camera's field of vision.

Proposed camera placements can be found on the accompanying Security Site Plan. Areas that will be covered by the CCTV system include:

- Interior and exterior of all entryways and exits to the proposed cultivation areas;
- Perimeter of the proposed cultivation areas; and
- The interior and exterior of the entryway/exit to the Security Center.

Diversion/Theft Prevention

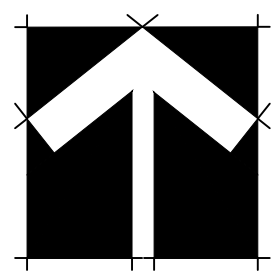
All personnel will be required to undergo a criminal background check with the Lake County Sheriff's Office. Visitors and personnel will be required to sign-in and sign-out each day, and record the areas in which they worked and the tasks they were assigned. Personnel will be required to store personal items (except for food, water, and drinks) in their vehicles throughout their shift.

Mr. Lamperti will adhere to the inventory tracking and recording requirements of the California Cannabis Track-and-Trace (CCTT) system. All personnel will be trained in the requirements of the CCTT system, and all cannabis transfers/movement will be reported through the CCTT system. At least one member of Mr. Lamperti's managerial staff will be a designated track-and-trace system administrator. A track-and-trace system administrator will supervise all tasks with high potential for diversion/theft, and will document which personnel took part in the task(s). In the event of any diversion/theft, law enforcement and the appropriate licensing authority will be notified within 24 hours of discovery.

Community Liaison and Emergency Contact

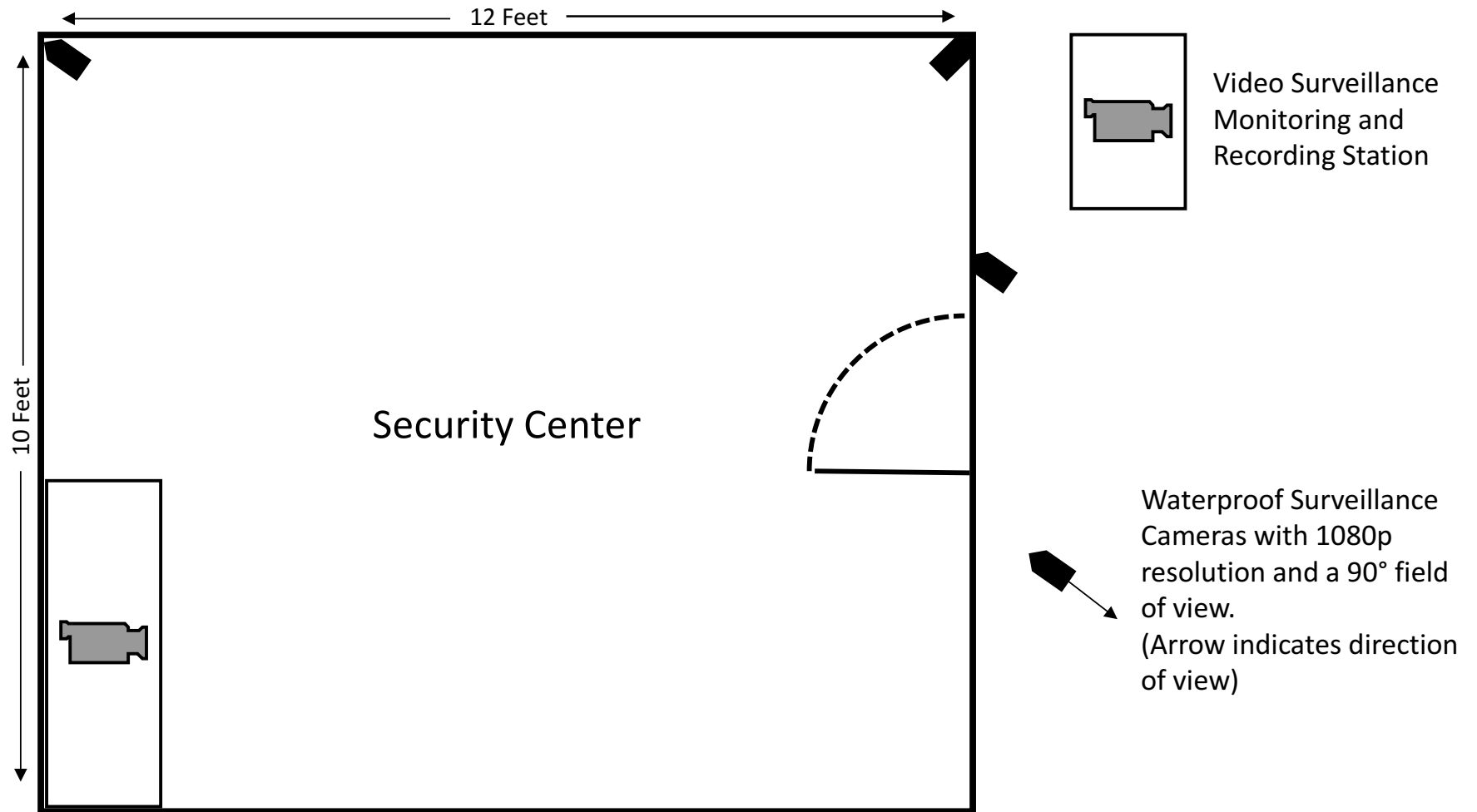
A Community Liaison/Emergency Contact will be made available to Lake County Officials/Staff and the Lake County Sheriff's Office at all times to address any needs or issues that may arise. Mr. Lamperti will provide the name, cell phone number, and email address of the Community Liaison/Emergency Contact to all interested County Departments, Law Enforcement Officials, and neighboring property owners and residents. Mr. Lamperti will encourage neighboring residents to contact the Community Liaison/Emergency Contact to resolve any problems before contacting County Officials. When a complaint is received, the Community Liaison/Emergency Contact will document the complainant and the reason for the complaint, then take action to resolve the issue (see the Odor Response Program in the Air Quality section of this Property Management Plan for odor related complaints/issues). A tally and summary of complaints/issues will be provided in Mr. Lamperti's annual Performance Review Report.

The Community Liaison/Emergency Contact for the proposed cultivation operation is Mr. Anthony Lamperti. Mr. Lamperti's cell phone number is (707) 799-3000, and his email address is lamperti@sonic.net. The residents and owners of all properties within 250 feet of the Project Parcel, have already received Mr. Lamperti's contact information.



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Proposed Security Center (Wooden Shed)



SECTION – H

STORM WATER MANAGEMENT PLAN

Storm Water Management Plan

Purpose and Overview

Mr. Anthony Lamperti is seeking a Major Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 1111 Sulphur Bank Drive near Clearlake Oaks, California on Lake County APN 006-520-11 (Project Parcel). Mr. Lamperti's proposed commercial cannabis cultivation operation will be composed of ten (10) A-Type 3 "Medium Outdoor" cultivation areas (ranging from 43,200 ft² to 43,500 ft² in size), a 10' X 12' (120 ft²) Pesticide & Agricultural Chemicals Storage Area (proposed wooden shed), and a 10' X 12' (120 ft²) Security Room/Building (proposed wooden shed). The growing medium of the proposed outdoor cultivation/canopy areas will be native soil amended with compost, worm castings, and organic dairy manure, with drip irrigation systems covered in white plastic mulch (to conserve water resources). All water for the proposed cultivation operation will come from an existing onsite groundwater well located at Latitude 39.01236° and Longitude -122.65807°.

The intent/purpose of this Storm Water Management Plan is to protect the water quality of the surface and stormwater management systems managed by Lake County, and to evaluate the impact on downstream property owners. The proposed cultivation operation will increase the impervious surface area of the Project Parcel by approximately 1,240 ft², or less than 0.1% of the Project Parcel, through the installation of two 10' X 12' (120 ft²) wooden sheds (proposed Security Room and Pesticide & Agricultural Chemicals Storage Area) and ten 5,000-gallon heavy-duty plastic water storage tanks. The proposed outdoor cultivation/canopy areas will not increase the impervious surface area of the Project Parcel and should not increase the volume of runoff from the Project Site. The proposed parking lot will have a permeable gravel surface, and the proposed ADA parking space will be constructed of permeable pavers.

Mr. Lamperti will focus on low impact development (LID) and "green" stormwater management infrastructure to achieve permanent stabilization post site development as quickly as possible. LID practices utilizing "green" infrastructure will manage storm water by minimizing impervious surfaces, maintaining, preserving, and enhancing existing vegetation, and by using natural systems to filter and infiltrate stormwater into the ground. LID with "green" storm water infrastructure is cost competitive with traditional storm water management infrastructure/practices, while providing numerous other long-term benefits, such as improved water quality, ecosystem enhancement, and preserved/improved aesthetics. The stormwater management measures outlined in this Storm Water Management Plan meet and/or exceed the requirements of the Lake County Storm Water Management Ordinance (Chapter 29 of the Lake County Ordinance Code).

Receiving Water Bodies and Infrastructure

The Project Property is located within the Schindler Creek-Frontal Clear Lake Watershed (HUC12) and directly adjacent to Clear Lake. An unnamed ephemeral Class III watercourse flows from south to north through the eastern half of the Project Property, and another unnamed ephemeral Class III watercourse flows from east to west through the southern portion of the Project Property. There are also two seasonal ponds in the western half of the Project Property (on the Project Parcel). The larger of the two seasonal ponds supports aquatic wildlife and a lacustrine wetland (reed marsh). No cannabis cultivation activities nor agricultural chemicals storage will occur within 100 feet of any surface waterbody, including the two seasonal ponds.

The Project Parcel is accessed via private gravel access roads off of Sulphur Bank Drive. One of the private gravel access roads passes over an ephemeral Class III watercourse south of the proposed cultivation operation via a 24" HDPE culvert. This crossing was evaluated by the California Department of Fish and Wildlife in late 2020, and was determined to be functioning and adequately sized. There are no Lake County maintained bridges/watercourse crossings or stormwater management infrastructure between the proposed cultivation operation and Clear Lake. Development of the proposed cultivation operation, with the implementation of the LID practices and erosion and sediment control measures outlined below, will not increase the volume of stormwater discharges from the Project Property onto adjacent properties or flood elevations downstream.

Ground Disturbance and Grading

Soils of the Project Parcel are identified as Manzanita and Skyhigh-Millsholm loams by the NRCS Web Soil Survey (attached), and characterized as well-drained sandy and clay loams derived from residuum weathered from sedimentary rock. The proposed cultivation operation will increase the impervious surface area of the Project Parcel by approximately 1,240 ft², or less than 0.1% of the Project Parcel, through the installation of two 120 ft² wooden sheds (proposed Security Room and Pesticide & Agricultural Chemicals Storage Area) and ten 5,000-gallon heavy-duty plastic water storage tanks. The proposed outdoor cultivation/canopy areas will not increase the impervious surface area of the Project Parcel and should not increase the volume of runoff from the Project Site. The proposed parking lot will have a permeable gravel surface, and the proposed ADA parking space will be constructed of permeable pavers.

The proposed cultivation operation will be established in areas/fields of the Project Parcel that have been plowed, planted, and irrigated to produce hay and alfalfa continuously over the last four decades. No trees or vegetation will be removed to establish the proposed cultivation operation. The growing medium of the proposed outdoor cultivation/canopy areas will be native soil amended with compost, worm castings, and organic dairy manure, with drip irrigation systems covered in white plastic mulch (to conserve water resources). Each spring, the native soil of the proposed outdoor cultivation/canopy areas will be plowed/disked and harrowed to create planting beds for the cultivation of cannabis. Each fall, the native soil of the proposed outdoor cultivation/canopy areas will be plowed/disked and planted with a nitrogen-fixing cover crop, to stabilize the site(s) for the winter wet weather period. Engineered fabric structures (Harvest Storage & Staging Areas)

will be erected within the proposed cultivation/canopy areas in October of each year, and deconstructed in December of each year. The intent is for there to be little to no evidence during the winter and spring seasons, of the cultivation activities that occurred during the summer and fall of the previous year.

Erosion and Sediment Control Measures

Established vegetation within and around the proposed cultivation operation will be maintained/protected to the extent possible, as a permanent erosion and sediment control measure. All structures and cultivation areas will be located more than 100 feet from the nearest surface water bodies, and stormwater runoff from the structures and cultivation areas will be discharged to the well-vegetated buffers surrounding the proposed cultivation operation to filter and/or remove any sediment, nutrients, and/or pesticides mobilized by stormwater runoff, and prevent those pollutants from reaching nearby surface water bodies.

A native grass seed mixture and certified weed-free straw mulch will be applied at a rate of two tons per acre to all areas of the exposed soil outside of the proposed cultivation/canopy areas, prior to November 15th of each year, until permanent stabilization has been achieved. Prior to November 15th of each year, a nitrogen-fixing cover crop will be planted in the proposed cultivation/canopy areas, to stabilize the site(s) for the winter wet weather period. Straw wattles will be installed and maintained throughout the proposed cultivation operation per the attached Erosion & Sediment Control Site Plan following site development, until permanent stabilization has been achieved. If areas of concentrated stormwater runoff begin to develop, additional erosion and sediment control measures will be implemented to protect those areas and their outfalls. Mr. Lamperti will conduct monthly monitoring inspections to confirm that this operation is in compliance with California Water Code/SWRCB's Cannabis General Order.

Regulatory Compliance (Stormwater)

The Project Property was enrolled for coverage under the State Water Resources Control Board's Cannabis General Order (Order No. WQ-2019-0001-DWQ), as a Tier 2 Low Risk Discharger on June 10th, 2020. Site Management and Nitrogen Management Plans have been developed for the proposed cultivation operation, and submitted to the Central Valley Regional Water Quality Control Board (CVRWQCB) for review. Each year, prior to March 1st, an Annual Monitoring Report will be prepared and submitted to the CVRWQCB, demonstrating measures taken over the course of the previous year to comply with the Cannabis General Order.

The stormwater management measures outlined above meet or exceed the requirements of the Lake County Storm Water Management Ordinance (Chapter 29 of the Lake County Ordinance Code). Stormwater runoff from the proposed cultivation operation will not discharge into any Lake County maintained drainage or conveyance system, and there are no public bridges or culverted watercourse crossings between the proposed cultivation operation and Clear Lake. All proposed ground/land disturbing activities qualify for the Permit Exemptions and Requirements outlined in Article V of Chapter 30 of the Lake County Code (Grading Ordinance).

In particular, the proposed ground/land disturbing activities qualify for Section 17.4.2 and Section 17.4.3 of Article V:

Section 17.4.2 a - “Routine mechanical practices including, but not limited to: discing, harrowing, raking, chiseling, or plowing to till the soil for the production of agricultural crops on land historically used for that purpose”.

Section 17.4.3, “All crop conversions involving agricultural grading are exempt provided the grading activities:

- a) Do not expand the footprint of the existing farming activity or operation.
- b) Do not occur within thirty (30) feet of the top of bank of a watercourse, wetland, lake, or vernal pool.
- c) Do not remove previously cultivated trees, vines or other plants having stable woody root systems extending at least twelve (12) inches below the soil surface and occur on soils with a moderated or severe Erosion Hazard Rating.
- d) Do not occur during the Winter Period.
- e) Do not create any cut or fill slope of a ratio greater than two to one (2:1).
- f)

The soils of the fields in which the proposed cultivation operation will be established, have a low/slight Erosion Hazard Rating, and evidence of recent and long-running intensive agricultural operations can be easily field verified by the Lake County Community Development Department. Development of the proposed cultivation operation, with the implementation of the LID practices and erosion and sediment control measures outlined above, will not increase the volume of stormwater discharges from the Project Property onto adjacent properties or flood elevations downstream.

Storm Water Management Monitoring and Reporting

The following are the Monitoring and Reporting Requirements for the proposed cannabis cultivation operation from the Cannabis General Order:

- Winterization Measures Implementation
- Tier Status Confirmation
- Third Party Identification (if applicable)
- Nitrogen Application (Monthly and Total Annual)

An Annual Report shall be submitted to the State Water Quality Control Board by March 1st of each year. The Annual Report shall include the following:

1. Facility Status, Site Maintenance Status, and Storm Water Runoff Monitoring.
2. The name and contact information of the person responsible for operation, maintenance, and monitoring.

A letter transmitting the annual report shall accompany each report. The letter shall summarize the numbers and severity of violations found during the reporting period, and actions taken or planned to correct the violations and prevent future violations. The transmittal letter shall contain the following penalty of perjury statement and shall be signed by the Discharger or the Discharger's authorized agent:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Mr. Lamperti will adhere to these monitoring requirements to maintain compliance with the Cannabis General Order, and will be happy to provide a copy of his Annual Monitoring Report to Lake County Officials if requested.

Cannabis Vegetative Material Waste Management

Cannabis Waste

“Cannabis waste” is an organic waste, as defined in Section 42649.8(c) of the Public Resources Code. Cannabis waste generated from the proposed cannabis cultivation operation will be limited to cannabis plant leaves and stems. All other parts of cannabis plants cultivated at this site will be transferred to a State of California-licensed Distributor for distribution to State of California-licensed Processors and Manufacturers. The proposed cannabis cultivation operation should generate approximately 500 pounds of dried cannabis waste each cultivation season (April 1st through November 15th). All cannabis waste will be composted onsite.

Cannabis Waste Composting

All cannabis waste generated from the proposed cultivation operation will be composted on-site and in compliance with Title 14 of the California Code of Regulations at Division 7, Chapter 3.1. Cannabis waste will be ripped/shredded and placed in the designated composting areas. In the designated composting areas, cannabis waste will be composted until it is incorporated into the soils of the proposed outdoor cultivation/canopy areas as a soil amendment.

Cannabis Waste Records/Documentation

Cannabis waste generated from the proposed cannabis cultivation operation will be identified, weighed, and tracked while onsite. All required information pertaining to cannabis waste will be entered into the State of California Cannabis Track-and-Trace (CCTT) system. Mr. Lamperti will maintain accurate and comprehensive records regarding cannabis waste generation that will account for, reconcile, and evidence all activity related to the generation or disposition of cannabis waste. All records will be kept on-site for seven (7) years and will be made available during inspections.

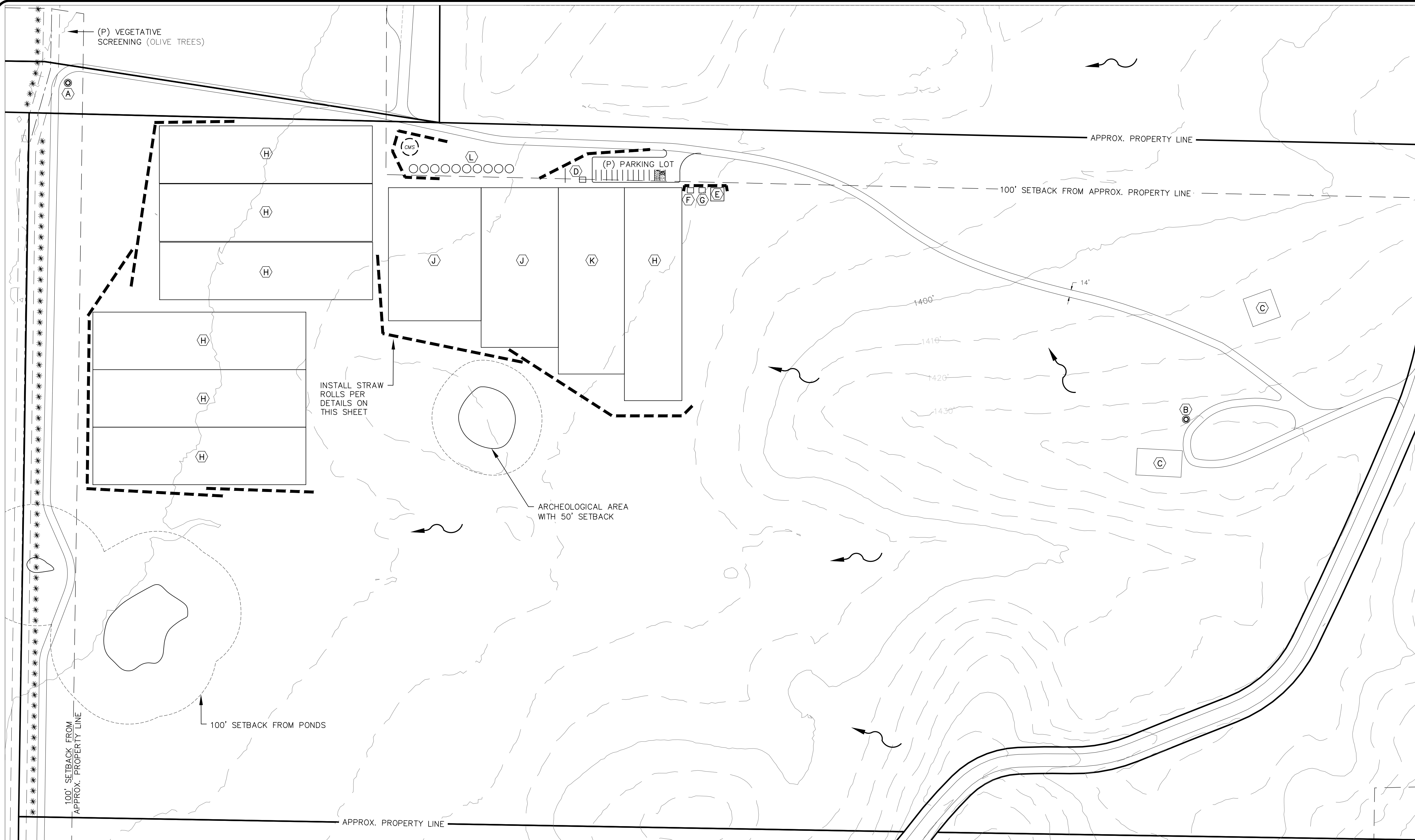
Growing Medium Management

Growing Medium Overview

The growing medium of the proposed outdoor cultivation/canopy areas will be native soil amended with compost, worm castings, and organic dairy manure, with drip irrigation systems covered in white plastic mulch (to conserve water resources). Each year the growing medium of the proposed cultivation operation will be amended and reused. Each spring, the native soil of the proposed outdoor cultivation/canopy areas will be plowed/disc'd and harrowed to create planting beds for the cultivation of cannabis. Each fall, the native soil of the proposed outdoor cultivation/canopy areas will be plowed/disc'd and planted with a nitrogen-fixing cover crop, to stabilize the site(s) for the winter wet weather period. Only low salt fertilizers will be used, so that salts do not accumulate within the growing medium of the proposed cultivation areas, rendering it unusable.

Growing Medium Waste

Ideally, the growing medium of the cultivation areas will be amended and reused each year/cultivation season. In the event of a root and/or soil borne pest infestation, the infested soil will be quarantined and treated with a pesticide that targets the infestation and that is approved for use in cannabis cultivation by the California Department of Food and Agriculture. The treated soil will be returned to production after treatment. No growing medium waste should be generated from the proposed cannabis cultivation operation (all growing medium should be recycled/reused).



- EXISTING TREES
- DRAINAGE PATTERNS
- STRAW ROLLS (ADJUST TO SUIT FIELD CONDITIONS)
- DISCHARGE POINT
- SAMPLING LOCATION
- CONSTRUCTION MATERIALS STORAGE AREA

- LEGEND:**
- CONTOUR ELEVATION
- FENCE
- CREEK / SWALE
- ASSESSOR'S PARCEL NUMBER
- APPROX. APPROXIMATELY
- DRIVEWAY
- EXISTING
- PROPOSED
- ROAD
- SQUARE FEET

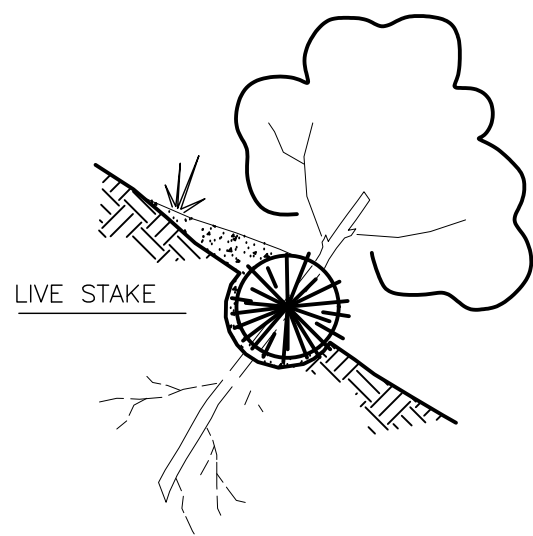
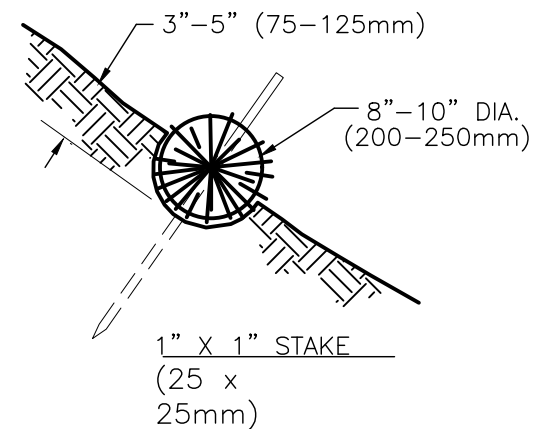
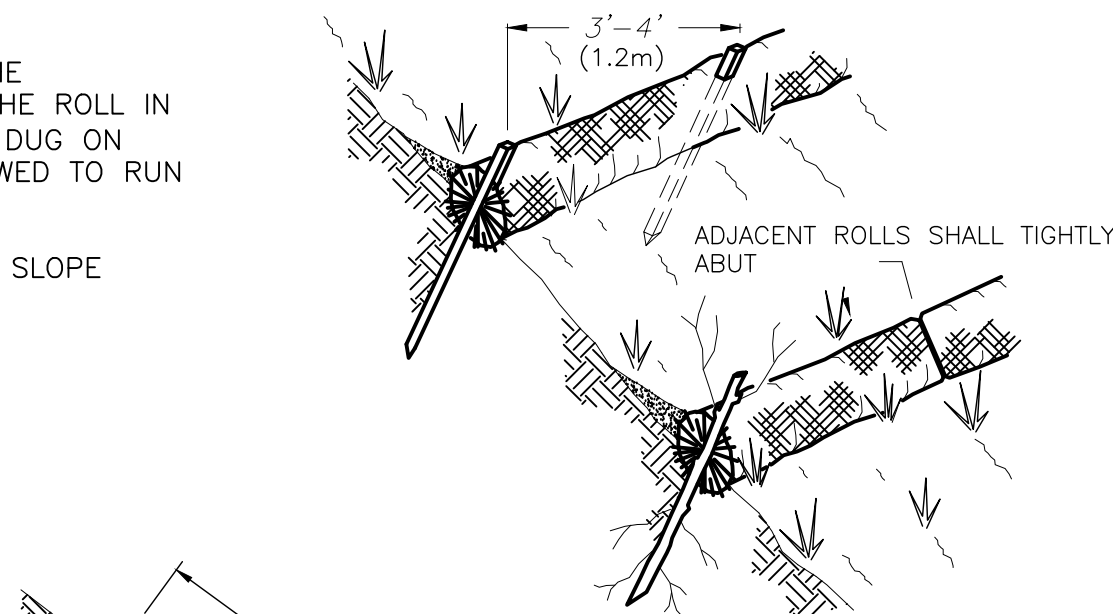
- NOTES:**
CONTOUR INTERVAL IS 10'
- (A) (E) GROUNDWATER WELL
LAT: 39.01236°
LONG: -122.65807°
- (B) (E) GROUNDWATER WELL
LAT: 39.01064°
LONG: -122.65062°
- (C) (E) BARN
- (D) (P) 10'X12' PESTICIDE & AG CHEMICAL STORAGE AREA
- (E) (P) 25'X25' COMPOST AREA
- (F) (P) 10'X12' SECURITY CENTER
- (G) (P) DESIGNATED REFUSE AREA
- (H) (P) 43,200 SF OUTDOOR CULTIVATION/CANOPY AREAS
- (I) (P) 43,050 SF OUTDOOR CULTIVATION/CANOPY AREAS
- (J) (P) 43,500 SF OUTDOOR CULTIVATION/CANOPY AREAS
- (K) (P) 43,400 SF OUTDOOR CULTIVATION/CANOPY AREA
- (L) (P) TEN 5,000-GALLON HEAVY-DUTY PLASTIC WATER STORAGE TANKS

EROSION & SEDIMENT CONTROL NOTES:

- CONTRACTOR IS TO IMPLEMENT BEST MANAGEMENT PRACTICES (BMPS) TO CONTROL EROSION CONTROL AND REDUCE THE OFF-SITE DISCHARGE OF SEDIMENT TO THE MAXIMUM EXTENT PRACTICABLE.
- EROSION CONTROL BMPS SHALL BE IN PLACE AND MAINTAINED ALL YEAR ROUND.
- HE CONTRACTOR SHALL FOLLOW THE GUIDELINES FROM THE "CALIFORNIA STORMWATER BMP HANDBOOK" FOR THE MEASURES SHOWN OR STATED ON THESE PLANS.
- CONTRACTOR MUST ENSURE THAT THE CONSTRUCTION SITE IS PREPARED PRIOR TO THE ONSET OF ANY STORM.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED. CHANGES TO THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE MADE TO MEET FIELD CONDITIONS ONLY WITH THE APPROVAL OF OR AT THE DIRECTION OF THE QUALIFIED SWPPP PRACTITIONER (QSP).
- THIS PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO ANTICIPATED FIELD CONDITIONS. VARIATIONS MAY BE MADE TO THE PLAN IN THE FIELD SUBJECT TO THE APPROVAL OF OR AT THE DIRECTION OF A REPRESENTATIVE OF LAKE COUNTY.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED BEFORE AND AFTER ALL STORMS TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
- CONTRACTOR SHALL MAINTAIN A LOG AT THE SITE OF ALL INSPECTIONS OR MAINTENANCE OF BMPS, AS WELL AS, ANY CORRECTIVE CHANGES TO THE BMPS OR EROSION AND SEDIMENT CONTROL PLAN.
- THE CONTRACTOR SHALL INSTALL THE STABILIZED CONSTRUCTION ENTRANCE PRIOR TO COMMENCEMENT OF GRADING. LOCATION OF THE ENTRANCE MAY BE ADJUSTED BY THE CONTRACTOR TO FACILITATE GRADING OPERATIONS. ALL CONSTRUCTION TRAFFIC ENTERING THE PAVED ROAD MUST CROSS THE STABILIZED CONSTRUCTION ENTRANCE.
- ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE SWEEPED AT THE END OF EACH WORKING DAY OR AS NECESSARY.
- ANY LOOSE GROUND FROM EXCAVATING GRADING OPERATIONS SHALL BE SECURED PRIOR TO ANY RAIN EVENT. STRAW OR TARP ALL DISTURBED OR EXCAVATED GROUND.
- CONTRACTOR SHALL PLACE GRAVEL BAGS AROUND ALL NEW DRAINAGE STRUCTURE OPENINGS IMMEDIATELY AFTER THE STRUCTURE OPENING IS CONSTRUCTED. THESE GRAVEL BAGS SHALL BE MAINTAINED AND REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED.
- AS A MINIMUM, ALL GRADED AREAS AND EXPOSED SOIL WITHIN THE PROJECT SHALL BE SEEDED PER THE REQUIREMENTS OF LAKE COUNTY.
- DUST GENERATION MUST BE MINIMIZED AND A WATER TRUCK MUST BE AVAILABLE ON-SITE FOR ADEQUATE DUST CONTROL.

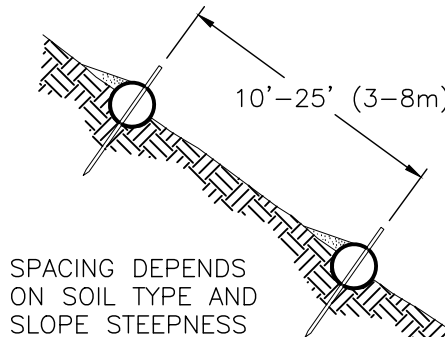
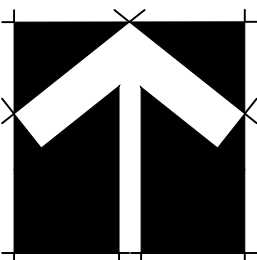
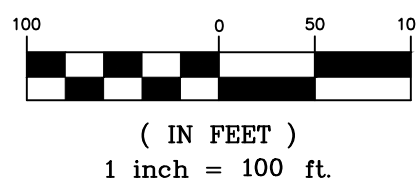
STRAW ROLL DETAILS

- STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"-5" (75-125mm) DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.
- STRAW ROLLS MUST BE PLACED ALONG SLOPE CONTOURS



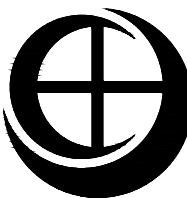
EROSION & SEDIMENT CONTROL PLAN

GRAPHIC SCALE

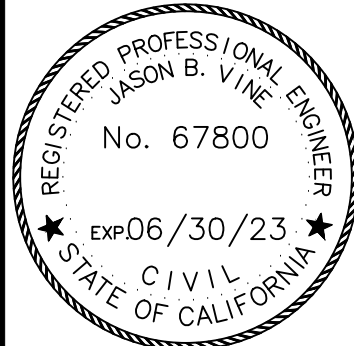


Revisions:

REALM ENGINEERING
CIVIL ENGINEERING, SURVEYING & PLANNING
1767 MARKET STREET SUITE C
REDDING, CA. 96001
530-526-7493



PLANS PREPARED UNDER THE SUPERVISION OF:



EROSION & SEDIMENT CONTROL PLAN

1111 SULFUR BANK DR

APN: 506-520-10, 11, & 12, 006-540-02 & 08, 010-002-037 & 53
1111 SULFUR BANK DR.
CLEARLAKE OAKS, CA 94623
LAKE COUNTY

PLOTTED BY:

DATE PLOTTED:

8/20/21

SCALE OF DRAWING:

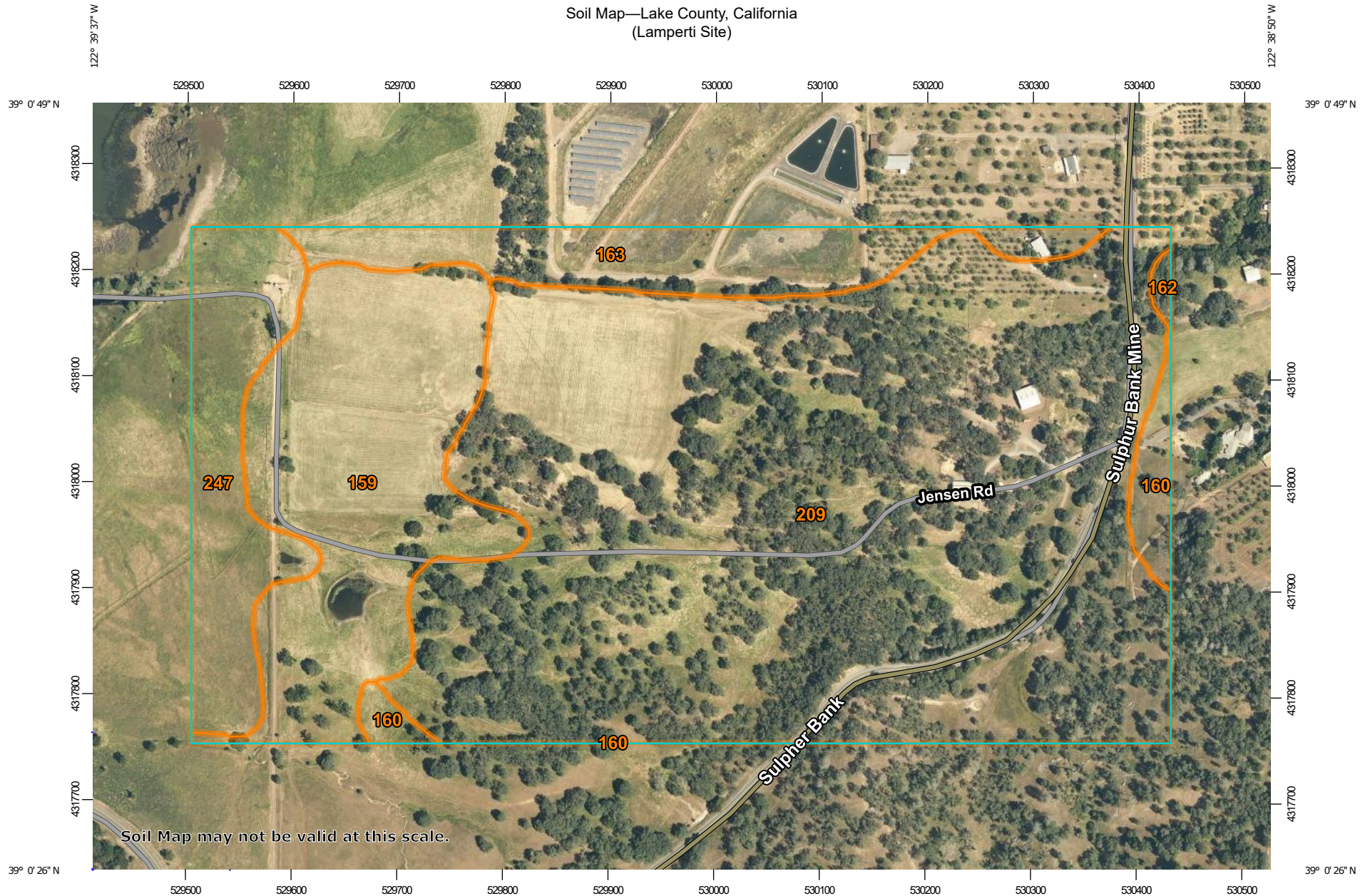
SEE PLAN

JOB NUMBER:

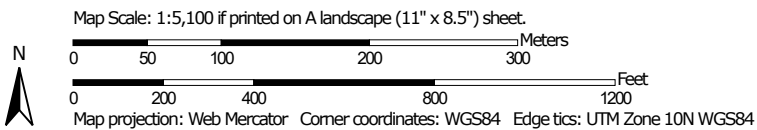
ADD FILE:

SHEET:

Soil Map—Lake County, California (Lamperti Site)



Soil Map may not be valid at this scale.




**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

6/2/2020
Page 1 of 3


MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County, California

Survey Area Data: Version 16, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 8, 2019—May 10, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
159	Manzanita loam, 2 to 5 percent slopes	19.2	17.1%
160	Manzanita loam, 5 to 15 percent slopes	2.1	1.9%
162	Manzanita gravelly loam, 2 to 8 percent slopes	0.3	0.2%
163	Manzanita gravelly loam, 8 to 25 percent slopes	8.5	7.6%
209	Skyhigh-Millsholm loams, 15 to 50 percent slopes	73.1	65.2%
247	Wolfcreek loam	8.9	7.9%
Totals for Area of Interest		112.1	100.0%

Central Valley Regional Water Quality Control Board

10 June 2020

WDID: 5S17CC427393

DISCHARGER

Anthony Lamperti
4090 Santa Rosa Avenue
Santa Rosa, CA 95407

LANDOWNER

Dennis Pluth
1070 Sulphur Bank Drive
Clearlake Oaks, CA 95423

NOTICE OF APPLICABILITY, WATER QUALITY ORDER WQ-2019-0001-DWQ, ANTHONY LAMPERTI, APN 006-520-100-000, 006-520-110-000, 006-520-120-000, 010-002-370-000, LAKE COUNTY

Anthony Lamperti (hereafter "Discharger") submitted information through the State Water Resources Control Board's (State Water Board's) online portal on 15 May 2020, for discharges of waste associated with cannabis cultivation related activities. Based on the information provided, the Discharger self-certifies the cannabis cultivation activities are consistent with the requirements of the State Water Board *Cannabis Cultivation Policy- Principles and Guidelines for Cannabis Cultivation* (Policy), and the *General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities*, Order No. WQ-2019-0001-DWQ (General Order). This letter provides notice that the Policy and General Order are applicable to the site as described below. You are hereby assigned waste discharge identification (WDID) number **5S17CC427393**.

The Discharger is responsible for all applicable requirements in the Policy, General Order, and this Notice of Applicability (NOA), including submittal of all required reports. The Discharger is the sole person with legal authority to, among other things, change information submitted to obtain regulatory coverage under the General Order; request changes to enrollment status, including risk designation; and terminate regulatory coverage. The Central Valley Regional Water Quality Control Board (Central Valley Water Board) will hold the Discharger liable for any noncompliance with the Policy, General Order, and this NOA, including non-payment of annual fees.

Pursuant to the General Order and Policy, Dennis Pluth (hereafter "Landowner") is ultimately responsible for any water quality degradation that occurs on or emanates from the property and for unauthorized water diversions. Accordingly, the Landowner, in addition to the Discharger, may be held responsible for correcting non-compliance.

KARL E. LONGLEY SCD, P.E., CHAIR | PATRICK PULUPA, ESQ., EXECUTIVE OFFICER

364 Knollcrest Drive, Suite 205, Redding, CA 96002 | www.waterboards.ca.gov/centralvalley

1. FACILITY AND DISCHARGE DESCRIPTION

The information submitted by the Discharger states the disturbed area is equal to or greater than 1 acre (43,560 square feet), no portion of the disturbed area is within the setback requirements, no portion of the disturbed area is located on a slope greater than 30 percent, and the cannabis cultivation area is greater than 1 acre.

Based on the information submitted by the Discharger, the cannabis cultivation activities are classified as Tier 2, low risk.

2. SITE-SPECIFIC REQUIREMENTS

[The Policy and General Order](http://www.waterboards.ca.gov/cannabis) are available on the Internet at <http://www.waterboards.ca.gov/cannabis>. The Discharger shall ensure that all site operating personnel know, understand, and comply with the requirements contained in the Policy, General Order, this NOA, and the Monitoring and Reporting Program (MRP, Attachment B of the General Order). Note that the General Order contains standard provisions, general requirements, and prohibitions that apply to all cannabis cultivation activities.

The application requires the Discharger to self-certify that all applicable Best Practicable Treatment or Control (BPTC) measures are being implemented, or will be implemented by the onset of the winter period (November 15 - April 1), following the enrollment date.

3. TECHNICAL REPORT REQUIREMENTS

The following technical report(s) shall be submitted by the Discharger as described below:

1. A *Site Management Plan* must be submitted within 90 days of applying for enrollment in the General Order; this deadline falls on **13 August 2020**. For more information on the requirements to submit a *Site Management Plan*, see General Order Provision C.1.a, and Attachment A, Section 5. Attachment D of the General Order provides guidance on the contents of a *Site Management Plan*. Dischargers that cannot implement all applicable BPTC measures by the onset of the winter period, following their enrollment date, shall submit to the appropriate Central Valley Water Board a *Site Management Plan* that includes a time schedule and scope of work for use by the Central Valley Water Board in developing a compliance schedule as described in Attachment A of the General Order. You are not required to use a Qualified Professional for developing the *Site Management Plan*. However, you are required to submit the *Site Management Plan* to Central Valley Water Board staff for approval prior to any site development.
2. A *Nitrogen Management Plan* must be submitted within 90 days of applying for enrollment in the General Order; this deadline falls on **13 August 2020**, consistent with the requirements of General Order Provision C.1.d., and Attachment A, Section 5. Attachment D of the General Order provides guidance

on the contents of the *Nitrogen Management Plan*.

3. A *Site Closure Report* must be submitted 90 days prior to permanently ending cannabis cultivation activities and seeking to rescind coverage under the Conditional Waiver. The *Site Closure Report* must be consistent with the requirements of General Order Provision C.1.e., and Attachment A, Section 5. Attachment D of the General Order provides guidance on the contents of the *Site Closure Report*.

4. MONITORING AND REPORTING PROGRAM

The Discharger shall comply with the Monitoring and Reporting Program (MRP). Attachment B of the General Order provides guidance on the contents for the annual reporting requirement. Annual reports shall be submitted to the Central Valley Water Board by March 1 following the year being monitored. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Central Valley Water Board's Executive Officer or the State Water Board's Chief Deputy Director, or Deputy Director.

5. ANNUAL FEE

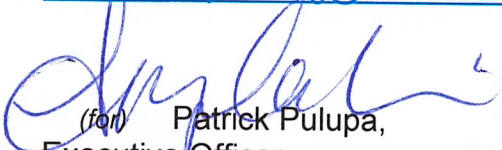
According to the information submitted, the discharge is classified as Tier 2, low risk with the current annual fee assessed at \$1,000. The fee is due and payable on an annual basis until coverage under this General Order is formally rescinded. To rescind coverage, the Discharger must submit a Notice of Termination, including a *Site Closure Report* at least 90 days prior to termination of activities and include a final MRP report.

6. TERMINATION OF COVERAGE UNDER THE GENERAL ORDER & REGIONAL WATER BOARD CONTACT INFORMATION

Cannabis cultivators that propose to terminate coverage under the Conditional Waiver or General Order must submit a Notice of Termination (NOT). The NOT must include a *Site Closure Report* (see Technical Report Requirements above), and Dischargers enrolled under the General Order must also submit a final monitoring report. The Central Valley Water Board reserves the right to inspect the site before approving a NOT. Attachment C includes the NOT form and Attachment D of the General Order provides guidance on the contents of the *Site Closure Report*.

If the Discharger cannot comply with the General Order, or will be unable to implement an applicable BPTC measure contained in Attachment A by the onset of the winter period each year, the Discharger shall notify Central Valley Water Board staff by telephone at 530-224-4845 so that a site-specific compliance schedule can be developed.

All monitoring reports, submittals, discharge notifications, and questions regarding compliance and enforcement should be directed to centralvalleyredding@waterboards.ca.gov or 530-224-4845



(for) Patrick Pulupa,
Executive Officer

JF:mb

cc via email: Kevin Porzio, State Water Resources Control Board, Sacramento
Mark Roberts, Lake County Planning Department, Lakeport

SECTION – I

WATER USE MANAGEMENT PLAN

Water Use Management Plan

Purpose and Overview

Mr. Anthony Lamperti is seeking a Major Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 1111 Sulphur Bank Drive near Clearlake Oaks, California on Lake County APN 006-520-11 (Project Parcel). Mr. Lamperti's proposed commercial cannabis cultivation operation will be composed of ten (10) A-Type 3 "Medium Outdoor" cultivation areas (ranging from 43,200 ft² to 43,500 ft² in size), a 10' X 12' (120 ft²) Pesticide & Agricultural Chemicals Storage Area (proposed wooden shed), and a 10' X 12' (120 ft²) Security Room/Building (proposed wooden shed). The growing medium of the proposed outdoor cultivation/canopy areas will be native soil amended with compost, worm castings, and organic dairy manure, with drip irrigation systems covered in white plastic mulch (to conserve water resources). All water for the proposed cultivation operation will come from an existing onsite groundwater well located at Latitude 39.01236° and Longitude -122.65807°.

This Water Use Management Plan (WUMP) is designed to conserve Lake County's water resources and to ensure that the proposed cultivation operation's water use practices are in compliance with applicable County, State, and Federal regulations at all times. This WUMP focuses on designing a water efficient delivery system and irrigation practices, and the appropriate and accurate monitoring and reporting of water use practices. Also included in this WUMP is a description of the Water Resources of the Project Property, and a Water Availability Analysis.

Description of Water Resources

Surface Water

The Project Property is located within the Schindler Creek-Frontal Clear Lake Watershed (HUC12) and directly adjacent to Clear Lake. An unnamed ephemeral Class III watercourse flows from south to north through the eastern half of the Project Property, and another unnamed ephemeral Class III watercourse flows from east to west through the southern portion of the Project Property. There are also two seasonal ponds in the western half of the Project Property (on the Project Parcel). The larger of the two seasonal ponds supports aquatic wildlife and a lacustrine wetland (reed marsh).

Groundwater

Soils of the Project Site are identified as Manzanita and Skyhigh-Millsholm loams by the NRCS Web Soil Survey, and characterized as well-drained sandy and clay loams derived from residuum weathered from sedimentary rock. The United States Geological Survey Map of the Ukiah Sheet defines the area in the vicinity of the Project Property as Quarternary Alluvium. The Project Property is not located within any of the groundwater basins/management plan areas identified in

the 2006 Lake County Groundwater Management Plan. There are two existing groundwater wells on the Project Property, located at Latitude 39.01236° and Longitude -122.65807° and Latitude 39.01064° and Longitude -122.65062°. All water for the proposed cultivation operation will come from the existing groundwater well located at Latitude 39.01236° and Longitude -122.65807°. The Well Completion Report for this groundwater, indicates that it was drilled in 1996, through brown gravelly soil and into “very hard black & purple volcanic rock”, to a depth of 100 feet (Well Completion Report attached). At the time it was drilled, this well had an estimated yield of +250 gallons per minute. A recent test of this groundwater well concluded that this well can produce at least 172 gallons per minute.

Water Resources Protection

Mr. Lamperti will maintain existing, naturally occurring, riparian vegetative cover (e.g., trees, shrubs, and grasses) in aquatic habitat areas to the maximum extent possible to maintain riparian areas for streambank stabilization, erosion control, stream shading and temperature control, sediment and chemical filtration, aquatic life support, wildlife support, and to minimize waste discharges. Access roads and parking areas are/will be graveled to prevent the generation of fugitive dust, and vegetative ground cover will be preserved and/or re-established as soon as possible throughout the entire site to filter and infiltrate stormwater runoff from the access roads, parking areas, and the proposed cultivation operation. Personnel will have access to the portable restroom facilities at all times when onsite, and those restroom facilities will be established in a location that is at least 100 feet from any surface water body, and serviced regularly.

The Project Property was enrolled for coverage under the State Water Resources Control Board’s Cannabis General Order (Order No. WQ-2019-0001-DWQ), as a Tier 2 Low Risk Discharger on May 21st, 2020. Site Management and Nitrogen Management Plans will be developed for the proposed cultivation operation, and submitted to the Central Valley Regional Water Quality Control Board (CVRWQCB) for review, prior to planting. Each year, prior to March 1st, an Annual Monitoring Report will be prepared and submitted to the CVRWQCB, demonstrating measures taken over the course of the previous year to comply with the Cannabis General Order. Mr. Lamperti will maintain compliance with the Cannabis General Order for the protection of water resources for as long as the proposed cultivation operation is operating.

Water Sources and Storage

All water for the proposed cultivation operation will come from an existing onsite groundwater well located at Latitude 39.01236° and Longitude -122.65807°. In May of 2020, NSF/ANSI 61 compliant positive displacement mechanical brass totalizing meters and a Well Watch 670 sonic water level meter equipped with data logging capabilities, was installed on the water supply groundwater well by Nolan Irwin of Irwin Well Drilling (licensed well driller). Following the installation of this equipment, a series of tests were performed to thoroughly evaluate the production capacity of the well under various conditions. The results and conclusions of this test indicate that the groundwater well located at Latitude 39.01236° and Longitude -122.65807° is capable of producing at least 172 gallons per minute.

Mr. Lamperti will install ten (10) 5,000-gallon heavy-duty plastic water storage tanks on the Project Parcel to provide additional stored water for irrigation purposes/uses. Mr. Lamperti may develop additional water storage on the Project Property should it be needed to support the irrigation and fire protection needs of the proposed cultivation operation.

Irrigation

From the CalCannabis Cultivation Licensing Program's Final Programmatic Environmental Impact Report (PEIR):

"According to Hammon et al. (2015), water use requirements for outdoor cannabis production (25-35 inches per year) are generally in line with water use for other agricultural crops, such as corn (20-25 inches per year), alfalfa (30-40 inches per year), tomatoes (15-25 inches per year), peaches (30-40 inches per year), and hops (20-30 inches per year). In a study of cannabis cultivation in Humboldt County, approximate water use for an outdoor cultivation site was 27,470 gallons (0.08 acre-feet) per year on average and ranged from approximately 1,220 to 462,000 gallons per year (0.004 to 1.4 acre-feet), with the size of the operation being a major factor in this range. Annual water uses for a greenhouse operation averaged approximately 52,300 gallons (0.16 acre-feet) and ranged from approximately 610 to 586,000 gallons (0.002 to 1.8 acre-feet) annually (Butsic and Brenner 2016). During a field visit conducted by technical staff to an outdoor cultivation site, one cultivator reported using approximately 75,000 gallons (0.23 acre-feet) for 1 year's entire cannabis crop (approximately 66 plants), or approximately 1,140 gallons per plant per year."

Mr. Lamperti's proposed cultivation practices are most similar to commercial tomato or hops production, with an estimated water use requirement of 25 inches per year. Mr. Lamperti's proposed outdoor cannabis cultivation/canopy area is 432,800 ft² with an expected total annual water use requirement of approximately 20.7 acre-feet (~6,735,000 gallons). The cultivation season for the proposed cultivation operation will begin in April and end in November of each year. The following table presents the expected water use of the proposed cultivation operation by month during the cultivation season in gallons and acre-feet.

April	May	June	July	Aug	Sept	Oct	Nov
344,550	750,540	885,920	1,020,920	1,291,810	1,156,350	940,360	344,550
1.06	2.3	2.72	3.13	3.96	3.55	2.86	1.06

Based on these estimates for onsite water use it appears that the peak groundwater demand will occur annually in August and will be approximately 43,060 gallons/day. Average daily water demand at the site over the cultivation season (April through November) is expected to be approximately 32,071 gallons/day. Mr. Lamperti will install ten 5,000-gallon heavy-duty plastic water storage tanks on the Project Parcel to provide additional stored water for irrigation purposes/uses. Mr. Lamperti may develop additional water storage on the Project Property should it be needed to support the irrigation and fire protection needs of the proposed cultivation operation. The water storage tanks will be equipped with float valves to shut off the flow water from the well and prevent the overflow and runoff of irrigation water when full. HDPE water supply lines and a 5HP water pump will feed irrigation water from the water storage tanks to the irrigation systems of the proposed cultivation areas. The water supply lines will be equipped with

safety valves, capable of shutting off the flow of water so that waste of water and runoff is prevented/minimized when leaks occur and the system needs repair, and inline water meters compliant with California Code of Regulations, Title 23, Division 3, Chapter 2.7. Mr. Lamperti will maintain daily water meter readings records for a minimum of five years, and will make those records available to Water Boards, CDFW, and Lake County staff upon request. The irrigation system of the proposed cultivation/canopy areas will be composed of PVC piping and drip tapes/lines under white plastic mulch (to conserve water resources).

Water Availability Analysis

All water for the proposed cultivation operation will come from an existing onsite groundwater well located at Latitude 39.01236° and Longitude -122.65807°. In May of 2020, NSF/ANSI 61 compliant positive displacement mechanical brass totalizing meters and a Well Watch 670 sonic water level meter equipped with data logging capabilities, was installed on the water supply groundwater well by Nolan Irwin of Irwin Well Drilling (licensed well driller). Following the installation of this equipment, a series of tests were performed to thoroughly evaluate the production capacity of the well under various conditions. The results and conclusions of this test indicate that the groundwater well located at Latitude 39.01236° and Longitude -122.65807° is capable of producing at least 172 gallons per minute (please see the attached Pumping Test Data Collection Sheet). The peak anticipated daily demand for water of the proposed cultivation operation is ~43,060 gallons per day, which equates to a need for the water supply well to produce approximately 60 gallons per minute over a 12 hour period. There is little doubt that the water supply groundwater well will be able to produce at least 60 gallons per minute on the hottest driest days in the latest part of the summer when irrigation water is needed most.

Water Conservation

Per the Water Conservation and Use requirements outlined in the SWRCB's Cannabis General Order, the following Best Practical Treatment and Control (BPTC) measures will be implemented to conserve water resources:

- Regularly inspect the entire water delivery system for leaks and immediately repair any leaky faucets, pipes, connectors, or other leaks.
- Apply weed-free mulch in cultivation areas that do not have ground cover to conserve soil moisture and minimize evaporative loss.
- Implement water conserving irrigation methods (drip or trickle and micro-spray irrigation).
- Maintain daily records of all water used for irrigation of cannabis. Daily records will be calculated by using a measuring device (inline water meter) installed on the main irrigation supply line between the water storage area and cultivation areas.
- Install float valves on all water storage tanks to keep them from overflowing onto the ground.

Monitoring and Reporting

A NSF/ANSI 61 compliant positive displacement mechanical brass totalizing meter and a Well Watch 670 sonic water level meter equipped with data logging capabilities has been installed on the existing water supply groundwater well. Inline water meters compliant with California Code of Regulations, Title 23, Division 3, Chapter 2.7 will be installed on the main water supply lines running between the groundwater well and the storage tanks of the cultivation operation. Mr. Lamperti and his staff will record daily water meter readings, and will maintain those records onsite for a minimum of five years. Mr. Lamperti will make those records available to Water Boards, CDFW, and Lake County staff upon request.

Pumping Test Data Collection Sheet

Water System ID <u>WE1340</u>		Owner: <u>Dennis Pluth</u>		Well Tag No. <u>3</u>		
DOH Source ID		Water System Name: <u>Pluth Irrig.</u>		Well Name: <u>Lake Well</u>		
Type of Test <u>Pump</u>		Conducted By <u>Nolan Irwin</u>		Date: <u>5-22-20</u>		
Static Water Level (as measured from reference point) <u>16'</u>				County: <u>Lake</u>		
Observation Wells? <u>yes</u>				Well Elevation (MSL) <u>1338</u>		
Distance of observation well (r) from pumped well (ft): <u>112'</u>						
Time	Time (t) since pumping began (min)	Depth to Water Level (ft)	Draw down (ft)	t/r^2	Pumping Rate (Q) (gpm)	Comments
12:01	1	16'	1		185	
	2	18'	2		180	
	3	18			180	
	4	18			180	
12:05	5	17	3		180	
	6	19			180	
	7	19			180	
	8	19			180	
	9	19			180	
12:10	10	20	4		176	
	11	20			176	
	12	20			176	
	13	20			176	
	14	20			176	
	15	21	5		176	
12:20	20	22	6		176	
	25	23	7		172	
12:30	30	24	8		172	
	35	25	9		172	
	40	25			172	
12:45	45	26	10			
	50	26				
	55	26				
1:00	1:00	26				
	1:15	26				
1:30	1:30	26				
	1:45	26				
2:00	2:00	26				
2:15	2:15	26				
2:30	2:30	26				
2:45	2:45	26				
3:00	3:00	26				
3:15	3:15	26	10			

Nolan Irwin

[Signature]

5-22-20

Pumping Test Data Collection Sheet

Water System ID	WE1340	Owner	Dennis Pluth	Well Tag No.	3
DOH Source ID		Water System Name	Pluth Irrig.	Well Name	Lake Well
Type of Test	Pump	Conducted By	Nolan Irwin	Date	5-22-20
Static Water Level (as measured from reference point)	16'	County	Lake County	Well Elevation (MSL)	1338
Observation Wells?	yes	Distance of observation well (r) from pumped well (ft):	112'		

Time	Time (t) since pumping began (min)	Depth to Water Level (ft)	Drawdown (ft)	t/r ²	Pumping Rate (Q) (gpm)	Comments
	3:30	26	10		172	
	3:45	26	10		172	
4:00	4:00	26	10		172	
4:01	4:01	23	7		0	
	4:02	22	6		↓	
	4:03	21	5		↓	
	4:04	20	4			
	4:05	20	4			
	4:06	19	3			
	4:07	19	3			
	4:08	19	3			
	4:09	19	3			
	4:10	18	2			
	4:11	18	2			
	4:12	18	2			
	4:13	17	1			
	4:14	17	1			
	4:15	17	1			
	4:16	17	1			
	4:17	17	1			
4:18	4:18	16	0			

Nolan Town

John

5-22-20

APPENDIX V – PHOTOS



Photo of Seasonal Pond with Aquatic Vegetation (east view)



Proposed Water Supply Groundwater Well (west view)



Location of Proposed Cultivation/Canopy Areas J, K, and L (west view)



Location of Proposed Cultivation/Canopy Areas I and H (southwest view)