PROPERTY MANAGEMENT PLAN

APPLICANT

Monte Cristo Vineyards, LLC

PROJECT LOCATION

11250 Cerrito Drive
Clearlake Oaks, CA 94610

PROJECT PARCELS

Lake County APNs 006-007-17 & 23

PROJECT PROPERTY

Lake County APNs 006-007-17, 23, & 30

TABLE OF CONTENTS

PROJECT DESCRIPTION

Monte Cristo Vineyards, LLC (MCV) is seeking a Major Use Permit and an Early Activation of Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 11250 Cerrito Drive near Clearlake Oaks, California on Lake County APNs 006-007-17, 23, & 30 (Project Property). MCV's proposed commercial cannabis cultivation operation will be composed of twenty-two (22) A-Type 3 "Medium Outdoor" cultivation areas, with a combined cultivation/canopy area of 958,320 ft^2. 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 cultivation/canopy area(s), a 120 ft^2 Security Center/Shed, a 6,000 ft^2 Processing & Harvest Storage Facility, two 3,000 ft^2 Immature Plant Areas/Greenhouses, and two 120 ft^2 Pesticides & Agricultural Chemicals Storage Areas, is 970,680 ft^2.

The 452-acre Rural Lands-zoned Project Property is located approximately 5 miles northwest of the City of Clearlake, CA, and situated along an east-west trending ridgeline between Clear Lake and High Valley in the central portion of Lake County. Topography of the Project Property is hilly, with elevations ranging between 1,670 and 2,405 feet above mean sea level. The Project Property is within the Schindler Creek – Frontal Clear Lake Watershed (HUC 12), with multiple ephemeral Class III watercourses flowing off of the Project Property towards Schindler Creek to the north and Clear Lake to the south. The Project Property was enrolled for coverage under the State Water Resources Control Board's Cannabis General Order as a Tier 2 Low Risk Discharger on October 23rd, 2020 (WDID:5S17CC429163). No cannabis cultivation activities nor agricultural chemicals storage will occur within 100 feet of any surface waterbody, and no ground disturbance is proposed within 100 feet of any wetland or channel.

Current and past land uses of the Project Property are/were rural residential and intensive agriculture, with a commercial vineyard that has been in continuous operation for the last two decades. The Project Property has been improved with ten groundwater wells, a 20-acrefoot off-stream water storage reservoir, a residence, and an metal barn (used to store tools and equipment). The Project Property is accessed via Cerrito Drive, and the proposed cultivation operation will be accessed from Cerrito Drive and private gravel access roads off of Cerrito Drive. Locking metal gates across Cerrito Drive control access to Project Property. The proposed cultivation/canopy areas will be established within existing vineyard blocks, utilizing infrastructure currently utilized to cultivate grapes.

The proposed cultivation operation will be established in the western half of the Project Property. 6-foot tall wire fences will be erected around the proposed outdoor cultivation/canopy area(s), with privacy mesh where necessary to screen the cultivation/canopy area(s) from public view. The growing medium of the proposed outdoor cultivation/canopy area(s) will be an amended native soil mixture at or below grade, with drip irrigation systems to conserve water resources. All water for the proposed cultivation operation will come from the five existing onsite groundwater wells. Water from the existing groundwater wells of the Project Property will discharge to the existing onsite 20-acrefoot off-stream water storage reservoir. Irrigation water will be pumped from the off-stream water storage reservoir to the proposed cultivation/canopy areas.

During the first season of cultivation, while operating under an Early Activation of Use Permit and Provisional Cannabis Cultivation Licenses, MCV will cultivate cannabis between the rows of vines of the existing vineyard blocks/proposed cannabis cultivation areas. To prepare the proposed cannabis cultivation areas, a layer of compost will be applied between each row of vines, then the compost will be disced into the native soil to a maximum depth of less than 12 inches. Preparing the proposed cannabis cultivation areas in this manner is similar to the discing and planting of nitrogen fixing cover crops that has occurred in the vineyard blocks every four years for the last two decades. After Major Use and Grading Permits have been issued, MCV will remove the vines of the vineyard blocks and rip the soils of the proposed cannabis cultivation areas.

All cannabis waste generated from the proposed cultivation operation will be composted on-site. Composted cannabis waste will be stored in the designated composting area, until it is incorporated into the soils of the cultivation/canopy areas as a soil amendment. Chemicals stored and used at/by MCV's cultivation operation include fertilizers/nutrients, pesticides, and petroleum products (Agricultural Chemicals) and chemical sanitation products necessary to maintain a sterile work environment within the proposed Processing & Harvest Storage Facility. All agricultural chemicals will be securely stored inside the proposed Pesticides and Agricultural Chemicals Storage Areas (two proposed 120 ft^2 wooden sheds), and chemical sanitation products will be stored within a secure cabinet in the proposed Processing & Harvest Storage Facility.

The proposed Processing & Harvest Storage Facility will be composed of a 60' x 100' (6,000 ft^2) metal building on a concrete slab. Within the proposed Processing & Harvest Storage Facility, cannabis cultivated on the Project Property will be dried, cured, trimmed, packaged, and stored under 24-hour video surveillance. MCV will adhere to the tracking and reporting requirements of the California Cannabis Track-and-Trace system at all times, to record and report all cannabis transfers and movements.

Planting Timeline Schedule

If Monte Cristo Vineyards, LLC is able to obtain an Early Activation of Use Permit for their proposed commercial cannabis cultivation operation prior to May 31st, 2021, then they will begin preparing for planting on June 1st, 2021, with an expected planting date of June 14th, 2021.

SITE PLANS AND MAPS

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Sheet 2 – Surrounding Area Aerial

Sheet 3 – Existing Conditions Site Plan

Sheet 4 – Proposed Conditions Site Plan

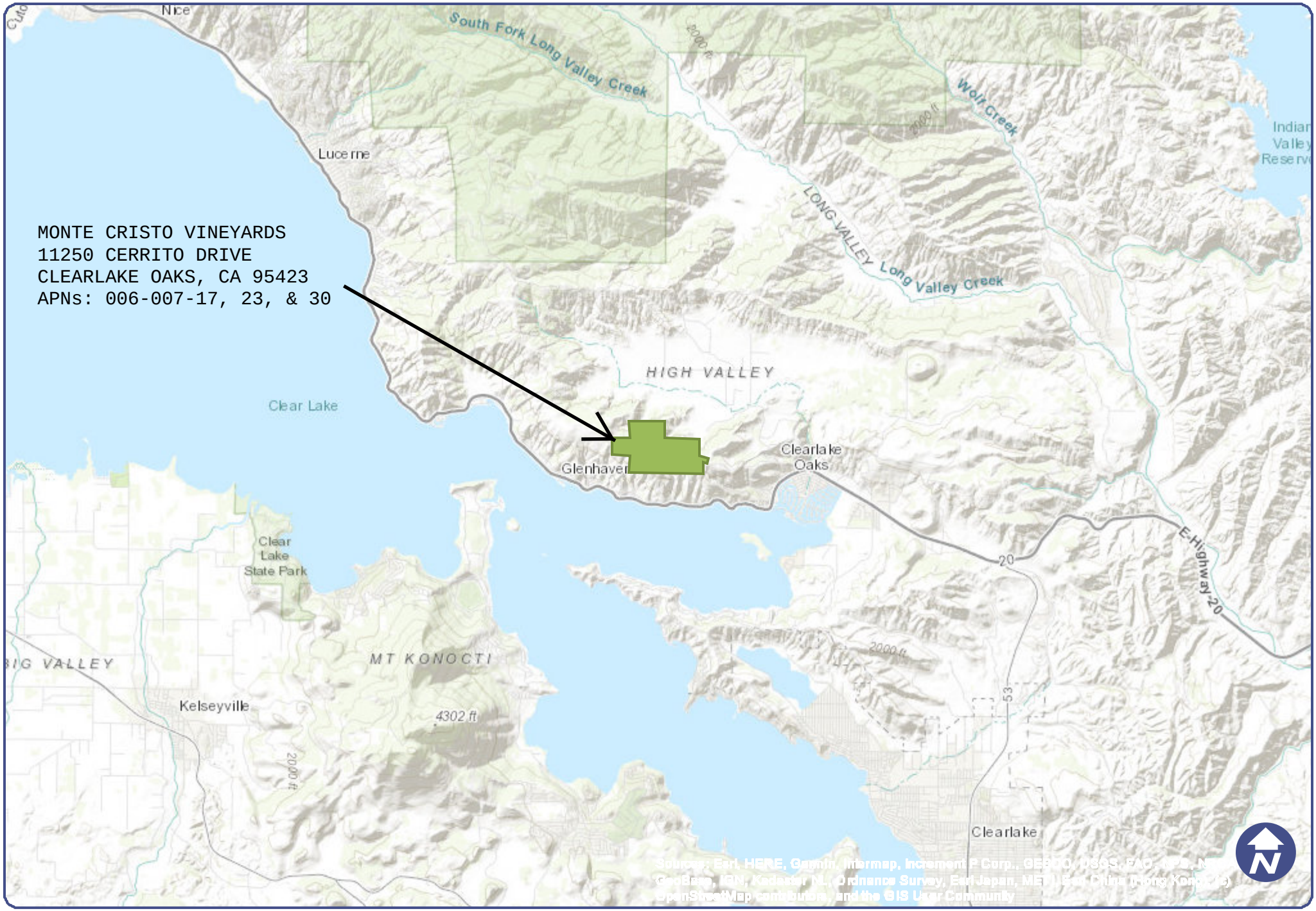
Sheet 5 – Cultivation Site Plan with Canopy

Sheet 6 – Security Site Plan

Sheet 7 – Security Center Layout

Sheet 8 – Processing & Harvest Storage Facility Layout

Sheet 9 – Erosion and Sediment Control Plan



Lake County, CA

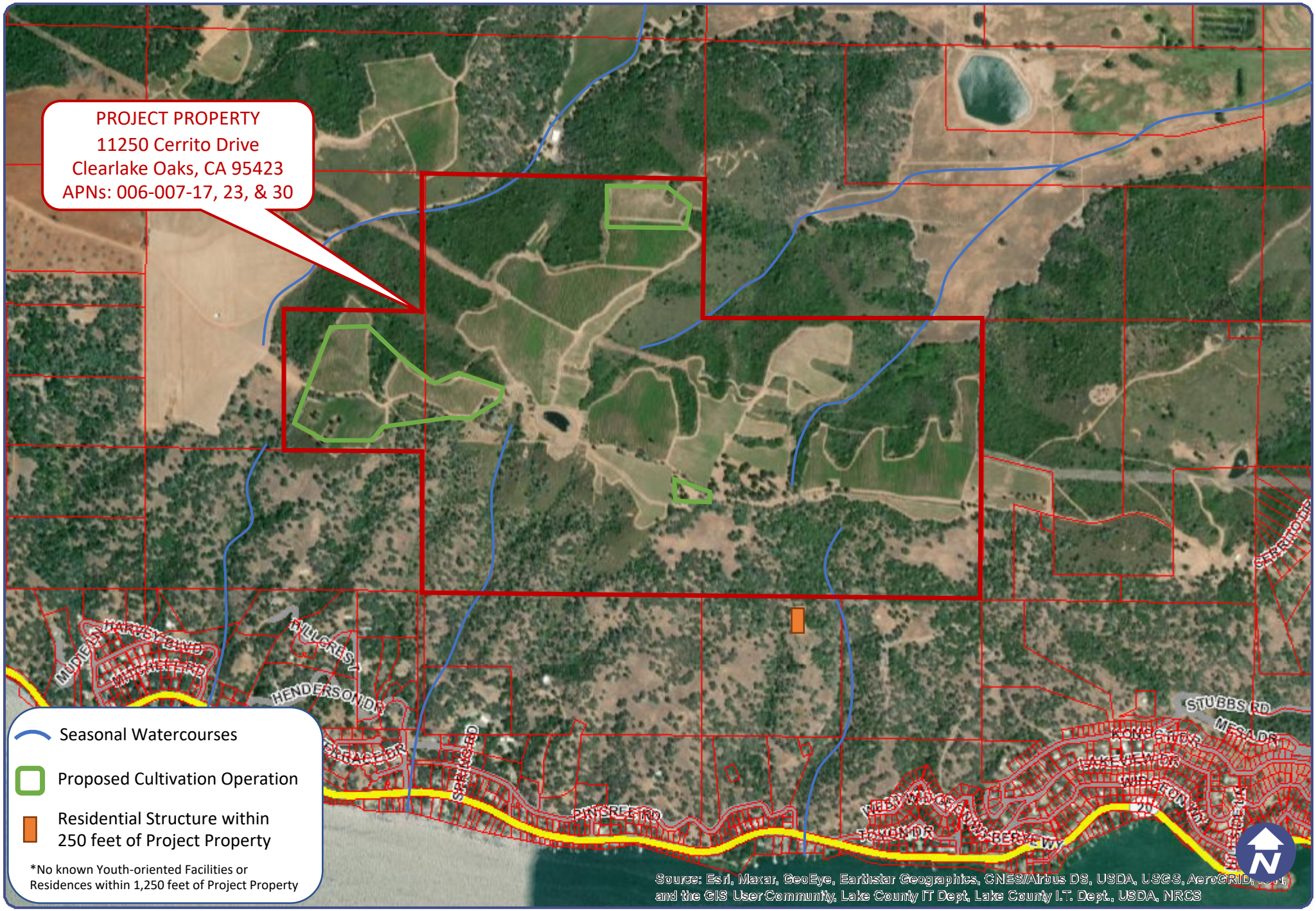
Location Map

Sheet 1

mi
0 2 4

Print Date: 3/16/2021

All parcel boundaries are *approximate*. Discrepancies in acerage, 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.



Lake County, CA

Surrounding Area Aerial

Sheet 2

mi
0 0.25 0.5

Print Date: 3/16/2021

VICINITY MAP
NO SCALE

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11250 CERRITO DRIVE
CLEARLAKE OAKS, CA 94610

APNs: 006-007-17, 23 & 30

LEGEND:

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

NOTES:
1. CONTOUR INTERVAL IS 20'

(A) (E) GROUNDWATER WELL
LAT: 39.0315°
LONG: -122.71285°
BENEFICIAL USES:

(B) (E) GROUNDWATER WELL
LAT: 39.03155°
LONG: -122.71005°
BENEFICIAL USES:

(C) (E) GROUNDWATER WELL
LAT: 39.03079°
LONG: -122.70880°
BENEFICIAL USES:

(D) (E) GROUNDWATER WELL
LAT: 39.02982°
LONG: -122.70010°
BENEFICIAL USES:

(E) (E) GROUNDWATER WELL
LAT: 39.03578°
LONG: -122.71002°
BENEFICIAL USES:

(F) (E) RESIDENCE

(G) (E) METAL BARN

EXISTING CONDITIONS SITE PLAN

GRAPHIC SCALE

250 0 125 250

(IN FEET)
1 inch = 250 ft.

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.06/30/21
CIVIL
STATE OF CALIFORNIA

EXISTING CONDITIONS SITE PLAN

11250 CERRITO DRIVE
CLEARLAKE OAKS, CA 94610
LAKE COUNTY
APNs: 006-007-17, 23, & 30

PLOTTED BY: ---
DATE PLOTTED: 3/15/21
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
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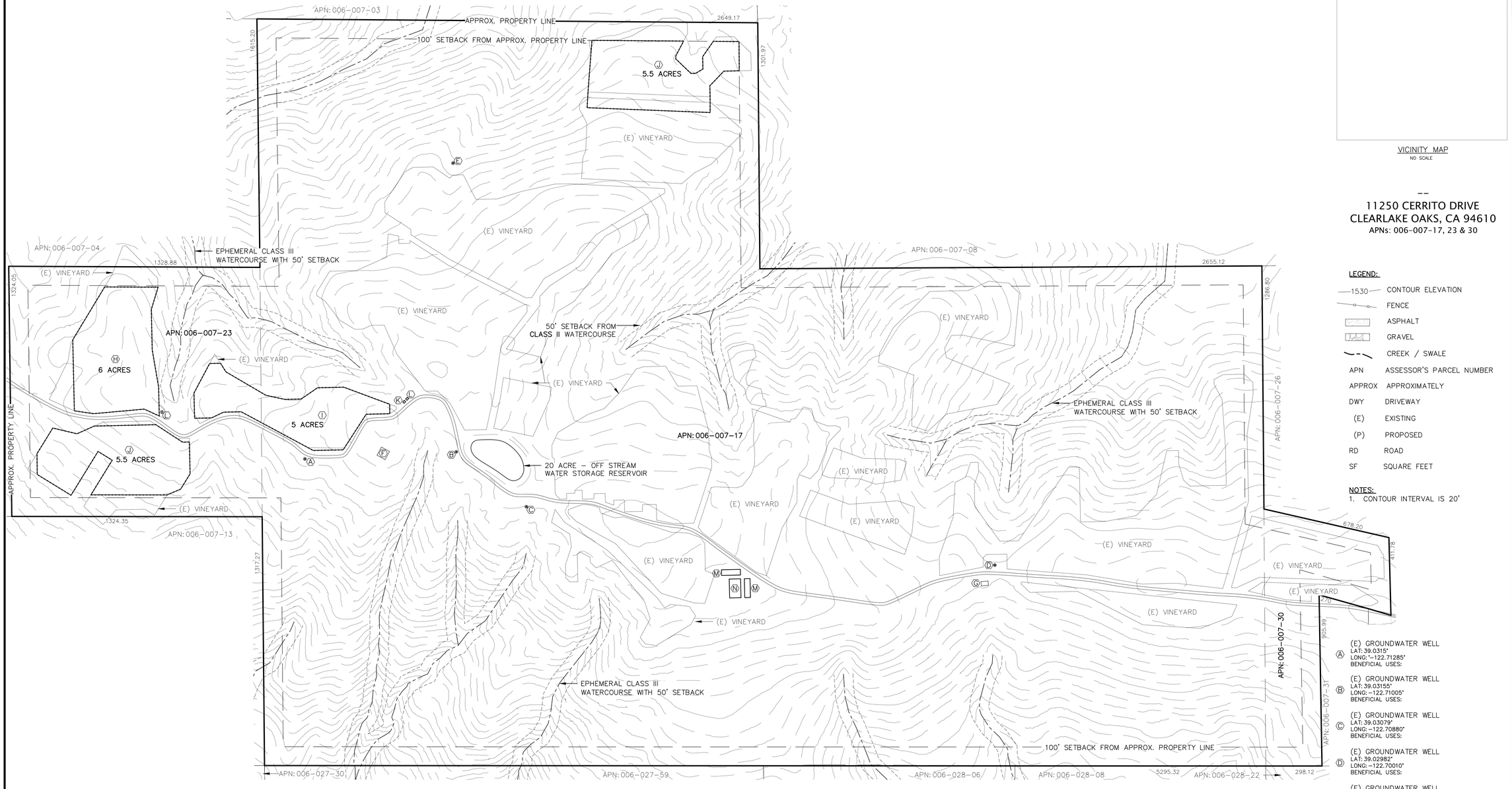

PROPOSED CONDITIONS SITE PLAN

GRAPHIC SCALE

250 0 125 250

(IN FEET)
1 inch = 250 ft.

VICINITY MAP
NO SCALE

--
11250 CERRITO DRIVE
CLEARLAKE OAKS, CA 94610
APNs: 006-007-17, 23 & 30

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	ASPHALT
	GRAVEL
	CREEK / SWALE
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATELY
DWY	DRIVEWAY
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Ⓘ (P) 217,800 SF (5-ACRE) OUTDOOR CULTIVATION / CANOPY AREA

Ⓙ (P) 239,580 SF (5.5-ACRE) OUTDOOR CULTIVATION / CANOPY AREA

Ⓚ (P) 10'x12' SECURITY CENTER / SHED

Ⓛ (P) 10'x12' (120) SF PESTICIDES & AGRICULTURAL CHEMICALS STORAGE AREA

Ⓜ (P) 30'x100' IMMATURE PLANT AREA / GREENHOUSE

Ⓝ (P) 60'x100' (6,000 SF) PROCESSING & HARVEST STORAGE FACILITY

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exp.06/30/21
CIVIL
STATE OF CALIFORNIA

PROPOSED CONDITIONS SITE PLAN

11250 CERRITO DRIVE
CLEARLAKE OAKS, CA 94610
LAKE COUNTY
APNs: 006-007-17, 23, & 30

PLOTTED BY: ---
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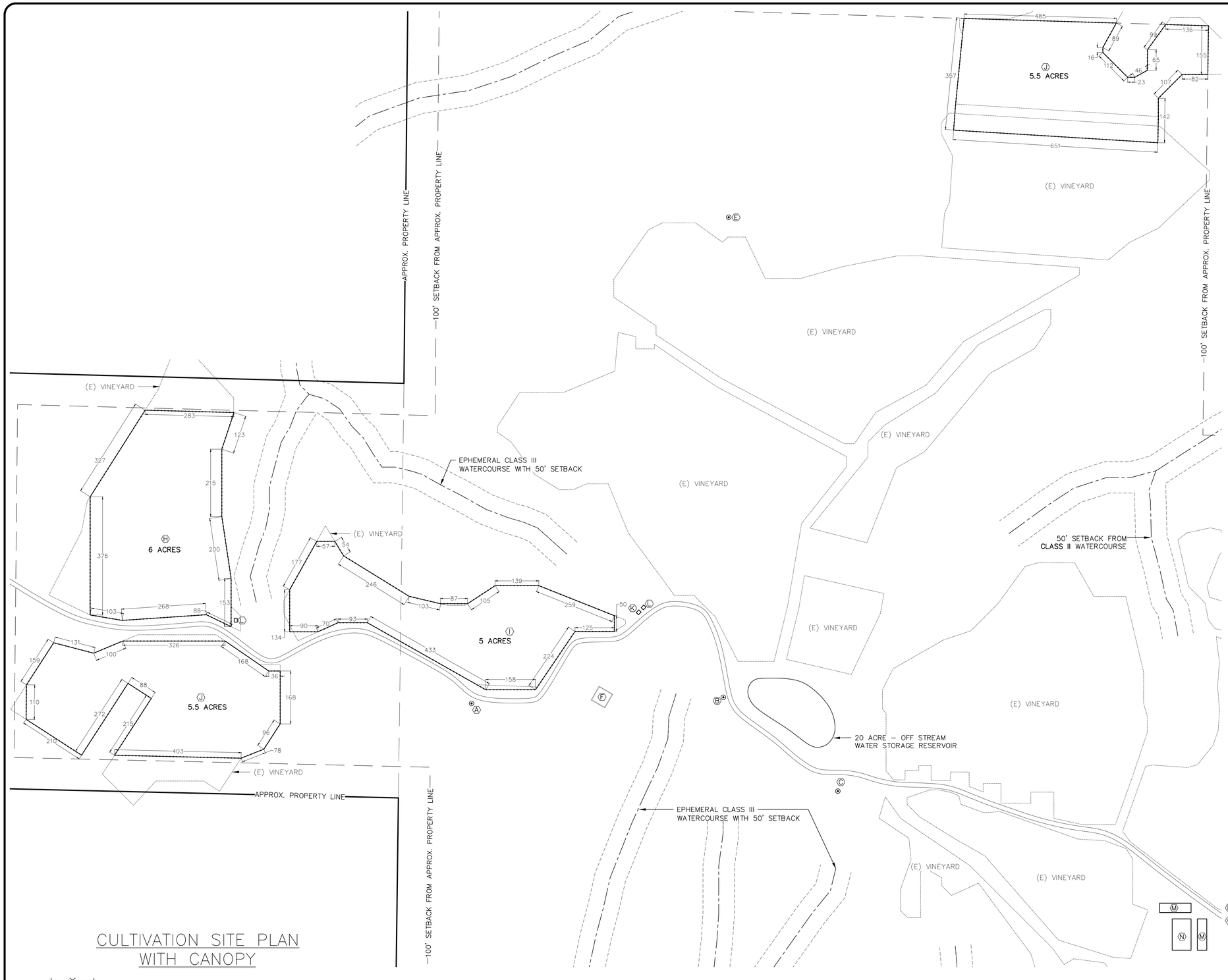

CULTIVATION SITE PLAN WITH CANOPY

VICINITY MAP
NO SCALE

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11250 CERRITO DRIVE
CLEARLAKE OAKS, CA 94610
APNs: 006-007-17, 23 & 30

LEGEND:

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

NOTES:
1. CONTOUR INTERVAL IS 20'

Ⓐ	(E) GROUNDWATER WELL LAT: 39.0315° LONG: °–122.71285° BENEFICIAL USES:
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APNs: 006-007-17, 23, & 30

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DATE PLOTTED:	3/15/21
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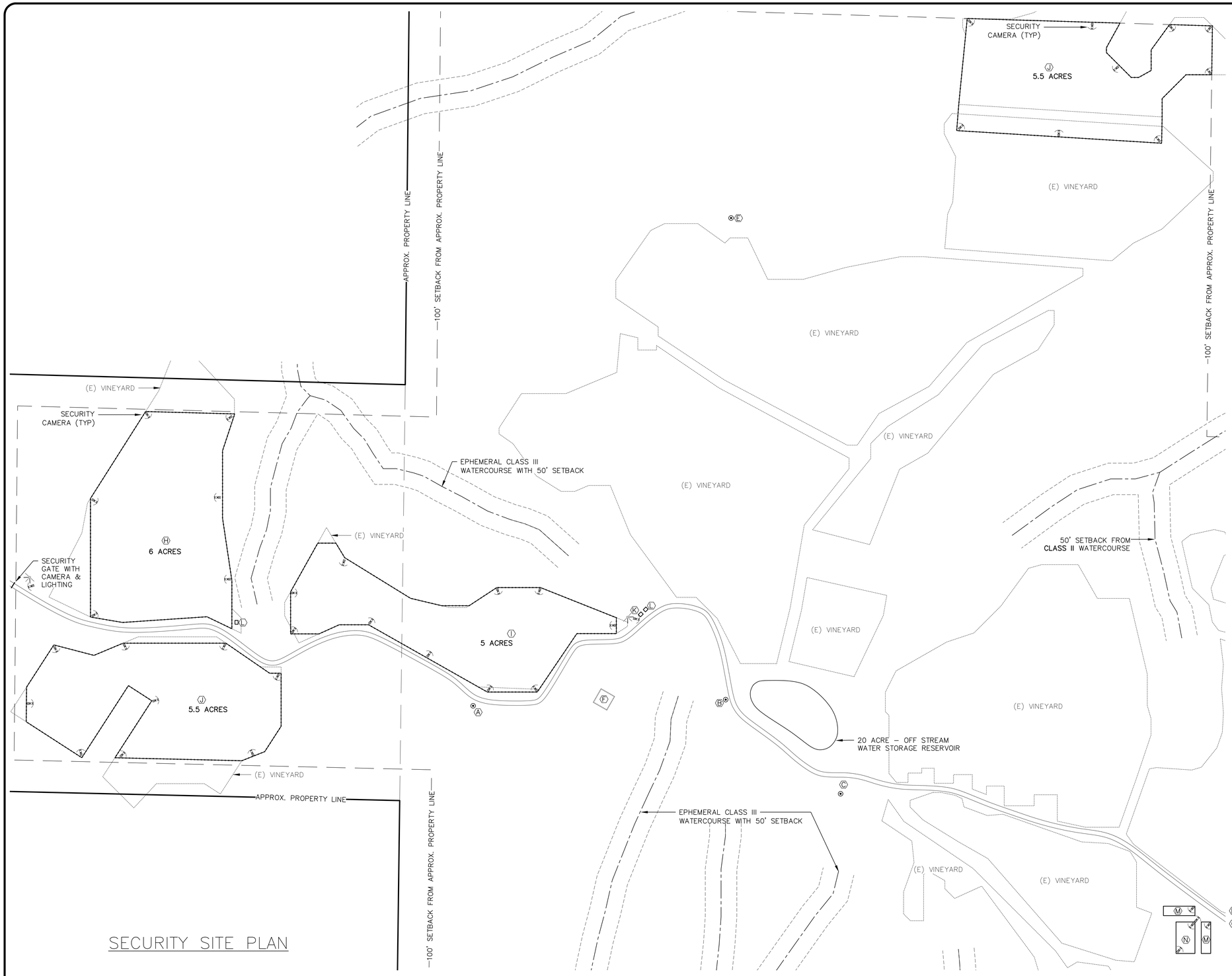

SECURITY SITE PLAN

GRAPHIC SCALE

150 0 75 150

(IN FEET)

1 inch = 150 ft.

VICINITY MAP

NO SCALE

--

11250 CERRITO DRIVE
CLEARLAKE OAKS, CA 94610
APNs: 006-007-17, 23 & 30

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	(P) SECURITY LIGHTS
	(P) SECURITY CAMERAS
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATE
DWY	DRIVEWAY
(E)	EXISTING
(P)	PROPOSED
RD	ROAD
SF	SQUARE FEET

NOTES:

1. CONTOUR INTERVAL IS 5'

Ⓐ (E) GROUNDWATER WELL
LAT: 39.0315°
LONG: -122.71285°
BENEFICIAL USES:

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LAT: 39.03578°
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SECURITY SITE PLAN

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CLEARLAKE OAKS, CA 94610
LAKE COUNTY
APNs: 006-007-17, 23, & 30

PLOTTED BY: ---

DATE PLOTTED: 3/15/21

SCALE OF DRAWING: SEE PLAN

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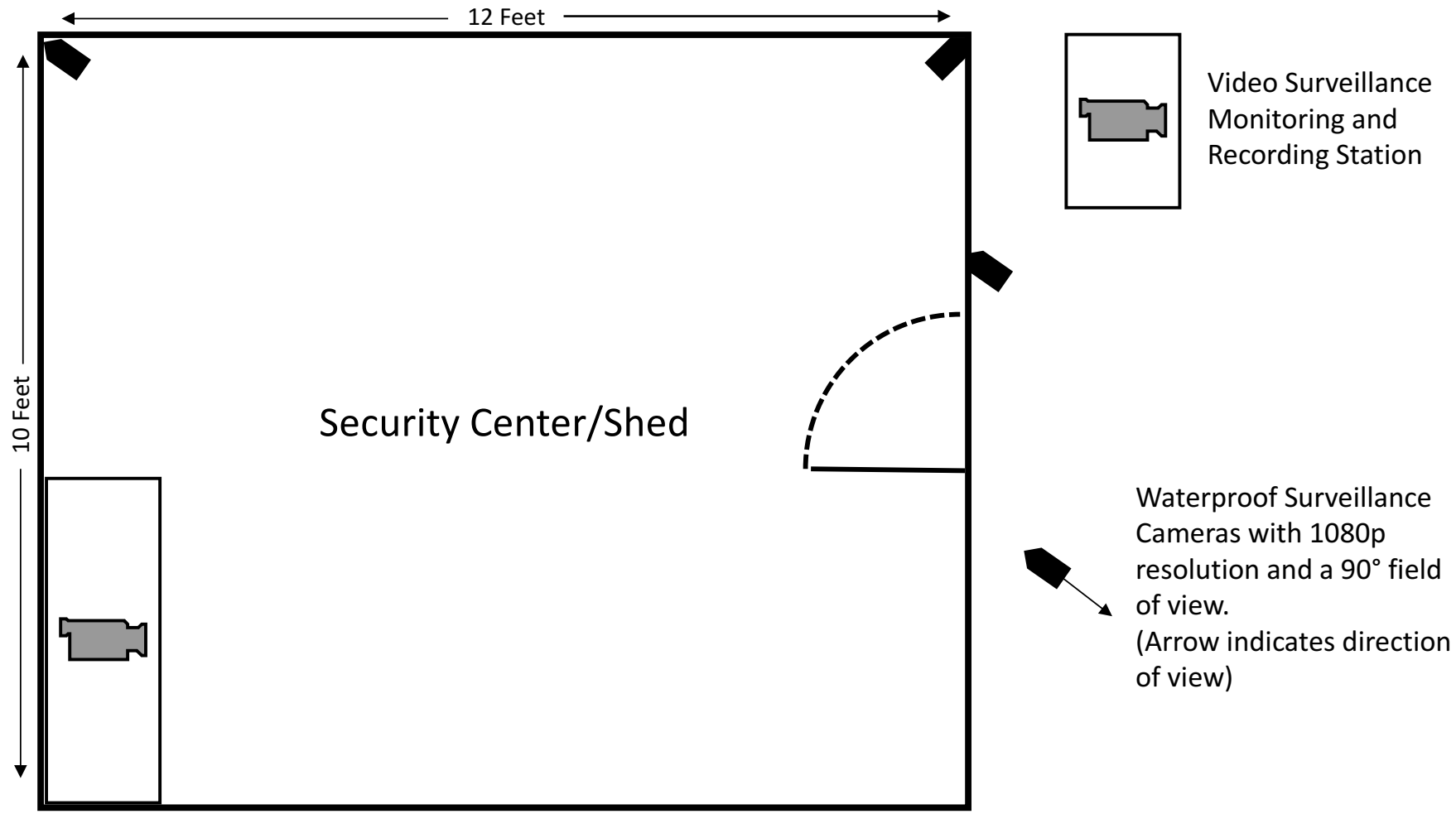
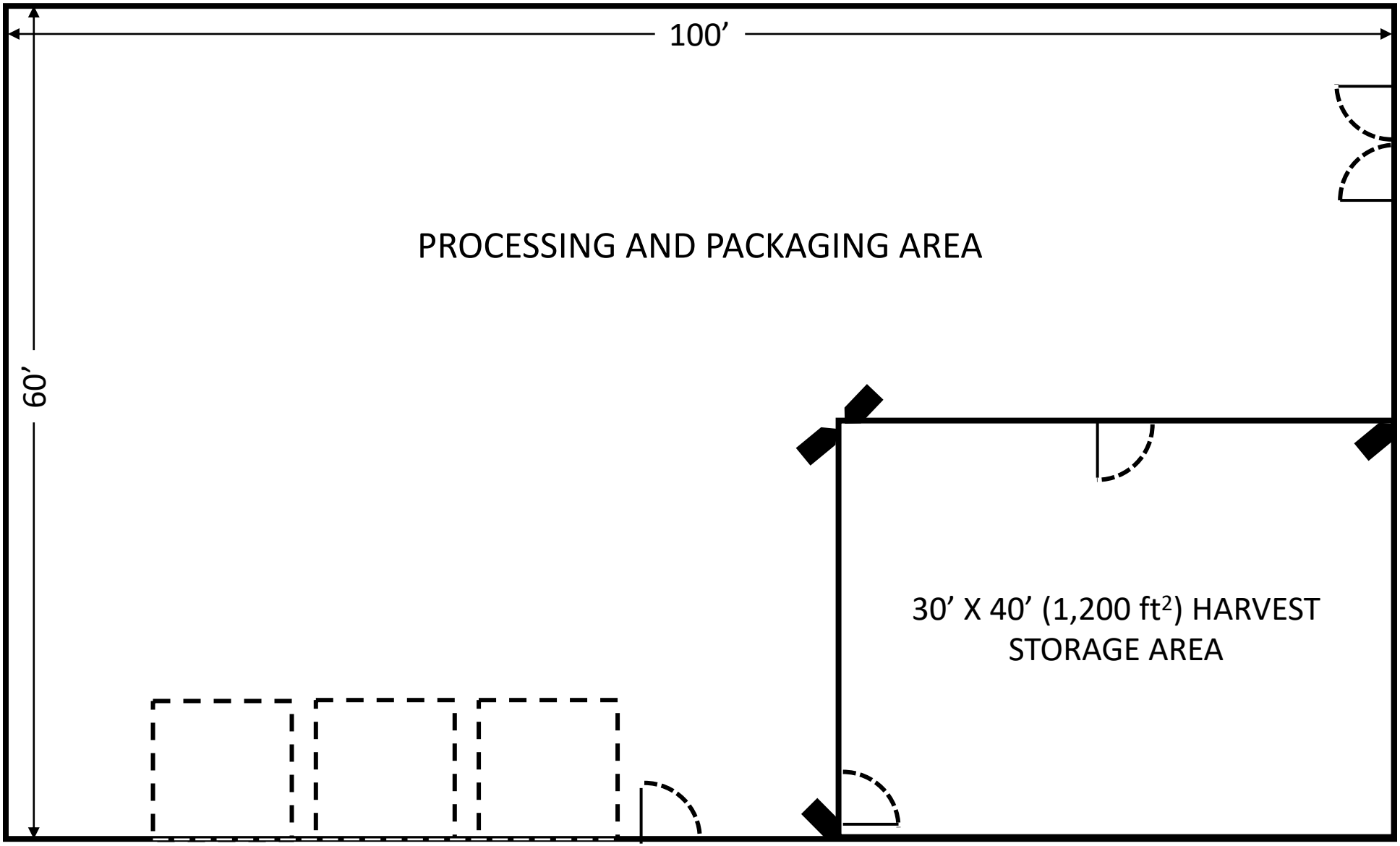
SHEET: 6

Security Center/Shed
(Proposed Wooden Shed)



PROPOSED PROCESSING & HARVEST STORAGE FACILITY



DRAINAGE PATTERNS

STRAW ROLLS (ADJUST TO SUIT FIELD CONDITIONS)

DISCHARGE POINT

SAMPLING LOCATION

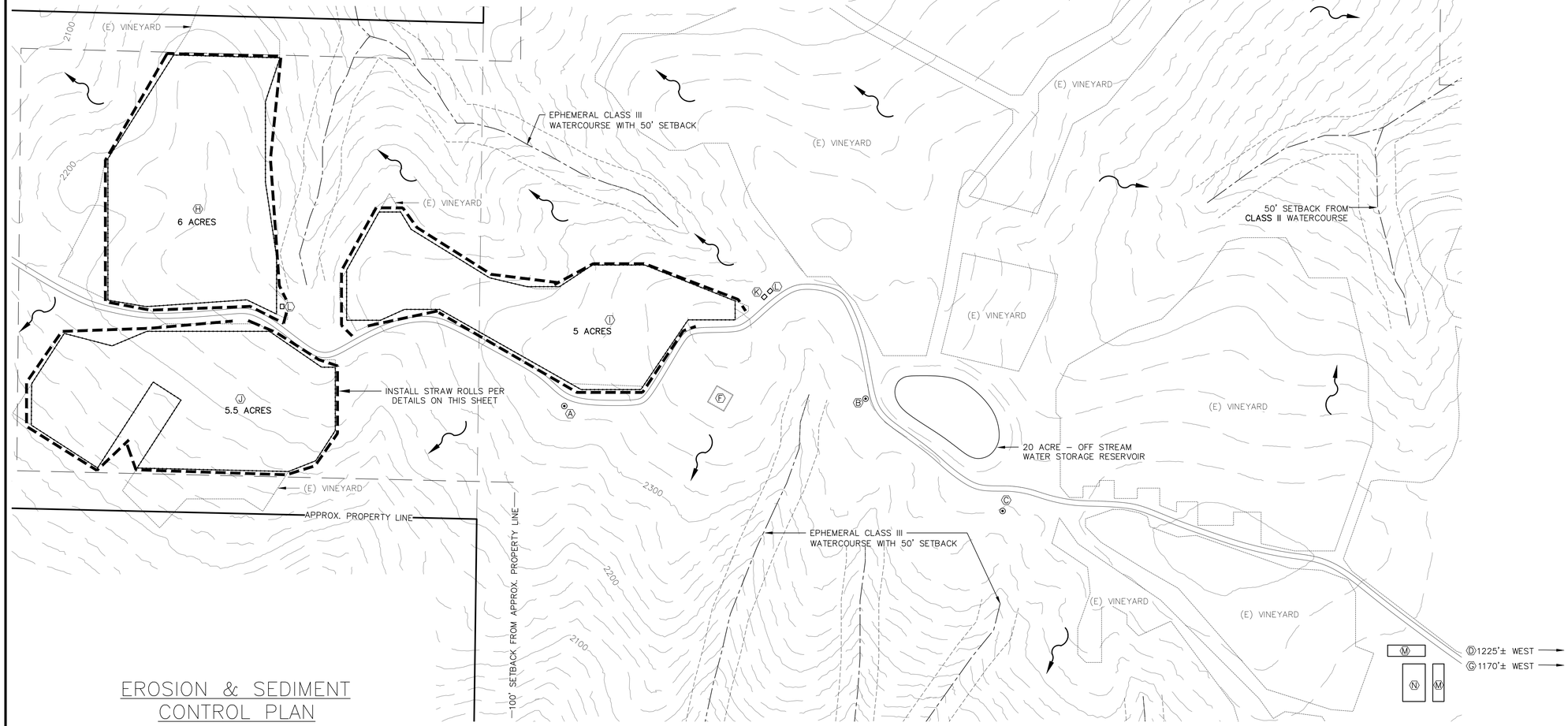
CONSTRUCTION MATERIALS STORAGE AREA

NOTES:

1. 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.
2. STRAW ROLLS MUST BE PLACED ALONG SLOPE CONTOURS

EROSION & SEDIMENT CONTROL NOTES:

1. 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.
2. EROSION CONTROL BMPS SHALL BE IN PLACE AND MAINTAINED ALL YEAR ROUND.
3. HE CONTRACTOR SHALL FOLLOW THE GUIDELINES FROM THE "CALIFORNIA STORMWATER BMP HANDBOOK" FOR THE MEASURES SHOWN OR STATED ON THESE PLANS.
4. CONTRACTOR MUST ENSURE THAT THE CONSTRUCTION SITE IS PREPARED PRIOR TO THE ONSET OF ANY STORM.
5. 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).
6. 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.
7. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED BEFORE AND AFTER ALL STORMS TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
8. 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.
9. 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.
10. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE SWEPT AT THE END OF EACH WORKING DAY OR AS NECESSARY.
11. ANY LOOSE GROUND FROM EXCAVATING GRADING OPERATIONS SHALL BE SECURED PRIOR TO ANY RAIN EVENT. STRAW OR TARP ALL DISTURBED OR EXCAVATED GROUND.
12. 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.
13. AS A MINIMUM, ALL GRADED AREAS AND EXPOSED SOIL WITHIN THE PROJECT SHALL BE SEEDED PER THE REQUIREMENTS OF LAKE COUNTY.
14. DUST GENERATION MUST BE MINIMIZED AND A WATER TRUCK MUST BE AVAILABLE ON–SITE FOR ADEQUATE DUST CONTROL.



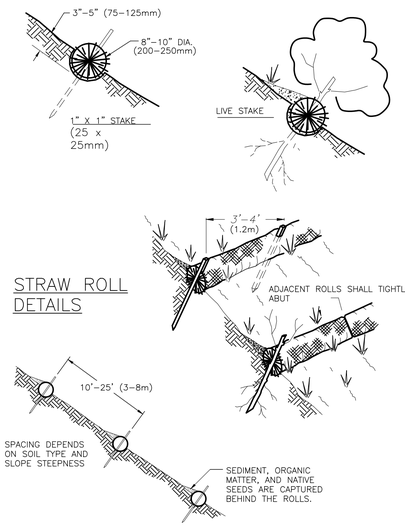
EROSION & SEDIMENT CONTROL PLAN

GRAPHIC SCALE

150 0 75 150

(IN FEET)

1 inch = 150 ft.



STRAW ROLL DETAILS

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	ASPHALT
	GRAVEL
	CREEK / SWALE
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATELY
DWY	DRIVEWAY
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CLEARLAKE OAKS, CA 94610
LAKE COUNTY
APNs: 006–007–17, 23, & 30

PLOTTED BY: ---
DATE PLOTTED: 3/15/21
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 9

Air Quality Management Plan

Purpose and Overview

Monte Cristo Vineyards, LLC (MCV) is seeking a Major Use Permit and an Early Activation of Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 11250 Cerrito Drive near Clearlake Oaks, California on Lake County APNs 006-007-17, 23, & 30 (Project Property). MCV's proposed commercial cannabis cultivation operation will be composed of twenty-two (22) 43,560 ft^2 A-Type 3 "Medium Outdoor" cultivation/canopy areas, a 120 ft^2 Security Center/Shed, a 6,000 ft^2 Processing & Harvest Storage Facility, two 3,000 ft^2 Immature Plant Areas/Greenhouses, and two 120 ft^2 Pesticides & Agricultural Chemicals Storage Areas. The growing medium of the proposed outdoor cultivation/canopy area(s) will be an amended native soil mixture at or below grade, with drip irrigation systems to conserve water resources. The proposed cultivation/canopy areas will be established within existing vineyard blocks, utilizing infrastructure currently utilized to cultivate grapes. All water for the proposed cultivation operation will come from an existing 20-acrefoot off stream water storage reservoir, filled with water from five existing onsite groundwater wells.

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, contaminates, 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 cannabis 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 (no white 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 ventilation and exhaust system of the proposed Processing & Harvest Storage Facility (where processing activities will occur) will be equipped with carbon filters/air scrubbers to prevent cannabis odors from emanating from the building.

Odor Response Program

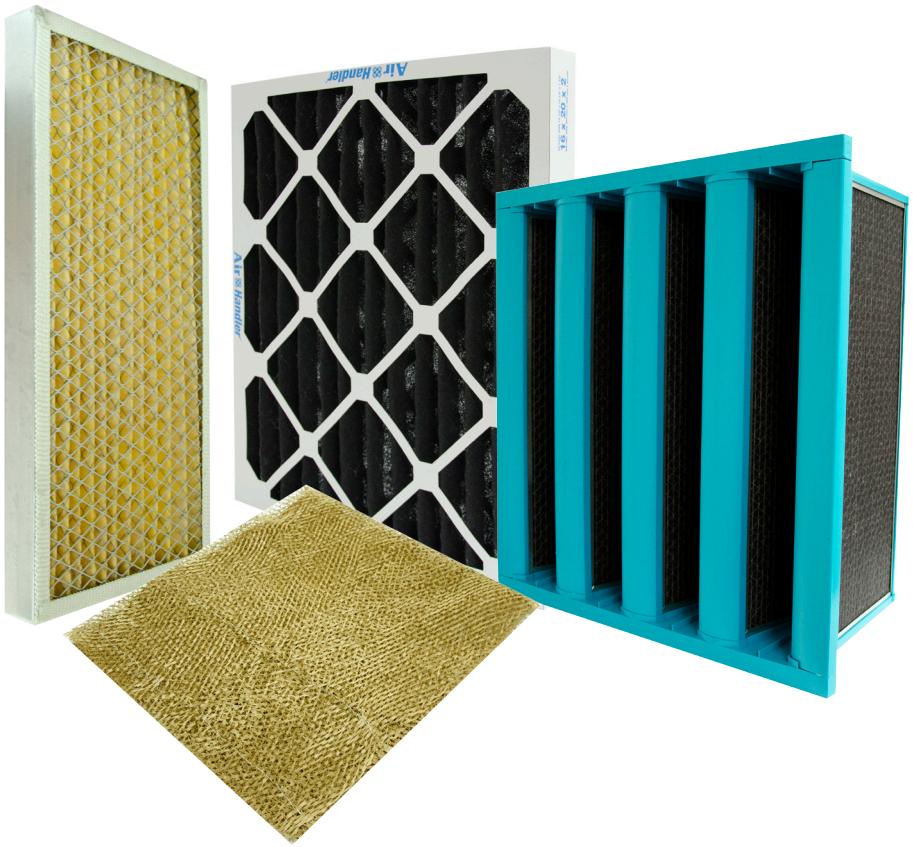
A Community Liaison/Emergency Contact will be made available to Lake County Officials/Staff and the Lake County Sheriff's Office at all times to address any needs or issues that may arise. The Community Liaison/Emergency Contact will be responsible for responding to odor complaints 24 hours a day, seven days a week, including holidays. MCV 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. MCV 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(s), Processing & Harvest Storage Facility, 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 additional air pollution/odor control equipment.

Community Liaison/Emergency Contact Information

The Community Liaison/Emergency Contact for the proposed cultivation operation is Mrs. Jacqueline Dharmapalan. Mrs. Dharmapalan's cell phone number is (510) 599-5246, and her email address is jdharmapalan@sbcglobal.net. There are no residences within 1,000 feet of the proposed cannabis cultivation operation. The residents and/or owners of all properties within 250 feet of the Project Property, will have Mrs. Dharmapalan's contact information before cannabis cultivation begins.

SPECIALTY FILTRATION



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CARBON PLEAT

- Dual purpose: Filters particulate and absorbs odor
- Effective gas phase filter for intermittent gas applications
- Excellent filter to determine if carbon filters will help remove the odor
- Low pressure drop
- Disposable, easy installation, low service cost
- All filters wrapped and sealed in protective plastic bags to maintain filter viability

DESCRIPTION

The Air Handler Carbon Pleat filters are designed for the control of intermittent odor problems. Carbon pleated filters remove a wide range of odors and common indoor air pollutants. The advanced media has improved capability to absorb nuisance odors.

The fitler's construction consists of pleated, non-woven/ polyester media, impregnanted with an activated carbon. The pleated filter pack is enclosed in a heavy duty, moisture resistant (beverage board) die-cut frame that will not crack, warp or distort under normal operating conditions.

BENEFITS

In some light duty applications, the effectiveness of carbon pleated filters can equal many long-term solutions used for controlling odor problems. Carbon pleated filters can be used as a low cost method to verify the potential effectiveness of carbon for controlling odors. The carbon pleat receives an efficient removal of particulate MERV 6 per ASHRAE Standard 52.2-2007.

APPLICATIONS

The Air Handler Carbon Pleat is well suited for use where gas contaminants are low and/ or intermittent. Provides relief of odors created by cigarette smoke, industrial process, copier, pets and musty areas.

These filters are well suited for use in air make-up systems and re-circulation applications in office buildings, hospitals, airports, food courts and manufacturing facilities.

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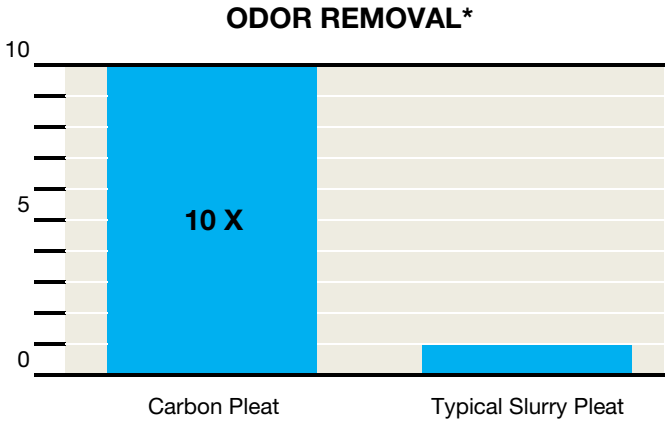
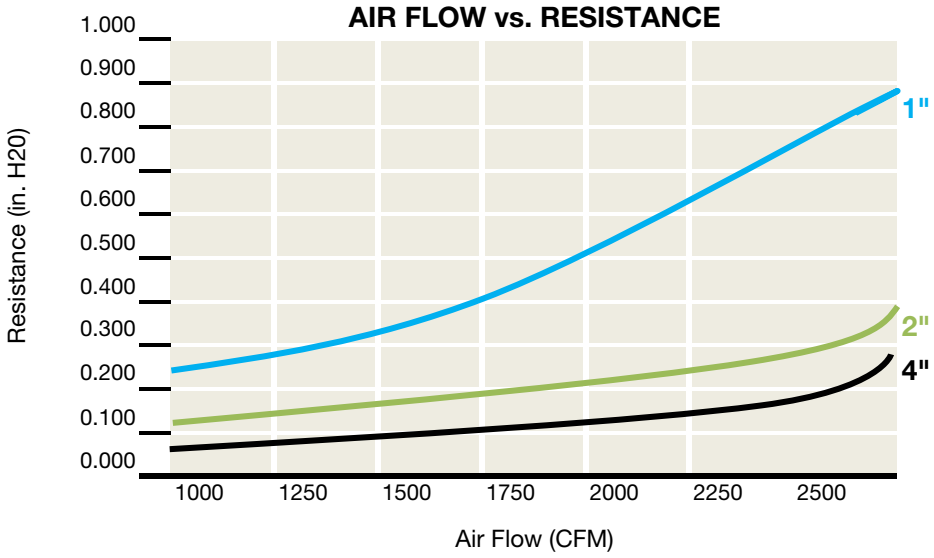
CARBON PLEAT

ODOR REMOVAL



*Amount of gas or odor removed at 50% break through given 880 PPM of Toluene @ 40 (media velocity)



*Results based on 24x24 filter

DIMENSIONS & PART #S

Nominal Size (in.)			Initial Resistance @ 250 FPM ("w.g.)	Initial Resistance @ 500 FPM ("w.g.)	Grainger #
H	W	D			
10	10	1	0.23	0.63	6B915
10	20	1	0.23	0.63	6B914
12	12	1	0.23	0.63	6B912
12	20	1	0.23	0.63	6B911
12	24	1	0.23	0.63	6B910
14	20	1	0.23	0.63	6B907
14	24	1	0.23	0.63	6B905
14	25	1	0.23	0.63	6B904
15	20	1	0.23	0.63	6B902
16	16	1	0.23	0.63	6B900
16	20	1	0.23	0.63	6B899
16	24	1	0.23	0.63	6B896
16	25	1	0.23	0.63	6B894
18	20	1	0.23	0.63	6B891
18	24	1	0.23	0.63	6B890
18	25	1	0.23	0.63	6B887
20	20	1	0.23	0.63	6B886
20	24	1	0.23	0.63	6B883
20	25	1	0.23	0.63	6B880
22	22	1	0.23	0.63	6B877
24	24	1	0.23	0.63	6B876
25	25	1	0.23	0.63	6B873
10	20	2	0.13	0.34	6B913
12	24	2	0.13	0.34	6B909
14	20	2	0.13	0.34	6B906
14	25	2	0.13	0.34	6B903
15	20	2	0.13	0.34	6B901
16	20	2	0.13	0.34	6B898
16	24	2	0.13	0.34	6B895
16	25	2	0.13	0.34	6B893
18	24	2	0.13	0.34	6B889
20	20	2	0.13	0.34	6B885
20	24	2	0.13	0.34	6B882
20	25	2	0.13	0.34	6B879
24	25	2	0.13	0.34	6B875
25	25	2	0.13	0.34	6B872
12	24	4	0.07	0.23	6B908
16	25	4	0.07	0.23	6B892
20	20	4	0.07	0.23	6B884
20	24	4	0.07	0.23	6B881
20	25	4	0.07	0.23	6B878
24	24	4	0.07	0.23	6B874

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CARBON HONEYCOMB

- Dual function: Odor absorption and particulate filtration
- Granular activated carbon to remove odorous and irritating gaseous contaminants
- Honeycomb construction ensures low air flow resistance
- Effective gas phase filtration in a compact design
- Individually wrapped in plastic

DESCRIPTION

These combination particulate and carbon filters are designed for the control of intermittent odor problems in re-circulated air applications.

Honeycomb style filters are designed to remove a wide range of pollutants. The 1" honeycomb filters are constructed using 0.5" honeycomb with a 0.5" pre-filter pad. The 2" honeycomb filters are constructed using 0.75" of honeycomb with a 1" pre-filter pleat offering medium efficiency.

BENEFITS

The activated carbon presented in the honeycomb filter acts like a porous sponge, collecting and retaining certain chemical compounds on its surface. The ability of activated carbon to absorb a gas or vapor is called its activity.

Carbon used in these filters has a minimum carbon tetrachloride (CCL4) activity of 60% which means it will absorb 60% of its own weight of CCL4 vapor under a standard set of conditions.

Max. Temp. - 150°F

APPLICATIONS

Dual purpose activated Carbon Honeycomb filters are designed to eliminate general odor problems where concentration levels are not extremely heavy. These combination filters offer medium particulate filtration along with an absorbent carbon for fume and odor removal.

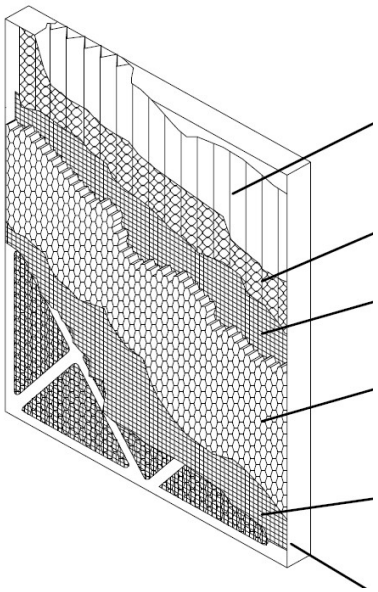
The honeycomb style filters are used extensively in office buildings, hospitals, airports, food courts and manufacturing facilities.

CARBON HONEYCOMB

ODORS REMOVED

- Cooking Odors
- Sewer Odors
- Gasoline Fumes
- Environmental Tobacco Smoke
- Most Volatile Organic Compound (VOC) Odors

FILTER ADVANCEMENTS



*NOTE: for 1" version a poly pad and no expanded metal replace the pleat media

DIMENSIONS & PART #S

0.5" POLY PRE-FILTER

50% Carbon Fill (with Pre-Filter)			
H	W	D	Grainger #
10	10	1	6B869
10	20	1	6B868
12	12	1	6B866
12	20	1	6B865
12	24	1	6W735
14	20	1	6B864
14	24	1	6B862
14	25	1	6B861
15	20	1	6B859
16	16	1	6B857
16	20	1	6W736
16	24	1	6B856
16	25	1	6W737
18	20	1	6B854
18	24	1	6B853
18	25	1	6B851
20	20	1	6W738
20	24	1	6B850
20	25	1	6W739
22	22	1	6B848
24	24	1	6W740
25	25	1	6B847

1" PLEATED PRE-FILTER

50% Carbon Fill (with Pre-Filter)			
H	W	D	Grainger #
10	20	2	6B867
12	24	2	6W741
14	20	2	6B863
14	25	2	6B860
15	20	2	6B858
16	20	2	6W742
16	24	2	6B855
16	25	2	6W743
18	24	2	6B852
20	20	2	6W744
20	24	2	6B849
20	25	2	6W754
24	24	2	6W746
25	25	2	6B846

0.5" POLY PRE-FILTER

			50% Carbon Fill (No Pre-Filter)	100% Carbon Fill (No Pre-Filter)	100% Carbon Fill (with Pre-Filter)
H	W	D	Grainger #	Grainger #	Grainger #
10	20	1	2JTW5	2JUA5	2JTR1
12	24	1	2JTW7	2JTR3	2JUT6
14	20	1	2JTW9	2JUA7	2JTR5
14	25	1	2JTX2	2JUA9	2JTR7
15	20	1	2JTX4	2JUC2	2JTR9
16	20	1	2JTX6	2JUC4	2JTT2
16	25	1	2JTX8	2JUC6	2JTT4
20	20	1	2JTY7	2JUC8	2JTT6
20	25	1	2JTY1	2JUD1	2JTT8
24	24	1	2JTY3	2GJD5	2JTU1
25	25	1	2JTY5	2JUD3	2JTU3

1" PLEATED PREFILTER

12	24	2	2GJD9	2JUD5	2JTU5
16	20	2	2JTY9	2JUD7	2JTU7
16	25	2	2JTZ2	2JUD9	2JTU9
18	24	2	2JTZ4	2JUF2	2JTV2
20	20	2	2JTZ6	2JUF4	2JTV4
20	24	2	2JTZ8	2JUF6	2JTV6
20	25	2	2JUA1	2JUF8	2JTV8
24	24	2	2GJE4	2JTD2	2JTW1
25	25	2	2JUA3	2JUH1	2JTW3

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FP GAS PHASE

- Improve indoor air quality through effective removal of contaminants, odors and gases
- Available with activated carbon for adsorption, potassium permanganate for chemisorption, or a 50/50 blend of both
- 100% fill for maximum single pass efficiency and longer service life

DESCRIPTION

The Air Handler FP Gas Phase filter is designed to remove a wide range of odors and common indoor air pollutants at high air flows. Constructed of heavy-duty galvanized steel and plastic, with 3/4" honeycomb media packs, the FP Gas Phase filter can be willed with one of two media or a blend of the two to fit any application.

BENEFITS

The FP Gas Phase filter provides effective odor removal with just a moderate increase in pressure drop.

Using 60% CTC activated carbon, potassium permanganate on zeolite, or a blend of the two, the FP Gas Phase filter removes a broad spectrum of compounds including Volatile Organic Compounds (VOC's), vehicle exhaust, sulfur compounds, ammonia and formaldehyde.

APPLICATIONS

These filters are used in commercial and industrial applications when odors and gases need to be removed to protect people, processes, equipment or artifacts.

With a standard header, it can be used in existing HVAC systems, easily retrofitted or specified for new construction. The dual direction design allows for a front or reverse mount installation, without a reduction in filter performance.

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FP GAS PHASE

DIMENSIONS & PERFORMANCE DATA

ACTIVATED CARBON (100%)			
Contaminants Removed by Activated Carbon			
Acetone	Gasoline	Naphtha	Perchloroethylene
Nitrobenzene	Pyridine	Chlorobenzene	Methyl Chloroform
Chloroform	Paint Fumes	Toluene	Methyl Ethyl Ketone
Benzene	Ozone	Styrene	Methylene Chloride

H	W	D	Initial Resistance @ 500 FPM ("w.g.)	Media Weight	Shipping Weight	Grainger #
12	24	12	0.51	11	16	2GGY7
20	24	12	0.51	20	27	2GGZ2
24	24	12	0.51	32	32	2GGV7

POTASSIUM PERMANGANATE (100%)			
Contaminants Removed by Potassium Permanganate Impregnated Media			
Acetylene	Amines	Mercaptans	Nitrogen Oxides
Alcohols	Ammonia	Sulfur Oxides	

H	W	D	Initial Resistance @ 500 FPM ("w.g.)	Media Weight	Shipping Weight	Grainger #
12	24	12	0.36	14	19	2GHA1
20	24	12	0.36	26	33	2GHA5
24	24	12	0.36	32	40	2GHA9

ACTIVATED CARBON / POTASSIUM PERMANGANATE BLEND (100%)			
Contaminants Removed by Activated Carbon / Potassium Permanganate Blend			
Acetic Acid	Cooking Odors	Butyric Acid	Chlorine Dioxide
Urea	Chlorine	Isoproanol	Sodium Thiosulfate
Trichloroethylene	Auto Exhaust	Tobacco Smoke	Cleaning Compounds
Animal Odors	Diesel Fumes		

H	W	D	Initial Resistance @ 500 FPM ("w.g.)	Media Weight	Shipping Weight	Grainger #
12	24	12	0.36	13	18	2GGY3
20	24	12	0.36	23	30	2GGZ6
24	24	12	0.36	28	37	2GGX8

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NESHAP / EPA METHOD 319

The EPA National Emissions Standards for Hazardous Air Pollutants (NESHAP) mandated that a new filtration test method be established to determine the efficiency of a filter to remove hazardous pollutants from paint overspray. The EPA guidelines went into effect on September 1, 1998 and continue to set the standard for paint overspray collection systems today. The test method to determine compliance is Test Method 319.

PREFERRED 1ST STAGE

PAINT FILTER PAD

Paint Filter Pad, Polyester media with ECXL style. The media is multilayered, with finer fiber structures downstream in order to enhance depth loading capacity. The multiple layers will avoid face loading as it captures overspray paint with a downstream tackifier.

APPROVED 2-STAGE SYSTEM

2 POCKET BAG FILTER

The recommended 2-stage system consists of a prefilter paint arrestor pad followed by a two pocket bag filter. This two pocket bag filter exceeds the approved EPA Method 319 testing requirements with or without the prefilter pad. The 2-pocket filter is self-sealing and has self supporting pockets. The Media construction is a multi-layered gradient density structure to maximize paint collection and retention.

APPROVED 3-STAGE SYSTEM

5 POCKET BAG FILTER

The recommended 3-stage system consists of a prefilter pad, a 2 pocket filter bag, followed by the EPA Method 319 approved 5 pocket bag filter. The 5 pocket bag filter is self sealing and exceeds the testing requirements with or without the pre-filter pad and two pocket filter bag. The media construction is multi-layered with the downstream layer consisting of a high efficiency synthetic media.

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NESHAP / EPA METHOD 319

DIMENSIONS & PART #S

Nominal Size (in.)			2-Pocket Bag
H	W	D	Grainger #
20	20	15	4YKR4
20	25	15	4YKR5
24	24	15	4YKR6

Nominal Size (in.)			5-Pocket Bag
H	W	D	Grainger #
20	20	12	4YKR1
20	25	12	4YKR2
24	24	12	4YKR3

PERFORMANCE COMPARISON 2-STAGE FILTER

Liquid Challenge - Oleic Acid			
Particle Size	EPA 319 Requirement	Air Handler Actual	ATI Actual
>2.2um	>10%	55.40%	41%
>4.1um	>50%	81.30%	87%
>5.7um	>90%	92.40%	96%

Solid Challenge - KCl			
Particle Size	EPA 319 Requirement	Air Handler Actual	ATI Actual
>2.2um	>10%	55.40%	41%
>4.1um	>50%	81.30%	87%
>5.7um	>90%	92.40%	96%

Initial dP @ 120 FPM Air Handler - 0.045”

Initial dP @ 120 FPM ATI - 0.13”

PERFORMANCE COMPARISON 3-STAGE FILTER

Liquid Challenge - Oleic Acid			
Particle Size	EPA 319 Requirement	Air Handler Actual	ATI Actual
>0.42um	>65%	83.50%	75%
>1.0um	>80%	95.00%	87%
>2.0um	>95%	99.10%	99%

Solid Challenge - KCl			
Particle Size	EPA 319 Requirement	Air Handler Actual	ATI Actual
>0.70um	>75%	93.80%	88%
>1.1um	>85%	97.80%	92%
>2.5um	>95%	99.50%	98%

Initial dP @ 120 FPM Air Handler - 0.22”

Initial dP @ 120 FPM ATI - 0.28”

The lower initial dP results in longer life and lower operating costs.

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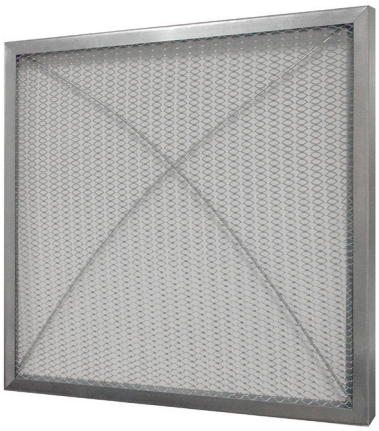
FILTER ACCESSORIES

PAD HOLDING FRAMES

Air Handler Pad Holding Frames are reusable. Permanent pad holding frames are constructed around a 24-gauge steel frame. The downstream side is 16-gauge, 1" x 1" welded wire. A hinged gate makes changing the pad easy, quick and safe.



DIMENSIONS & PART #S

H	W	D	Grainger #
10	10	1	6B730
10	20	1	6B729
12	12	1	5W082
12	20	1	6B727
12	24	1	5W081
14	20	1	6B725
14	25	1	6B723
15	20	1	6B721
16	16	1	6B719
16	20	1	5W080
16	24	1	6B718
16	25	1	5W079
18	18	1	5W078
18	20	1	6B716
18	24	1	5W077
18	25	1	6B714
20	20	1	5W076
20	24	1	6B713

H	W	D	Grainger #
20	25	1	5W075
22	22	1	5W074
24	24	1	5W073
25	25	1	5W083
10	20	2	6B728
12	24	2	6B726
14	20	2	6B724
14	25	2	6B722
15	20	2	6B720
16	20	2	5W072
16	24	2	6B717
16	25	2	5W071
18	24	2	6B715
20	20	2	5W070
20	24	2	6B712
20	25	2	5W069
24	24	2	6B711
25	25	2	6B710

AIR FILTER HOLDING FRAMES

Air Handler Filter Holding Frames are used to construct "built-from-scratch" filter banks for air handling systems. They may be bolted or riveted together utilizing matching holes on frames. Combined with a variety of holding clips, they can accept most 1", 2", 4", 6" and 12" supported filters and non-supporting pocket filters.

H	W	D	Case Qty.	Grainger #
24	24	3	8	6B731
20	24	3	8	6B732
12	24	3	8	6B733

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FILTER ACCESSORIES

GASKETING FOR AIR FILTERS

Air Handler Filter Gasketing consists of black neoprene foam construction with adhesive backing. Excellent resistant to chemicals, maximum temperature of 220°F. Used to seal filters and avoid air by-pass.

DIMENSIONS & PART #S

W	L	D	Grainger #
13/16"	75'	1/8"	6C523
13/16"	50'	1/4"	6C524

FILTER HOLDING CLIPS

Air Handler Filter Holding Clips keep all types of air filters firmly fastened within frames. Install using hand tools only - no rivets or bolts necessary. See chart below to match air filter to proper clip.

All pigtail clips are galvanized steel and all spring clips are stainless steel.

Case quantity equals 12

DIMENSIONS & PART #S

Clip Style	To Hold	No. Required	Grainger #
1" Pigtail	1" Header	4	5E904
2" Pigtail	2" Filter	2	5E905
3" Pigtail	2" Prefilter to a filter w/ header	4	5E906
4" Pigtail	4" Filter	4	5E907
6" Spring	6" Rigid or Box	4	5E908
12" Spring	12" Rigid or Box	4	5E909

Pigtail Clip

Spring Clip

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Flaherty Cultural Resource Services (FCRS)

CULTURAL RESOURCE RECONNAISSANCE OF 33+/- ACRES COMMERCIAL CANNABIS PROJECT NEAR CLEARLAKE OAKS, LAKE COUNTY, CALIFORNIA
(Monte Cristo Vineyards LLC / Legacy HV LLC, Portion of APN's 006-007-170; 230 & 270)

By
Jay M. Flaherty
January 16, 2021

Prepared for
Monte Cristo Vineyards LLC
Legacy HV LLC

RESULTS: **Negative**
ACRES: **33 +/- ac**
SITES: **0**
LEAD AGENCYS: **County of Lake, Community Development Department**
CONTACT PERSON:

2795 E. Bidwell St., Suite 100 #637 Folsom, CA 95630
Phone (707)277-9533 • Email jay.fcrs@gmail.com

CULTURAL RESOURCE RECONNAISSANCE OF 33+/- ACRES COMMERCIAL CANNABIS PROJECT NEAR CLEARLAKE OAKS, LAKE COUNTY, CALIFORNIA

(Monte Cristo Vineyards LLC / Legacy HV LLC, Portion of APN's 006-007-170; 230 & 270)

INTRODUCTION

This report presents the results of a cultural resources survey conducted on December 2, 2020, by Jay M. Flaherty and Gloria L. Flaherty, Flaherty Cultural Resource Services (FCRS). Approximately 8-person hours were spent covering the project boundaries. Mr. Flaherty, the principal investigator, has a Master of Arts degree in Cultural Resources Management and 50 years of relevant experience in California, and 43 years' experience in Lake County; he meets the Secretary of the Interior's standard (48 FR 44716) for principal investigator. **No cultural resources were discovered within the project boundaries.** The survey area consisted of approximately 33+/- acres situated approximately 1.8 miles northwest of Clearlake Oaks, Lake County, California. The project will consist of a 33-acre cannabis cultivation area (see maps). The investigation was mandated by the California Environmental Quality Act (CEQA). The reconnaissance was required after a determination by the of County of Lake that the project area was situated in an archaeologically sensitive zone. The County as the designated lead agency for approval of this project is responsible for compliance with requirements regarding the identification and treatment of historic and prehistoric cultural resources.

State Regulations

CEQA requires public or private projects financed or approved by public agencies to assess the effects of the project on cultural resources (Public Resources Code Section 21082, 21083.2, and 21084.1 and California Code of Regulations 15064.5). Cultural resources are defined as buildings, sites, structures, or objects that may have historical, architectural, archaeological, cultural, or scientific importance. CEQA states that if a project results in significant impacts on important cultural resources, then alternative plans or mitigation measures must be considered.

The California Public Resources Code Section 5024.1 and Title 14 California Code of Regulations Section 4850 et seq. created the California Register of Historic Resources. In order to be eligible for the California Register, a cultural resource must be at least 50 years old, possess integrity, including physical, stratigraphic, location, setting, and ambience, and meet one or more of four (4) criteria (Section 5020.1(j) and 5024.1 of the Public Resources Code:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Is associated with the lives of persons important in our past;

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possess high artistic values, and;

4. Has yielded, or may be likely to yield, information important in prehistory or history.

ENVIRONMENTAL SETTING

The project area is located within the North Coast Range of Lake County California at an elevation of between 2,250 and 2,390 feet. This area of the Coast Range is made up of rugged mountains with ridges trending to the northwest and an occasional intervening Valley. Geologically the survey area is located within the Franciscan mélange rock unit but is situated in the vicinity of Mt. Konocti, located approximately 5.3 miles to the southwest, a zone of Pleistocene/Quaternary volcanism. Mt. Konocti is an eroded multiple cone volcano which have been classed as a composite cone. The major eruptive period of Mt. Konocti was during the middle to late Pleistocene Epoch. Evidence supports an even more recent eruption on the northern peak. The geology in the project area consisted of Franciscan Formation (Jenkins 1960). The nearest water was seasonal drainages within the project area.

Clear Lake is the dominant feature of the Clear Lake deformation basin. The Lake, which may be the oldest in California, is the only large natural lake in the North Coast Ranges. Although the exact age of the lake is unknown, past studies of deep core samples revealed an age of more than 130,000 years. Clear Lake is located approximately 0.8 miles west of the project area.

The general project areas native vegetation would have been a Blue Oak-Gray Pine Forest and Chaparral (Kuchler: 1973). Vegetation cover at the time of the survey consisted of vineyards, brush, and grass. The climate around the study area can be characterized as Mediterranean, dry in the summer and only moderately wet in the winter. Local climates present a complex mosaic in the North Coast Ranges and figure prominently in the vegetation patterning. Within the survey area, winter temperature can fall below 20 degrees F. but can reach highs of 70 degrees F. and in the summer, to 110+ degrees F.

PREHISTORIC / ETHNOGRAPHIC CONTEXT

Prehistoric human use of the survey vicinity extends over several thousand years. Fredrickson's discussion of the prehistory of the Russian River Subregion within Mendocino and Lake Counties offers a time depth covering the entire Holocene to 12,000 B.P. (Fredrickson 1984). Fredrickson's chronological scheme consists of five periods and associated patterns and Aspects. The periods and patterns are: Emergent Period (1850 to 500 AD) (Clearlake Aspect of the Augustine Pattern), the Upper Archaic Period (500 AD to 1,000 BC) (Houx Aspect of the Berkeley Pattern), Middle Archaic Period (1,000 BC to 3,000 BC) (Mendocino Aspect of the Borax Lake Pattern), Lower

Archaic Period (3,000 BC to 6,000 BC) (Borax Lake Aspect of the Borax Lake Pattern), and the Paleo Indian Period (6,000 BC to 10,000 plus BC) (Post Pattern).

Ethnographic literature and maps show the survey area to be in the territory that was controlled by the Southeastern Pomo. The Southeastern Pomo were one of five linguistic stocks, occupying the Clear Lake area in the late prehistoric and early historic period. The other groups were the Eastern Pomo, Northern Pomo, Lake Miwok, and the Lile'ek Wappo (McLendon and Oswalt 1978) (Callaghan 1978) (Johnson 1978).

Expectations: Prehistoric Archaeological Sites

The types of prehistoric sites likely to be found in the project area are typical for the North Coast Ranges of California. The predominant artifact will be stone; chipped items will be manufactured largely from local obsidian. Other local and exotic stone materials could include petrified wood, Monterey chert, quartz crystals, basalt, and quartzite. Bedrock features such as mortars, grinding slicks, and petroglyphs do occur in Lake County, but they are not expected in the project boundaries. Open middens or deposits of locally darkened anthrosols are likely anywhere native inhabitants lived for an extended period. Anthrosols are locally darkened sediments often with a loamy texture, greasy feel, and rich organic content; they are often acid reactive exhibiting broken pieces of shell and bone. Anthrosols may or may not occur in a mound. Human graves are typical occurrences in anthrosols and should be presumed whenever such deposits are encountered.

HISTORIC-PERIOD CONTEXT

The historic period in this area most likely began as early as 1829 with a visit by Alexander McLeod. American trappers working for the Hudson's Bay Company passed through the Clear Lake area in 1832 or 1833. Russian explorers from Fort Ross visited the region at about the same time as the Hudson's Bay trappers. In 1841, Salvadore Vallejo obtained the Big Valley vicinity from the Mexican Government for cattle ranching. Intensive American settlement of the Clear Lake region began after 1851 with the establishment of ranches in Lower Lake, Upper Lake, and Big Valley. Two land grants by the Mexican Government were granted in Lake County. The first was the Collayomi Grant consisting of 3 leagues to Robert T. Ridley an English sailor and Captain in 1844 or 1845. The second was the Guenoc Grant consisting of 6 leagues to George Roch in 1845 (Palmer 1881:46).

Expectations: Historic Archaeological Sites

The types of historic archaeological sites associated with post-1845 activities and that might be within the project area might include remains of residences and smaller structures, agricultural residential compounds associated with ranching, and agricultural. These structures may no longer be standing but might have been built of stone footings, dry-laid stone foundations, or directly on the ground. The ruins of a residence might include a group of stones exhibiting some organizational patterning,

fragmented pieces of milled wood, square cut nails, and 19th-century trash; associated features might include stone-lined wells, shallow stone-line root cellars, privy pits, and trash deposits. Other small features could exist with or independently from residential compounds.

PROJECT LOCATION AND DESCRIPTION

The survey area was situated within T. 14 N., R. 8 W., Sections 25 & 26 as depicted on the Clearlake Oaks (1996) 7.5' USGS topographic quadrangle (see map). Boundaries were determined using project maps, USGS topographic maps, GPS, prominent natural and manmade features and pointed out by the property owner. The subject property's terrain was sloping north to south. The proposed project consists of cannabis cultivation. Most of the survey area consisted of existing vineyards.

METHODS

The method employed in the cultural resource investigation consisted of two steps. Initially, the ethnographic literature, archaeological base maps, site records, and prior survey reports on file at the Historical Resources Information System Northwest Information Center were reviewed to determine whether recorded archaeological or ethnographic sites were situated within the project area. As a result of records search 20-0931 (see attached) it was determined that no archaeological or ethnographic sites had been recorded within the project boundaries. The record search did show that the project had been previously survey for cultural resources in 1992 (Greenway 1992), Flaherty 1999 & 2003 (Flaherty 1999 & 2003) mostly for vineyard cultivation projects (see records search attached). Because of the length of time since the last archaeological reconnaissance it was recommended that the project area be resurveyed to update the report to reflect current regulations. Based on the records search and past surveys in the area, the author formed the opinion that the probability of archaeological sites being situated within the boundaries of the current study area was moderate.

It should be noted as part of the record search for this project The Directory of Properties in the Historic Property File for Lake County maintained by the Office of Historic Preservation (OHP) was reviewed to determine if any historic structures had been listed in the vicinity of the project. No historic structures have been listed in the immediate project area. Also reviewed were historic maps including General Land Office map 1868 and United States Geological Survey maps (Bartlett Springs 15' 1942 & 1944; Clearlake Oaks 15' 1960; Clearlake Oaks 7.5' 1967, 1975, 1077, and 1996. No features were noted on the General Land Office maps or United States Geological Survey maps within the project boundaries.

In November 2020, the Native American Heritage Commission was contacted to request a search of the Native American Heritage Commission sacred lands file. The Native American Heritage Commission responded in November 2020; the search was negative in the project vicinity. The (NAHC) requested that we contact nine other local

Native American groups (see correspondence attached). One Native American group, Habematolel Pomo responded asking for a map showing the survey areas. As a result, they determined that the project area was not within their aboriginal territories. To date no other response has been received. Lack of response should not necessarily be construed as a lack of interest by Native American groups and should any group respond we shall attach and incorporate responses into our report as an addendum.

The second part of the investigation consisted of a complete survey of the project area using approximate north/south transects approximately 20 to 40m apart. Ground visibility at the time of the survey was poor due to grass, duff, and brush cover.

RESULTS AND RECOMMENDATIONS

No cultural resources sites were discovered because of the survey; however, the possibility of buried or obscured cultural resources does exist. Should archaeological materials be discovered during future development, we recommend that all activity be temporarily halted in the vicinity of the find(s), and that a qualified archaeologist be retained to evaluate the find(s) and to recommend mitigation procedures, if necessary. Prehistoric archaeological materials include, but are not limited to, obsidian, chert, and basalt flakes and artifacts, groundstone (such as mortars and pestles) and human graves. Historic archaeological materials include, but are not limited to, glass bottles, privys, and ceramics.

It is unlikely that human remains will be discovered during project construction. If, however, human remains of any type are encountered it is recommended that the project sponsor contact a qualified archaeologist to assess the situation. We also suggest that Section 15064.5 of the CEQA Guidelines be reviewed, as it details the legal procedure to follow in case of the accidental discovery of human remains during excavation or construction.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

This report is issued with the understanding that it is the responsibility of the client to transmit the information and recommendations to appropriate parties including the lead agency so that the necessary steps may be taken by the various parties to appropriately implement them. The conclusions and recommendations presented in this report are solely professional opinions.

The professional staff of Flaherty Cultural Resource Services (FCRS) makes every effort to perform contracted services in a professional manner with reasonable care and completeness: The report's conclusions however are not infallible. Further, the report is based upon field considerations extant at the time of the investigation and there is the potential for discovery of buried cultural resources or those obscured by dense surface vegetation and brush, or, other natural or human-induced factors, or new classes of cultural resources. FCRS staff is therefore unable to eliminate all risks, provide guarantees, or warrant our conclusion(s) against unforeseen or hidden discoveries.

FCRS's report must not be subject to unauthorized reuse; that is, reuse on other projects without written authorization of FCRS; this report is subject to United States and International copyright protection. Authorization for reuse is essential because FCRS must evaluate the document's applicability given new circumstances; for example, over time, news laws are passed and or regulations change that affect cultural resource protection or the report's applicability to new projects and circumstances. Field and other conditions will often necessitate clarifications, adjustments, and modifications to FCRS's report. Therefore, FCRS should be engaged to prepare the necessary clarifications, adjustments, modifications, or other changes before the report is reused for any project or purpose not specifically reported. Further, the content of this report may not be changed or altered.

If FCRS is not retained to prepare adjustments, clarification, or modifications to the report, FCRS shall not be held responsible for any claims, including but not limited to claims arising or resulting from the performance of any such services prepared by other persons or entities, and any or all claims arising or resulting from the clarifications, adjustments, modifications, or any changes necessary to reflect changed field or other conditions.

Jay M. Flaherty
Flaherty Cultural Resource Services, (FCRS)

cc: Northwest Information Center

REFERENCES

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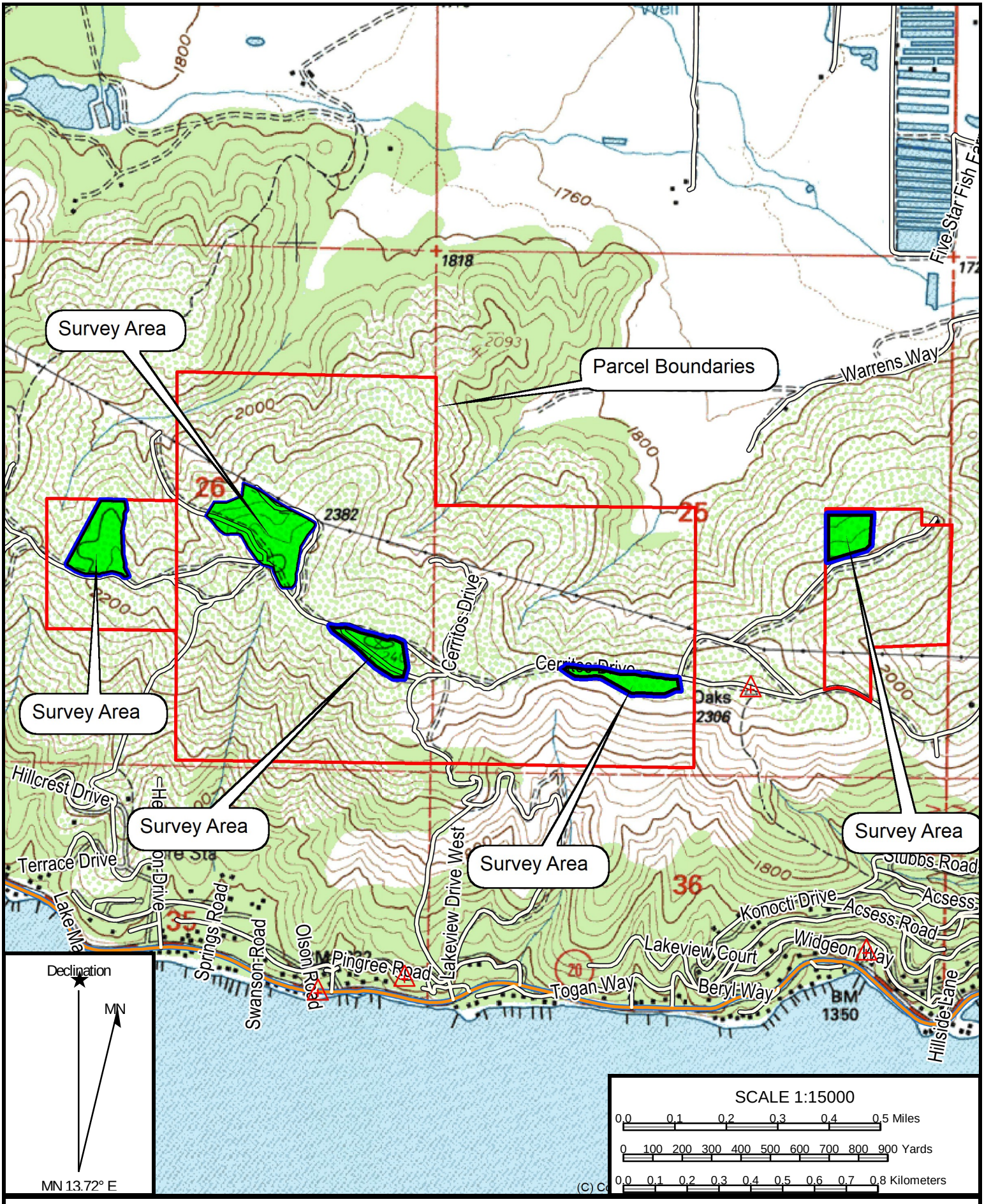
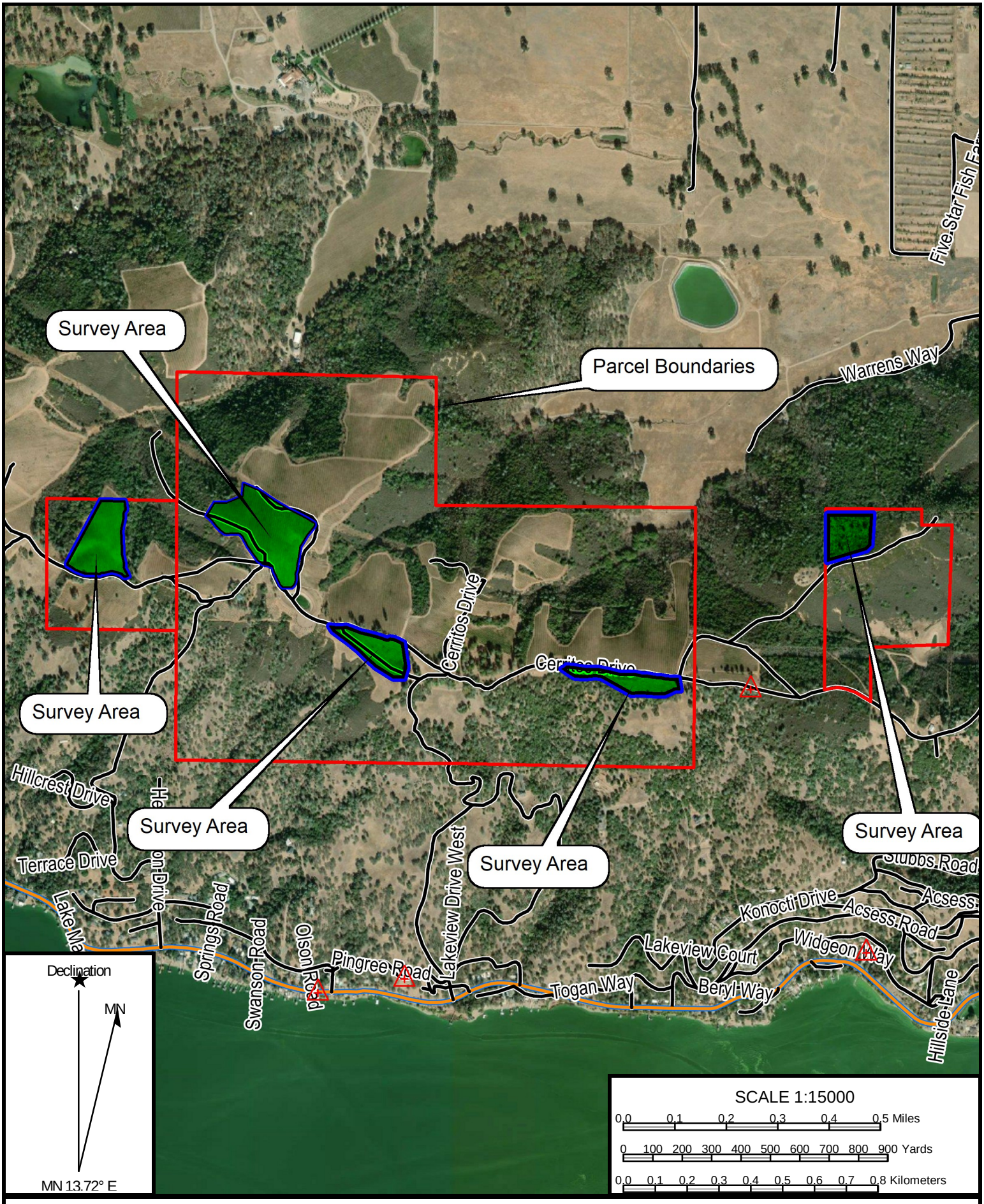


Name: CLEARLAKE OAKS
Date: 01/13/21
Scale: 1 inch = 1,250 ft.

Location: Sec 025 T014N R008W CA Mount Diablo

Caption: Legacy H.V. LLC



Name: Satellite Image
Date: 01/13/21
Scale: 1 inch = 1,250 ft.

Location: Sec 025 T014N R008W CA Mount Diablo

Caption: Legacy H.V. LLC

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA, COLUSA, CONTRA COSTA, DEL NORTE, HUMBOLDT, LAKE, MARIN, MENDOCINO, MONTEREY, NAPA, SAN BENITO, SAN FRANCISCO, SAN MATEO, SANTA CLATA, SANTA CRUZ, SOLANO, SONOMA, YOLO

Northwest Information Center
Sonoma State University
150 Professional Center Drive, Suite E
Rohnert Park, California 94928-3609
Tel: 707.588.8455
nwic@sonoma.edu
http://www.sonoma.edu/nwic

11/20/2020 NWIC File No.: 20-0931

Jay M. Flaherty
FCRS/AJI
2795 E. Bidwell Street, Suite 100 #637
Folsom, CA 95630

Re: Legacy H.V. LLC

The Northwest Information Center received your record search request for the project area referenced above, located on the Clearlake Oaks USGS 7.5' quad(s). The following reflects the results of the records search for the project area and a one-quarter mile radius:

Resources within project area:	None
Resources within ¼-mile radius:	None
Reports within project area:	S-13607, S-23492, S-27038
Reports within ¼-mile radius:	S-10993

Resource Database Printout (list):	☐ enclosed	☐ not requested	☒ nothing listed
Resource Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Resource Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (list):	☐ enclosed	☒ not requested	☐ nothing listed
Report Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed
Report Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed
Resource Record Copies:	☐ enclosed	☐ not requested	☒ nothing listed
Report Copies:	☒ enclosed	☐ not requested	☐ nothing listed
OHP Built Environment Resources Directory:	☐ enclosed	☒ not requested	☐ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☒ not requested	☐ nothing listed
CA Inventory of Historic Resources (1976):	☐ enclosed	☒ not requested	☐ nothing listed
Caltrans Bridge Survey:	☐ enclosed	☒ not requested	☐ nothing listed
Ethnographic Information:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Literature:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Local Inventories:	☐ enclosed	☒ not requested	☐ nothing listed
GLO and/or Rancho Plat Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Shipwreck Inventory:	☐ enclosed	☒ not requested	☐ nothing listed

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

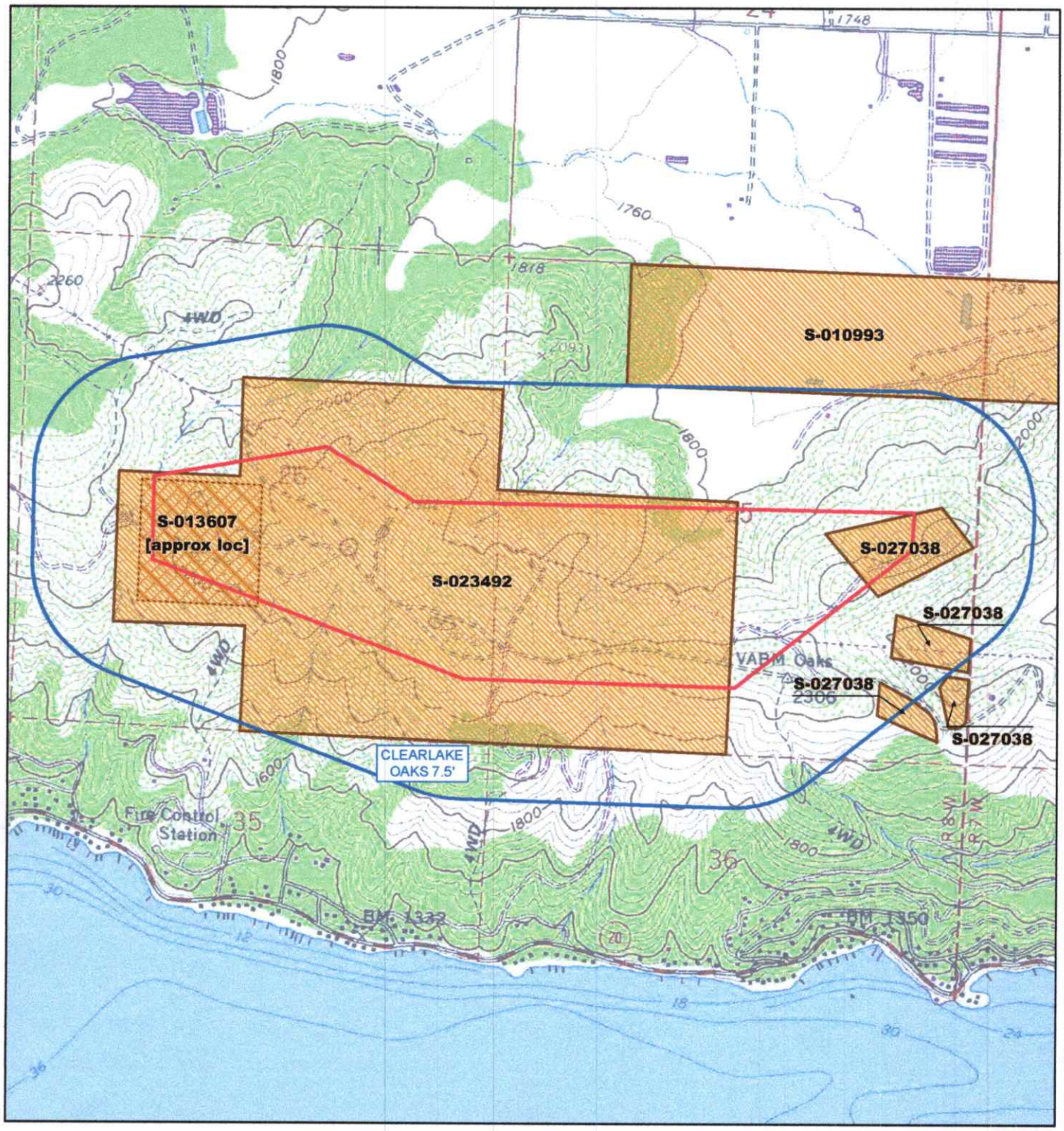
Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Jessika Akmenkalns, Ph.D.
Researcher

Report Map
Legacy H.V. LLC



Northwest Information Center
File #20-0931 20 Nov 2020 J. Akmenkalns
May depict confidential cultural resource locations.
Do not distribute.

Feet 0 550 1,100 1,650 2,200
Meters 0 100 200 300 400 500
N

Project Area | One-Quarter Mile Radius | Quad outlines
Reports (polygons)
Reports approx loc

Archaeological
Services Inc.

(707) 277-9533 9467 Chippewa Trail • Kelseyville, CA 95451

S-10993

June 5, 1989

Mr. Ray Warren
Veda S. Warren (Estate)
1716 8th Av.
Olivehurst, CA 95961

**AN ARCHAEOLOGICAL SURVEY OF 158 ACRES
NEAR CLEARLAKE OAKS, LAKE COUNTY, CALIFORNIA
(AP#'S 6-007-07 & 6-013-01)**

INTRODUCTION

This report presents the results of an archaeological survey conducted on April 25 & 26, 1989 by John Pryor & Trish Ryan Archaeological Services. Three archaeological resource was discovered within the project boundaries. The survey area consisted of approximately 158 acres situated NW of Clearlake Oaks, Lake County, California. The investigation was authorized by Mr. Ray Warren. The survey was required by the County of Lake after a determination by the Northwest Information Center of the California Archaeological Inventory that the project was situated in an archaeologically sensitive zone. The purposes of the survey were: (1) to identify and record any archaeological resources, prehistoric or historic, that might be situated within the proposed project boundaries; (2) to make preliminary evaluations regarding the significance of identified archaeological resources, if possible; and (3) to propose recommendations for mitigation of potential impacts to identified archaeological resources.

(209) 224-9077
Fresno, California

(209) 474-7185
1117 Aberdeen Avenue • Stockton, California 95209

S-13607

CULTURAL RESOURCES INVENTORY

FOR

SCATTERED PARCELS IN THE CLEAR LAKE BASIN
(CACHE CREEK EXCHANGE IV)

Marlene L. Greenway
Clear Lake Resource Area
BLM - Ukiah

February 1992

Archaeological Services Inc.

(707) 277-9533 9467 Chippewa Trail • Kelseyville, CA 95451

S-23492

CULTURAL RESOURCE SURVEY OF 460+/- ACRES NEAR CLEARLAKE OAKS, LAKE COUNTY, CALIFORNIA

(Dharmapalan Vineyard)

By
Jay M. Flaherty
September 9, 1999

Prepared for
Mr. Patrick Stern
Shannon Ranches, Inc.
P.O. Box 29
Arbuckle, CA 95912

RESULTS: **Negative**
ACRES: **460 +/-**
SITES: **0**
LEAD AGENCY: **County of Lake**
CONTACT PERSON: **Dave Wappler, Planning Department**

(209) 334-
8110 Lorrain 408 • Stockton, California 95210

Archaeological Services, Inc.

9467 Chippewa Trail • Kelseyville, CA 95451
(707) 277-9533 • Fax (707) 277-7790

S-27038

CULTURAL RESOURCE RECONNAISSANCE OF 36+/- ACRES NEAR CLEARLAKE OAKS, LAKE COUNTY, CALIFORNIA

(Monte Lago Vineyards)

BY
Jay M. Flaherty
June 12, 2003

Prepared for
Shannon Ranches
P.O. Box 2037
Clearlake Oaks, CA 95423

RESULTS: **Negative**
ACRES: **36 +/-**
SITES: **None**
LEAD AGENCY: **County of Lake**
CONTACT PERSON: **Community Development Department, County of Lake**

November 12, 2020

Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: ___Legacy H.V. LLC_____

County:____Lake_____

USGS Quadrangle Name:
Clearlake Oaks_____
Township: 14N _____ Range: 8W_____ Section(s): 25 & 26__

Company/Firm/Agency: FCRS (Jay M. Flaherty)

Street Address: 2795 E. Bidwell St., Suite 100 #637
City: Folsom, CA
Zip: 95630

Phone: 707-277-9533
Fax: N/A

Email: jay.fcrs@gmail.com

Project Description: Commercial Cannabis Grow Sites, 25+/-ac

STATE OF CALIFORNIA — Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

November 20, 2020

Jay M. Flaherty
FCRS

Via Email to: jay.fcrs@gmail.com

Re: Legacy H.V. LLC Project, Lake County

Dear Mr. Flaherty:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Sarah.Fonseca@nahc.ca.gov.

Sincerely,

Sarah Fonseca
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Lake County
11/20/2020

Elem Indian Colony Pomo Tribe
Thomas Brown, Cultural Resources Director
16170 Main Street
Lower Lake, CA, 95457
Phone: (707) 994 - 3400
t.brown@elemindiancolony.org
Pomo

Elem Indian Colony Pomo Tribe
Kim Cole, Tribal Administrator
16170 Main Street
Lower Lake, CA, 95457
Phone: (707) 994 - 3400
Fax: (707) 994-3408
k.cole@elemindiancolony.org
Pomo

Elem Indian Colony Pomo Tribe
Agustin Garcia, Chairperson
P. O. Box 757 16170 Main Street
Lower Lake, CA, 95457
Phone: (707) 994 - 3400
Fax: (707) 994-3408
k.cole@elemindiancolony.org
Pomo

Guidiville Indian Rancheria
Donald Duncan, Chairperson
P.O. Box 339
Talmage, CA, 95481
Phone: (707) 462 - 3682
Fax: (707) 462-9183
admin@guidiville.net
Pomo

Habematolel Pomo of Upper Lake
Sherry Treppa, Chairperson
P.O. Box 516
Upper Lake, CA, 95485
Phone: (707) 275 - 0734
Fax: (707) 275-0757
Pomo

Koi Nation of Northern California
Rob Morgan, Tribal Historic Preservation Officer
P.O. Box 3162
Santa Rosa, CA, 95402
Phone: (707) 575 - 5586
Fax: (707) 575-5506
robs_norcal@yahoo.com
Pomo

Koi Nation of Northern California
Darin Beltran, Chairperson
P.O. Box 3162
Santa Rosa, CA, 95402
Phone: (707) 758 - 7408
Fax: (707) 575-5506
kn@koination.com
Pomo

Middletown Rancheria of Pomo Indians
Jose Simon, Chairperson
P.O. Box 1035
Middletown, CA, 95461
Phone: (707) 987 - 3670
Fax: (707) 987-9091
sshope@middletownrancheria.com
Lake Miwok
Pomo

Middletown Rancheria
Sally Peterson, THPO
P.O. Box 1658
Middletown, CA, 95461
Phone: (707) 987 - 3670
THPO@middletownrancheria.com
Lake Miwok
Pomo

Mishewal-Wappo Tribe of Alexander Valley
Scott Gabaldon, Chairperson
2275 Silk Road
Windsor, CA, 95492
Phone: (707) 494 - 9159
scottg@mishewalwappotribe.com
Wappo

Pinoleville Pomo Nation
Leona Willams, Chairperson
500 B Pinoleville Drive
Ukiah, CA, 95482
Phone: (707) 463 - 1454
Fax: (707) 463-6601
Pomo

Pinoleville Pomo Nation
Erica Carson, Tribal Historic Preservation Officer
500 B Pinoleville Drive
Ukiah, CA, 95482
Phone: (707) 463 - 1454
Fax: (707) 463-6601
Pomo

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Legacy H.V. LLC Project, Lake County.

Native American Heritage Commission
Native American Contact List
Lake County
11/20/2020

8 ***Robinson Rancheria of Pomo Indians***
Eddie J. Crandall, Chairperson
P.O. Box 4015 Pomo
Nice, CA, 95464
Phone: (707) 275 - 0527
Fax: (707) 275-0235
tavilabasket@yahoo.com

Yocha Dehe Wintun Nation
Isaac Bojorquez, Director of Cultural Resources
PO Box 18 Brooks, CA 95606 Patwin
Phone: (530) 796 - 0103
ibojorquez@yochadehe-nsn.gov

Yocha Dehe Wintun Nation
Laverne Bill, Site Protection Manager
P.O. Box 18 Patwin
Brooks, CA, 95606
Phone: (530) 796 - 3400
lbill@yochadehe-nsn.gov

9 ***Yocha Dehe Wintun Nation***
Leland Kinter, THPO
P.O. Box 18 Patwin
Brooks, CA, 95606
Phone: (530) 796 - 3400
thpo@yochadehe-nsn.gov

Yocha Dehe Wintun Nation
Anthony Roberts, Chairperson
P.O. Box 18 Patwin
Brooks, CA, 95606
Phone: (530) 796 - 3400
aroberts@yochadehe-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Legacy H.V. LLC Project, Lake County.

Flaherty Cultural Resource Services (FCRS)

Emailed

December 18, 2020

Elem Indian Colony of Pomo
Thomas Brown, Cultural Resource Director
16170 Main Street
Lower Lake, CA 95457

RE: Sacred Lands File Information for Legacy Project, Clearlake Oaks, Lake County, CA. T14N/R8W Section 25.

Our company is conducting a cultural resources study for the above project in Lake County, California, the project 25+/-ac cannabis cultivation.

Please note the Native American Heritage Commission has responded with negative results. Also please note that the entire project area has been previously surveyed for cultural resources with negative results. A small portion of the project area was surveyed by BLM in 1992 and then the entire project area including the area that had been surveyed by BLM was surveyed in 1999 by ASI. At that time, the proposed project was vineyard development which was carried out in the area. The area is now planted in vineyards. As a result of the surveys conducted in 1992, 1999, and the current resurvey this year no cultural resources were discovered.

We are contacting you, as part of the process to protect cultural resources, to see if you have any concerns regarding possible impacts to Native American cultural resources within the area.

Any information you may have will be greatly appreciated. If you have any questions, please do not hesitate to call at 707-277-9533. Please respond by whatever method is most convenient; e-mail jay.fcrs@gmail.com, or mail at 2795 E. Bidwell St., Suite 100/637, Folsom California, 95630.

Sincerely,
JMF

Jay M. Flaherty
Flaherty Cultural Resources Services (FCRS)

2795 E. Bidwell St., Suite 100 #637 Folsom, CA 95630
Phone (707)277-9533 • Email jay.fcrs@gmail.com

From: jay.fcrs@gmail.com
Sent: Friday, December 18, 2020 10:59 AM
To: t.brown@elemindiancolony.org; k.cole@elemindiancolony.org
Subject: Sacred Lands File Information (SLF) For the Legacy Project

Please find attached as a PDF a request for sacred lands file information for the above project.

Thank you,
FCRS

Sent from Mail for Windows 10

Message blocked

Your message to **k.cole@elemindiancolony.org** has been blocked. See technical details below for more information.

The response from the remote server was:

```
550 5.4.1 Recipient address rejected: Access denied. AS(201806281)
[CY1NAM02FT062.eop-nam02.prod.protection.outlook.com]
```

Message blocked

Your message to **t.brown@elemindiancolony.org** has been blocked. See technical details below for more information.

The response from the remote server was:

```
550 5.4.1 Recipient address rejected: Access denied. AS(201806281)
[CY1NAM02FT062.eop-nam02.prod.protection.outlook.com]
```

Flaherty Cultural Resource Services (FCRS)

Emailed

December 18, 2020

Guidiville Indian Rancheria
Merlene Sanchez, Chairperson
P.O. Box 339
Talmage, CA 95481

RE: Sacred Lands File Information for Legacy Project, Clearlake Oaks, Lake County, CA. T14N/R8W Section 25.

Our company is conducting a cultural resources study for the above project in Lake County, California, the project 25+/-ac cannabis cultivation.

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Sincerely,
JMF

Jay M. Flaherty
Flaherty Cultural Resources Services (FCRS)

2795 E. Bidwell St., Suite 100 #637 Folsom, CA 95630
Phone (707)277-9533 • Email jay.fcrs@gmail.com

From: jay.fcrs@gmail.com
Sent: Friday, December 18, 2020 11:20 AM
To: admin@guidiville.net
Subject: Sacred Lands File Information For the Legacy Project

Please find attached as a PDF a request for sacred lands file information for the above project.

Thank you,
FCRS

Sent from Mail for Windows 10

Flaherty Cultural Resource Services (FCRS)

Emailed

December 18, 2020

Linda D. Rosas-Bill
Environmental Director
Habematolel Pomo Of Upper Lake
P.O. Box 516
Upper Lake, CA 95485

RE: Sacred Lands File Information for Legacy Project, Clearlake Oaks, Lake County, CA. T14N/R8W Section 25.

Our company is conducting a cultural resources study for the above project in Lake County, California, the project 25+/-ac cannabis cultivation.

Please note the Native American Heritage Commission has responded with negative results. Also please note that the entire project area has been previously surveyed for cultural resources with negative results. A small portion of the project area was surveyed by BLM in 1992 and then the entire project area including the area that had been surveyed by BLM was surveyed in 1999 by ASI. At that time, the proposed project was vineyard development which was carried out in the area. The area is now planted in vineyards. As a result of the surveys conducted in 1992, 1999, and the current resurvey this year no cultural resources were discovered.

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Sincerely,
JMF

Jay M. Flaherty
Flaherty Cultural Resources Services (FCRS)

2795 E. Bidwell St., Suite 100 #637 Folsom, CA 95630
Phone (707)277-9533 • Email jay.fcrs@gmail.com

From: jay.fcrs@gmail.com
Sent: Friday, December 18, 2020 11:28 AM
To: Linda Rosas
Subject: Sacred Lands File Information (SLF) For the Legacy Project

Please find attached as a PDF a request for sacred lands file information for the above project.

Thank you,
FCRS

Sent from Mail for Windows 10

From: Robert Geary
Sent: Wednesday, December 23, 2020 2:07 PM
To: jay.fcrs@gmail.com
Subject: FW: Legacy Project

From: Robert Geary
Sent: Wednesday, December 23, 2020 2:05 PM
To: jay.fcrs@gamil.com
Subject: Legacy Project

Hello Jay,

Good afternoon. I am the Tribal Historic Preservation Officer (THPO) for the Habematolel Pomo of Upper Lake. I am requesting a map of the APE for location of this project. Also, has there been a cultural resource study of the area? If so, send a copy of the study as well. Thank you for your time and cooperation.

Thanks,

Robert Geary

Pomo of Upper Lake
Habematolel

9470 Main St.
Upper Lake, CA 95485

Correspondence
P.O. Box 516
Upper Lake, CA 95485

P 707.275.0737 | F 707.275.0757
www.hpultribe-NSN.gov

December 28, 2020

Flaherty Cultural Resource Service (FCRS)
Attn: Jay Flaherty, (FCRS)
2795 E. Bidwell Street,
Suite 1000 #637
Folsom, CA 95630

RE: Legacy Project

Dear Mr. Jay Flaherty:

Thank you for your project notification letter dated December 18, 2020, regarding cultural information on or near the proposed T14N/R8W, Clearlake Oaks, Lake County. We appreciate your effort to contact us.

The Cultural Resources THPO Department has reviewed the project and concluded that it is not within the aboriginal territories of the Habematolel Pomo of Upper Lake. Therefore, we respectively decline any comment on this project. However, based on the information provided, please defer correspondence to the following:

Elem Indian Colony
Attn: Lamont Brown
P.O. Box 757
Lower Lake, CA 95457

Please refer to identification number HP–12182020-01 in any future correspondence with Habematolel Pomo of Upper Lake concerning this project.

Thank you for providing us with this notice and the opportunity to comment.

Sincerely,

Robert Geary

Robert Geary
Tribal Historic Preservation Officer

Flaherty Cultural Resource Services (FCRS)

Emailed

December 18, 2020

Koi Nation of Northern California
Rob Morgan, THPO
P.O. Box 3162
Santa Rosa, CA 95402

RE: Sacred Lands File Information for Legacy Project, Clearlake Oaks, Lake County, CA. T14N/R8W *Section* 25.

Our company is conducting a cultural resources study for the above project in Lake County, California, the project 25+/-ac cannabis cultivation.

Please note the Native American Heritage Commission has responded with negative results. Also please note that the entire project area has been previously surveyed for cultural resources with negative results. A small portion of the project area was surveyed by BLM in 1992 and then the entire project area including the area that had been surveyed by BLM was surveyed in 1999 by ASI. At that time, the proposed project was vineyard development which was carried out in the area. The area is now planted in vineyards. As a result of the surveys conducted in 1992, 1999, and the current resurvey this year no cultural resources were discovered.

We are contacting you, as part of the process to protect cultural resources, to see if you have any concerns regarding possible impacts to Native American cultural resources within the area.

Any information you may have will be greatly appreciated. If you have any questions, please do not hesitate to call at 707-277-9533. Please respond by whatever method is most convenient; e-mail jay.fcrs@gmail.com, or mail at 2795 E. Bidwell St., Suite 100/637, Folsom California, 95630.

Sincerely,
JMF

Jay M. Flaherty
Flaherty Cultural Resources Services (FCRS)

2795 E. Bidwell St., Suite 100 #637 Folsom, CA 95630
Phone (707)277-9533 • Email jay.fcrs@gmail.com

From: jay.fcrs@gmail.com
Sent: Friday, December 18, 2020 11:36 AM
To: robs_norcal@yahoo.com; kn@koination.com
Subject: Sacred Lands File Information for the Legacy Project

Please find attached as a PDF a request for sacred lands file information for the above project.

Thank you,
FCRS

Sent from Mail for Windows 10

Flaherty Cultural Resource Services (FCRS)

Emailed

December 18, 2020

Middletown Rancheria
Sally Peterson THPO
P.O. Box 1035
Middletown, CA 95461

RE: Sacred Lands File Information for Legacy Project, Clearlake Oaks, Lake County, CA. T14N/R8W Section 25.

Our company is conducting a cultural resources study for the above project in Lake County, California, the project 25+/-ac cannabis cultivation.

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Sincerely,
JMF

Jay M. Flaherty
Flaherty Cultural Resources Services (FCRS)

2795 E. Bidwell St., Suite 100 #637 Folsom, CA 95630
Phone (707)277-9533 • Email jay.fcrs@gmail.com

From: jay.fcrs@gmail.com
Sent: Friday, December 18, 2020 11:49 AM
To: THPO@middletownrancheria.com; Sierra Shope
Subject: Sacred Lands File Information for the Legacy Project

Please find attached as a PDF a request for sacred lands file information for the above project.

Thank you,
FCRS

Sent from Mail for Windows 10

Flaherty Cultural Resource Services (FCRS)

Emailed

December 18, 2020

Mishewal-Wappo Tribe of Alexander Valley
Scoot Gabaldon, Chairperson
2275 Silk Road
Windsor, CA 95492

RE: Sacred Lands File Information for Legacy Project, Clearlake Oaks, Lake County, CA. T14N/R8W Section 25.

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Sincerely,
JMF

Jay M. Flaherty
Flaherty Cultural Resources Services (FCRS)

2795 E. Bidwell St., Suite 100 #637 Folsom, CA 95630
Phone (707)277-9533 • Email jay.fcrs@gmail.com

From: jay.fcrs@gmail.com
Sent: Friday, December 18, 2020 11:58 AM
To: Scott Gabaldon
Subject: Sacred Lands File Information For the Legacy Project

Please find attached as a PDF a request for sacred lands file information for the above project. Please note this project has no street address only the topo map coordinates.

Thank you,
Jay

Sent from Mail for Windows 10

Flaherty Cultural Resource Services (FCRS)

Emailed

December 18, 2020

Pinoleville Pomo Nation
Erica Carson, THP Officer
500 E. Pinoleville Drive
Ukiah, CA 95482

RE: Sacred Lands File Information for Legacy Project, Clearlake Oaks, Lake County, CA. T14N/R8W Section 25.

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Sincerely,
JMF

Jay M. Flaherty
Flaherty Cultural Resources Services (FCRS)

2795 E. Bidwell St., Suite 100 #637 Folsom, CA 95630
Phone (707)277-9533 • Email jay.fcrs@gmail.com

From: NoReply@myfax.com
Sent: Friday, December 18, 2020 12:23 PM
To: jay.fcrs@gmail.com
Subject: Successful transmission to 17074636601. Re: Sacred Lands File Information Legacy Project

myfax

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Fax Details

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The MyFax Team

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Flaherty Cultural Resource Services (FCRS)

Emailed

December 18, 2020

Robinson Rancheria
Eddie J. Crandall, Chairperson
P.O. Box 4015
Nice, CA 95464

RE: Sacred Lands File Information for Legacy Project, Clearlake Oaks, Lake County, CA. T14N/R8W Section 25.

Our company is conducting a cultural resources study for the above project in Lake County, California, the project 25+/-ac cannabis cultivation.

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Sincerely,
JMF

Jay M. Flaherty
Flaherty Cultural Resources Services (FCRS)

2795 E. Bidwell St., Suite 100 #637 Folsom, CA 95630
Phone (707)277-9533 • Email jay.fcrs@gmail.com

From: jay.fcrs@gmail.com
Sent: Friday, December 18, 2020 12:34 PM
To: tavilabasket@yahoo.com
Subject: Sacred Lands File Information For the Legacy Project

Please find attached as a PDF a request for sacred file lands information for the above project.

Thank you,
FCRS

Sent from Mail for Windows 10

Flaherty Cultural Resource Services (FCRS)

Emailed

December 18, 2020

Yocha Dehe Wintun Nation
Leland Kinter, THPO
P.O. Box 18
Brooks, CA 95606

RE: Sacred Lands File Information for Legacy Project, Clearlake Oaks, Lake County, CA. T14N/R8W Section 25.

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Sincerely,
JMF

Jay M. Flaherty
Flaherty Cultural Resources Services (FCRS)

2795 E. Bidwell St., Suite 100 #637 Folsom, CA 95630
Phone (707)277-9533 • Email jay.fcrs@gmail.com

From: jay.fcrs@gmail.com
Sent: Friday, December 18, 2020 12:52 PM
To: thpo@yochadehe-nsn.gov; ibill@yochadehe-nsn.gov; ibojorquez@yochadehe-nsn.gov; aroberts@yochadehe-nsn.gov
Subject: Sacred Lands File Information For the Legacy Project

Please find attached as a PDF a request for sacred lands file information for the above project.

Thank you,
FCRS

Sent from Mail for Windows 10

BIOLOGICAL RESOURCES ASSESSMENT FOR THE CANNABIS CULTIVATION OPERATION AT 11250 CERRITO DRIVE, CLEARLAKE OAKS, CALIFORNIA

Prepared: January 13, 2021
Revised: March 15, 2021

Applicant:

Monte Cristo Vineyards, LLC
11250 Cerrito Drive, Clearlake Oaks, CA

Prepared by:

G.O. Graening, PhD and Tim Nosal, MS
Natural Investigations Company, Inc.
3104 O Street, #221, Sacramento, CA 95816

NATURAL INVESTIGATIONS CO.
WWW.NATURALINVESTIGATIONS.COM

TABLE OF CONTENTS

1. INTRODUCTION

1.1. PROJECT LOCATION AND DESCRIPTION

Monte Cristo Vineyards, LLC (MCV) is seeking a Major Use Permit and an Early Activation of Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 11250 Cerrito Drive near Clearlake Oaks, California on Lake County APNs 006-007-17, 23, & 30 (Project Property). MCV's proposed commercial cannabis cultivation operation will be composed of twenty-two (22) A-Type 3 "Medium Outdoor" cultivation areas, with a combined cultivation/canopy area of 958,320 sq. ft. 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 cultivation/canopy area(s), a 120 sq. ft. Security Center/Shed, a 6,000 sq. ft. Processing & Harvest Storage Facility, two 3,000 sq. ft. Immature Plant Areas/Greenhouses, and two 120 sq. ft. Pesticides & Agricultural Chemicals Storage Areas, is 970,680 sq. ft.

The 452-acre Rural Lands-zoned Project Property is located approximately 5 miles northwest of the City of Clearlake, CA, and situated along an east-west trending ridgeline between Clear Lake and High Valley in the central portion of Lake County. Topography of the Project Property is hilly, with elevations ranging between 1,670 and 2,405 feet above mean sea level. The Project Property is within the Schindler Creek – Frontal Clear Lake Watershed (HUC 12), with multiple ephemeral Class III watercourses flowing off of the Project Property towards Schindler Creek to the north and Clear Lake to the south. The Project Property was enrolled for coverage under the State Water Resources Control Board's Cannabis General Order as a Tier 2 Low Risk Discharger on October 30th, 2020 (WDID:5S17CC429163). No cannabis cultivation activities nor agricultural chemicals storage will occur within 100 feet of any surface waterbody, and no ground disturbance is proposed within 100 feet of any wetland or channel.

Current and past land uses of the Project Property are/were rural residential and intensive agriculture, with a commercial vineyard that has been in continuous operation for last two decades. The Project Property has been improved with ten groundwater wells, a 20-acrefoot off-stream water storage reservoir, a residence, and an metal barn (used to store tools and equipment). The Project Property is accessed via Cerrito Drive, and the proposed cultivation operation will be accessed from Cerrito Drive and private gravel access roads off of Cerrito Drive. Locking metal gates across Cerrito Drive control access to Project Property. The proposed cultivation/canopy areas will be established within existing vineyard blocks, utilizing infrastructure currently utilized to cultivate grapes.

The proposed cultivation operation will be established in the western portion of the Project Property. 6-foot tall wire fences will be erected around the proposed outdoor cultivation/canopy area(s), with privacy mesh where necessary to screen the cultivation/canopy area(s) from public view. The growing medium of the proposed outdoor cultivation/canopy area(s) will be an amended native soil mixture at or below grade, with drip irrigation systems to conserve water resources. All water for the proposed cultivation operation will come from the five existing onsite groundwater wells. Water from the existing groundwater wells of the Project Property will discharge to the existing onsite 20-acrefoot off-stream water storage reservoir. Irrigation water will be pumped from the off-stream water storage reservoir to the proposed cultivation/canopy areas.

During the first season of cultivation, while operating under an Early Activation of Use Permit and Provisional Cannabis Cultivation Licenses, MCV will cultivate cannabis between the rows of vines of the existing vineyard blocks/proposed cannabis cultivation areas. To prepare the proposed cannabis cultivation areas, a layer of compost will be applied between each row of vines, then the compost will be disced into the native soil to a maximum depth of less than 12 inches. Preparing the proposed cannabis cultivation areas in this manner is similar to the discing and planting of nitrogen fixing cover crops that has occurred in the vineyard blocks every four years for the last two decades. After Major Use and

Grading Permits have been issued, MCV will remove the vines of the vineyard blocks and rip the soils of the proposed cannabis cultivation areas.

All cannabis waste generated from the proposed cultivation operation will be composted on-site. Composted cannabis waste will be stored in the designated composting area, until it is incorporated into the soils of the cultivation/canopy areas as a soil amendment. Chemicals stored and used at/by MCV's cultivation operation include fertilizers/nutrients, pesticides, and petroleum products (Agricultural Chemicals) and chemical sanitation products necessary to maintain a sterile work environment within the proposed Processing & Harvest Storage Facility. All agricultural chemicals will be securely stored inside the proposed Pesticides and Agricultural Chemicals Storage Areas (two proposed 120 sq. ft. wooden sheds), and chemical sanitation products will be stored within a secure cabinet in the proposed Processing & Harvest Storage Facility.

The proposed Processing & Harvest Storage Facility will be composed of a 60' x 100' (6,000 sq. ft.) metal building on a concrete slab. Within the proposed Processing & Harvest Storage Facility, cannabis cultivated on the Project Property will be dried, cured, trimmed, packaged, and stored under 24-hour video surveillance. MCV will adhere to the tracking and reporting requirements of the California Cannabis Track-and-Trace system at all times, to record and report all cannabis transfers and movements.

For this assessment, the Project Area was defined as the proposed cultivation areas plus the ancillary facilities, and this 23-acre area was the subject of the impact analysis. The entire 523-acre property was defined as the Study Area (APN's 006-007-17, -23, -27, -29, and -30). 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. SCOPE OF ASSESSMENT

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 2019-0001-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.

2. 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 7 - California's Gray Pine Belt, defined by hot summers and mild but pronounced winters without severe winter cold or high humidity (Sunset, 2020). The topography of the Study Area is an east-west trending ridgeline. The elevation ranges from approximately 1,670 feet to 2,405 feet above mean sea level. Drainage runs north and south off of the ridgeline. Water flows north into Schindler Creek, and eventually flows into Clear Lake. Water flows south off of the ridgeline into Clear Lake. Prior to the establishment of this cultivation operation, land uses were vineyard, olive orchard, rural residential and open space. The surrounding land uses are private residences, pasture, open space, and vineyards.

3. METHODOLOGY

3.1. 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
- Aerial photography of the Study Area (current and historical)
- United States Geologic Service 7.5 degree-minute topographic quadrangles of the Study Area and vicinity
- USFWS National Wetland Inventory
- USDA Natural Resources Conservation Service soil survey maps
- California Natural Diversity Database (CNDDB), electronically updated monthly by subscription
- USFWS species list (IPaC Trust Resources Report).

3.2. FIELD SURVEY

Consulting biologist Tim Nosal, MS. conducted a reconnaissance-level field survey on December 29, 2020. Weather conditions were cool and sunny. A 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 CNDDB 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

3.3. 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).

4. RESULTS

4.1. 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:

Botta's pocket gopher (*Thomomys bottae*); Columbian black-tailed deer (*Odocoileus hemionus columbianus*); coyote (*Canis latrans*); dusky-footed wood rat (*Neotoma fuscipes*); gray fox (*Urocyon cinereoargenteus*); western gray squirrel (*Sciurus griseus*); acorn woodpecker (*Melanerpes formicivorus*); American goldfinch (*Spinus tristis*); American robin (*Turdus migratorius*); bushtit (*Psaltriparus minimus*); California quail (*Callipepla californica*); California scrub jay (*Aphelocoma californica*); California towhee (*Melozone crissalis*); common raven (*Corvus corax*); dark-eyed junco (*Junco hyemalis*); hairy woodpecker (*Leuconotopicus villosus*); house finch (*Haemorhous mexicanus*); mallard (*Anas platyrhynchos*); mourning dove (*Zenaida macroura*); northern flicker (*Colaptes auratus*); red-shouldered hawk (*Buteo lineatus*); ring-neck duck (*Aythya collaris*); sparrow (Emberizidae); spotted towhee (*Pipilo maculatus*); turkey vulture (*Cathartes aura*); western bluebird (*Sialia mexicanus*); and other common songbirds.

4.2. VEGETATION COMMUNITIES AND WILDLIFE HABITAT TYPES

4.2.1. Terrestrial Vegetation Communities

The Study Area contains the following terrestrial vegetation communities: Ruderal/Developed, Vineyard/Orchard, Annual Grassland, Chaparral, Pine-Oak Woodland, and Oak Forest. These vegetation communities 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. Vegetation within this habitat type consists primarily of nonnative weedy or invasive species lacking a consistent community structure. This habitat type provides limited resources for wildlife and is utilized primarily by species tolerant of human activities. The disturbed and altered condition of these lands greatly reduces their habitat value and ability to sustain rare plants or diverse wildlife assemblages.

Vineyard/Orchard: These areas consist of land that has been planted in wine grapes or olives. Like the ruderal/developed habitat noted above, this habitat type provides limited resources for wildlife. The heavily managed condition of these lands greatly reduces their habitat value.

Annual Grassland: Several areas across the Study Area are largely devoid of trees and are characterized by annual grassland habitat. This vegetation is comprised mostly of non-native grasses and native and non-native herbs including slender wild oat (*Avena barbata*), bromes (*Bromus* spp.), Medusa-head (*Elymus caput-medusae*), yellow star-thistle (*Centaurea solstitialis*) and dogtail grass (*Cynosurus echinoides*). This vegetation can be classified as the Holland Type "Non-native Grassland," and "42.027.00 Wild Oat and Annual Brome Grasslands" (CDFW 2020).

Chaparral (Chamise): Chaparral habitat is common throughout the Study Area. The dominant species within the chaparral is chamise (*Adenostoma fasciculatum*). Other species encountered in the chaparral include white-leaf manzanita (*Arctostaphylos viscida*), common manzanita (*Arctostaphylos manzanita* ssp. *manzanita*), wedgeleaf ceanothus (*Ceanothus cuneatus*), California scrub oak (*Quercus berberidifolia*), chaparral pea (*Pickeringia montana*), interior live oak (*Quercus wislizeni* var. *wislizeni*), knobcone pine (*Pinus attenuata*), California bay (*Umbellularia californica*), yerba santa (*Eriodictyon californicum*) and toyon (*Heteromeles arbutifolia*). Few grasses and herbs were observed in the understory of the dense shrub canopy.

This vegetation type can be classified as the Holland Type "Chamise Chaparral" or as "37.101.00 Chamise Chaparral (CDFW 2020)".

Pine-Oak woodland: The southern half of the Study Area is dominated by an open canopy of pines and oaks with an herbaceous understory. The pine-oak woodland consists of gray pine (*Pinus sabiniana*), blue oak (*Quercus douglasii*), California black oak (Quercus kelloggii) and interior live oak with an understory similar to the annual grassland noted above. This vegetation type can be classified as the Holland Type "Non-serpentine Gray Pine Woodland" or as "87.130.00 Foothill Pine Woodland (CDFW 2020)".

Oak Forest: North-facing slopes and ravines within the Study Area are dominated by a dense canopy of trees. This habitat can be further described as oak forest. The composition of the mixed oak forest varies across the parcel. Dominant species include interior live oak, California bay (*Umbellularia californica* and gray pine. Various shrubs and small trees are found in the understory including California buckeye (*Aesculus californicus*), two-petal ash (*Fraxinus dipetala*), poison oak (*Toxicodendron diversifolius*), western redbud (*Cercis occidentalis*), deer brush, toyon, and California scrub oak. Few grasses and herbs were observed in the understory of the dense canopy. This vegetation type can be classified as the Holland Type "Interior Live Oak Forest" or as "71.080.00 Interior Live Oak Forest (CDFW 2020)".

4.2.2. Wildlife Habitat Types

Wildlife habitat types were classified using CDFW's Wildlife Habitat Relationship System. The Study Area contains the following wildlife habitat types: Urban; Barren; Vineyard; Evergreen Orchard; Annual Grassland; Chamise-Redshank Chaparral; Blue Oak – Foothill Pine and Montane Hardwood.

4.2.3. Critical Habitat and Special-status Habitat

No critical habitat for any federally-listed species occurs within the Project Area or the surrounding Study Area. The CNDDB reported no special-status habitats within the Project Area or surrounding Study Area. The CNDDB 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. No special-status habitats were detected within the Project Area or surrounding Study Area during the field survey other than ephemeral watercourses.

4.2.4. 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.

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

4.3. 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.

4.3.1. 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 CNDDB.

The CNDDB 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 CNDDB has mapped an occurrence of eel-grass pondweed (*Potamogeton zosteriformis*) within the Study Area. This occurrence is an artifact of the mapping process at CNDDB. This report for eel-grass pondweed is from an unspecified location in nearby Clear Lake. Suitable habitat for this species is not found within the Study Area. Within a 10-mile buffer of the Study Area boundary, the CNDDB 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.

Special-status Species Reported by CNDDB in the Vicinity of the Study Area

Common Name Scientific Name	Status*	General Habitat**	Microhabitat**
Red-bellied newt *Taricha rivularis*	CSSC	Found in coastal woodlands and redwood forests along the coast of Northern California	A stream or river dweller. Larvae retreat into vegetation and under stones during the day.
Foothill yellow-legged frog *Rana boylii*	CE/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 *Pandion haliaetus*	CWL	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 *Aquila chrysaetos*	CFP/CWL	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 *Falco mexicanus*	CWL	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 *Coccyzus americanus occidentalis*	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 *Lavinia exilicauda chi*	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 *Archoplites interruptus*	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.
Clear Lake tule perch *Hysterocarpus traskii lagunae*	CSSC	Endemic to Clear Lake, Lower Blue Lake and Upper Blue Lake	Typically found in deep (3+m) tule beds, among rocks (especially along steep rocky shores) or among the branches of fallen trees.
Silver-haired bat *Lasionycteris noctivagans*	CSSC	Primarily a coastal & montane forest dweller feeding over streams, ponds & open brushy areas.	Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes & rarely under rocks. Needs drinking water.
Townsend's big-eared bat *Corynorhinus townsendii*	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 *Antrozous pallidus*	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 *Erethizon dorsatum*	CSSC	Coast ranges, Klamath Mountains, southern Cascades, Modoc Plateau, Sierra Nevada and Transverse Ranges.	Montane conifer and wet meadow habitats.
Humboldt marten *Martes caurina humboldtensis*	FPT/CE/CSSC	Occurs only in the coastal redwood zone from the Oregon border south to Sonoma County.	Associated with late-successional coniferous forests, prefer forests with low, overhead cover.
Fisher *Pekania pennanti*	CSSC	Historic range in California from the Oregon border south to Marin County, though the southern Cascades and the southern Sierra Nevada.	Associated with forested environments.
Western pond turtle *Emys marmorata*	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
California linderiella *Linderiella occidentalis*	CSSC	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions.	Water in the pools has very low alkalinity, conductivity, and TDS.
An isopod *Calasellus californicus*	CSSC	Known from Lake, Napa, Marin, Santa Cruz and Santa Clara counties.	
Brownish dubiraphian riffle beetle *Dubiraphia brunnescens*	CSSC	Aquatic; known only from the NE shore of Clear Lake, Lake County.	Inhabits exposed, wave-washed willow roots.
Obscure bumble bee *Bombus caliginosus*	CSSC	Open grassy coastal prairies and Coast Range meadows. Nesting occurs underground as well as above ground in abandoned bird nests.	Food plants include Ceanothus, Cirsium, Clarkia, Keckiella, Lathyrus, Lotus, Lupinus, Rhododendron, Rubus, Trifolium, and Vaccinium.

Blennosperma vernal pool andrenid bee *Andrena blennospermatis*	CSSC	This bee is oligolectic on vernal pool *Blennosperma*.	Bees nest in the uplands around vernal pools.
Borax Lake cuckoo wasp *Hedychridium milleri*	CSSC	Endemic to Central California. Only collection is from the type locality.	External parasite of wasp and bee larva.
Western ridged mussel *Gonidea angulata*	CSSC	Primarily creeks & rivers & less often lakes. Originally in most of state, now extirpated from Central & Southern Calif.	
Clear Lake pyrg *Pyrgulopsis ventricosa*	CSSC	Restricted to Seigler Creek drainage in the south end of the Clear Lake Basin.	Freshwater.
Loch Lomond button-celery *Eryngium constancei*	FE/CE/1B.1	Vernal pools.	Volcanic ash flow vernal pools. 460-855 m.
Big-scale balsamroot *Balsamorhiza macrolepis*	1B.2	Chaparral, valley and foothill grassland, cismontane woodland.	Sometimes on serpentine. 90-1555 m.
Small-flowered calycadenia *Calycadenia micrantha*	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 *Erigeron greenei*	1B.2	Chaparral.	Serpentine and volcanic substrates, generally in shrubby vegetation. 80-1005 m.
Burke's goldfields *Lasthenia burkei*	FE/CE/1B.1	Vernal pools, meadows and seeps.	Most often in vernal pools and swales. 15-600 m.
Colusa layia *Layia septentrionalis*	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 *Harmonia hallii*	1B.2	Chaparral.	Serpentine hills and ridges. Open, rocky areas within chaparral. 500-900 m.
Bent-flowered fiddleneck *Amsinckia lunaris*	1B.2	Cismontane woodland, valley and foothill grassland.	50-500m.
Watershield *Brasenia schreberi*	2B.3	Freshwater marshes and swamps.	Aquatic from water bodies both natural and artificial in California.
Oval-leaved viburnum *Viburnum ellipticum*	2B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	215-1400 m.
Lake County stonecrop *Sedella leiocarpa*	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 *Arctostaphylos stanfordiana ssp. raichei*	1B.1	Chaparral, lower montane coniferous forest.	Rocky, serpentine sites. Slopes and ridges. 450-1000 m.
Konocti manzanita *Arctostaphylos manzanita ssp. elegans*	1B.3	Chaparral, cismontane woodland, lower montane coniferous forest.	Volcanic soils. 395-1615 m.
Jepson's milk-vetch *Astragalus rattanii var. jepsonianus*	1B.2	Cismontane woodland, valley and foothill grassland, chaparral.	Commonly on serpentine in grassland or openings in chaparral. 180-1000 m.
Anthony Peak lupine *Lupinus antoninus*	1B.2	Upper montane coniferous forest, lower montane coniferous forest.	Open areas with surrounding forest; rocky sites. 1220-2285 m.
Napa bluecurls *Trichostema ruygtii*	1B.2	Cismontane woodland, chaparral, valley and foothill grassland, vernal pools, lower montane coniferous forest.	Often in open, sunny areas. Also has been found in vernal pools. 30-590m.
Woolly meadowfoam *Limnanthes floccosa ssp. floccosa*	4.2	Chapparal, cismontane woodland, valley and foothill grassland, vernal pools.	Vernally wet areas, ditches, and ponds. 60-1335 m.
Glandular western flax *Hesperolinon adenophyllum*	1B.2	Chaparral, cismontane woodland, valley and foothill grassland.	Serpentine soils; generally found in serpentine chaparral. 150-1315 m.
Two-carpellate western flax *Hesperolinon bicarpellatum*	1B.2	Serpentine chaparral.	Serpentine barrens at edge of chaparral. 60-1005 m.
Marsh checkerbloom *Sidalcea oregana ssp. hydrophila*	1B.2	Meadows and seeps, riparian forest.	Wet soil of streambanks, meadows. 1100-2300 m.
Brandegee's eriastrum *Eriastrum brandegeeae*	1B.1	Chaparral, cismontane woodland.	On barren volcanic soils; often in open areas. 425-840 m.

Baker's navarretia *Navarretia leucocephala ssp. bakeri*	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 *Navarretia leucocephala ssp. pauciflora*	FE/CT/1B.1	Vernal pools.	Volcanic ash flow, and volcanic substrate vernal pools. 400-855 m.
Many-flowered navarretia *Navarretia leucocephala ssp. plieantha*	FE/CE/1B.2	Vernal pools.	Volcanic ash flow vernal pools. 30-950 m.
Rincon Ridge ceanothus *Ceanothus confusus*	1B.1	Closed-cone coniferous forest, chaparral, cismontane woodland.	Known from volcanic or serpentine soils, dry shrubby slopes. 75-1065 m.
Bolander's horkelia *Horkelia bolanderi*	1B.2	Lower montane coniferous forest, chaparral, meadows, valley and foothill grassland.	Grassy margins of vernal pools and meadows. 450-1100 m.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	CE/1B.2	Marshes and swamps (freshwater), vernal pools.	Clay soils; usually in vernal pools, sometimes on lake margins. 10-2375 m.
Sonoma beardtongue *Penstemon newberryi var. sonomensis*	1B.3	Chaparral.	Crevices in rock outcrops and talus slopes. 700-1370 m.
Indian Valley brodiaea *Brodiaea rosea*	CE/3.1	Closed cone coniferous forest, chaparral, cismontane woodland, valley and foothill grassland.	Serpentinite endemic. 335-1450 m
Adobe-lily *Fritillaria pluriflora*	1B.2	Chaparral, cismontane woodland, foothill grassland.	Usually on clay soils; sometimes serpentine. 60-705 m.
California satintail *Imperata brevifolia*	2B.1	Coastal scrub, chaparral, riparian scrub, Mojavean scrub, meadows and seeps (alkali), riparian scrub.	Mesic sites, alkali seeps, riparian areas. 0-1215 m.
Slender Orcutt grass *Orcuttia tenuis*	FT/CE/1B.1	Vernal pools.	Often in gravelly pools. 35-1760 m.
Eel-grass pondweed *Potamogeton zosteriformis*	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.

4.3.2. 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.

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

The annual grasslands and pine-oak woodlands within the Study Area have a moderate potential for harboring special-status plant species. The disturbed/developed, vineyard, chaparral and oak forest habitats have a low potential for harboring special status plant species. Special-status animals have a low potential to occur in the disturbed/developed, vineyard, annual grassland, chaparral, pine-oak woodland and oak forest habitats. There are no wetlands or watercourses within the Study Area that can sustain aquatic special-status animals because these habitats do not hold water long enough.

4.4. POTENTIALLY-JURISDICTIONAL WATER RESOURCES

The USFWS National Wetland Inventory reported no water features within the Project Area, but the Inventory did report the following water features within the Study Area (see Exhibits): 5 Riverine Features.

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 (i.e., channels) 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 1,000 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):

- 14 unnamed ephemeral channels (Class III watercourses)
- 2 irrigation reservoirs (with no wetland habitat)

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

5. 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.

5.1. 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.

5.2. 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.

5.2.1. 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 Study Area. The Project Areas are located in vineyard and chaparral habitat, which will be impacted by project implementation. The vineyards within the Study Area have a low potential for harboring special-status plant species due to the constant disturbance and frequent crop management activities that takes place among the vines. The chaparral within the Study Area has a low potential for harboring special-status plant species due to the dense canopy of evergreen shrubs that choke out / outcompete sensitive species. There are no perennial water resources within the Study Area that can sustain aquatic special-status species. Two irrigation reservoirs are found within the Study Area. The reservoirs have a low potential for harboring special-status plant or animal species due to frequent weed management activities that keep the reservoirs free of vegetation. No impacts to special-status species were identified from project implementation. Therefore, no mitigation is required.

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.

Recommended Mitigation Measures

If construction activities would occur during the nesting season (typically February through August), a pre-construction survey for the presence of special-status bird species or any nesting bird species should be conducted by a qualified biologist within 500 feet of proposed construction areas. If active nests are identified in these areas, CDFW and/or USFWS 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. With the implementation of this mitigation measure, adverse impacts upon special-status bird species and nesting birds would be reduced to a less-than-significant level.

5.2.2. 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 Project Area and surrounding Study Area are not within any designated listed species' critical habitat. The Project Area does not contain special-status habitats. The Study Area contains five channels, which are special-status habitats due to their potential to attract wildlife or harbor rare plants and because these resources are protected by multiple laws. The Project Areas were designed to avoid watercourses with a buffer of at least 100 feet; the nearest watercourse is 170 feet away. No impacts to special-status habitats will occur.

Recommended Mitigation Measures

No mitigation is necessary.

5.2.3. 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 no water resources within the Project Area. There are several water resources within the surrounding Study Area: 14 Class III Watercourses. Potential direct impacts to water resources could occur during construction by modification or destruction of stream banks or riparian vegetation or the filling of wetlands or channels. However, the cultivation areas have been designed with minimum 150-foot setbacks from watercourses and situated on the flattest areas possible. Due to the lack of riparian

or wetland vegetation at either of the irrigation reservoirs, no setback is required. Because of these avoidance measures, no direct impacts to water resources are expected.

Potential indirect impacts to water resources could occur during construction by increased erosion and sedimentation in receiving water bodies due to soil disturbance. 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 2019-0001-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, inspection and reporting, and regulatory oversight.

Cultivators who enroll in the State Water Board's Waste Discharge Requirements for Cannabis Cultivation Order WQ 2019-0001-DWQ must comply with the Minimum Riparian Setbacks, as summarized in the following table. The Project would be considered to have a significant adverse impact on jurisdictional water resources if it would be non-compliant with these requirements. The minimum riparian setbacks apply to all land disturbance, cannabis cultivation activities, and facilities (e.g., material or vehicle storage, diesel powered pump locations, water storage areas, and chemical toilet placement). The proposed project is compliant with the setback requirements of Cannabis Cultivation Order WQ 2019-0001-DWQ.

Minimum Riparian Setbacks

Common Name	Watercourse Class	Distance
Perennial watercourses, waterbodies (e.g., lakes, ponds), or springs	I	150 ft.
Intermittent watercourses or wetlands	II	100 ft.
Ephemeral watercourses	III	50 ft.
Man-made irrigation canals, water supply reservoirs, or hydroelectric canals that support native aquatic species	IV	Established riparian zone vegetation

Recommended Mitigation Measures

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

5.2.4. 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?*

Although no mapped wildlife corridors (such as the California Essential Habitat Connectivity Area layer in CNDDB) exist within or near the Study Area, the open space and the stream corridors 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.

5.2.5. 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?*

The project will not require the removal of trees and 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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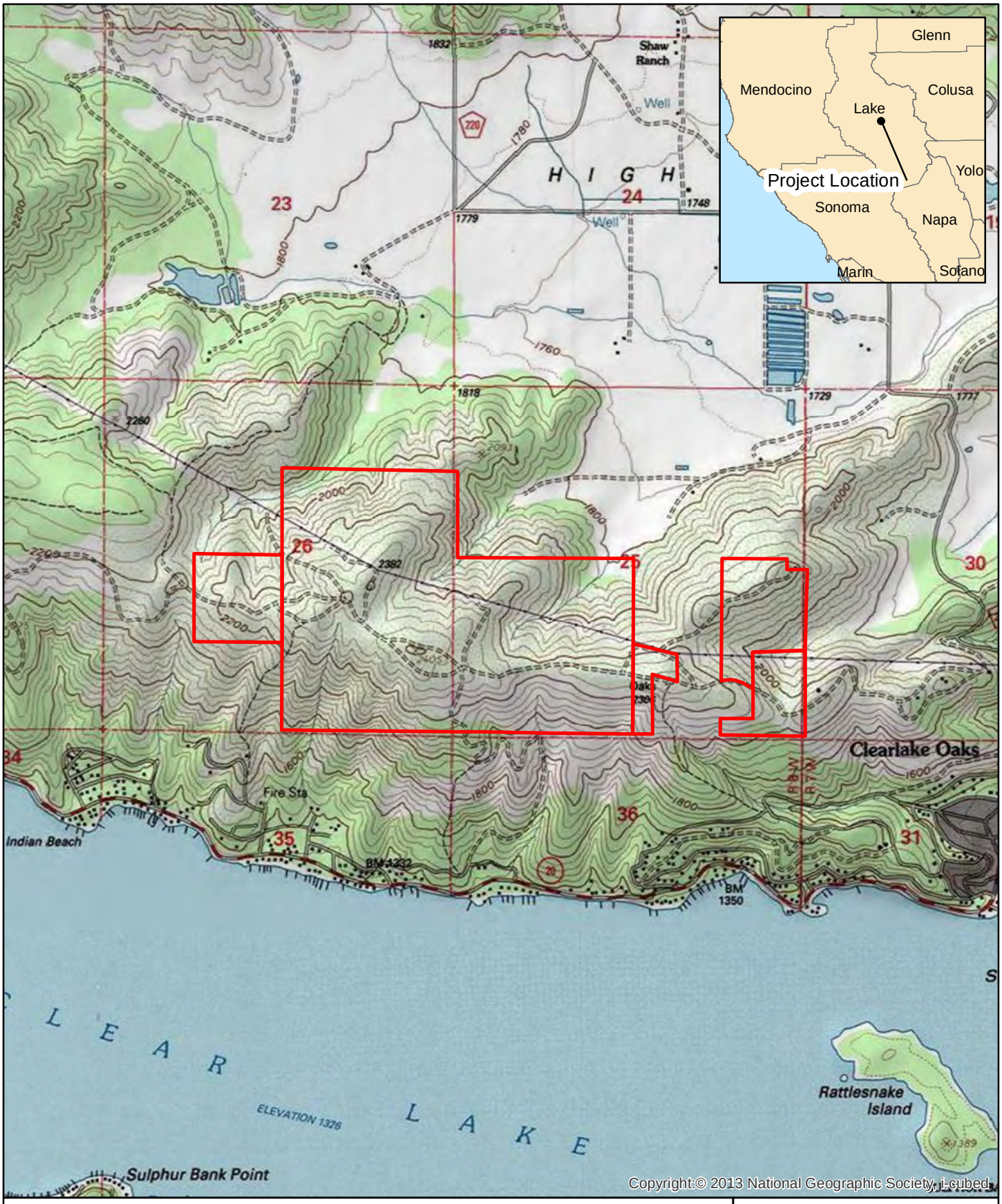
EXHIBITS



Parcel Location

0 0.5 1 Kilometers

0 0.5 1 Miles

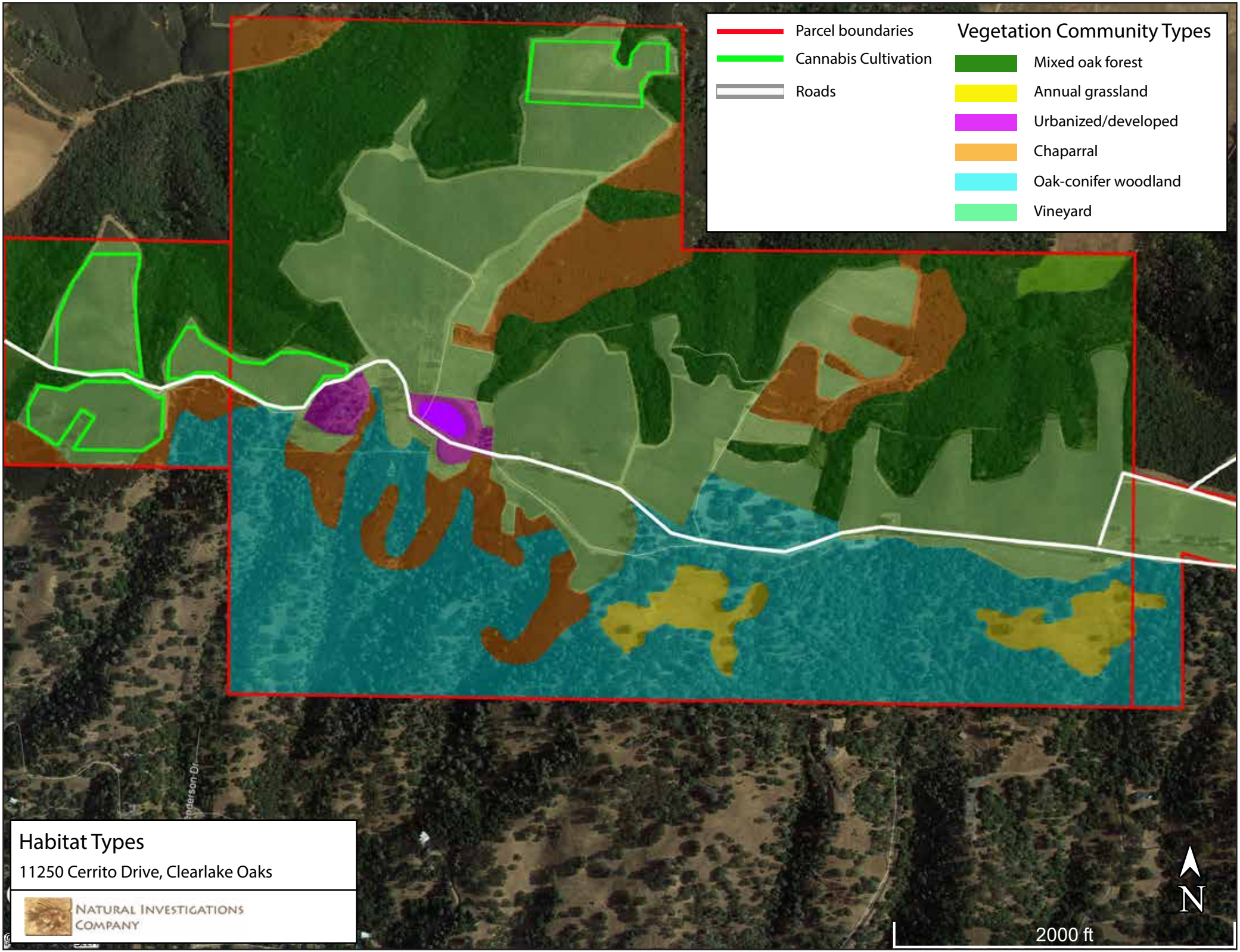
1:24,000

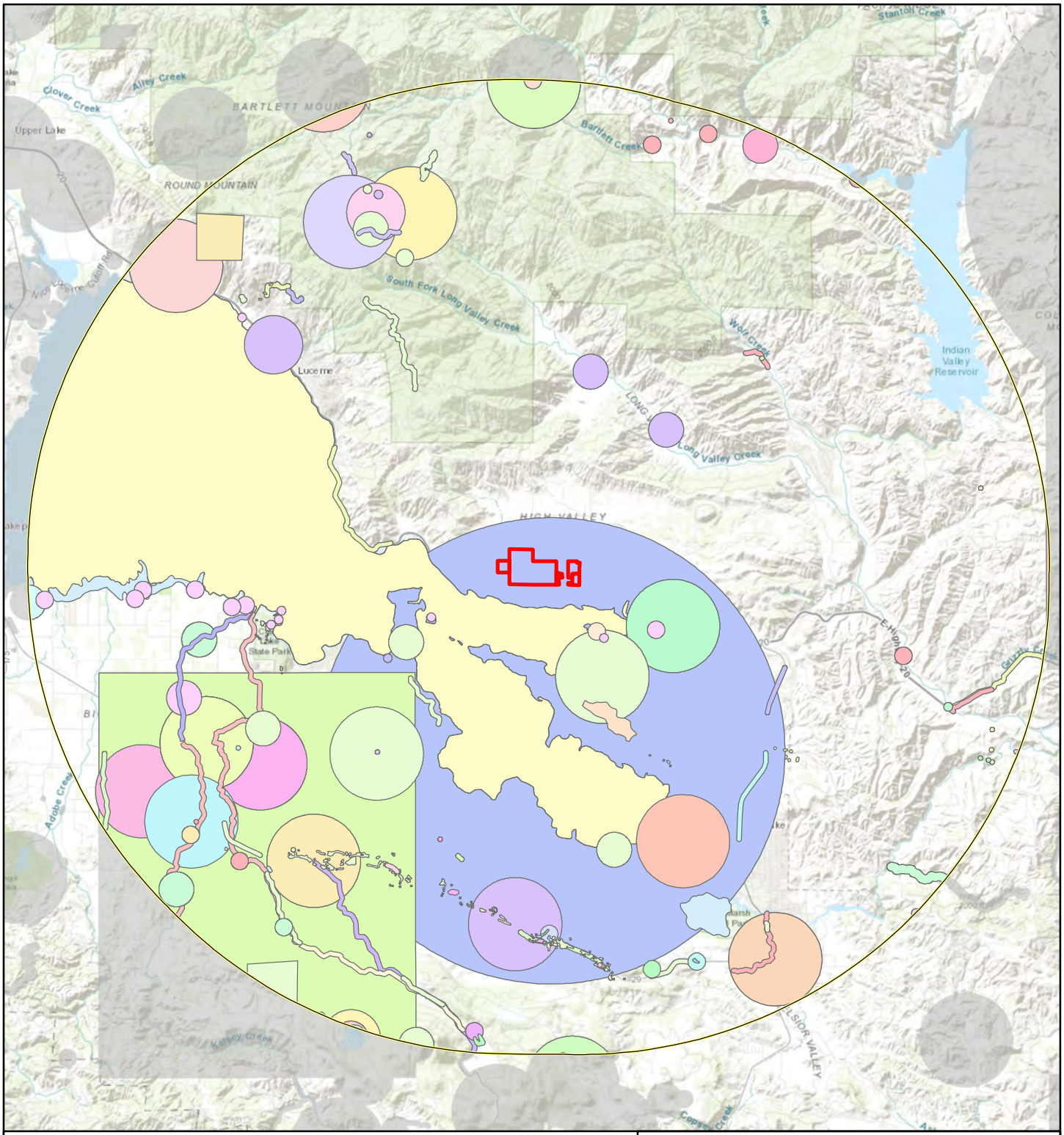
11250 Cerrito Drive Parcel Location Map

Natural Investigations Company

Map Date 12/18/2020

Clear Lake Oaks 1996 Quadrangle:Township 14N, Range 8W, Section 25,26


Parcel boundaries
Cannabis Cultivation
Roads
Vegetation Community Types
Mixed oak forest
Annual grassland
Urbanized/developed
Chaparral
Oak-conifer woodland
Vineyard
Habitat Types
11250 Cerrito Drive, Clearlake Oaks
Natural Investigations Company
N
2000 ft



1:190,000 1 inch = 3 miles

0 3 6 Miles

N

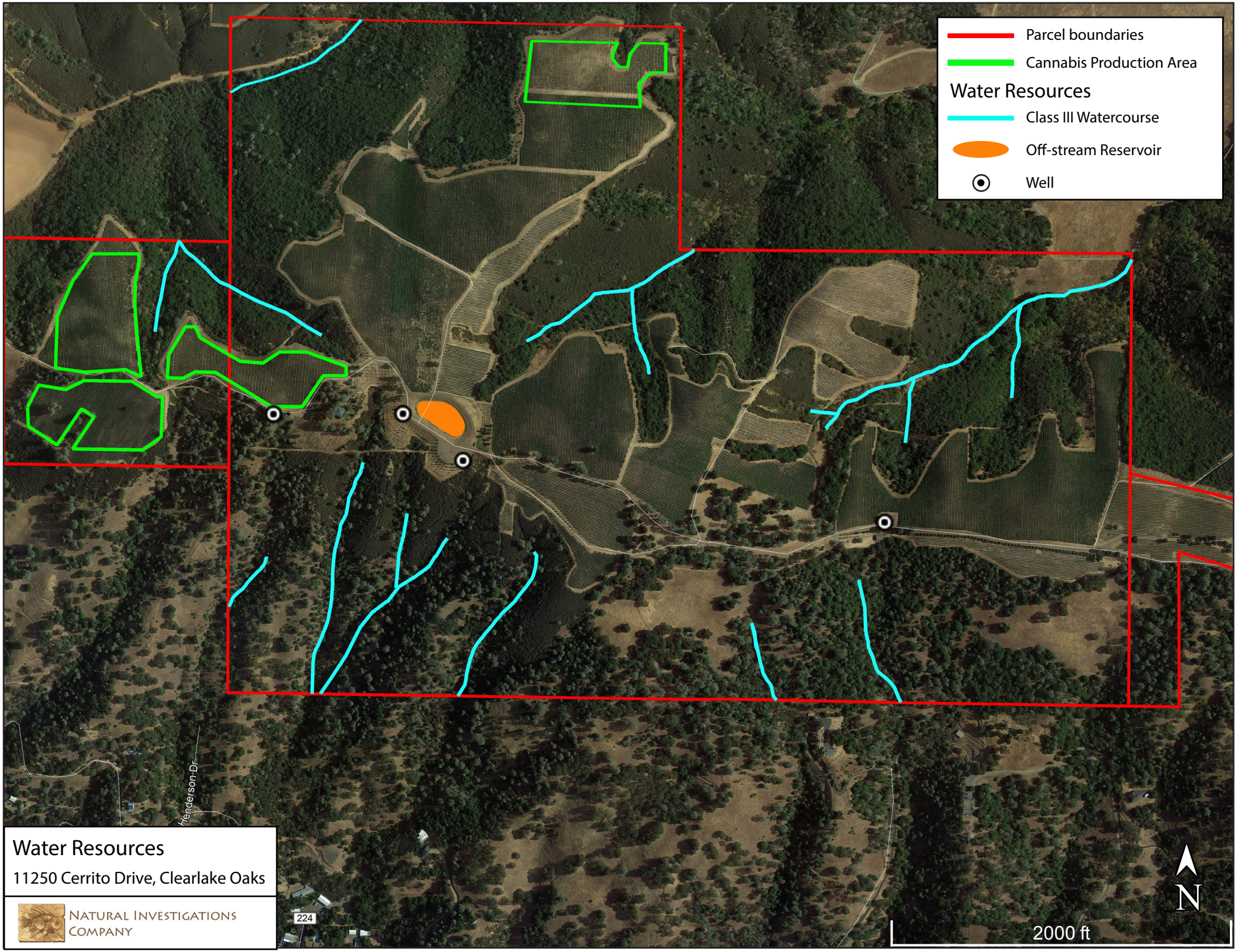
Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist inshowing features discussed in an attached document. Natural Investigations Company can not guarantee the accuracy and content of electronic files.The master file is stored 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

11250 Cerrito Drive

Clear Lake Oaks 1996 Quadrangle:Township 14N, Range 8W, Section 25,26

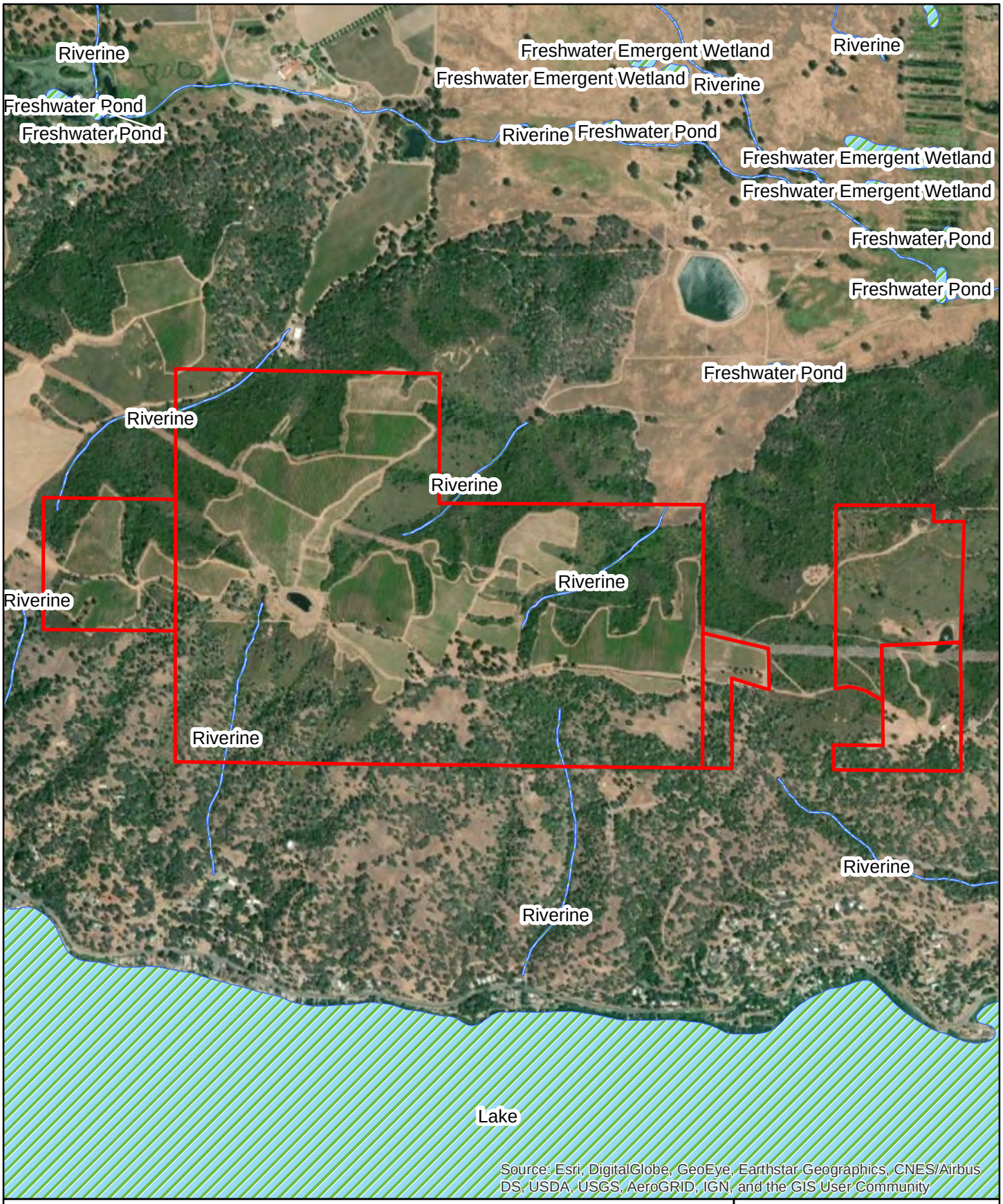
NATURAL INVESTIGATIONS CO.
www.NaturalInvestigations.com



Water Resources

11250 Cerrito Drive, Clearlake Oaks

Natural Investigations Company



Parcel Location

Wetlands and Channels

0 400 800 Meters

0 1,500 3,000 Feet

1:16,000

11250 Cerrito Drive
National Wetlands Inventory
Features Map

Natural Investigations Company

Map Date 12/18/2020

Clear Lake Oaks 1996 Quadrangle:Township 14N, Range 8W, Section 25,26

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: December 18, 2020
Consultation Code: 08ESMF00-2021-SLI-0584
Event Code: 08ESMF00-2021-E-01636
Project Name: 11250 Cerrito 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: 08ESMF00-2021-SLI-0584

Event Code: 08ESMF00-2021-E-01636

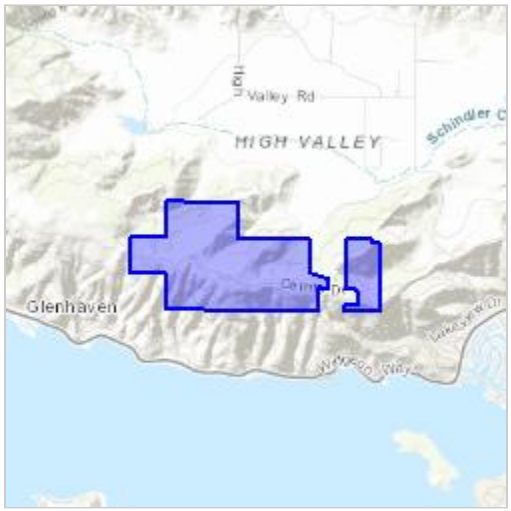
Project Name: 11250 Cerrito Drive

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/39.032370856607784N122.7067001181762W



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 Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

---

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

Birds

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/1123

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii*	Threatened

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

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/321

Flowering Plants

NAME	STATUS
Burke's Goldfields *Lasthenia burkei*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/4338

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 11250 Cerrito Drive, Clearlake Oaks on December 29, 2020

Common Name	Scientific Name
Deerweed	*Acmispon glaber*
Chamise	*Adenostoma fasciculatum*
California buckeye	*Aesculus californicus*
Bentgrass	*Agrostis sp.*
Silver hairgrass	*Aira caryophyllea*
Common fiddleneck	*Amsinckia menziesii*
Pearly everlasting	*Anaphalis margaritacea*
Silvery everlasting	*Antennaria argentea*
Pine dwarf mistletoe	*Arceuthobium campylopodum*
Common manzanita	*Arctostaphylos manzanita ssp. manzanita*
Whiteleaf manzanita	*Arctostaphylos viscida ssp. viscida*
Slender wild oat	*Avena barbata*
Wild oat	*Avena fatua*
Coyote brush	*Baccharis pilularis*
California brome	*Bromus carinatus*
Ripgut brome	*Bromus diandrus*
Soft chess	*Bromus hordeaceus*
Madrid brome	*Bromus madritensis*
Cheat grass	*Bromus tectorum*
Wedge leaf ceanothus	*Ceanothus cuneatus*
Deerbrush	*Ceanothus integerrimus var. macrothyrsus*
Maltese star thistle	*Centaurea melitensis*
Yellow star thistle	*Centaurea solstitialis*
Western redbud	*Cercis occidentalis*
Birchleaf mountain mahogany	*Cercocarpus betuloides*
Wavy leaf soap plant	*Chlorogalum pomeridianum*
Thistle	*Cirsium sp.*
Bull thistle	*Cirsium vulgare*
Clarkia	*Clarkia sp.*
Dove weed	*Croton setiger*
Dogtail grass	*Cynosurus echinoides*
Sticky cinquefoil	*Drymocallis glandulosa*
Tall willowherb	*Epilobium brachycarpum*
Canada horseweed	*Erigeron canadensis*
Yerba santa	*Eriodictyon californicum*
Wooly sunflower	*Eriophyllum lanatum*
Filaree	*Erodium sp.*
Brome fescue	*Festuca bromoides*
Rattail sixweeks grass	*Festuca myuros*
Narrowleaf cottonrose	*Filago gallica*
California coffeeberry	*Frangula californica*

Common Name	Scientific Name
Two-petal ash	*Fraxinus dipetala*
Bolander's bedstraw	*Galium bolanderi*
Bedstraw	*Galium sp.*
Nit grass	*Gastridium phleoides*
Toyon	*Heteromeles arbutifolia*
Shortpod mustard	*Hirschfeldia incana*
Goldwire	*Hypericum concinnum*
Iris	*Iris sp.*
Chaparral honeysuckle	*Lonicera interrupta*
Horehound	*Marrubium vulgare*
Coyote mint	*Monardella villosa*
Navarretia	*Navarretia sp.*
Goldback fern	*Pentagramma triangularis*
American mistletoe	*Phoradendron leucarpum*
Chaparral pea	*Pickeringia montana*
Knobcone pine	*Pinus attenuata*
Ponderosa pine	*Pinus ponderosa*
Gray pine	*Pinus sabiniana*
English plantain	*Plantago lanceolata*
California scrub oak	*Quercus berberidifolia*
Blue oak	*Quercus douglasii*
California black oak	*Quercus kelloggii*
Bush interior live oak	*Quercus wislizeni var. frutescens*
Interior live oak	*Quercus wislizeni var. wislizeni*
Fragrant sumac	*Rhus aromatica*
Chaparral currant	*Ribes malvaceum*
Pacific sanicle	*Sanicula crassicaulis*
Tall sock-destroyer	*Torilis arvensis*
Poison-oak	*Toxicodendron diversilobum*
Death camas	*Toxicoscordion sp.*
California bay	*Umbellularia californica*
Spring vetch	*Vicia sativa*
Winter vetch	*Vicia villosa*
Smooth mule ears	*Wyethia glabra*

APPENDIX 3: SITE PHOTOS

































Grounds Management Plan

Purpose and Overview

Monte Cristo Vineyards, LLC (MCV) is seeking a Major Use Permit and an Early Activation of Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 11250 Cerrito Drive near Clearlake Oaks, California on Lake County APNs 006-007-17, 23, & 30 (Project Property). MCV's proposed commercial cannabis cultivation operation will be composed of twenty-two (22) 43,560 ft^2 A-Type 3 "Medium Outdoor" cultivation/canopy areas, a 120 ft^2 Security Center/Shed, a 6,000 ft^2 Processing & Harvest Storage Facility, two 3,000 ft^2 Immature Plant Areas/Greenhouses, and two 120 ft^2 Pesticides & Agricultural Chemicals Storage Areas. The growing medium of the proposed outdoor cultivation/canopy area(s) will be an amended native soil mixture at or below grade, with drip irrigation systems to conserve water resources. The proposed cultivation/canopy areas will be established within existing vineyard blocks, utilizing infrastructure currently utilized to cultivate grapes. All water for the proposed cultivation operation will come from an existing 20-acrefoot off stream water storage reservoir, filled with water from five existing onsite groundwater wells.

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 MCV's 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 an existing onsite metal barn. Spill containment and cleanup equipment will be maintained within the proposed Pesticides and Agricultural Chemicals Storage Area, as well as Materials Safety Data Sheets (MSDS/SDS) for all potentially hazardous materials used onsite. No effluent is expected to be produced by the proposed cultivation operation.

All fertilizers/nutrients will be mixed/prepared on an impermeable surface that is at least 100 feet from surface water bodies. Personnel will be trained how to appropriately prepare and apply fertilizers/nutrients before being allowed to use them. When using/preparing fertilizers and other chemicals, personnel will be required to use personal protective equipment (PPE) consistent with the MSDS/SDS recommendations for the product they're using/preparing. PPE to be used by staff include safety glasses, gloves, dust masks, boots, pants, and long-sleeved shirts.

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 fertilizer/pesticide containers) 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/canopy 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 closest Lake County Integrated Waste Management facility to the proposed cultivation operation is the Eastlake Landfill. Most, if not all, of the solid waste and recyclables generated by proposed commercial cannabis cultivation operation can and will be deposited there.

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.

Compliance with SRA Fire Safe Regulations

The Project Property is located within the Northshore Fire Protection District and the California Board of Forestry and Fire Protection (CALFIRE) State Responsibility Area (SRA). As such, the proposed cultivation operation must comply with SRA Fire Safe Regulations, and FLF will develop the following improvements to adhere to those regulations. Please see the attached Fire Map for a graphic representation of the existing/proposed improvements referenced below.

Emergency Access and Egress

The Project Property is accessed via Cerrito Drive, and the proposed outdoor cultivation areas will be accessed from Cerrito Drive and private gravel access roads off of Cerrito Drive. The proposed structures of the proposed cultivation operation will be accessed via Cerrito Drive. Cerrito Drive is 20 feet wide, with less than 16 percent grade, and has an aggregate surface capable of supporting fire apparatus weighing at least 75,000 pounds.

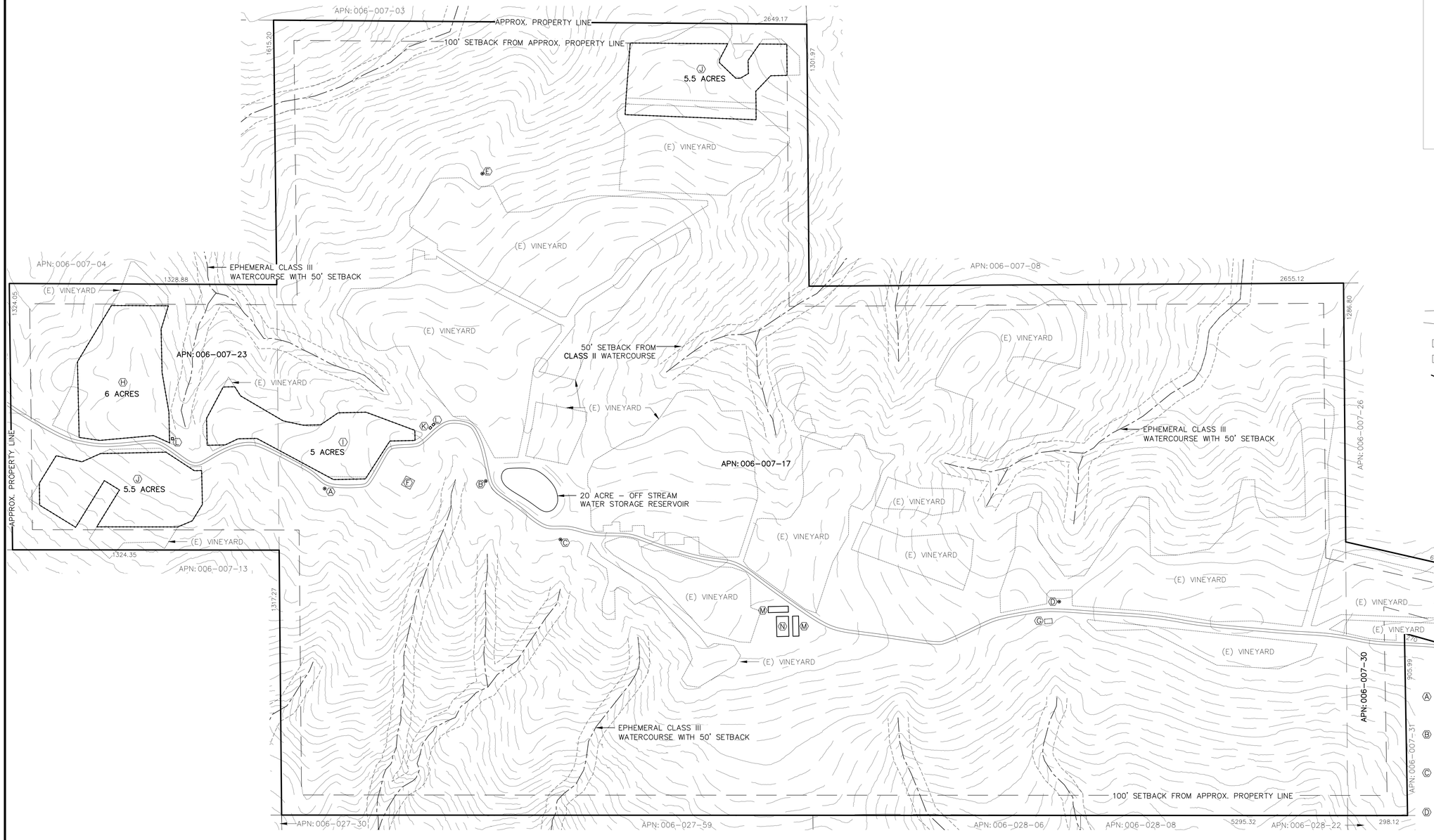
Signing and Building Numbering

The address of the Project Property (and the proposed cultivation operation) will be displayed on a metal rectangle mounted to a metal post in a location that is visible and legible from at least 100 feet in both directions from Cerrito Drive. The numbers of the address will be reflectorized, of a contrasting color (to the color of the metal rectangle), and have a height of at least 4 inches with 0.5 stroke.

Emergency Water Supply & Defensible Space

MCV will establish a 5,000-gallon metal fire water storage tank adjacent to the proposed Processing & Harvest Storage Facility. The metal fire water storage tank will be connected to a 2-foot high hydrant/fire valve equipped with 4-inch National Hose male thread and cap, located within 50 feet of the structures of the proposed cultivation operation (please see the attached "Fire Map"). The location of the hydrant/fire valve will be identified with a +3" reflectorized blue marker mounted to a 4-foot tall/high metal post.

MCV will remove all flammable vegetation within 30 feet of the buildings, cultivation areas, and metal fire water storage tank and hydrant/fire valve of their proposed cultivation operation. 100 feet of defensible space will be maintained around the proposed cultivation operation, by regularly mowing grasses to a maximum height of 4 inches, creating and maintaining space between shrubs and trees, and by removing all tree branches and other ladder fuels within 6 feet of the ground surface.



VICINITY MAP
NO SCALE

--
11250 CERRITO DRIVE
CLEARLAKE OAKS, CA 94610
APNs: 006-007-17, 23 & 30

LEGEND:

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

NOTES:
1. CONTOUR INTERVAL IS 20'

(A) (E) GROUNDWATER WELL
LAT: 39.0315°
LONG: -122.71285°
BENEFICIAL USES:

(B) (E) GROUNDWATER WELL
LAT: 39.03155°
LONG: -122.71005°
BENEFICIAL USES:

(C) (E) GROUNDWATER WELL
LAT: 39.03079°
LONG: -122.70880°
BENEFICIAL USES:

(D) (E) GROUNDWATER WELL
LAT: 39.02982°
LONG: -122.70010°
BENEFICIAL USES:

(E) (E) GROUNDWATER WELL
LAT: 39.03578°
LONG: -122.71002°
BENEFICIAL USES:

(F) (E) RESIDENCE

(G) (E) METAL BARN

(H) (P) 261,360 SF (6-ACRE) OUTDOOR CULTIVATION / CANOPY AREA

(I) (P) 217,800 SF (5-ACRE) OUTDOOR CULTIVATION / CANOPY AREA

(J) (P) 239,580 SF (5.5-ACRE) OUTDOOR CULTIVATION / CANOPY AREA

(K) (P) 10'x12' SECURITY CENTER / SHED

(L) (P) 10'x12' (120) SF PESTICIDES & AGRICULTURAL CHEMICALS STORAGE AREA

(M) (P) 30'x100' IMMATURE PLANT AREA / GREENHOUSE

(N) (P) 60'x100' (6,000 SF) PROCESSING & HARVEST STORAGE FACILITY

PROPOSED CONDITIONS SITE PLAN

GRAPHIC SCALE
250 0 125 250
(IN FEET)
1 inch = 250 ft.

Revisions:

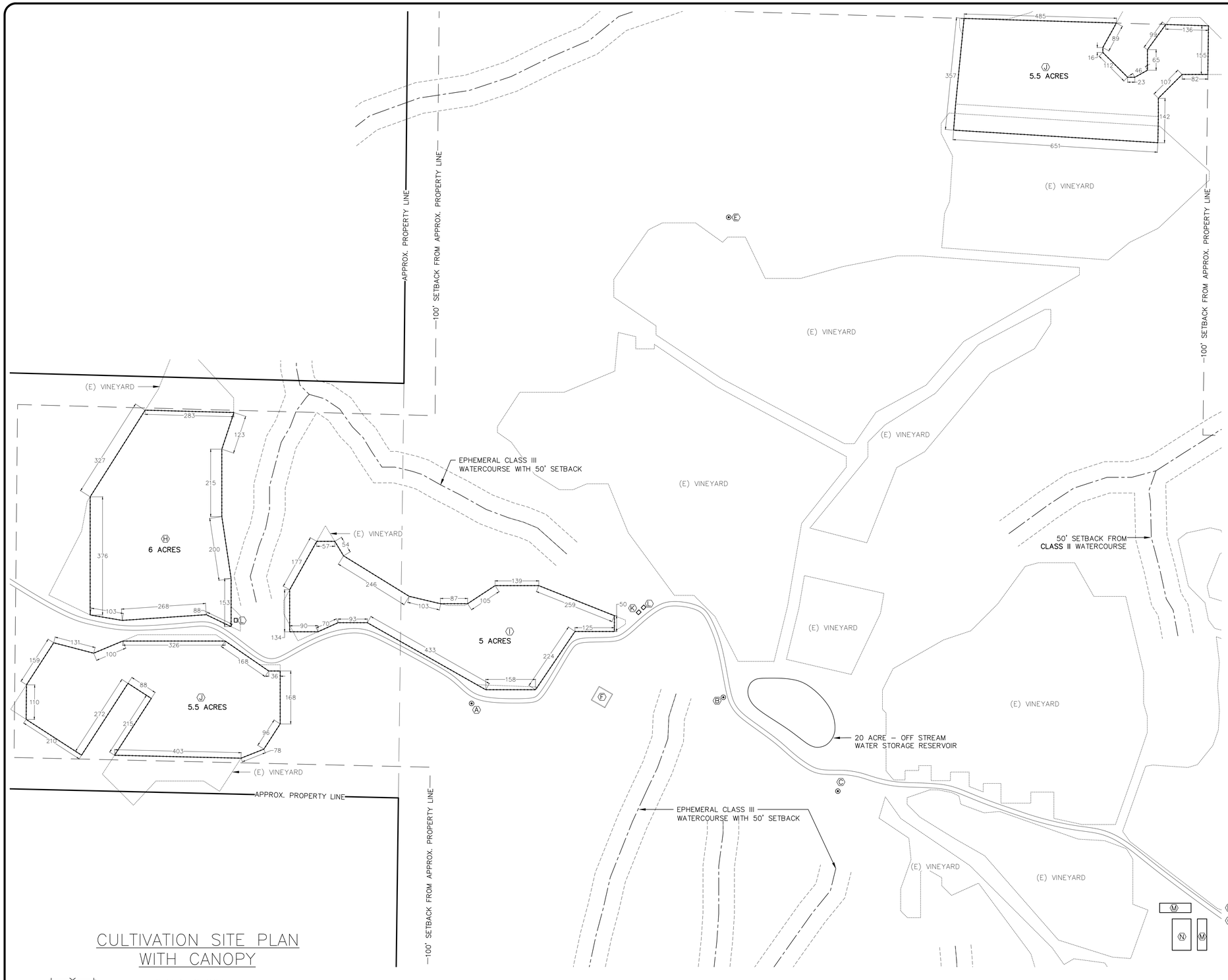
REALM ENGINEERING
CIVIL ENGINEERING, SURVEYING & PLANNING
1767 MARKET STREET SUITE c
REDDING, CA. 96001
530-526-7493

PLANS PREPARED UNDER THE SUPERVISION OF:
REGISTERED PROFESSIONAL ENGINEER
JASON B. VINE
No. 67800
exp.06/30/21
CIVIL
STATE OF CALIFORNIA

PROPOSED CONDITIONS SITE PLAN

11250 CERRITO DRIVE
CLEARLAKE OAKS, CA 94610
LAKE COUNTY
APNs: 006-007-17, 23, & 30

PLOTTED BY: ---
DATE PLOTTED: 3/15/21
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1



CULTIVATION SITE PLAN WITH CANOPY

VICINITY MAP
NO SCALE

--
11250 CERRITO DRIVE
CLEARLAKE OAKS, CA 94610
APNs: 006-007-17, 23 & 30

LEGEND:

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

NOTES:
1. CONTOUR INTERVAL IS 20'

Ⓐ	(E) GROUNDWATER WELL LAT: 39.0315° LONG: °–122.71285° BENEFICIAL USES:
Ⓑ	(E) GROUNDWATER WELL LAT: 39.03155° LONG: –122.71005° BENEFICIAL USES:
Ⓒ	(E) GROUNDWATER WELL LAT: 39.03079° LONG: –122.70880° BENEFICIAL USES:
Ⓓ	(E) GROUNDWATER WELL LAT: 39.02982° LONG: –122.70010° BENEFICIAL USES:
Ⓔ	(E) GROUNDWATER WELL LAT: 39.03578° LONG: –122.71002° BENEFICIAL USES:
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Ⓛ	(P) 10'x12' (120) SF PESTICIDES & AGRICULTURAL CHEMICALS STORAGE AREA
Ⓜ	(P) 30'x100' IMMATURE PLANT AREA / GREENHOUSE
Ⓝ	(P) 60'x100' (6,000 SF) PROCESSING & HARVEST STORAGE FACILITY

Revisions:

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

PLANS PREPARED UNDER THE SUPERVISION OF:

JASON B. VINE
No. 67800
EXP. 06/30/21

CULTIVATION SITE PLAN WITH CANOPY

11250 CERRITO DRIVE
CLEARLAKE OAKS, CA 94610
LAKE COUNTY
APNs: 006-007-17, 23, & 30

PLOTTED BY:

DATE PLOTTED:
3/15/21
SCALE OF DRAWING:
SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET:
1

Security Management Plan

Purpose and Overview

Monte Cristo Vineyards, LLC (MCV) is seeking a Major Use Permit and an Early Activation of Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 11250 Cerrito Drive near Clearlake Oaks, California on Lake County APNs 006-007-17, 23, & 30 (Project Property). MCV's proposed commercial cannabis cultivation operation will be composed of twenty-two (22) 43,560 ft^2 A-Type 3 "Medium Outdoor" cultivation/canopy areas, a 120 ft^2 Security Center/Shed, a 6,000 ft^2 Processing & Harvest Storage Facility, two 3,000 ft^2 Immature Plant Areas/Greenhouses, and two 120 ft^2 Pesticides & Agricultural Chemicals Storage Areas. The growing medium of the proposed outdoor cultivation/canopy area(s) will be an amended native soil mixture at or below grade, with drip irrigation systems to conserve water resources. The proposed cultivation/canopy areas will be established within existing vineyard blocks, utilizing infrastructure currently utilized to cultivate grapes. All water for the proposed cultivation operation will come from an existing 20-acrefoot off stream water storage reservoir, filled with water from five existing onsite groundwater wells.

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 Property is accessed via Cerrito Drive, and the proposed cultivation operation will be accessed from Cerrito Drive and private gravel access roads off of Cerrito Drive. Locking metal gates across Cerrito Drive control access to Project Property. These gates will be closed and locked outside of core operating/business hours (8am to 6pm) and whenever MCV's managerial personnel are not present.

6-foot woven wire fences will be erected around the proposed cultivation/canopy 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/canopy

area(s) will be controlled via locking gates that will be locked whenever MCV's managerial personnel are not present. All gates will be secured with heavy duty chains and commercial grade padlocks. Only approved managerial staff will be able to unlock the gates of the cultivation operation.

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 MCV's managerial staff immediately if/when suspicious activity is detected. MCV's managerial staff will investigate the suspicious activity for potential threats, issues, or concerns. MCV's 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 MCV'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

MCV 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 MCV's 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 area(s);
- Perimeter of the proposed cultivation area(s); and
- The interior and exterior of the entryway/exit to the Security Center.

Diversion/Theft Prevention

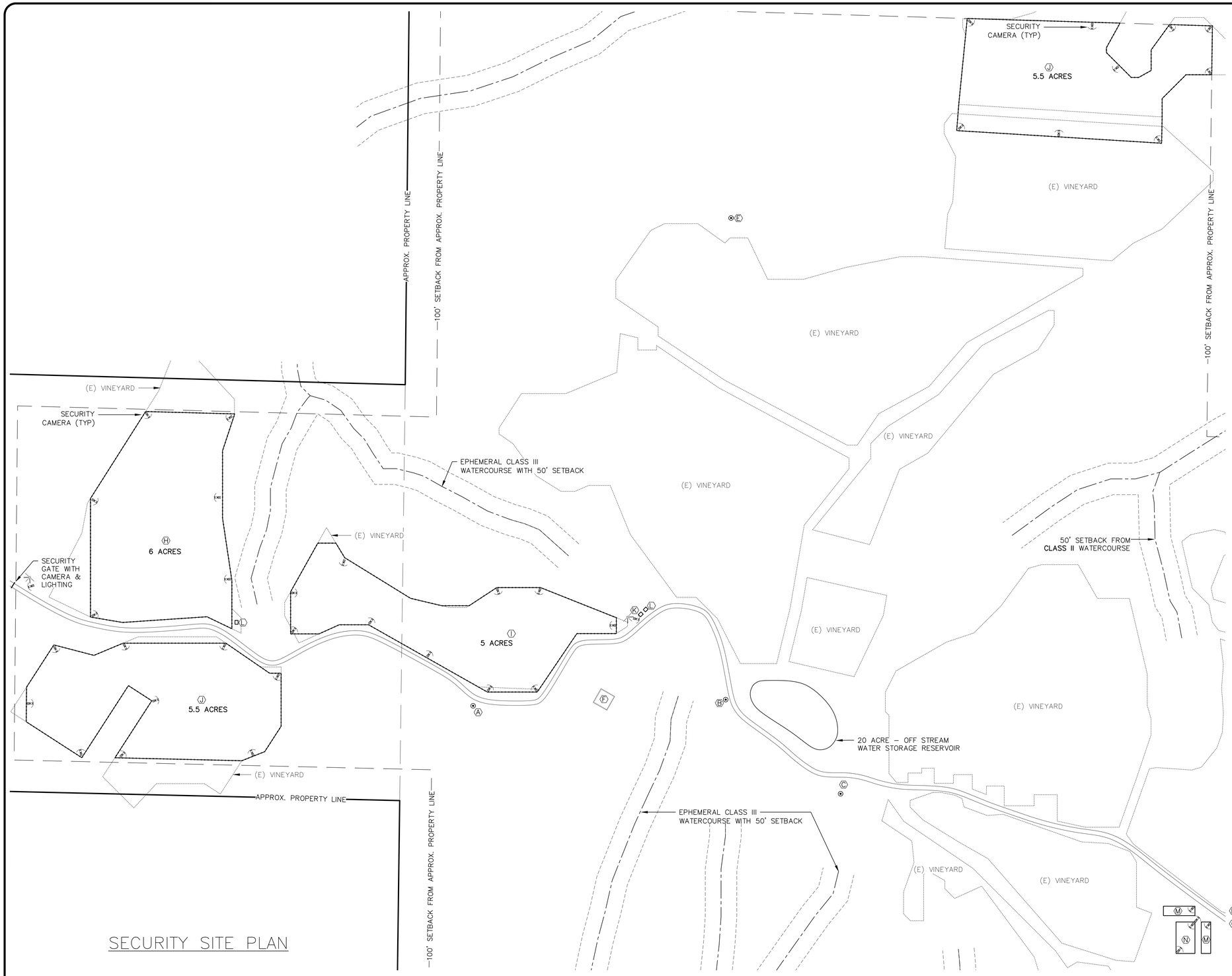
All personnel will be required to undergo a criminal background check with the Lake County Sheriff's Office. Visitors and personnel will be required to sign-in and sign-out each day, and record the areas in which they worked and the tasks they were assigned. Personnel will be required to store personal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

MCV 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 MCV'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. MCV 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. MCV 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 MCV's annual Performance Review Report.

The Community Liaison/Emergency Contact for the proposed cultivation operation is Mrs. Jacqueline Dharmapalan. Mrs. Dharmapalan's cell phone number is (510) 599-5246, and her email address is jdharmapalan@sbcglobal.net. The residents and/or owners of all properties neighboring the Project Property, will have Mrs. Dharmapalan's contact information before cannabis cultivation begins.



SECURITY SITE PLAN

GRAPHIC SCALE

150 0 75 150

(IN FEET)

1 inch = 150 ft.

VICINITY MAP

NO SCALE

--

11250 CERRITO DRIVE
CLEARLAKE OAKS, CA 94610
APNs: 006-007-17, 23 & 30

LEGEND:

1530	CONTOUR ELEVATION
	FENCE
	(P) SECURITY LIGHTS
	(P) SECURITY CAMERAS
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATE
DWY	DRIVEWAY
(E)	EXISTING
(P)	PROPOSED
RD	ROAD
SF	SQUARE FEET

NOTES:

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(N) (P) 60'x100' (6,000 SF) PROCESSING & HARVEST STORAGE FACILITY

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.06/30/21
CIVIL
STATE OF CALIFORNIA

SECURITY SITE PLAN

11250 CERRITO DRIVE
CLEARLAKE OAKS, CA 94610
LAKE COUNTY
APNs: 006-007-17, 23, & 30

PLOTTED BY: ---

DATE PLOTTED: 3/15/21

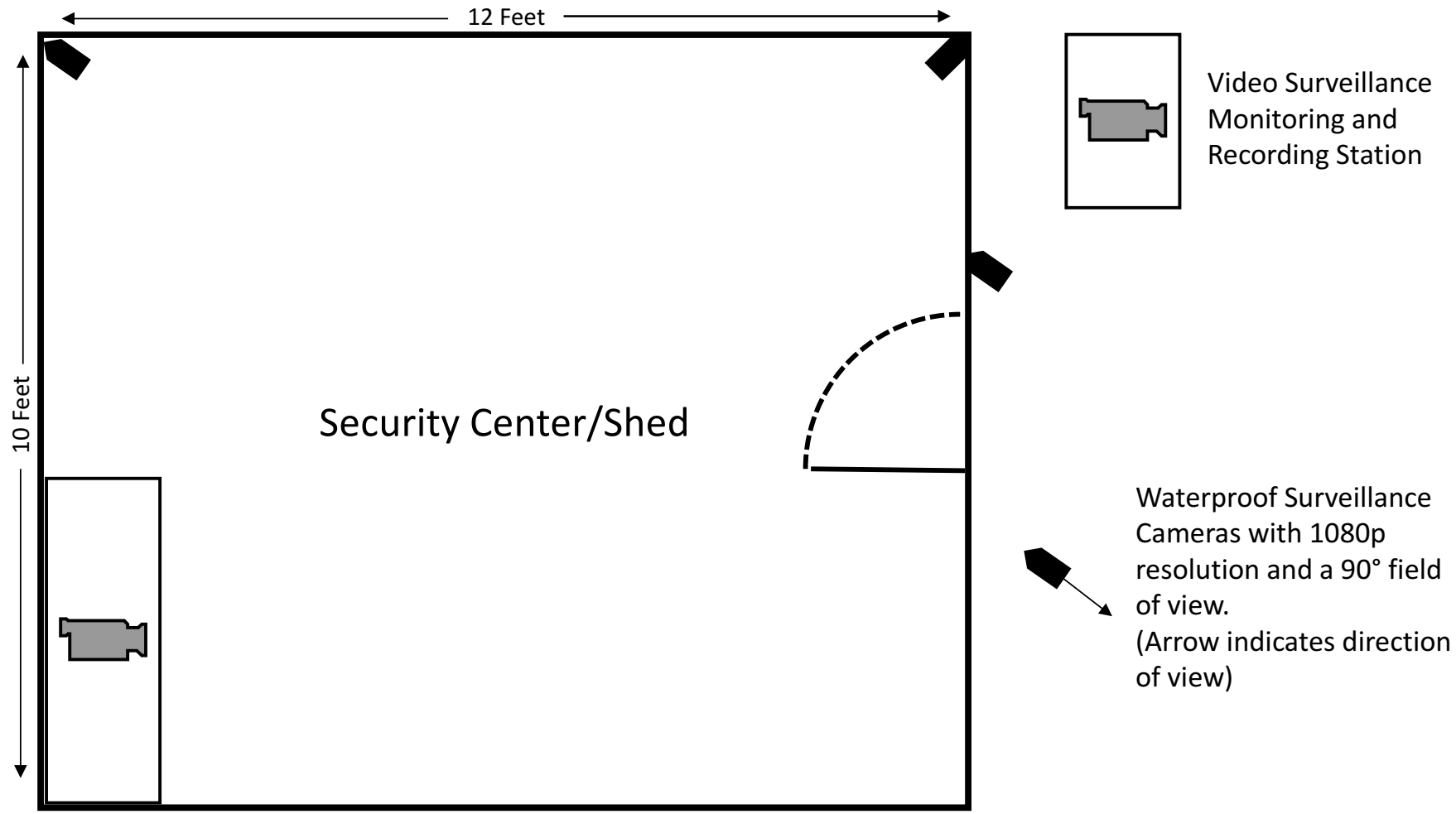
SCALE OF DRAWING: SEE PLAN

JOB NUMBER:

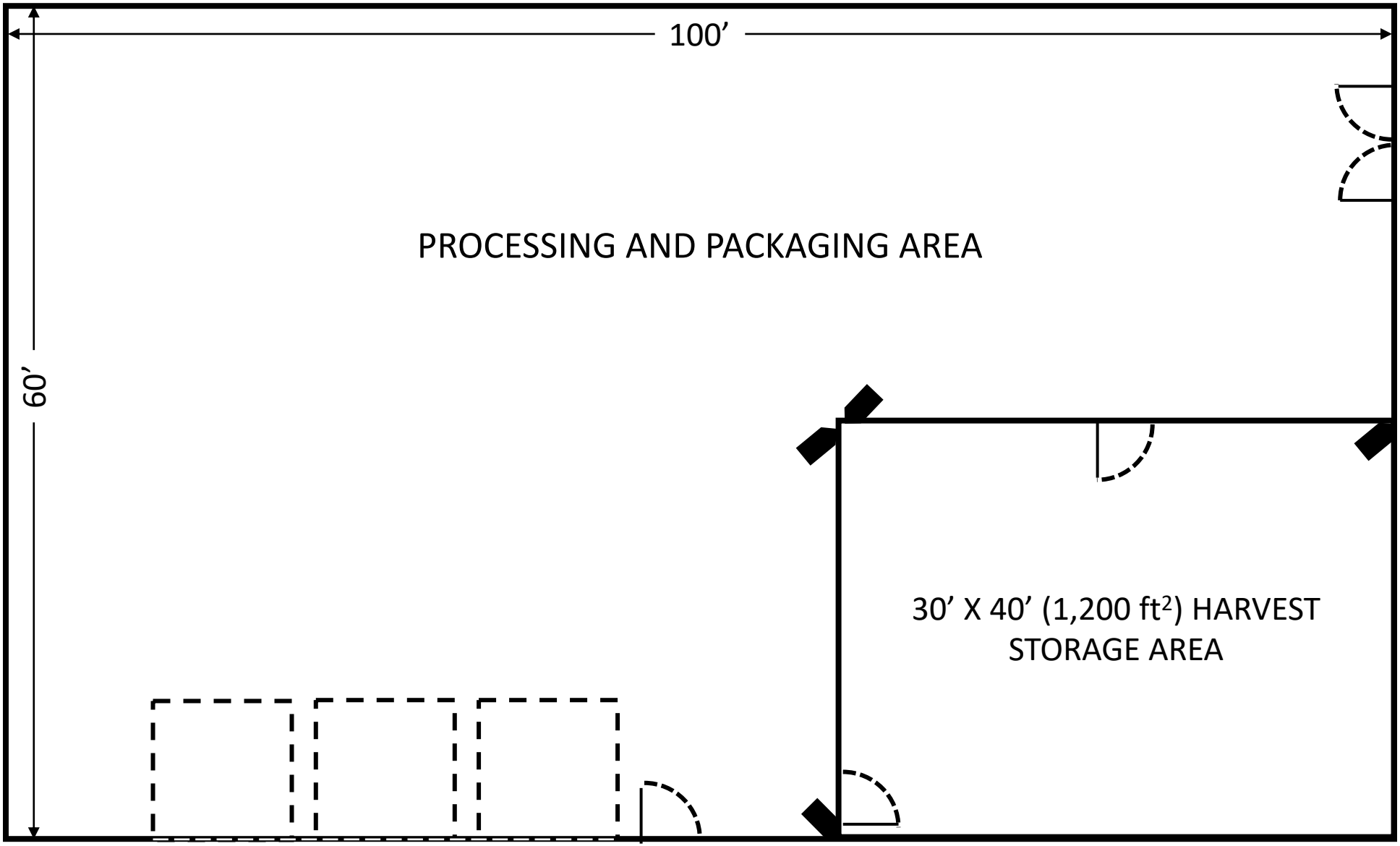
CADD FILE:

SHEET: 1

Security Center/Shed
(Proposed Wooden Shed)



PROPOSED PROCESSING & HARVEST STORAGE FACILITY



Storm Water Management Plan

Purpose and Overview

Monte Cristo Vineyards, LLC (MCV) is seeking a Major Use Permit and an Early Activation of Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 11250 Cerrito Drive near Clearlake Oaks, California on Lake County APNs 006-007-17, 23, & 30 (Project Property). MCV's proposed commercial cannabis cultivation operation will be composed of twenty-two (22) 43,560 ft^2 A-Type 3 "Medium Outdoor" cultivation/canopy areas, a 120 ft^2 Security Center/Shed, a 6,000 ft^2 Processing & Harvest Storage Facility, two 3,000 ft^2 Immature Plant Areas/Greenhouses, and two 120 ft^2 Pesticides & Agricultural Chemicals Storage Areas. The growing medium of the proposed outdoor cultivation/canopy area(s) will be an amended native soil mixture at or below grade, with drip irrigation systems to conserve water resources. The proposed cultivation/canopy areas will be established within existing vineyard blocks, utilizing infrastructure currently utilized to cultivate grapes. All water for the proposed cultivation operation will come from an existing 20-acrefoot off stream water storage reservoir, filled with water from five existing onsite groundwater wells.

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 12,240 ft^2, or less than 0.1% of the Project Property, through the construction/installation of two 3,000 ft^2 greenhouses (proposed Immature Plant Areas), a 6,000 ft^2 metal building (proposed Processing & Harvest Storage Facility), and two 120 ft^2 wooden sheds (proposed Pesticide & Agricultural Chemicals Storage Area and Security Center). The proposed outdoor cultivation/canopy area(s) will not increase the impervious surface area of the Project Property 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.

MCV 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 situated along an east-west trending ridgeline within the Schindler Creek – Frontal Clear Lake Watershed (HUC 12), between Clear Lake and High Valley. Topography of the Project Property is hilly, with elevations ranging between 1,670 and 2,405 feet above mean sea level, with multiple ephemeral Class III watercourses flowing off of the Project Property towards Schindler Creek to the north and Clear Lake to the south. The existing 20-acrefoot off stream water storage reservoir, is situated spine of the east-west trending ridgeline, with no contributing watershed. There are no watercourse crossing on the Project Property, and all areas of the proposed cultivation operation will be located more than 100 feet from any surface waterbody. 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/Parcels onto adjacent properties or flood elevations downstream.

Ground Disturbance and Grading

Soils of the Project Property are identified as the Maymen-Hopland-Etsel association and the Maymen-Etsel-Snook complex, by the NRCS Web Soil Survey (attached), and characterized as gravelly loam/residuum derived from sandstone and shale. The proposed cultivation operation will increase the impervious surface area of the Project Parcel by approximately 12,240 ft^2, or less than 0.1% of the Project Property, through the construction/installation of two 3,000 ft^2 greenhouses (proposed Immature Plant Areas), a 6,000 ft^2 metal building (proposed Processing & Harvest Storage Facility), and two 120 ft^2 wooden sheds (proposed Pesticide & Agricultural Chemicals Storage Area and Security Center) The proposed outdoor cultivation/canopy areas will not increase the impervious surface area of the Project Property/Parcels 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 outdoor cultivation/canopy areas will be established within existing vineyard blocks of the Project Property. The growing medium of the proposed outdoor cultivation/canopy area(s) will be an amended native soil mixture at or below grade, with drip irrigation systems to conserve water resources. Each spring, the native soil/growing medium of the proposed outdoor cultivation/canopy areas will be plowed/disced and harrowed to create planting beds for the cultivation of cannabis. Each fall, the native soil/growing medium of the proposed outdoor cultivation/canopy areas will be plowed/disced and planted with a nitrogen-fixing cover crop, to stabilize the site(s) for the winter wet weather period. A small amount of grading (less than 100 cubic yards) will be necessary to create level pads on which the proposed buildings/structures with be constructed.

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/canopy area(s) 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. MCV 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 October 23rd, 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. 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). 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).

During the first season of cultivation, while operating under an Early Activation of Use Permit and Provisional Cannabis Cultivation Licenses, MCV will cultivate cannabis between the rows of vines of the existing vineyard blocks/proposed cannabis cultivation areas. To prepare the proposed cannabis cultivation areas, a layer of compost will be applied between each row of vines, then the compost will be disced into the native soil to a maximum depth of less than 12 inches. Preparing the proposed cannabis cultivation areas in this manner is similar to the discing and planting of nitrogen fixing cover crops that has occurred in the vineyard blocks every four years

for the last two decades. After Major Use and Grading Permits have been issued, MCV will remove the vines of the vineyard blocks and rip the soils of the proposed cannabis cultivation areas. 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."

MCV 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 State of California-licensed Distributors and Manufacturers. The proposed cannabis cultivation operation should generate approximately 600 pounds of dried cannabis waste each cultivation season (May 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. MCV 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 area(s) will be an amended native soil mixture at or below grade, with drip irrigation systems to conserve water resources. Each year the growing medium of the proposed cultivation operation will be amended and reused. Each spring, the native soil/growing medium of the proposed outdoor cultivation/canopy area(s) will be plowed/disced and harrowed to create planting beds for the cultivation of cannabis. Each fall, the native soil/growing medium of the proposed outdoor cultivation/canopy area(s) will be plowed/disced and planted with a nitrogen-fixing cover crop, to stabilize the site(s) for the winter wet weather period

Growing Medium Waste

Ideally, the growing medium of the cultivation/canopy area(s) 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).

DRAINAGE PATTERNS

STRAW ROLLS (ADJUST TO SUIT FIELD CONDITIONS)

DISCHARGE POINT

SAMPLING LOCATION

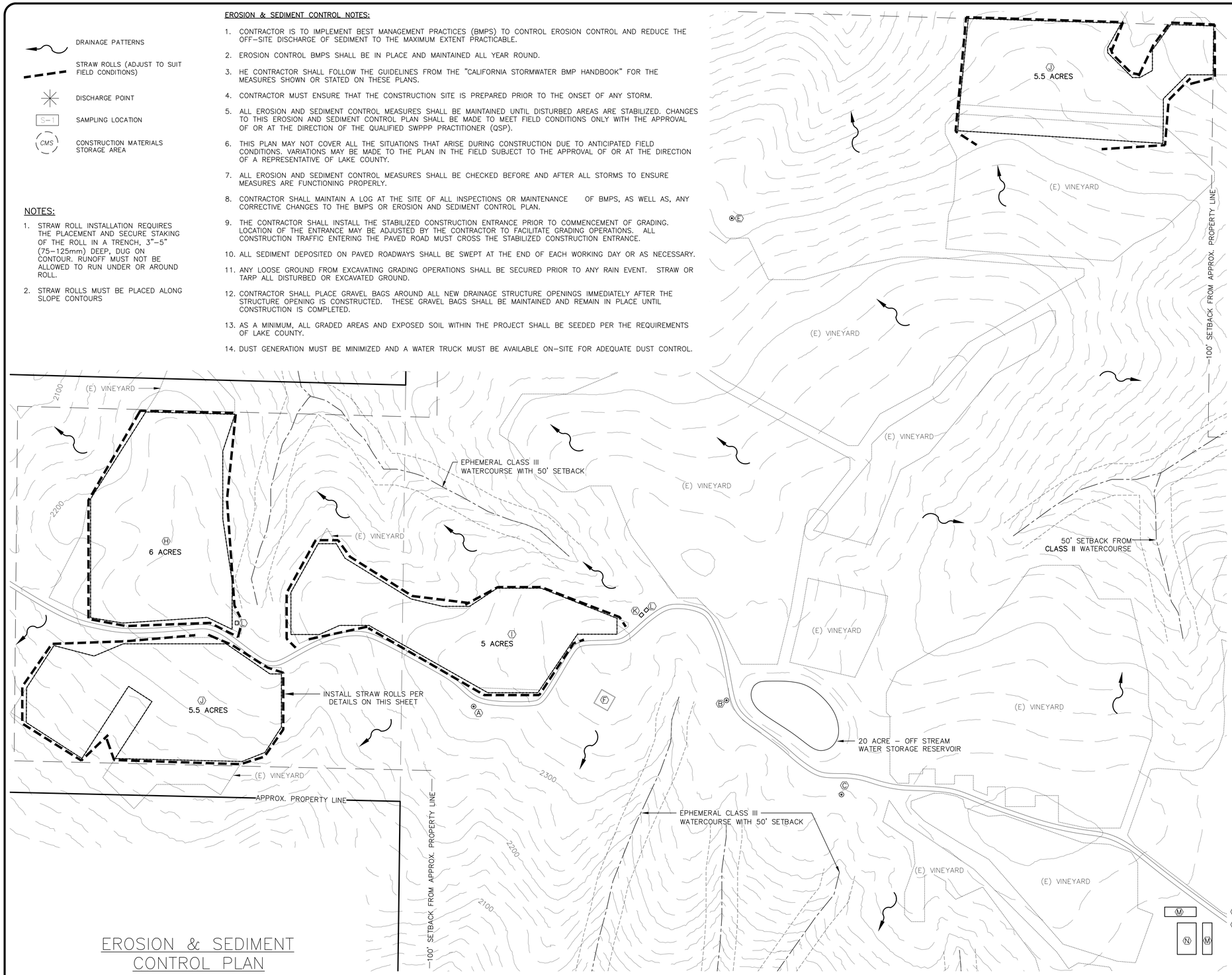
CONSTRUCTION MATERIALS STORAGE AREA

NOTES:

1. 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.
2. STRAW ROLLS MUST BE PLACED ALONG SLOPE CONTOURS

EROSION & SEDIMENT CONTROL NOTES:

1. 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.
2. EROSION CONTROL BMPS SHALL BE IN PLACE AND MAINTAINED ALL YEAR ROUND.
3. HE CONTRACTOR SHALL FOLLOW THE GUIDELINES FROM THE "CALIFORNIA STORMWATER BMP HANDBOOK" FOR THE MEASURES SHOWN OR STATED ON THESE PLANS.
4. CONTRACTOR MUST ENSURE THAT THE CONSTRUCTION SITE IS PREPARED PRIOR TO THE ONSET OF ANY STORM.
5. 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).
6. 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.
7. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED BEFORE AND AFTER ALL STORMS TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
8. 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.
9. 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.
10. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE SWEPT AT THE END OF EACH WORKING DAY OR AS NECESSARY.
11. ANY LOOSE GROUND FROM EXCAVATING GRADING OPERATIONS SHALL BE SECURED PRIOR TO ANY RAIN EVENT. STRAW OR TARP ALL DISTURBED OR EXCAVATED GROUND.
12. 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.
13. AS A MINIMUM, ALL GRADED AREAS AND EXPOSED SOIL WITHIN THE PROJECT SHALL BE SEEDED PER THE REQUIREMENTS OF LAKE COUNTY.
14. DUST GENERATION MUST BE MINIMIZED AND A WATER TRUCK MUST BE AVAILABLE ON–SITE FOR ADEQUATE DUST CONTROL.

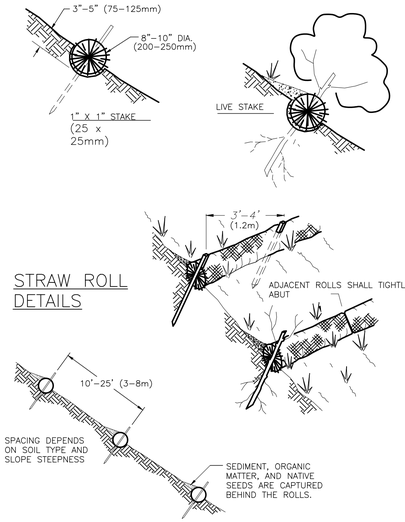


EROSION & SEDIMENT CONTROL PLAN

GRAPHIC SCALE

150 0 75 150

(IN FEET)
1 inch = 150 ft.



STRAW ROLL DETAILS

LEGEND:

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

NOTES:
1. CONTOUR INTERVAL IS 20'

Ⓐ (E) GROUNDWATER WELL
LAT: 39.0315°
LONG: –122.71285°
BENEFICIAL USES:

Ⓑ (E) GROUNDWATER WELL
LAT: 39.03155°
LONG: –122.71005°
BENEFICIAL USES:

Ⓒ (E) GROUNDWATER WELL
LAT: 39.03079°
LONG: –122.70880°
BENEFICIAL USES:

Ⓓ (E) GROUNDWATER WELL
LAT: 39.02982°
LONG: –122.70010°
BENEFICIAL USES:

Ⓔ (E) GROUNDWATER WELL
LAT: 39.03578°
LONG: –122.71002°
BENEFICIAL USES:

Ⓕ (E) RESIDENCE

Ⓖ (E) METAL BARN

Ⓗ (P) 261,360 SF (6–ACRE) OUTDOOR CULTIVATION / CANOPY AREA

Ⓘ (P) 217,800 SF (5–ACRE) OUTDOOR CULTIVATION / CANOPY AREA

Ⓙ (P) 239,580 SF (5.5–ACRE) OUTDOOR CULTIVATION / CANOPY AREA

Ⓚ (P) 10'x12' SECURITY CENTER / SHED

Ⓛ (P) 10'x12' (120) SF PESTICIDES & AGRICULTURAL CHEMICALS STORAGE AREA

Ⓜ (P) 30'x100' IMMATURE PLANT AREA / GREENHOUSE

Ⓝ (P) 60'x100' (6,000 SF) PROCESSING & HARVEST STORAGE FACILITY

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. 06/30/21
CIVIL
STATE OF CALIFORNIA

CULTIVATION SITE PLAN WITH CANOPY

11250 CERRITO DRIVE
CLEARLAKE OAKS, CA 94610
LAKE COUNTY
APNs: 006-007-17, 23, & 30

PLOTTED BY: ---
DATE PLOTTED: 3/15/21
SCALE OF DRAWING: SEE PLAN
JOB NUMBER:
CADD FILE:
SHEET: 1

23 October 2020 WDID: 5S17CC429163

DISCHARGER/LANDOWNER
Jacqueline Dharmapalan
Monte Cristo Vineyards LLC
744 Longridge Road
Oakland, CA 94610

NOTICE OF APPLICABILITY, WATER QUALITY ORDER WQ-2019-0001-DWQ, JACQUELINE DHARMAPALAN, APN 006-007-170-000, 006-007-230-000, 006-007-300-000, LAKE COUNTY

Jacqueline Dharmapalan for Monte Cristo Vineyards (hereafter "Discharger and Landowner") submitted information through the State Water Resources Control Board's (State Water Board's) online portal on 23 September 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 **5S17CC429163**.

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.

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 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 **22 December 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*. **.** 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 **22 December 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 $1000. 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.*

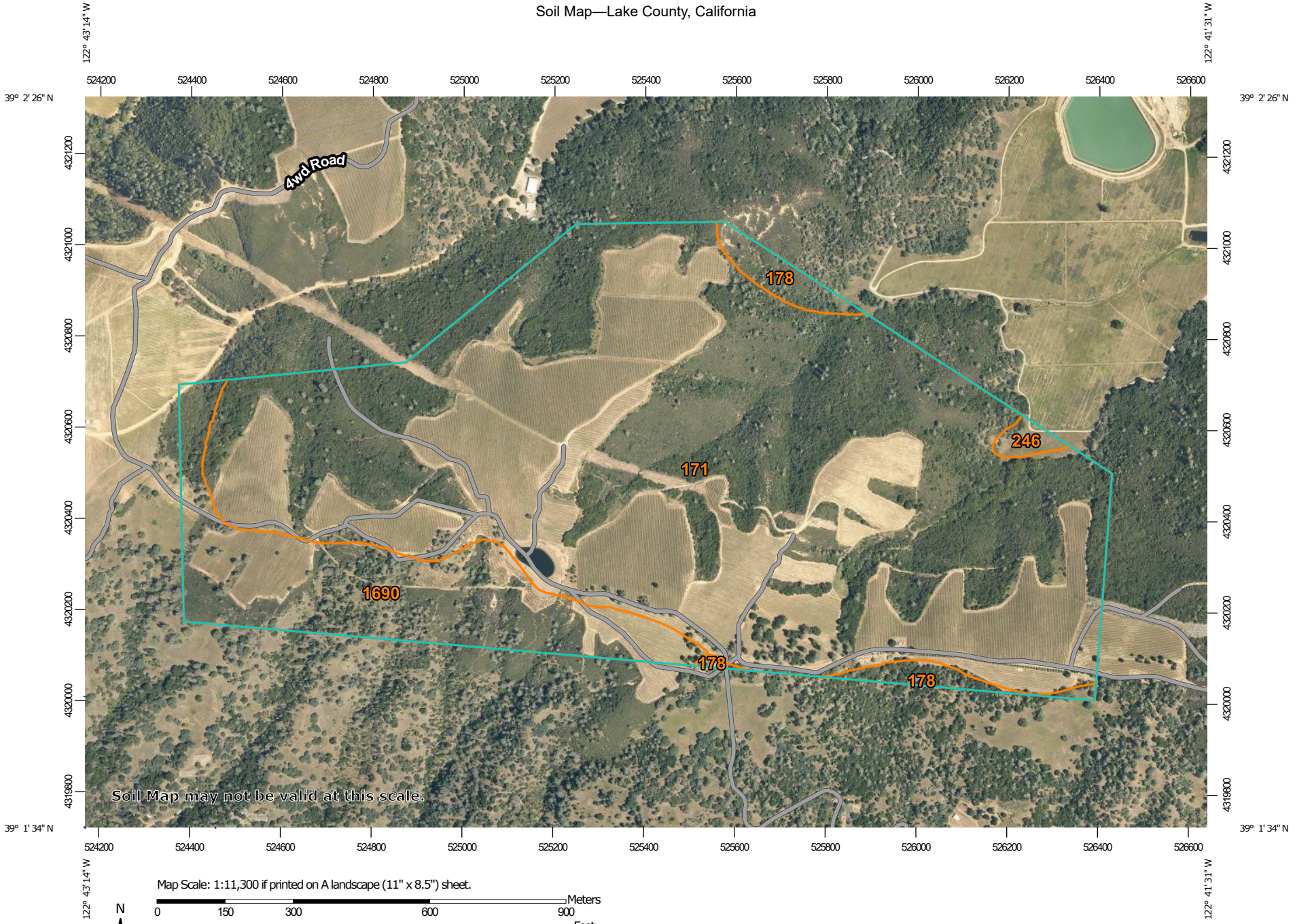
If the Discharger cannot comply with the General Order, or will be unable to implement an applicable BPTC measure contained in Attachment A by the onset of the winter period each year, the Discharger shall notify Central Valley Water Board staff by telephone at 530-224-4845 so that a site-specific compliance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



Map Scale: 1:11,300 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 150 300 600 900

Feet
0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

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 17, Jun 1, 2020

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
171	Maymen-Hopland-Etsel association, 15 to 50 percent slopes	308.4	82.3%
178	Millsholm-Bressa-Hopland association, 30 to 50 percent slopes	9.8	2.6%
246	Wolfcreek gravelly loam	2.2	0.6%
1690	Maymen-Etsel-Snook complex, 30 to 75 percent slopes, low ffd	54.1	14.5%
Totals for Area of Interest		**374.5**	**100.0%**

Water Use Management Plan

Purpose and Overview

Monte Cristo Vineyards, LLC (MCV) is seeking a Major Use Permit and an Early Activation of Use Permit from the County of Lake, for a proposed commercial cannabis cultivation operation at 11250 Cerrito Drive near Clearlake Oaks, California on Lake County APNs 006-007-17, 23, & 30 (Project Property). MCV's proposed commercial cannabis cultivation operation will be composed of twenty-two (22) 43,560 ft^2 A-Type 3 "Medium Outdoor" cultivation/canopy areas, a 120 ft^2 Security Center/Shed, a 6,000 ft^2 Processing & Harvest Storage Facility, two 3,000 ft^2 Immature Plant Areas/Greenhouses, and two 120 ft^2 Pesticides & Agricultural Chemicals Storage Areas. The growing medium of the proposed outdoor cultivation/canopy area(s) will be an amended native soil mixture at or below grade, with drip irrigation systems to conserve water resources. The proposed cultivation/canopy areas will be established within existing vineyard blocks, utilizing infrastructure currently utilized to cultivate grapes. All water for the proposed cultivation operation will come from an existing 20-acrefoot off stream water storage reservoir, filled with water from five existing onsite groundwater wells.

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 situated along an east-west trending ridgeline within the Schindler Creek – Frontal Clear Lake Watershed (HUC 12), between Clear Lake and High Valley. Topography of the Project Property is hilly, with elevations ranging between 1,670 and 2,405 feet above mean sea level, with multiple ephemeral Class III watercourses flowing off of the Project Property towards Schindler Creek to the north and Clear Lake to the south. The existing 20-acrefoot off stream water storage reservoir, is situated spine of the east-west trending ridgeline, with no contributing watershed. There are no watercourse crossings on the Project Property, and all areas of the proposed cultivation operation will be located more than 100 feet from any surface waterbody.

Groundwater

Soils of the Project Property are identified as the Maymen-Hopland-Etsel association and the Maymen-Etsel-Snook complex, by the NRCS Web Soil Survey (attached), and characterized as gravelly loam/residuum derived from sandstone and shale. The United States Geological Survey Map of the Ukiah Sheet defines the area in the vicinity of the Project Property as the Franciscan Formation. The Project Property is not located within any of the 13 groundwater basins/source areas identified in the 2006 Lake County Groundwater Management Plan. There are ten existing groundwater wells on the Project Property, five of which will serve as the primary water sources for the propose cultivation operation.

Water Resources Protection

MCV 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 October 23rd, 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. MCV 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, Storage, & Irrigation

All water for the proposed cultivation operation will come from an existing 20-acrefoot off stream water storage reservoir, filled with water from five existing onsite groundwater wells. Prior to cultivation, water level meters equipped with data logging capabilities, will be installed on the five exiting onsite water supply will be installed on the groundwater wells that discharge water to the off stream water storage reservoir. The 20-acrefoot off stream water storage reservoir will

be filled each year by May 1st, so that the proposed cultivation operation starts each cultivation season with +6.5 million gallons of stored water for irrigation purposes.

The proposed cultivation operation will utilize the existing buried water supply lines of the existing vineyard blocks, to deliver irrigation water from the off stream water storage reservoir to the proposed cultivation/canopy areas. Prior to cultivation, inline water meters compliant with California Code of Regulations, Title 23, Division 3, Chapter 2.7 will be installed on the main irrigation water supply lines running between the off stream water storage reservoir and the proposed cultivation areas. The water supply lines are 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. The irrigation systems of the proposed cultivation/canopy areas will be composed of PVC lay flat hoses and drip tapes/lines.

In February or 2021, the five existing onsite groundwater wells were evaluated by Power Services, Inc. via an Agricultural Pump Test to determine the production capacity of the wells with current/existing equipment. The results and conclusions of these tests, indicate that:

- The groundwater well located at Latitude 39.03150° and Longitude -122.71285° (Groundwater well "A" on the attached Site Plans and Monte Cristo Vineyard Well 7 of the attached Pump Test Reports) can produce more than 41 gallons per minute.
- The groundwater well located at Latitude 39.03155° and Longitude -122.71005° (Groundwater well "B" on the attached Site Plans and Monte Cristo Vineyard Well 6 of the attached Pump Test Reports) can produce more than 48 gallons per minute.
- The groundwater well located at Latitude 39.03079° and Longitude -122.70880° (Groundwater well "C" on the attached Site Plans and Monte Cristo Vineyard Well 1 of the attached Pump Test Reports) can produce more than 27 gallons per minute.
- The groundwater well located at Latitude 39.02982° and Longitude -122.70010° (Groundwater well "D" on the attached Site Plans and Monte Cristo Vineyard Well 5 of the attached Pump Test Reports) can produce more than 15 gallons per minute.
- The groundwater well located at Latitude 39.03578° and Longitude -122.71002° (Groundwater well "E" on the attached Site Plans and Monte Cristo Vineyard Well 8 of the attached Pump Test Reports) can produce more than 24 gallons per minute.

Water Availability Analysis

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."

MCV's proposed cultivation practices are similar to commercial tomato or hops production, with an estimated water use requirement of 25 inches per year. MCV's proposed cannabis cultivation/canopy area is 958,320 ft^2 with an expected total annual water use requirement of 45.8 acre-feet or 14,934,000 gallons. The cultivation season for the proposed cultivation operation will begin in May 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.

May	June	July	August	September	October	November
1,238,000	2,281,000	2,607,000	2,933,000	2,933,000	2,281,000	652,000
3.8	7	8	9	9	7	2

All water for the proposed cultivation operation will come from an existing 20-acrefoot off stream water storage reservoir, filled with water from five existing onsite groundwater wells. Water will be pumped from the off stream water storage reservoir to the irrigation systems of the proposed cultivation/canopy areas via the existing buried water supply lines of the existing vineyard blocks. The water supply lines are 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. The irrigation systems of the proposed cultivation/canopy areas will be composed of PVC lay flat hoses and drip tapes/lines. MCV 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 peak anticipated daily demand for water of the proposed cultivation operation is ~97,767 gallons per day, with an average daily water demand of ~71,067 gallons during the cultivation season. MCV's five existing onsite groundwater wells can produce at least 155 gallons per minute (collectively) or 223,200 gallons per day, and as much as 81 million gallons per year. There is no doubt that the five existing onsite groundwater wells, in conjunction with the existing onsite 20-acrefoot (+6,500,00-gallon) off-stream water storage reservoir, will be able to enough water for the proposed cultivation operation on the hottest driest days in the latest part of the summer when irrigation water is needed most. The proposed cultivation operation is expected to use a total of approximately 15 million gallons per year, or approximately 18.5 percent of the water that the five existing onsite groundwater wells could produce in a given year.

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.

Monitoring and Reporting

Prior to cultivation, inline water meters compliant with California Code of Regulations, Title 23, Division 3, Chapter 2.7 will be installed on the main irrigation water supply lines running between the off stream water storage reservoir and the proposed cultivation areas. Prior to cultivation, water level meters equipped with data logging capabilities, will be installed on the five exiting onsite water supply will be installed on the groundwater wells that discharge water to the off stream water storage reservoir. MCV's staff will record daily water meter readings, and will maintain those records onsite for a minimum of five years. MCV will make those records available to Water Boards, CDFW, and Lake County staff upon request.

ORIGINAL
File with DWR

JUL 15 2003

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 802185

Page ___ of ___
Owner's Well No. ___
Date Work Began ___ Ended ___
Local Permit Agency LAKE County Envico. Health
Permit No. WE-2191 Permit Date 11-7-02

DWR USE ONLY — DO NOT FILL IN
14N/08W-26M
STATE WELL NO./STATION NO.
LATITUDE ___ LONGITUDE ___
APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) ___ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD ___ FLUID ___

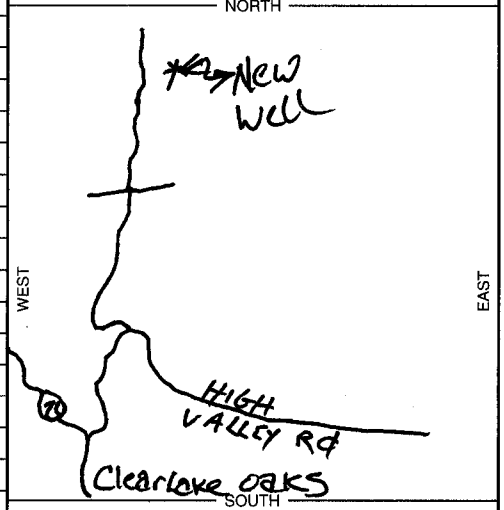
DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	16	Red Hardpan
16	35	Gray RK & Hardpan
35	68	Cmtd gruL & Sandstone
68	70	Black shale
70	103	Hardpan - Shale
103	105	Gray ASH
105	145	Brkn. Gray Rock - water @ 120 *
145	156	Gray ash
156	242	Frac. Black & Blue Rock
242	302	Frac Black-white Rock
302	340	Red ash - FRAC Rock
340	355	Mixed red rock + Ash
355	422	Coarse gruL + Cmtd. Sd.
422	425	Gray ash
425	442	Coarse gruL.
442	495	Frac. blue-black rock
495	525	Shale + gray ash
525	545	Blue & Black rock
545	555	Sd. stone & fine gruL.
555	560	Blue shale
560	562	Coarse gruL. & sand
562	584	Coarse gruL. - Brkn Rock
584	587	Oily shale
587	660	Coarse gruL. + Cmtd. Sd

TOTAL DEPTH OF BORING 660 (Feet)
TOTAL DEPTH OF COMPLETED WELL 680 (Feet)

WELL LOCATION

Address 11230 Cerrito Dr.
City Clearlake Oaks
County LAKE
APN Book 006 Page 007 Parcel 023
Township 14N Range 08W Section 26
Latitude ___ DEG. ___ MIN. ___ SEC. NORTH
Longitude ___ DEG. ___ MIN. ___ SEC. WEST

LOCATION SKETCH



Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. ***PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)
X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

PLANNED USES (✓)
WATER SUPPLY
___ Domestic ___ Public
X Irrigation ___ Industrial
___ MONITORING
___ TEST WELL
___ CATHODIC PROTECTION
___ HEAT EXCHANGE
___ DIRECT PUSH
___ INJECTION
___ VAPOR EXTRACTION
___ SPARGING
___ REMEDIATION
___ OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 120 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 154 (Ft.) & DATE MEASURED 5/16/03
ESTIMATED YIELD * 150 (GPM) & TEST TYPE Air lift
TEST LENGTH 12 (Hrs.) TOTAL DRAWDOWN 220 (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	63	16	✓				PVC	2	SCH 80	N/A
0	440	16	✓				PVC	8	Class 200	N/A
440	580	16		✓			PVC	8	Class 200	.032
580	620	16	✓				PVC	8	Class 200	N/A
620	660	16		✓			PVC	8	Class 200	.032
660	670	16	✓				PVC	8	Class 200	N/A

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CE-MENT (✓)	BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	50	400 lb 2003			
50	680			✓	#8 SRJ. Filter Pack

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
___ Other ___

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME WDC Exploration & Wells (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
PO Box 141 ADDRESS Zamora CITY Ca. STATE 95698 ZIP
Signed ___ WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED ___ 213326 C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

DEC 14 2001

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO. STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Page ___ of ___
Owner's Well No. 006-007-30
No. 769025
Date Work Began 8-20-01, Ended 8-21-01
Local Permit Agency Lake County Public Health Dept
Permit No. WE2103 Permit Date 8-20-01

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Rotary Air FLUID

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	3	Fill
3	130	Weathered Shale
130	290	Gray Shale
290	360	Black Volcanic with Quartz
360	363	Fractured Black Volcanic (15gpm)
363	390	Broken Black. (20gpm)
390	555	Black Shale Like (Hard)
555	565	Broken Black and White Gravely (55gpm)
365	610	Black and White (Solid)
610	640	Black (Volcanics)

Test Well #5
New 11 Acre Development

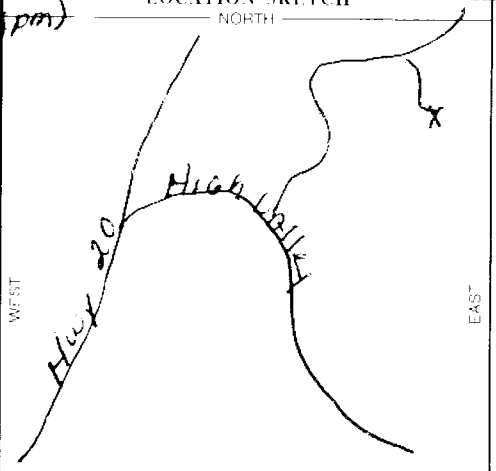
Well Abandonment
6"
23' Cement
640'
617' ft pea gravel

TOTAL DEPTH OF BORING 640 (Feet)
TOTAL DEPTH OF COMPLETED WELL 640 (Feet)

WELL LOCATION

Address Monte Lago Vineyard (Territo Dr)
City Clear Lake Oaks
County Lake County
APN Book ___ Page ___ Parcel 006-007-30
Township 14N Range 07W Section 25
Latitude ___ DEG ___ MIN ___ SEC NORTH Longitude ___ DEG ___ MIN ___ SEC WEST

LOCATION SKETCH



Physically Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)
___ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
✓ DESTROY (Describe Procedures and Materials Under GEOLOGIC LOG)

PLANNED USES (✓)
WATER SUPPLY
___ Domestic ___ Public
___ Irrigation ___ Industrial
MONITORING ___
TEST WELL ✓
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 360 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 360 (Ft.) & DATE MEASURED 8-21-01
ESTIMATED YIELD * 90 (GPM) & TEST TYPE Air Lift
TEST LENGTH 8 (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
	Well abandonment						None			

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	23	✓			
23	640			✓	Pea Gravel

ATTACHMENTS (✓)

- Geologic Log
- Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
- Other ___

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Canepa and Sons Inc (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 13760 Mono Way CITY ___ ZIP ___
Signed C.

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

Page ___ of ___

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 1089169

DWR USE ONLY — DO NOT FILL IN
14N/8W-25
STATE WELL NO./STATION NO.
LATITUDE | LONGITUDE
APN/TRS/OTHER

Owner's Well No. ___
Date Work Began 8/25/08 Ended 8/28/08
Local Permit Agency Lake County Environmental Health
Permit No. WE 2619 Permit Date 7/7/09

GEOLOGIC LOG

ORIENTATION (✓) [X] VERTICAL [ ] HORIZONTAL [ ] ANGLE [ ] (SPECIFY)
DRILLING METHOD Rotary FLUID ___

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	3	Red Soil
3	10	Brn. Brittle Clay
10	30	Brn. Shale
30	190	Brn. Broken Shale
190	240	Graystone
240	260	Red Chert
260	300	Graystone
300	320	Red Chert
320	340	Gray wacke

TOTAL DEPTH OF BORING 340 (Feet)
TOTAL DEPTH OF COMPLETED WELL 335 (Feet)

WELL LOCATION

Address 11250 Circle St.
City Clearlake Oaks
County Lake
APN Book 006 Page 007 Parcel 17
Township 14N Range 8W Section 25
Lat ___ N DEG. MIN. SEC. Long ___ W DEG. MIN. SEC.

LOCATION SKETCH

NORTH
House ☐ ← 400± → well
River
WEST EAST
SOUTH

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

[X] NEW WELL
MODIFICATION/REPAIR
[ ] Deepen
[ ] Other (Specify)
[ ] DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)

WATER SUPPLY
[X] Domestic [ ] Public
[ ] Irrigation [ ] Industrial
[ ] MONITORING
[ ] TEST WELL
[ ] CATHODIC PROTECTION
[ ] HEAT EXCHANGE
[ ] DIRECT PUSH
[ ] INJECTION
[ ] VAPOR EXTRACTION
[ ] SPARGING
[ ] REMEDIATION
[ ] OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 240 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 193 (Ft.) & DATE MEASURED 8/28/09
ESTIMATED YIELD * 80 (GPM) & TEST TYPE Air Lift
TEST LENGTH 1 (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	200	9	X				PVC F480	4½	SDR26	
200	255	7	X				PVC F480	4½	SDR26	
255	335	7		X			PVC F480	4½	SDR26	.032

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	20	X			
20	22		X		
22	235				Pea gravel

ATTACHMENTS (✓)

[ ] Geologic Log
[ ] Well Construction Diagram
[ ] Geophysical Log(s)
[ ] Soil/Water Chemical Analyses
[ ] Other ___

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Dan McMullen Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 14874 Old Long Valley Rd. CITY Clearlake Oaks STATE CA ZIP 95423
Signed Dan L Mullen C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 9/15/08
C-57 LICENSE NUMBER 533152

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

OSP 03 78836

ORIGINAL
File with DWR

#2 DEC 14

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

Page ___ of ___

Owner's Well No. 006-007-30

No. 769026

Date Work Began 11-5-01, Ended 11-8-01

Local Permit Agency LAKE County Public Health Dept

Permit No. WE2130 Permit Date 8-20-01

LATITUDE	LONGITUDE

APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)

DRILLING METHOD Rotary Air. FLUID ___

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION (Describe material, grain size, color, etc.)
0	3	Soil Small Gravel
3	80	Decomposed Shale
80	83	Fractured Shale (12gpm)
83	210	Shale
210	303	Weathered Shale (20gpm)
303	560	Shale
560	565	Fractured Shale
565	600	Shale

Test Hole 600'
32 G.P.M

Abandoned

6" — 20' cement — 580' pea gravel — 600'

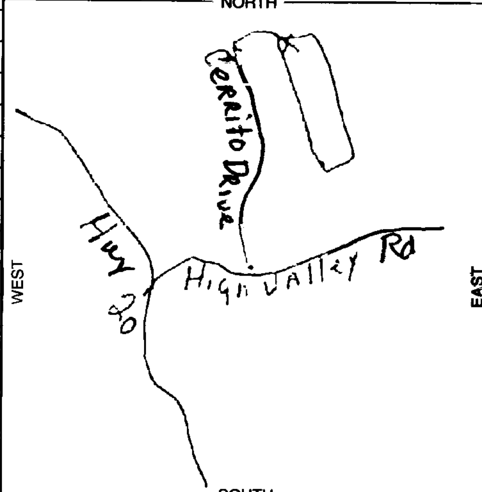
TOTAL DEPTH OF BORING 600' (Feet)
TOTAL DEPTH OF COMPLETED WELL 600 (Feet)

WELL LOCATION

Address Monte Lago Vineyard
City Clearlake Oaks
County Lake County
APN Book ___ Page 006-007-30
Township 14N Range ___
Latitude ___ NORTH (DEG. MIN. SEC.) Longitude ___ WEST (DEG. MIN. SEC.)

LOCATION SKETCH

NORTH



WEST / EAST

SOUTH

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

- NEW WELL
- MODIFICATION/REPAIR
  - Deepen
  - Other (Specify)
- ✓ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

PLANNED USES (✓)

WATER SUPPLY
- Domestic ___ Public
- Irrigation ___ Industrial
- MONITORING ___
- TEST WELL ✓
- CATHODIC PROTECTION ___
- HEAT EXCHANGE
- DIRECT PUSH
- INJECTION
- VAPOR EXTRACTION
- SPARGING
- REMEDIATION
- OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 80 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 50' (Ft.) & DATE MEASURED 11-8-01
ESTIMATED YIELD * 32 (GPM) & TEST TYPE Air Lift
TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN ___ (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	600	6			N/A					

Well abandonment

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	CE-MENT (✓)	BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
			N/A		
20	600			✓	Pea Gravel
0	20	✓			

ATTACHMENTS (✓)
- Geologic Log
- Well Construction Diagram
- Geophysical Log(s)
- Soil/Water Chemical Analyses
- Other ___

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

NAME Canepa and Sons Inc
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

13760 Mono Way Sonora, Calif 95370
ADDRESS CITY STATE ZIP

Signed C Mark Housley — WELL DRILLER/AUTHORIZED REPRESENTATIVE — 11/12/01 DATE SIGNED — 425749 C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

DEC 14 2001

4 Shannon Ranches

STATE OF CALIFORNIA

WELL COMPLETION REPORT

Refer to Instruction Pamphlet

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
ALTITUDE LONGITUDE
APN/TRS/OTHER

Page ___ of ___

Owner's Well No. 006-007-17-00 No. 762984

Date Work Began 7-12-01, Ended 8-20-01

Local Permit Agency Lake County Public Health Dept

Permit No. WE3055 Permit Date 7-13-01

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)

DRILLING METHOD Rotary Air FLUID

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	3	Soil
3	30	Weathered Shale
30	119	Red Volcanics
119	165	Red Volcanics
165	200	Shale
200	211	Fractured Shale with Gray Clay
211	380	Broken Black Lava with Quartz (60gpm)
380	396	Fractured Shale
396	475	Fractured Volcanics (40gpm)
475	560	Broken Volcanics
560	590	Gravely Volcanics
590	612	Large Broken Black & White (55gpm)
612	630	Gray Shale
630	640	Black Volcanic
		Total Depth 640'
640	700	(Testhole) Black Volcanics

TOTAL DEPTH OF BORING 700 (Feet)

TOTAL DEPTH OF COMPLETED WELL 640 (Feet)

WELL LOCATION

Address 11250 Cerrito Drive

City Clear Lake, Calif 95423

County Lake County

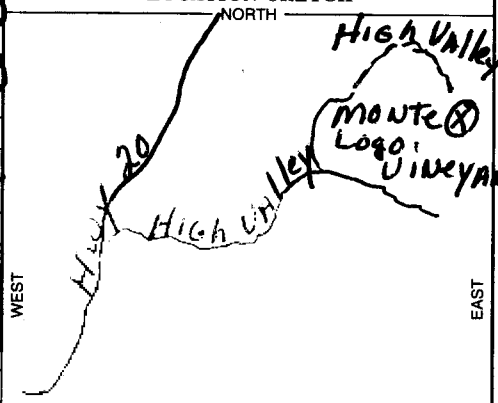
APN Book ___ Page ___ Parcel 006-007-17-00

Township 14N Range 8W Section 25

Latitude ___ DEG. ___ MIN. ___ SEC. NORTH

Longitude ___ DEG. ___ MIN. ___ SEC. WEST

LOCATION SKETCH



SOUTH

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. ***PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

✓ NEW WELL

MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)

___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

PLANNED USES (✓)

WATER SUPPLY
___ Domestic ___ Public
✓ Irrigation ___ Industrial

MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 260' (Ft.) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL 245 (Ft.) & DATE MEASURED 8-20-01

ESTIMATED YIELD 155 (GPM) & TEST TYPE Air Lift

TEST LENGTH 10 (Hrs.) TOTAL DRAWDOWN ___ (Ft.)

** May not be representative of a well's long-term yield.*

CASING(S)

DEPTH FROM SURFACE Ft.	to Ft.	BOREHOLE DIA. (inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL GRADE	INTERNAL DIAMETER (inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (inches)
0	23	14¾	✓				Steel	10"	.250	
0	265	13¾	✓				Steel	8"	.250	
265	450	13¾		✓			Steel	5"	.250	1X1X¼
450	505	13¾	✓				Steel	8"	.250	
450	500	8"	✓				Steel	6⅝	.185	
500	640	8"		✓			Steel	6⅝	.185	20 m.p.

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	23	✓			

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
___ Other ___

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Cahepa and Sons Inc (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS 13760 Main Way CITY Sonora, STATE Calif ZIP 95370

Signed C. Mike Hawley 8/20/01 425749

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

Power Services, Inc.

6301 Bearden Lane
Modesto, CA 95357
209.527.2908
fax
cal.powerhydrodynamics.com

Report ID: PT-24725

CONFIDENTIAL/PROPRIETARY INFORMATION

Jonathan Dharmapalan

Friday, Feb 12, 2021

Monte Cristo Vineyard
11250 Cerrito Dr.
Clear Lake Oaks, CA 95423

SUBJECT: PUMPING COST ANALYSIS
HP: 15.00 Plant: Monte Cristo Vineyard Well 1
PUMP TEST REFERENCE NUMBER: PT-24725
PUMP TEST RUN: Run 1

The following Pumping Cost Analysis is presented as an aid to your cost accounting. This analysis is an estimate prepared from operating criteria supplied from the pump test performed Feb 10 2021 and information provided by you during the pump test.

It is recommended and assumed that:

- **Overall plant efficiency can be improved to: 60%**
- **Water requirements will be the same as for the past year**
- **All operating conditions (annual hours of operation, discharge head, and water pumping level) will remain the same as they were at the time of the pump test**

	EXISTING PLANT EFFICIENCY	IMPROVED PLANT EFFICIENCY	SAVINGS
kWh/AF	1919	0	1,919.00
Estimated Total kWh	9,540	0	9,540
Average Cost per kWh	$0.23	$0.23	
Average Cost per hour	$2.2	$0	$2.20
Cost Per Acre Ft.	$442.7	$0	$442.70
Estimated Acre Ft. Per Year	4.97	4.97	
Run Hours	1,000.00	1,000.00	
Overall Plant Efficiency	0%	60%	
Estimated Total Annual Cost	$2,200.94	$0.00	$2,200.94

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pumping efficiency will be continued. If you have any questions, please contact Bill Power at (209) 527-2908.

Regards,

William Thomas Power, III

Enclosures

Power Services, Inc.

6301 Bearden Lane
Modesto, CA 95357
209.527.2908
fax
cal.powerhydrodynamics.com

Report ID: PT-24725

Agricultural and Domestic Pump Test Report
Monte Cristo Vineyard - Monte Cristo Vineyard Well 1 - Run 1

Latitude: 39.02982 | Longitude: -122.70011 | Elevation: 2200
Test Date: Feb 10 2021 | Tester: Bill Power | Nameplate HP: 15.00

Customer Information

Monte Cristo Vineyard

11250 Cerrito Dr.
Clear Lake Oaks, CA 95423

Contact: Jonathan Dharmapalan
Cell: 415-994-6947

Power Company Data

PG&E

Meter #: **1010099261**
Rate Schedule: **AG5A**
Average Cost: **$0.23**

Equipment Data

Motor Make: **No Name Plate**
Volts/Amps: **460V/20.80A**
Serial #:
Pump Make: **No Name Plate**
Pump Type: **Submersible**
Drive Type: **Electric Motor**
Gearhead Make:

Hydraulic Data

Discharge Pressure: 28.00 lb/sqft
Discharge Level: 64.68 ft
Water Source: Well

Flow Data

Run Number: 1 of 1
Measured Flow: 27 gpm
Customer Flow: 0 gpm
Flow Velocity: 1.96 ft/sec
Acre Feet per 24 Hr: 0.12
Cubic Feet Per Second (CFS): 0.06 ft

Power Data

Horsepower Input to Motor: 12.79 hp
Brake Horsepower: 10.36 hp
Kilowatt Input to Motor: 9.54 kW
Energy Cost: $2.2/hr
Nameplate RPM: 3450 rpm
VFD: 0 hz

Percent of Rated Motor Load: 69%
Kilowatt Hours per Acre Foot: 1918.95
Cost to Pump an Acre Foot: $442.7
Overall Plant Efficiency: 0%
Water Horsepower: 0 hp
Run Hours: 1000

Remarks

All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.

This pump has an adequate test section.

This pump did not have a flow meter.

Overall efficiency unknown due to inability to measure Pumping Water Level.

Based on information obtained at the time the test was performed, this test represents the pumps standard operating conditions.

HPI measured with direct read KWI.

Obstruction in well. Unable to measure water levels.

Run 1 observations: Appears to have an obstruction at approximately 100 ft.

Power Services, Inc.

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Report ID: PT-24725

Jonathan Dharmapalan
Monte Cristo Vineyard
11250 Cerrito Dr.
Clear Lake Oaks, CA 95423

Pump Name: Monte Cristo Vineyard Well 1

HYDRAULIC TEST RESULTS PT-24725 **Test Date:** Feb 10 2021

Tester: Bill Power
Meter #: 1010099261
Annual Run Hrs: 1000
Utility: PG&E
Rate Sched: AG5A
Avg Cost kWh: $0.23
Meter kH: 21.60
Meter Const: 1

Motor Make: No Name Plate
Volts: 460
Gearhead Make:
Pump Make: No Name Plate
Water Source: Well
Motor Serial:
Amps: 20.80
NameplateRPM: 3450
Pump Type: Submersible
Horsepower: 15.00
Drive Type: Electric Motor
Pipe Diameter: 2.37

Results	**Test 1**
Discharge Pressure, PSI	28.00
Standing Water Level, Feet	0.00
Recovered Water Level	0.00
Drawdown, Feet	0
Discharge Head, Feet	64.68
Pumping Water Level, Feet	
Total Measured Head, Feet	64.68
Measured GPM	27.00
Customer Meter, GPM	
Well Yield, GPM/ft Drawdown	
Acre Feet Pumped in 24 Hours	0.12
kW Input to Motor	9.54
HP Input to Motor	12.79
Motor Load %	69.1
Measured Speed of Pump, RPM	
VFD, Hz:	
kWh per Acre Foot	**1918.95**
Overall Plant Efficiency (%)	**0**
Energy Cost per Hour	2.2
Water Horsepower, hp	0
Flow Velocity, ft/sec	1.96

Power Services, Inc.

6301 Bearden Lane
Modesto, CA 95357
209.527.2908
fax
cal.powerhydrodynamics.com

Report ID: PT-24748

Tuesday, Feb 23, 2021

Jonathan Dharmapalan
Monte Cristo Vineyard
11250 Cerrito Dr.
Clear Lake Oaks, CA 95423

Dear Jonathan Dharmapalan:

Enclosed are the results of your pump test. The results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.

Some of the factors, which influence pump performance, are:

- Changes in discharge pressures
- Changes in water table level and well yield
- Pump wear
- Proper pump design for application

We offer the following services to help our customers save time and money. Pump testing, irrigation system analysis, irrigation water management, and electric rate management. Visit our website at www.powerhydrodynamics.com for more information or to use our water cost calculator.

Please feel free to call 209-527-2908 if you have questions about this test or on the other services that Power Services has to offer.

Regards,

William Thomas Power, III

Enclosures

Power Services, Inc.

6301 Bearden Lane
Modesto, CA 95357
209.527.2908
fax
cal.powerhydrodynamics.com

Report ID: PT-24748

Agricultural and Domestic Pump Test Report
Monte Cristo Vineyard - Monte Cristo Vineyard Well 7 - Run 1

Latitude: 39.03248 | Longitude: -122.71786 | Elevation: 2181
Test Date: Feb 20 2021 | Tester: Bill Power | Nameplate HP:

Customer Information

Monte Cristo Vineyard

11250 Cerrito Dr.
Clear Lake Oaks, CA 95423

Contact: Jonathan Dharmapalan
Cell: 415-994-6947

Equipment Data

Motor Make: **No Name Plate**
Volts/Amps: **460V/A**
Serial #:
Pump Make: **No Name Plate**
Pump Type: **Submersible**
Drive Type: **Generator**
Gearhead Make:

Hydraulic Data

Standing Water Level (SWL):	0.00 ft
Recovered Water Level (RWL):	0.00 ft
Pumping Water Level (PWL):	ft
Drawdown:	0 ft
Discharge Pressure:	44.00 lb/sqft
Discharge Level:	101.64 ft
Total Lift:	0 ft
Water Source:	Well

Flow Data

Run Number:	1 of 1
Measured Flow:	41 gpm
Customer Flow:	0 gpm
Flow Velocity:	2.98 ft/sec
Acre Feet per 24 Hr:	0.18
Cubic Feet Per Second (CFS):	0.09 ft
Well Yield:	0 gpm/ft

Power Data

Water Horsepower:	0 hp	Name Plate RPM:	3450 rpm
Assumed Brake HP Input:	0 hp	RPM at Tachometer:	0
Pump Efficiency:	0	RPM at Gearhead:	0

Remarks

All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.

This pump has an adequate test section.

This pump did not have a flow meter.

No entrance in well. Unable to measure water levels.

Overall efficiency unknown due to inability to measure Pumping Water Level.

HPI measured with direct read KWI.

Power Services, Inc.

6301 Bearden Lane
Modesto, CA 95357
209.527.2908
fax
cal.powerhydrodynamics.com

Report ID: PT-24728

CONFIDENTIAL/PROPRIETARY INFORMATION

Jonathan Dharmapalan

Tuesday, Feb 23, 2021

Monte Cristo Vineyard
11250 Cerrito Dr.
Clear Lake Oaks, CA 95423

SUBJECT: PUMPING COST ANALYSIS
HP: 10.00 Plant: Monte Cristo Vineyard Well 6
PUMP TEST REFERENCE NUMBER: PT-24728
PUMP TEST RUN: Run 1

The following Pumping Cost Analysis is presented as an aid to your cost accounting. This analysis is an estimate prepared from operating criteria supplied from the pump test performed Feb 10 2021 and information provided by you during the pump test.

It is recommended and assumed that:

- **Overall plant efficiency can be improved to: 58%**
- **Water requirements will be the same as for the past year**
- **All operating conditions (annual hours of operation, discharge head, and water pumping level) will remain the same as they were at the time of the pump test**

	EXISTING PLANT EFFICIENCY	IMPROVED PLANT EFFICIENCY	SAVINGS
kWh/AF	919.9	571.6	348.20
Estimated Total kWh	8,130	5,052	3,078
Average Cost per kWh	$0.23	$0.23	
Average Cost per hour	$1.88	$2.56	*
Cost Per Acre Ft.	$212.22	$131.88	$80.34
Estimated Acre Ft. Per Year	8.84	8.84	
Run Hours	1,000.00	1,000.00	
Overall Plant Efficiency	36%	58%	
Estimated Total Annual Cost	$1,875.64	$1,165.58	$710.06

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pumping efficiency will be continued. If you have any questions, please contact Bill Power at (209) 527-2908.

Regards,

William Thomas Power, III

Enclosures

Power Services, Inc.

6301 Bearden Lane
Modesto, CA 95357
209.527.2908
fax
cal.powerhydrodynamics.com

Report ID: PT-24728

Agricultural and Domestic Pump Test Report
Monte Cristo Vineyard - Monte Cristo Vineyard Well 6 - Run 1

Latitude: 39.03262 | Longitude: -122.71541 | Elevation: 2218
Test Date: Feb 10 2021 | Tester: Bill Power | Nameplate HP: 10.00

Customer Information

Monte Cristo Vineyard

11250 Cerrito Dr.
Clear Lake Oaks, CA 95423

Contact: Jonathan Dharmapalan
Cell: 415-994-6947

Power Company Data

PG&E

Meter #:
Rate Schedule: **AG5A**
Average Cost: **$0.23**

Equipment Data

Motor Make: **No Name Plate**
Volts/Amps: **460V/14.20A**
Serial #:
Pump Make: **No Name Plate**
Pump Type: **Submersible**
Drive Type: **Electric Motor**
Gearhead Make:

Hydraulic Data

Standing Water Level (SWL):	237.00 ft
Recovered Water Level (RWL):	240.00 ft
Pumping Water Level (PWL):	264.00 ft
Drawdown:	27 ft
Yield:	1.78 gpm/ft
Discharge Pressure:	26.00 lb/sqft
Discharge Level:	60.06 ft
Total Lift:	324.06 ft
Water Source:	Well

Flow Data

Run Number:	1 of 1
Measured Flow:	48 gpm
Customer Flow:	0 gpm
Flow Velocity:	3.49 ft/sec
Acre Feet per 24 Hr:	0.21
Cubic Feet Per Second (CFS):	0.11 ft

Power Data

Horsepower Input to Motor:	10.9 hp	Percent of Rated Motor Load:	81%
Brake Horsepower:	8.06 hp	Kilowatt Hours per Acre Foot:	919.88
Kilowatt Input to Motor:	8.13 kW	Cost to Pump an Acre Foot:	$212.22
Energy Cost:	$1.88/hr	**Overall Plant Efficiency:**	**36.04%**
Nameplate RPM:	3450 rpm	Water Horsepower:	3.93 hp
VFD:	0 hz	Run Hours:	1000

Remarks

All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.

This pump has an adequate test section.

This pump did not have a flow meter.

Recovered water level based on 5 minutes recovery, well could still be recovering.

Pump started for test, pumping water level could still be drawing down.

Based on information obtained at the time the test was performed, this test represents the pumps standard operating conditions.

HPI measured with direct read KWI.

Overall efficiency of this plant is considered to be low assuming this run represents plant's normal operating condition.

Power Services, Inc.

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Modesto, CA 95357
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Report ID: PT-24728

Jonathan Dharmapalan
Monte Cristo Vineyard
11250 Cerrito Dr.
Clear Lake Oaks, CA 95423

Pump Name: Monte Cristo Vineyard Well 6

HYDRAULIC TEST RESULTS PT-24728 **Test Date:** Feb 10 2021

Tester: Bill Power
Meter #:
Annual Run Hrs: 1000
Utility: PG&E
Rate Sched: AG5A
Avg Cost kWh: $0.23
Meter kH: 21.60
Meter Const: 1

Motor Make: No Name Plate
Volts: 460
Gearhead Make:
Pump Make: No Name Plate
Water Source: Well
Motor Serial:
Amps: 14.20
NameplateRPM: 3450
Pump Type: Submersible
Horsepower: 10.00
Drive Type: Electric Motor
Pipe Diameter: 2.37

Results	**Test 1**
Discharge Pressure, PSI	26.00
Standing Water Level, Feet	237.00
Recovered Water Level	240.00
Drawdown, Feet	27
Discharge Head, Feet	60.06
Pumping Water Level, Feet	264.00
Total Measured Head, Feet	324.06
Measured GPM	48.00
Customer Meter, GPM	
Well Yield, GPM/ft Drawdown	1.78
Acre Feet Pumped in 24 Hours	0.21
kW Input to Motor	8.13
HP Input to Motor	10.9
Motor Load %	80.6
Measured Speed of Pump, RPM	
VFD, Hz:	
kWh per Acre Foot	**919.88**
Overall Plant Efficiency (%)	**36**
Energy Cost per Hour	1.88
Water Horsepower, hp	3.93
Flow Velocity, ft/sec	3.49

Power Services, Inc.

6301 Bearden Lane
Modesto, CA 95357
209.527.2908
fax
cal.powerhydrodynamics.com

Report ID: PT-24727

CONFIDENTIAL/PROPRIETARY INFORMATION

Jonathan Dharmapalan

Tuesday, Feb 23, 2021

Monte Cristo Vineyard
11250 Cerrito Dr.
Clear Lake Oaks, CA 95423

SUBJECT: PUMPING COST ANALYSIS
HP: 10.00 Plant: Monte Cristo Vineyard Well 5
PUMP TEST REFERENCE NUMBER: PT-24727
PUMP TEST RUN: Run 1

The following Pumping Cost Analysis is presented as an aid to your cost accounting. This analysis is an estimate prepared from operating criteria supplied from the pump test performed Feb 10 2021 and information provided by you during the pump test.

It is recommended and assumed that:

- **Overall plant efficiency can be improved to: 58%**
- **Water requirements will be the same as for the past year**
- **All operating conditions (annual hours of operation, discharge head, and water pumping level) will remain the same as they were at the time of the pump test**

	EXISTING PLANT EFFICIENCY	IMPROVED PLANT EFFICIENCY	SAVINGS
kWh/AF	2675.7	0	2,675.70
Estimated Total kWh	7,390	0	7,390
Average Cost per kWh	$0.23	$0.23	
Average Cost per hour	$1.7	$0	$1.70
Cost Per Acre Ft.	$617.28	$0	$617.28
Estimated Acre Ft. Per Year	2.76	2.76	
Run Hours	1,000.00	1,000.00	
Overall Plant Efficiency	0%	58%	
Estimated Total Annual Cost	$1,704.92	$0.00	$1,704.92

It is sincerely hoped that this information will prove helpful to you, and that your concerns over maintaining optimum pumping efficiency will be continued. If you have any questions, please contact Bill Power at (209) 527-2908.

Regards,

William Thomas Power, III

Enclosures

Power Services, Inc.

6301 Bearden Lane
Modesto, CA 95357
209.527.2908
fax
cal.powerhydrodynamics.com

Report ID: PT-24727

Agricultural and Domestic Pump Test Report
Monte Cristo Vineyard - Monte Cristo Vineyard Well 5 - Run 1

Latitude: 39.02950 | Longitude: -122.69291 | Elevation: 2284
Test Date: Feb 10 2021 | Tester: Bill Power | Nameplate HP: 10.00

Customer Information

Monte Cristo Vineyard

11250 Cerrito Dr.
Clear Lake Oaks, CA 95423

Contact: Jonathan Dharmapalan
Cell: 415-994-6947

Power Company Data

PG&E

Meter #: **1010092369**
Rate Schedule: **AG5A**
Average Cost: **$0.23**

Equipment Data

Motor Make: **Franklin**
Volts/Amps: **460V/14.20A**
Serial #:
Pump Make: **Grundfos**
Pump Type: **Submersible**
Drive Type: **Electric Motor**
Gearhead Make:

Hydraulic Data

Discharge Pressure: 2.00 lb/sqft
Discharge Level: 4.62 ft
Water Source: Well

Flow Data

Run Number: 1 of 1
Measured Flow: 15 gpm
Customer Flow: 0 gpm
Flow Velocity: 1.09 ft/sec
Acre Feet per 24 Hr: 0.07
Cubic Feet Per Second (CFS): 0.03 ft

Power Data

Horsepower Input to Motor: 9.91 hp
Brake Horsepower: 7.33 hp
Kilowatt Input to Motor: 7.39 kW
Energy Cost: $1.7/hr
Nameplate RPM: 3450 rpm
VFD: 0 hz

Percent of Rated Motor Load: 73%
Kilowatt Hours per Acre Foot: 2675.67
Cost to Pump an Acre Foot: $617.28
Overall Plant Efficiency: 0%
Water Horsepower: 0 hp
Run Hours: 1000

Remarks

All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.

This pump has an adequate test section.

This pump did not have a flow meter.

No entrance in well. Unable to measure water levels.

Overall efficiency unknown due to inability to measure Pumping Water Level.

Based on information obtained at the time the test was performed, this test represents the pumps standard operating conditions.

HPI measured with direct read KWI.

Power Services, Inc.

6301 Bearden Lane
Modesto, CA 95357
209.527.2908
fax
cal.powerhydrodynamics.com

Report ID: PT-24727

Jonathan Dharmapalan
Monte Cristo Vineyard
11250 Cerrito Dr.
Clear Lake Oaks, CA 95423

Pump Name: Monte Cristo Vineyard Well 5

HYDRAULIC TEST RESULTS PT-24727 **Test Date:** Feb 10 2021

Tester: Bill Power
Meter #: 1010092369
Annual Run Hrs: 1000
Utility: PG&E
Rate Sched: AG5A
Avg Cost kWh: $0.23
Meter kH: 21.60
Meter Const: 1

Motor Make: Franklin
Volts: 460
Gearhead Make:
Pump Make: Grundfos
Water Source: Well
Motor Serial:
Amps: 14.20
NameplateRPM: 3450
Pump Type: Submersible
Horsepower: 10.00
Drive Type: Electric Motor
Pipe Diameter: 2.37

Results	**Test 1**
Discharge Pressure, PSI	2.00
Standing Water Level, Feet	0.00
Recovered Water Level	0.00
Drawdown, Feet	0
Discharge Head, Feet	4.62
Pumping Water Level, Feet	
Total Measured Head, Feet	4.62
Measured GPM	15.00
Customer Meter, GPM	
Well Yield, GPM/ft Drawdown	
Acre Feet Pumped in 24 Hours	0.07
kW Input to Motor	7.39
HP Input to Motor	9.91
Motor Load %	73.3
Measured Speed of Pump, RPM	
VFD, Hz:	
kWh per Acre Foot	**2675.67**
Overall Plant Efficiency (%)	**0**
Energy Cost per Hour	1.7
Water Horsepower, hp	0
Flow Velocity, ft/sec	1.09

Power Services, Inc.

6301 Bearden Lane
Modesto, CA 95357
209.527.2908
fax
cal.powerhydrodynamics.com

Report ID: PT-24749

Tuesday, Feb 23, 2021

Jonathan Dharmapalan
Monte Cristo Vineyard
11250 Cerrito Dr.
Clear Lake Oaks, CA 95423

Dear Jonathan Dharmapalan:

Enclosed are the results of your pump test. The results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.

Some of the factors, which influence pump performance, are:

- Changes in discharge pressures
- Changes in water table level and well yield
- Pump wear
- Proper pump design for application

We offer the following services to help our customers save time and money. Pump testing, irrigation system analysis, irrigation water management, and electric rate management. Visit our website at www.powerhydrodynamics.com for more information or to use our water cost calculator.

Please feel free to call 209-527-2908 if you have questions about this test or on the other services that Power Services has to offer.

Regards,

William Thomas Power, III

Enclosures

Power Services, Inc.

6301 Bearden Lane
Modesto, CA 95357
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cal.powerhydrodynamics.com

Report ID: PT-24749

Agricultural and Domestic Pump Test Report
Monte Cristo Vineyard - Monte Cristo Vineyard Well 8 - Run 1

Latitude: 39.03076 | Longitude: -122 | Elevation: -122
Test Date: Feb 20 2021 | Tester: Bill Power | Nameplate HP: 5.00

Customer Information

Monte Cristo Vineyard

11250 Cerrito Dr.
Clear Lake Oaks, CA 95423

Contact: Jonathan Dharmapalan
Cell: 415-994-6947

Equipment Data

Motor Make: **Centri Pro**
Volts/Amps: **460V/8.60A**
Serial #:
Pump Make: **Gould**
Pump Type: **Submersible**
Drive Type: **Diesel Engine**
Gearhead Make:

Hydraulic Data

Standing Water Level (SWL):	0.00 ft
Recovered Water Level (RWL):	0.00 ft
Pumping Water Level (PWL):	ft
Drawdown:	0 ft
Discharge Pressure:	2.00 lb/sqft
Discharge Level:	4.62 ft
Total Lift:	0 ft
Water Source:	Well

Flow Data

Run Number:	1 of 1
Measured Flow:	24 gpm
Customer Flow:	0 gpm
Flow Velocity:	2.71 ft/sec
Acre Feet per 24 Hr:	0.11
Cubic Feet Per Second (CFS):	0.05 ft
Well Yield:	0 gpm/ft

Power Data

Water Horsepower:	0 hp	Name Plate RPM:	3450 rpm
Assumed Brake HP Input:	0 hp	RPM at Tachometer:	0
Pump Efficiency:	55 %	RPM at Gearhead:	0

Remarks

All results are based on conditions during the time of the test. If these conditions vary from the normal operation of your pump, the results shown may not describe the pump's normal performance.

SITE PHOTOS

Proposed Cultivation/Canopy Area and Access Road (east view)

Existing Vineyard/Proposed Cannabis Cultivation Area (west view)

Existing Vineyard/Proposed Cannabis Cultivation Area (east view)

Existing Vineyard/Proposed Cannabis Cultivation Area (southwest view)

20-acrefoot Off-stream Water Storage Reservoir (southeast view)

20-acrefoot Off-stream Water Storage Reservoir (south view)

Location of Proposed Immature Plant Areas/Greenhouses (east view)

Location of Proposed Processing & Harvest Storage Facility (north view)