

**CLEARPATH CANYON LLC
APNS: 010-053-01 & 010-053-02
PROPERTY MANAGEMENT PLAN
LAKE COUNTY, CA**

PROPOSED CANNABIS CULTIVATION

PREPARED FOR:



**November 2023
Updated March 2024**

**Property Management Plan
For
Clearpath Canyon LLC**

APNs: 010-053-01 & 010-053-02

Proposed Commercial Cannabis Cultivation Facilities

Lead Agency:

Lake County Community Development Department

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Lakeport, CA 95453

Prepared By:



In Consultation with:

Clearpath Canyon LLC

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1.0 INTRODUCTION

This Property Management Plan has been prepared to fulfill the requirements of **Chapter 21, Article 27 of the Lake County Code Pertaining to Cannabis Cultivation (referred to herein as “Ordinance”)**.

“The intent of said plan is to identify and locate all existing cannabis and non-cannabis related uses on the property, identify and locate all proposed cannabis and non-cannabis related uses on the property, and describe how all cannabis and non-cannabis related uses will be managed in the future. The property management plan shall demonstrate how the operation of the commercial cannabis cultivation site will not harm the public health, safety, and welfare or the natural environment of Lake County.”

This Property Management Plan is intended to be a “living” document, updated as necessary, such that when operational activities or processes are modified or replaced, the applicable sub-plans are revised to reflect these changes. Relevant sub-plans should also be amended whenever the goals of the Plan are not met, whenever a significant pollution event occurs, or whenever a violation notice is issued.

2.0 PROPERTY LOCATION AND PROJECT DESCRIPTION

Clearpath Canyon LLC is seeking discretionary approval from Lake County for a Major Use Permit (UP) for commercial cannabis operations at 2050 Ogulin Canyon Rd Clearlake, California (APNs 010-053-01 and 010-053-02). The total parcel acreage is 302.45 acres and is zoned as Rural Lands (RL).

The project site is part of a former hops farm, operated as Hops-Meister Farms, cultivating approximately 13.6 acres of hops beginning in about 2009. Hops-Meister Farms grew a variety of hops for the micro-brewing beer industry. Hops-Meister Farms removed the hops plants to prepare the fields for cultivation of crops that would be more financially feasible. The site has been developed to include hops farming, orchards, agricultural support facilities, including a 1,200 square foot single family residence, septic system, barn, accessory structures, multiple wells, and accessory agricultural facilities (e.g., irrigation facilities). The pre-existing agriculture activities covered over 18 acres. Other land uses on the project site include residential, timberland, grazing land, and open space. There are also remnants of almond orchards in existence prior to 1993.

Elevations in the project area range from approximately 1,435 feet to 1,775 feet above mean sea level. The project area drains in various directions, but ultimately drains into Burns Valley Creek, a perennial creek that runs parallel to Ogulin Canyon Road, flows towards the southwest, and is a tributary to Clear Lake. The vegetation in the area is mainly oaks, pine, native understory, and natural grasses.

The proposed project is to permit commercial cannabis cultivation in accordance with the Lake County Zoning Ordinance (Article 27). The proposal is for a total of 653,400 sq. ft. (15 acres) of outdoor canopy (Table 1) area and self-distribution. The project proposes 15-acres of outdoor cannabis cultivation either full-sun or using light deprivation within temporary agricultural exempt hoop structures. If temporary hoop structures are used, they will be installed per the requirements of Ordinance 3132 or a future ordinance that supersedes Ordinance 3132.

Table 1. Summary of cultivation and canopy areas.

Site	Name	Cultivation Area		Canopy Area		Temporary Ag-Exempt Hoop Structures*	
		acres	sq. ft.	acres	sq. ft.	Number	sq. ft.
A	Northwestern Hops Field	4.42	192,663	4.07	177,436	99	178,200
B	Southwest Clearing	6.42	279,444	5.25	228,692	128	230,400
C	Northeast Hops Field	1.95	85,137	1.16	50,501	29	52,200
D	Central Hops Field	4.23	184,454	2.98	129,798	73	131,400
E	Chaparral Clearing	2.61	113,485	1.54	66,973	38	68,400
Total		19.63	855,183	15.00	653,400	367	660,600

*Note: Temporary agricultural exempt hoop structures will follow the requirements Ordinance No. 3132.

The proposal includes the development of facilities appurtenant to cultivation, including facilities for drying and curing of harvested cannabis, ancillary nursery, storage sheds, the appropriate irrigation infrastructure, and ancillary processing. Ancillary drying is proposed to occur in an existing 2,800 sq. ft. drying structure. The remainder of the property would continue to operate as it has operated in the past.

The project will include ancillary nursery space in the drying building when drying is not occurring. Ancillary nursery space may also occur in temporary ag-exempt hoop structures.

The project site is accessed via a gravel driveway from Ogulin Canyon Road through an existing security gate. There is a well-maintained existing network of unpaved roads throughout the project site.

Irrigation water for the cultivation system will be provided by up to five (5) existing permitted groundwater wells. Water storage will consist of up to 46 x 5,000-gallon water tanks (See Site Plans for locations). Water from the irrigation wells would be pumped to adjacent 5,000-gallon water storage tanks using a solar powered and/or PG&E powered pump, where water would be pumped through an above ground pipe system (aka, irrigation lines) to the cultivation area. In addition, up to five (5) 2,500-gallon capacity water storage tanks would be located onsite for fire suppression storage.

2.1. Hours and Dates of Operation

These cultivation operations are closed to the public. Visitation is only allowed when specific permission is granted.

The cultivation hours of operation are approximately:

- Monday through Sunday, from 6:00 a.m. to 8:00 p.m.

The Ordinance restricts deliveries and pickups to 9 a.m. – 7 p.m. on Monday through Saturday and 12 p.m. – 5 p.m. on Sunday.

Hours of construction shall be restricted to Monday through Friday from 7 a.m. to 6 p.m. and Saturday and Sunday from 9 a.m. to 5 p.m. The Lake County Zoning Ordinance restricts deliveries and pickups for cannabis cultivation operations from 9 a.m. to 7 p.m. Monday through Saturday and Sunday from 12 p.m. to 5 p.m.

3.0 AIR QUALITY

3.1. Requirements / Goals

According to the Ordinance, the Property Management Plan must have a section on Air Quality:

(a) Intent: All cannabis permittees shall not degrade the County's air quality as determined by the Lake County Air Quality Management District (LCAQMD).

(b) In this section permittees shall identify any equipment or activity that which may cause, potentially cause the issuance of air contaminants including odor, and shall identify measures to be taken to reduce, control or eliminate the issuance of air contaminants, including odors.

(c) All cannabis permittees shall obtain an Authority to Construct permit pursuant to LCAQMD Rules and Regulations, prior to the construction of the facility described in the Property Management Plan.

(d) All cannabis permittees shall obtain Authority to Construct Permit pursuant to LCAQMD Rules and Regulations, if applicable, to operate any article, machine, equipment or other contrivance which causes or may cause the issuance of an air contaminant.

(e) All permittees shall maintain an Authority to Construct or Permit to Operate for the life of the project, until the operation is closed and equipment is removed.

(f) The applicant shall prepare an odor response program that includes (but is not limited to):

- a. Designating an individual(s) who is/are responsible for responding to odor complaints 24 hours per day/seven (7) days a week, including holidays.*
- b. Providing property owners and residents of property within a 1,000-foot radius of the cannabis facility, with the contact information of the individual responsible for responding to odor complaints.*
- c. Policies and procedures describing the actions to be taken when an odor complaint is received, including the training provided to the responsible party on how to respond to an odor complaint.*
- d. The description of potential mitigation methods to be implemented for reducing odors, including add-on air pollution control equipment.*
- e. Contingency measures to mitigate/curtail odor and other emissions in the event the methods described above are inadequate to fully prevent offsite nuisance conditions.*

3.2. Air Quality Setting and Potential Pollutant Sources

The project is in the Lake County Air Basin. The Lake County Air Quality Management District (LCAQMD) regulates air quality in Lake County. The U.S. Environmental Protection Agency (EPA) sets acceptable levels for seven air pollutants, and then determines — with the help of states and local air districts — where those standards are or are not met. Lake County is currently in attainment for all federal and state ambient air quality standards.

Short-term construction emissions could include fugitive dust and other particulate matter, as well as exhaust emissions generated by earthmoving activities from operation of tractors, tillers, etc., during site preparation. Site preparation includes only minor grading and tilling. Operation emissions could include fugitive dust, other particulate matter, and exhaust emissions from daily traffic as well as odor from cultivation activities.

Construction emissions could be caused by onsite or offsite activities. Onsite emissions principally consist of exhaust emissions (NOX, CO, ROG, PM10, and PM2.5) from construction equipment, motor vehicle operation, and fugitive dust (mainly PM10) from disturbed soil. Offsite emissions are caused by motor vehicle exhaust from delivery vehicles as well as worker commuter traffic, but they also include road dust (PM10).

One (1) to eight (8) full-time persons will be needed to maintain growing plants, resulting in six (4) to nine (8) trips daily. Between (15) and (20) persons will be needed during planting and harvesting, resulting in an additional three (5) to eighteen (20) trips per day during peak season. Delivery vehicles would be expected to occur about once monthly.

Operational emission sources consist of mobile emissions and area source emissions. Mobile source emissions estimates are derived from motor vehicle traffic from staff commuting. Area source emissions estimates are derived from the consumption of propane, electricity, and consumer products, as well as emissions resulting from landscape maintenance. Power would be through solar power and on-grid PG&E. Cultivation operations may generate fugitive dust emissions through ground-disturbing activities such as ground tilling, uncovered soil or compost piles, and vehicle or truck trips on unpaved roads. Dust management measures are provided below.

Operation of the proposed cultivation and processing operation would generate small amounts of carbon dioxide from vehicular traffic associated with staff commuting. The generation of carbon dioxide would be partially offset by the cultivation of fast-growing plants, which remove carbon dioxide in the air for photosynthesis.

CDFA (2017) concluded that cannabis cultivation activities under the CalCannabis Licensing Program would not generate a substantial number of vehicle trips and would not require intensive use of heavy equipment, and as such, would not degrade air quality or produce significant amounts of greenhouse gasses. CDFA (2017) summarizes the impacts from small cannabis cultivation operations as follows:

“Despite the potential air quality emission-generating sources described above that are associated with cannabis cultivation activities, it is not anticipated that the Proposed Program would conflict with or obstruct implementation of air quality plans for the numerous reasons outlined below. First, the cannabis cultivation activities under the Proposed Program would not be anticipated to generate a substantial number of vehicle trips (see Section 4. 12, Transportation and Traffic) that would affect air quality. In addition, outdoor and mixed-light cultivation activities would generally occur on such small acreages that these activities would often not require intensive use of heavy equipment.”
(Page 4. 3-30)

3.3. Permits

No LCAQMD permits are anticipated to construct or operate the project as currently designed. In the event that an Authority to Construct permit is deemed necessary, one will be obtained pursuant to LCAQMD Rules and Regulations. If needed, the Authority to Construct or Permit to Operate will be maintained for the life of the project and listed in this Plan.

3.4. Dust Management

Cultivation operations may generate fugitive dust emissions through ground-disturbing activities such as ground tilling, uncovered soil or compost piles, and vehicle or truck trips on unpaved roads. The following measures are proposed to minimize fugitive dust emissions through ground-disturbing activities such as ground tilling, uncovered soil or compost piles, and vehicle or truck trips on unpaved roads.

- Inform staff of speed limits and dust pollution. All new hires shall be trained to limit emissions and to communicate activities and results to manager(s). Key topics are types and sources of emissions and impacts on human and environmental health; management plans, strategies, practices, and technologies; and pertinent regulations.
- Clearly mark roadways for limited speed to control dust. Post signs on unpaved roads restricting speeds to 15 mph or less, and ensure employees avoid excess travel.
- Armor road segments with gravel, road base, or asphalt, as appropriate.
- Implement a road maintenance program.
- On tilled earth and stockpiles, control fugitive dust by wetting the soil with a mobile water tank and hose, or by delaying ground disturbing activities until site conditions are not windy. Water applications may be concentrated during the late summer and early fall months, when soils have the lowest moisture content or when winds are severe.
- BMP Fact Sheets WE-1: Wind Erosion Control and NS-1: Water Conservation Practices will be implemented to provide dust control and prevent discharges from dust control activities and water supply equipment. Water application rates will be minimized as necessary to prevent runoff and ponding and water equipment leaks will be repaired immediately.
- During windy conditions (forecast or actual wind conditions of 25 miles per hour or greater), dust control may be applied to disturbed areas, including haul roads, to adequately control wind erosion.
- BMP Factsheet WM-3: Stockpile Management will be implemented using silt fences and plastic covers to prevent wind dispersal of sediment from stockpiles.
- The minimum amount of water should be used: refer to BMP Factsheet NS-1: Water Conservation Practices.

3.5. Odor Response Program

The following individual(s) are responsible for responding to odor complaints:

- Brian Pensack, Property Manager, (415)317-2345, homehelpforyou@gmail.com

These individual(s) are responsible for responding to odor complaints 24 hours per day/seven (7) days a week, including holidays. Property owners and residents of property within a 1,000-foot radius of the Cannabis facility should be provided with the contact information of the individual(s) responsible for responding to odor complaints. This facility will develop policies and procedures describing the actions to be taken when an odor complaint is received, including the training provided to the responsible party on how to respond to an odor complaint. When an odor complaint is received, it will be forwarded to the manager responsible for odor control. The complaint will be logged, including time and type of complaint, the location of the odor reception, and contact info of the person making the complaint. The incident will be investigated, and the problem identified. The manager will visit the site or facility in question and determine any deficiencies in the odor control system (where applicable) and identify remedies. These remedies should be implemented immediately. The manager will prepare a written response and

send it by certified mail to the person who made the complaint. The correspondence should acknowledge the complaint, describe the incident, and identify what remedial actions were taken. Each odor complaint will be logged in a master odor complaint logbook.

3.6. Odor Monitoring Program

If necessary, an odor monitoring program will be developed and implemented. The monitoring program will include the location of monitoring station(s). Odor measurements will be recorded at each monitoring station. Odor data can be taken at the property boundary, the nearest road, or the nearest house. Measurements can be taken upwind and downwind of the odor source in order to characterize the odor plume line. Using a field olfactometer (e.g., Nasal Ranger Field Olfactometer, St. Croix Sensory), the odor strength will be measured as Dilution to Threshold (D/T) ratios, a dimensionless measure of odor concentration. Other odor parameters will be recorded, including descriptions of the odor's character, intensity, and offensiveness, and weather conditions.

3.7. Odor Mitigation

Cannabis cultivation, especially during the flowering phase, generates volatile compounds (terpenes) that some people find objectionable. No significant odor impacts are anticipated from this cultivation operation, due to the limited population in the area, the setbacks from roads and property lines, and wind dilution/dispersal effects.

If odors become problematic, odor mitigation must be implemented. The cultivation operation should be analyzed to determine the source of odor emission and any concentrating effects. Mitigation can include some combination of the following administrative controls and engineering controls.

3.7.1. Administrative Controls

When the facility is constructed and operational, this section will be updated to describe activities such as cultivation management responsibilities. This section will describe the organizational responsibilities and the roles of the staff members who will be trained about odor control; the specific administrative and operational activities that the training will encompass; and the frequency, duration, and format of the training (e.g., 60 minute in-person training of X staff, i). This section will include a description of the records that will be maintained (e.g., records of purchases of replacement carbon, performed maintenance tracking, documentation and notification of malfunctions, scheduled and performed training sessions, and monitoring of administrative and engineering controls). Examples of facility recordkeeping forms will be included as appendices to this plan.

3.7.2. Engineering Controls

If odors become problematic, engineering controls may need to be implemented. The cultivation operation should be analyzed to determine the source of odor emission and any concentrating effects. Mitigation can include some combination of the following:

- Windscreens could be erected that could partially contain odors within the cultivation compound.
- Powerful fans could be installed to guide air flow in the opposite direction.

- A high-pressure atomizing system could be installed on the perimeter. This system generates a water vapor (aerosol) that binds with the volatile compounds from Cannabis (terpenes) and makes them heavier, and then they drop out of the air.
- Masking and counteractive agents: use of chemical odor control technologies that are misted at the cultivation facility's exhaust. The use of these agents may be subject to air quality regulations.

4.0 GROUNDS

4.1. Requirements / Goals

According to the Ordinance, the Property Management Plan must have a section about grounds keeping:

(a)The permittee shall establish and implement written procedures to ensure that the grounds of the premises controlled by the permittee are kept in a condition that prevents the contamination of components and cannabis products. The methods for adequate maintenance of the grounds shall include at minimum:

- The proper storage of equipment, removal of litter and waste, and cutting of weeds or grass so that the premises shall not constitute an attractant, breeding place, or harborage for pests.*
- The proper maintenance of roads, yards, and parking lots so that these areas shall not constitute a source of contamination in areas where cannabis products are handled or transported.*
- The provision of adequate draining areas in order to prevent contamination by seepage, foot-borne filth, or the breeding of pests due to unsanitary conditions.*
- The provision and maintenance of waste treatment systems so as to prevent contamination in areas where cannabis products may be exposed to such a system's waste or waste by-products.*

(b)If the lot of record is bordered by grounds outside the applicant's control that are not maintained in the manner described in subsections (i) through (iv) of this section, inspection, extermination, and other reasonable care shall be exercised within the lot of record in order to eliminate any pests, dirt, and/or filth that pose a source of cannabis product contamination.

(c)Any other information as may be requested by the Director and/or by the Planning Commission.

4.2. Storage

Excess compost will be stored within the green waste and compost storage area within the cultivation area and will be covered and surrounded by straw wattles to minimize loss of material. Fertilizers will be stored within the nutrient storage sheds and other designated storage location.

Pesticides will be used according to the instructions on the label or the material safety data sheets (MSDS). County regulations also apply to listed pesticides. Pesticides will be stored in proposed buildings so that stormwater is not contaminated. Chemicals will be properly labeled, and open containers sealed when stored.

4.3. Groundskeeping

Good housekeeping measures will be implemented. The grounds will be inspected at least once per day and any litter picked up. Trash containers will be emptied when full. Roads will be maintained so that they function well and so that significant erosion does not occur. This may include wetting dusty roads, armoring unpaved sections with gravel, roadbase, or asphalt, patching holes, and maintaining drainage features such as water bars, culverts and side ditches, as applicable. Weeds and grasses will be controlled by mulching or by cutting with a lawnmower or line trimmer. Drainage ditches and swales will be regularly mowed and cleaned, including the removal of litter, debris, and sediment. Containers, sediment traps and basins, and ditches will

be drained so that mosquitos do not breed. Areas inside cultivation compounds can be graveled or paved to prevent foot-borne filth. Live traps may be deployed to remove rodents from operational areas; these must be checked regularly to prevent animal suffering. Disposable coveralls (e. g. Tyvek) can be used to increase sanitation levels and reduce vectoring of mites and other pests. A clothing changing station / mudroom can be provided for employees so that street clothing is separated from cultivation clothing.

Property maintenance will follow Best Management Practices. The following CASQA Industrial and Commercial Handbook BMP Fact Sheets are applicable:

- BG-40 Landscape Maintenance
- SC-41 Building & Grounds Maintenance
- SC-40: Contaminated or Erodible Areas
- SC-43 Parking Area Maintenance
- SC-44 Drainage System Maintenance

Wastes will be managed as specified in the Waste Management subsection.

4.4. Monitoring Program

The monitoring program consists of regular inspections of chemical storage areas, the immediate cleanup of spilled products, recordkeeping of quantities and types of fertilizers used, employee training in proper use and handling, and use of personal protective equipment.

5.0 SECURITY

5.1. Requirements / Goals

According to the Ordinance, the Property Management Plan must have a section on Security:

(a) Intent: To minimize criminal activity, provide for safe and secure working environments, protect private property, and to prevent damage to the environment. The Applicant shall provide adequate security on the premises, as approved by the Sheriff and pursuant to this section, including lighting and alarms, to ensure the safety of persons and to protect the premises from theft.

(b) Security Plan. This section shall include at a minimum:

a. A description of the security measures to be taken to:

(1) Prevent access to the cultivation site by unauthorized personnel and protect the physical safety of employees. This includes, but is not limited to:

i. Establishing physical barriers to secure perimeter access and all points of entry (such as locking primary entrances with commercial-grade, non-residential door locks, or providing fencing around the grounds, driveway, and any secondary entrances including windows, roofs, or ventilation systems);

ii. Installing a security alarm system to notify and record incident(s) where physical barriers have been breached;

iii. Establishing an identification and sign-in/sign-out procedure for authorized personnel, suppliers, and/or visitors;

iv. Maintaining the premises such that visibility and security monitoring of the premises is possible; and

v. Establishing procedures for the investigation of suspicious activities.

(2) Prevent theft or loss of cannabis and cannabis products. This includes but is not limited to:

i. Establishing an inventory system to track cannabis material and the personnel responsible for processing it throughout the cultivation process;

- ii. Limiting access of personnel within the premises to those areas necessary to complete job duties, and to those time-frames specifically scheduled for completion of job duties;
 - iii. Supervising tasks or processes with high potential for diversion (including the loading and unloading of cannabis transportation vehicles); and
 - iv. Providing designated areas in which personnel may store and access personal items.
- (3) Identification of emergency contact(s) that is/are available 24 hours/seven (7) days a week including holidays. The plan shall include the name, phone number and facsimile number or email address of an individual working on the commercial cultivation premises, to whom notice of problems associated with the operation of the commercial cultivation establishment can be provided. The commercial cultivation establishment shall keep this information current at all times. The applicant shall make every good faith effort to encourage neighborhood residents to call this designated person to resolve operating problems, if any, before any calls or complaints are made to the County.
- (4) The permittee shall maintain a record of all complaints and resolution of complaints and provide a tally and summary of issues the annual Performance Review Report.
- (5) A description of fences, location of access points, and how access is controlled.
- (6) Video Surveillance.
- i. At a minimum, permitted premises shall have a complete digital video surveillance system with a minimum camera resolution of 1280 X 720 pixel. The video surveillance system shall be capable of recording all pre-determined surveillance areas in any lighting conditions.
 - ii. The video surveillance system shall be capable of supporting remote access by the permittee.
 - iii. To the extent reasonably possible, all video surveillance cameras shall be installed in a manner that prevents intentional obstruction, tampering with, and/or disabling.
 - iv. Areas that shall be recorded on the video surveillance system include, but are not limited to, the following:
 - a. The perimeter of the cannabis cultivation site and cannabis nursery,
 - b. Areas where cannabis or cannabis products are weighed, packed, stored, quarantined, loaded and/or unloaded for transportation, prepared, or moved within the premises;
 - c. Areas where cannabis is destroyed;
 - d. Limited-access areas;
 - e. Security rooms;
 - f. Areas containing surveillance-system storage devices, in which case, at least one camera shall record the access points to such an area; and
 - g. The interior and exterior of all entrances and exits to the cannabis cultivation sites and cannabis nursery including all buildings where cannabis or cannabis products are weighed, packed, stored, quarantined, loaded and/or unloaded for transportation, prepared, or moved within the premises.
 - v. The surveillance system shall record continuously 24 hours per day and at a minimum of 30 frames per second.
 - vi. All exterior cameras shall be waterproof, I-66 minimum.
 - vii. All interior cameras shall be moisture proof.
 - viii. Cameras shall be color capable.
 - ix. Video management software shall be capable of integrating cameras with door alarms.
 - x. Video recordings shall be digital.
 - xi. Thermal technology shall be use for perimeter fencing.
 - xii. All cameras shall include motion sensors that activates the camera when motion is detected.
 - xiii. In areas with inadequate lighting for the cameras being used, sufficient lighting shall be provided to illuminate the camera's field of vision.
 - xiv. All recording shall be located in secure rooms or areas of the premises in an access and environment-controlled environment which is separate from the room where the computer and monitoring equipment is located.
 - xv. All surveillance recordings shall be kept on the applicant's recording device or other approved location for a minimum of 30 days.
 - xvi. All video surveillance recordings are subject to inspection by the Department and shall be copied and sent, or otherwise provided, to the Department upon request.

xvii. The video recordings shall display the current date and time of recorded events. Time is to be measured in accordance with the U.S. National Institute Standards and Technology standards. The displayed date and time shall not significantly obstruct the view of recorded images.

(7) Fences

i. All commercial cannabis cultivation sites shall be enclosed by a fence. The fence shall include, at a minimum, the following: Posts set into the ground. The posts may be steel tubing, timber or concrete and may be driven into the ground or set in concrete. End, corner or gate posts, commonly referred to as "terminal posts", must be set in concrete footing or otherwise anchored to prevent leaning under the tension of a stretched fence. Posts set between the terminal posts shall be set at intervals not to exceed 10 feet. A top horizontal rail is required between all posts. The fence shall be attached to the posts and top horizontal rail.

ii. No barbed wire, razor wire or similar design shall be used.

iii. The cultivation area shall be screened from public view. Methods of screen may include, but is not limited to, topographic barriers, vegetation, or solid (opaque) fences.

The Ordinance also identifies these prohibited activities that are relevant to this sub-plan:

"All lights used for cannabis related permits including indoor or mixed light cultivation of cannabis shall be fully contained within structures or otherwise shielded to fully contain any light or glare involved in the cultivation process. Artificial light shall be completely shielded between sunset and sunrise.

Security lighting shall be motion activated and all outdoor lighting shall be shielded and downcast or otherwise positioned in a manner that will not shine light or allow light glare to exceed the boundaries of the lot of record upon which they are placed."

5.2. General Security Measures

General security measures will consist of the following:

- A security plan, updated as needed;
- Staff screening process, including background checks;
- Personnel rules and responsibilities (to be incorporated into an employee handbook in the future);
- Physical barriers, including signage, road gates, security fencing with locked gates, and commercial-grade locks on all interior doors;
- Theft and loss control program;
- Video surveillance system.

The Security Officer(s) for the cultivation sites are:

- Brian Pensack, Property Manager, (415)317-2345, homehelpforyou@gmail.com

Any complaints or problems associated with the operation of the commercial cultivation establishment will be directed to the Security Officer. The Security Officer should make every good faith effort to encourage neighborhood residents to call the designated Security Officer to resolve operating problems, if any, before any calls or complaints are made to the County. The Security Officer should maintain a record of all complaints and resolution of complaints and provide a tally and summary of issues the annual Performance Review Report. The Staff Screening Process is described in the Operations Manual subsection of this Plan.

Personnel rules and responsibilities are as follows:

- Obey the rules of the Security Plan.

- Sign in when entering the facility (or property) and sign out when exiting the facility (or property).
- Report suspicious activity.
- Do not carry any weapons.
- Do not take photos or record video; do not post to social media about the cultivation operation.
- Do not engage in lengthy conversation with the public or respond directly to complaints: direct all such concerns to the Security Officer or to your supervisor.
- Only authorized vehicles are allowed in operational areas.
- Do not bring backpacks or other unnecessary storage devices that might complicate the theft control program. Lockers will be provided for personal items.
- Do not enter restricted areas unless authorized to do so.
- Re-lock gates after passing through.

The property entrance will be secured with metal bar gates and padlocks and subject to video surveillance.

The cultivation operations are closed to the public. Visitation is only allowed when specific permission is granted. All staff, all suppliers, all product transporters, and all visitors must sign the log in / log out sheet. Signage will be posted that states that the operational areas have restricted access and are closed to the public. The signage will not advertise the presence of Cannabis products.

5.3. Staff Training and Theft and Loss Control

The County requires an inventory system to track Cannabis material and personnel handling the material. This requirement will be fulfilled by following the requirements of the CalCannabis Licensing Program, which creates a Track-and Trace System. Sections 8401 through 8405 (quoted in part) state:

“The Department shall establish a track-and-trace system for unique identifiers of cannabis and nonmanufactured cannabis products, which all licensees shall use. Each licensee shall report in the track-and-trace system the disposition of immature and mature plants, as required by Section 8402 of this Chapter, and nonmanufactured cannabis products on the licensed premises and any transfers associated with commercial cannabis activity between licensees.

(a) The licensee is responsible for the accuracy and completeness of all data and information entered into the track-and- trace system. Data entered into the track-and-trace system is assumed to be accurate and can be used to take enforcement action against the licensee if not corrected.

(b) Attempts to falsify or misrepresent data or information entered into the track-and-trace system is a violation and subject to enforcement.

(c) Each licensee shall use the track-and-trace system for recording all applicable commercial cannabis activities. Each licensee shall do all of the following activities:

(1) Establish an account in the track-and-trace system prior to engaging in any commercial cannabis activities associated with their license and maintain an active account while licensed;

(2) Designate at least one of the owners or the responsible party named in the application to be the track-and-trace system administrator....”

For this cultivation site, the Track-And-Trace System Administrator is:

- Brian Pensack, Property Manager, (415)317-2345, homehelpforyou@gmail.com

Personnel will be granted access within the premises to only those areas necessary to complete job duties, and to those time-frames specifically scheduled for completion of job duties. There will be supervision of tasks or processes with a high potential for diversion (including the loading and unloading of cannabis transportation vehicles). Supervision may include video surveillance and/or the requirement that the Security Officer or their designee be present.

An employee training program will be established to train staff in:

- Burglary prevention
- Employee loss prevention
- Armed robbery prevention, security breaches, and response
- Protocols for storage of large amounts of currency and/or cannabis
- Cannabis laws and employee responsibilities
- Identification and management of color-coded identification card and appropriate access areas
- Application and Live Scan process and procedures
- Policies for handling employees that do not wear identification cards on premise
- Inspection procedures for compliance checks and license renewals
- Escort policy for non-employee, or contractor visits
- Identification of limited access areas

5.4. Alarm System

The alarm system will be maintained by a licensed company with central monitoring capabilities. The alarm system may need to be permitted with the County. The alarm should contain a panic activation device for onsite employees. A responsible person should be required to respond within 30 minutes upon request.

5.5. Video Surveillance

Each cultivation facility will have a comprehensive digital video surveillance system. Each camera must have the following specifications, according to the Ordinance:

- minimum resolution of 1920 X 1080 pixels
- digitally record continuously 24 hours per day and at a minimum of 30 frames per second, color
- exterior cameras shall be waterproof, I-66 minimum
- interior cameras shall be moisture proof
- display the current date and time of recorded events
- sufficient lighting shall be provided to illuminate the camera's field of vision or infrared cameras will be used
- thermal (infra-red) motion sensing technology shall be used for perimeter fencing
- installed in a manner that prevents intentional obstruction, tampering, and/or disabling

The video management software shall be capable of integrating cameras with door alarms. The video surveillance system shall be capable of recording all pre-determined surveillance areas in any lighting conditions. The video surveillance system shall be capable of supporting remote access by the permittee. To the extent reasonably possible, all video surveillance cameras shall be installed in a manner that prevents intentional obstruction, tampering with, and/or disabling.

Areas that shall be recorded on the video surveillance system include, but are not limited to, the following:

- a. The perimeter of the cannabis cultivation and processing,
- b. Areas where cannabis or cannabis products are loaded and/or unloaded for transportation, prepared, or moved within the premises;
- c. Areas where cannabis is destroyed;
- d. Limited-access areas;
- e. Security rooms;
- f. Areas containing surveillance-system storage devices, in which case, at least one camera shall record the access points to such an area; and
- g. The interior and exterior of all entrances and exits to the cannabis cultivation sites including all buildings where cannabis or cannabis products are loaded and/or unloaded for transportation, prepared, or moved within the premises.

All recording shall be located in secure rooms or areas of the premises in an access and environment-controlled environment which is separate from the room where the computer and monitoring equipment is located. All surveillance recordings shall be kept on the applicant's recording device or other approved location for a minimum of 30 days. Data transfer will be by coax cable or by WiFi router. Power supplies shall be self-contained, solar arrays and batteries.

Security cameras that meet the County and state requirements will be installed. Locations to be determined once building layout is known. Data transfer will be via a WiFi to a secure building where recordings are stored for a minimum of 30 days. These cameras can be remotely accessed.

5.6. Lighting

Adequate perimeter lighting must be installed inside and around the exterior of the premises and maintained in working order. A lighting plan shall be consistent with the requirements of County ordinances and should include the following:

- Security lighting should consist primarily of motion-sensor lights and avoid adverse impacts on properties surrounding the lot on which the cannabis activity is located.
- Any outdoor lighting used for the illumination of parking areas and/or loading areas, and/or for security, shall be fully shielded and directed downward.

The following light pollution abatement measures will be implemented, as applicable:

- Shielded directional flood lighting aimed so that direct glare is not visible from adjacent properties and not exceeding the allowed lumen output.

The following best management practices will be implemented, as applicable (IDA 2020):

- LEDs and compact fluorescents (CFLs) can help reduce energy use and protect the environment, but only warm-colored bulbs should be used.
- Dimmers, motion sensors and timers can help to reduce average illumination levels and save even more energy.
- Outdoor lighting fixtures that shield the light source to minimize glare and light trespass help prevent light pollution.
- Switching to LED lighting allows for reduced illuminance without compromising visibility.
- Turn off unnecessary indoor lighting – particularly in empty office buildings at night.

- Avoid blue lights at night. Blue-rich white light sources are also known to increase glare and compromise human vision, especially in the aging eye. These lights create potential road safety problems for motorists and pedestrians alike. In natural settings, blue light at night has been shown to adversely affect wildlife behavior and reproduction. IDA recommends that only warm light sources be used for outdoor lighting. This includes Low-pressure Sodium (LPS), High-pressure Sodium (HPS) and low-color-temperature LEDs.

5.7. Fencing

The cultivation area will be enclosed with a sturdy fence 6- to 8-feet in height. The posts will be set in the ground and should be made of steel tubing (at least 3-inch diameter) or wood posts (at least 4-inch diameter). Terminal posts should be set in concrete or otherwise anchored (such as with cables or diagonal bracing) to prevent leaning under the tension of stretched fence panels. Post interval should not exceed 10-feet. A top horizontal rail should be installed between each post interval. Fence panels should consist of metal mesh “cyclone” fabric or welded wire mesh. In some cases, wood panels can be used. Barbed wire or razor wire is prohibited from use on the top rails. If required by the County, opaque screening will be added: this may consist of plastic slats for cyclone fencing or plastic woven fabric (e.g., wind screens).

The fenced cultivation area will have at least one (1) locking swing gate. The gate will typically consist of metal tube frame and the paneling will be the same as described above. The gate should be large enough for a service vehicle to ingress/egress. Property entrance gates should be at least 14-feet wide to allow emergency vehicle access. The gates will be secured with a metal padlock. Keys or lock combinations should be controlled by the Security Officer. It is recommended that vegetation screening be planted to obscure views of the cultivation facilities from public roads if deemed necessary.

6.0 STORMWATER MANAGEMENT

6.1. Requirements / Goals

According to the Ordinance, the Property Management Plan must have a section on Stormwater Management:

(a) Intent: To protect the water quality of the surface water and the stormwater management systems managed by Lake County and to evaluate the impact on downstream property owners.

(b) All permittees shall manage stormwater runoff to protect downstream receiving water bodies from water quality degradation.

(c) All cultivation activities shall comply with the California State Water Board, the Central Valley Regional Water Quality Control Board, and the North Coast Region Water Quality Control Board orders, regulations, and procedures as appropriate.

(d) Outdoor cultivation, including any topsoil, pest management, or fertilizer used for the cultivation cannabis shall not be located within 100 feet of any spring, top of bank of any creek or seasonal stream, edge of lake, delineated wetland or vernal pool. For purposes of determining the edge of Clear Lake, the setback shall be measured from the full lake level of 7.79 feet on the Rumsey Gauge.

(e) The illicit discharge of irrigation or stormwater from the premises, as defined in Title 40 of the Code of Federal Regulations, Section 122.26, which could result in degradation of water quality of any water body is prohibited.

(f) All permittees shall prepare a Stormwater Management Plan based on the requirements of the California Regional Water Quality Control Board Central Valley Region or the California Regional Water Quality Control Board North Coast Region to be approved by the Lake County Water Resources Department. In addition to those requirements, the plan shall include:

- a. Identification of any Lake County maintained drainage or conveyance system that the stormwater is discharged into and documentation that the stormwater discharge is in compliance with the design parameters of those structures.*
- b. Identification of any public roads and bridges that are downstream of the discharge point and documentation that the stormwater discharge is in compliance with the design parameters of any such bridges.*
- c. Documentation that the discharge of stormwater from the site will not increase the volume of water that historically has flow onto adjacent properties.*
- d. Documentation that the discharge of stormwater will not increase flood elevations downstream of the discharge point.*
- e. Documentation that the discharge of stormwater will not degrade water quality of any water body.*
- f. Documentation of compliance with the requirements of Chapter 29, Stormwater Management Ordinance of the Lake County Ordinance Code.*
- g. Describe the proposed grading of the property.*
- h. Describe the stormwater management system.*
- i. Describe the best management practices (BMPs) that will be used during construction and those that will be used post-construction. Post-construction BMPs shall be maintained through the life of the permit.*
- j. Describe what parameters will be monitored and the methodology of the monitoring program.*

For Cannabis licensing, Lake County also requires Erosion and Sediment Control Plans in accordance with Chapter 29 and 30 of the Lake County Code.

6.2. List of Stormwater Manager(s) and Contact Information

The Stormwater Manager(s) currently assigned to the cultivation operations are:

- Brian Pensack, Property Manager, (415)317-2345, homehelpforyou@gmail.com

The stormwater manager shall have primary responsibility and significant authority for the implementation, maintenance, inspection, and amendments to the Stormwater Management Plan. Duties of the stormwater manager include but are not limited to:

- Ensuring full compliance with the Plan and the Chapter 29, Stormwater Management Ordinance of the Lake County Ordinance Code;
- Implementing all elements of the Plan, including but not limited to implementation of prompt and effective erosion and sediment control measures, and implementing all non-stormwater management, and materials and waste management activities (such as monitoring discharges (dewatering, diversion devices); general site clean-up; vehicle and equipment cleaning, fueling and maintenance; spill control; ensuring that no materials other than stormwater are discharged in quantities which will have an adverse effect on receiving waters or storm drain systems; etc.);
- Inspections (pre-storm, during storm, and post-storm) or designating qualified personnel to do so;
- Routine inspections as specified in the cultivation operation's specifications or described in the Plan;
- Preparing any annual compliance certification;
- Ensuring elimination of all unauthorized discharges;
- The stormwater manager shall be assigned authority to mobilize crews to make immediate repairs to the control measures; and
- Coordinate with the landowner or cultivator to assure all the necessary corrections/repairs are made immediately, and that the project complies with the Plan and relevant permits.

6.3. Compliance

6.3.1. Setbacks and Buffers

The Ordinance requires that all cultivation operations be located at least 100 feet away from waterbodies (i.e. spring, top of bank of any creek or seasonal stream [interpreted to be Class II], edge of lake, wetland or vernal pool). The Water Board requires various setbacks depending upon the class of the watercourse. Project setback distances comply with these requirements. Vegetated buffers should be maintained or created so that stormwater runoff can be detained and filtered by vegetation. This may include vegetated swales or bioswales.

6.3.2. Water Board Permitting

The property is enrolled with the State Water Resources Control Board (SWRCB) for Tier 1, Low Risk coverage under Order No. WQ 2019-001-DWQ (Cannabis Cultivation General Order). The Cannabis Cultivation General Order implements Cannabis Policy requirements with the purpose of ensuring that the diversion of water and discharge of waste associated with cannabis cultivation does not have a negative impact on water quality, aquatic habitat, riparian habitat, wetlands, or springs. The site was assigned WDID No. 5S17CC429428. The Cannabis Cultivation General Order requires the preparation of a Site Management Plan (SMP), a Nitrogen Management Plan (NMP), and the submittal of annual technical and monitoring reports demonstrating compliance. The purpose of the SMP is to identify Best Practicable Treatment or Control (BPTC) measures that the site intends to follow for erosion control purposes and to prevent stormwater pollution. The purpose of the NMP is to identify how nitrogen is stored, used, and applied to crops in a way that is protective to water quality. The SMP and NMP are required prior to commencing cultivation activities.

6.3.3. Grading, Discharge Flows, and Downstream Effects

The cultivation operations will not alter the hydrology of the parcels. Establishment of these cultivation operations requires no grading.

There are no onsite flooding hazards.

6.4. Stormwater Management

6.4.1. Water Pollution Control Schedule

BMPs should be deployed in a sequence to follow the progress of site preparation / tilling / cultivation. As the locations of soil disturbance change, erosion and sedimentation controls should be adjusted accordingly to control stormwater runoff at the downgrade perimeter and drain inlets. BMPs should be mobilized as follows:

- Year-round:
 - The site manager or stormwater manager should monitor weather using National Weather Service reports (<https://www.weather.gov/>) to track conditions and alert crews to the onset of rainfall events.
 - Disturbed soil areas should be stabilized with temporary erosion control or with permanent erosion control.
- During the rainy season:
 - Disturbed areas should be stabilized with temporary or permanent erosion control before rain events.

- Disturbed areas that are substantially complete should be stabilized with permanent erosion control (soil stabilization) and vegetation (if within seeding window for seed establishment).
- Prior to forecast storm events, temporary erosion control BMPs should be deployed and inspected.
- During the non-rainy season:
 - The project schedule should sequence earth-moving activities with the installation of both erosion control and sediment control measures. The schedule should be arranged as much as practicable to leave existing vegetation undisturbed until immediately prior to any earth-moving activities.

Sufficient quantities of temporary sediment control materials should be maintained on-site throughout the duration of the project, to allow implementation of temporary sediment controls in the event of predicted rain, and for rapid response to failures or emergencies. This includes implementation requirements for active areas and non-active areas before the onset of rain. The following table summarizes the general schedule of implementation of site BMPs.

Water Pollution Control Schedule

Phase, Activity, or Milestone	Date
File any needed permit registration documents	immediately
Implementation of rainy season BMPs	October 1 st of every year
Rainy season begins	October 15
Implementation of dry season BMPs	April 1 st of every year
Dry season begins	April 15
Repair / replacement of erosion control devices	see BMP section of this Plan
Site inspections	see Inspection section of this Plan
Submit Annual Report	annually, as required
Expansion / modification of cultivation operational area	modify this Plan within 30 days

6.4.2. Pollutant Source Identification

Inventory of Materials and Activities that May Pollute Stormwater

Construction or cultivation activities that have the potential to contribute sediment to stormwater discharges include:

- Tilling, grading and excavation operations;
- Soil import/export operations;
- Structure installation process; and
- Paving operations.

The following table provides a list of materials that may be used and activities that may be performed that will have the potential to contribute pollutants, other than sediment, to stormwater runoff.

Summary of Potential Project Pollutant Other Than Sediment

Activity/Material Type	Potential Pollutant
Vehicle lubricants and fuels, including oil, grease, diesel and gasoline, and coolants	Petroleum hydrocarbons, volatile organic compounds (VOCs)
Asphaltic emulsions associated with asphalt-concrete paving operations	Petroleum hydrocarbons, VOCs
Portland cement, masonry, and concrete products, muriatic acid, etc.	Materials with a low or high pH, materials with high alkalinity, metals
Road base and subbase material	Materials with high alkalinity or high pH, metals
Gardening materials and wastes	Pesticides, nutrient pollution (nitrates, phosphates, biological oxygen demand, etc.), metals
Treated lumber (materials and waste)	Arsenic, copper, other metals, creosote
Material packaging and site personnel	General litter (municipal solid waste, universal waste)
Portable toilets	Septic waste (fecal coliform, biological oxygen demand), sanitizers

6.4.3. Existing (pre-construction) Control Measures

The following are existing (pre-construction) control measures within the project site:

- vegetated drainage swales
- armoring of driveways and roads with gravel, roadbase, or asphalt
- side ditches and pipe culverts and bridges under roads
- rolling dips or water bars on steep road sections, if applicable
- preservation of existing vegetation

6.4.4. Best Management Practices

The following resources can be consulted for BMP selection and implementation:

- California Stormwater Quality Association. 2011. California Stormwater Best Management Practice Handbook – Construction. California Stormwater Quality Association, Menlo Park, California 886 pp.
- California Stormwater Quality Association. 2014. Stormwater Best Management Practice Handbook Portal: Industrial and Commercial. California Stormwater Quality Association, Menlo Park, California. 474 pp.
- California Department of Transportation’s Construction Site BMPs Handbook, available electronically at <https://dot.ca.gov/programs/construction/storm-water-and-water-pollution-control/manuals-and-handbooks>
- California Department of Transportation’s Construction Site BMP Fact Sheets, available electronically at <https://dot.ca.gov/programs/construction/storm-water-and-water-pollution-control/construction-site-bmp-fact-sheets>
- USEPA NPDES Stormwater Program’s National Menu of BMPs website at <https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#edu>

The following subsections discuss BMPs that have been selected for implementation in this project. Implementation and location of BMPs are shown in the Maps section. The Appendix includes a list of the fact sheets of the BMPs selected for this project.

Erosion Control

Erosion control, also referred to as soil stabilization, consists of source control measures that are designed to prevent soil particles from detaching and becoming transported in stormwater runoff. Erosion control BMPs protect the soil surface by covering and/or binding soil particles. This project will implement the following practices for effective temporary and final erosion control during construction:

- Preserve existing vegetation where required and when feasible;
- Apply temporary erosion control to exposed areas. Reapply as necessary to maintain effectiveness;
- Implement temporary erosion control measures at regular intervals throughout the defined rainy season to achieve and maintain stability. Implement erosion control prior to the defined rainy season;
- Control erosion in concentrated flow paths by applying erosion control devices.
- Divert run-on and stormwater generated from within the facility away from all erodible materials; and
- If sediment traps or basins are installed, ensure that they are working properly and emptied of accumulated sediment and litter.

Specific erosion control BMPs that can be implemented are listed here and the Construction and Industrial BMP fact sheets are included in the Appendix:

- EC-2: Preservation of Existing Vegetation
- EC-3: Hydraulic Mulch
- EC-4: Hydroseeding
- EC-5: Soil Binders
- EC-6: Straw Mulch
- EC-7: Geotextiles & Mats
- EC-8: Wood Mulching
- EC-9: Earth Dikes & Drainage Swales
- SC-33: Outdoor Storage of Raw Materials
- SC-40: Contaminated or Erodible Surfaces
- TC-30: Vegetated Swale
- TC-31: Vegetated Buffer Strip

Sediment Control

Sediment controls are structural measures that are intended to complement and enhance the selected erosion control measures and reduce sediment discharges from active construction areas. Sediment controls are designed to intercept and settle out soil particles that have been detached and transported by the force of water. This project will incorporate sediment control measures as needed.

Specific sediment control BMPs that can be implemented are listed here and the Construction BMP Fact Sheets are included in the Appendix:

- SE-1: Silt Fence
- SE-2: Sediment Basin
- SE-3: Sediment Trap
- SE-5: Fiber Rolls
- SE-6: Gravel Bag Berm

- SE-8: Sand Bag Barrier
- SE-9: Straw Bale Barrier
- TC-32: Bioretention

Road Maintenance

Note that the Cannabis General Order states: “*Site development and/or road building and maintenance activities associated with cannabis cultivation are subject to this General Order.*”

The Property contains the following roads (see exhibits):

- ranch road network, a system of 1 and 2-lane private roads, dirt or gravel

The driveways and access roads are typically armored with gravel or roadbase and follow ridgelines and gentle contours. Driveways and roads will be maintained so that significant erosion does not occur. This may include wetting dusty roads, armoring with gravel, roadbase, or asphalt, patching holes, and maintaining drainage features such as rolling dips, water bars, culverts, and side ditches.

The following guidebook should be referenced for road maintenance:

- Handbook for Forest, Ranch, & Rural Roads: A Guide for Planning, Designing, Constructing, Reconstructing, Upgrading, Maintaining, and Closing Wildland Roads. [available at: <http://www.pacificwatershed.com/sites/default/files/RoadsEnglishBOOKApril2015b.pdf>]

Monitoring / BMP Inspection and Maintenance

Sufficient quantities of temporary sediment control materials should be maintained on-site throughout the rainy season, to allow implementation of temporary erosion and sediment controls in the event of predicted rain, and for rapid response to failures or emergencies.

A visual monitoring (inspection) program should be implemented, and an inspection would ideally be performed prior to each qualifying rain event and contain the following focal areas:

- All stormwater drainage areas to identify any spills, leaks, or uncontrolled pollutant sources
- All BMPs to identify whether they have been properly implemented
- Any stormwater storage and containment areas to detect leaks and ensure maintenance of adequate freeboard

Note that stormwater sampling procedures are discussed in the Water Use subsection.

Training

A copy of the Plan should be made available to the site personnel or contractor representatives engaged in the maintenance or installation of BMPs. Site inspectors observing pollution caused by ineffective construction or cultivation practices should inform site personnel of appropriate and proper erosion and sedimentation control practices, along with special follow-up inspection for further training. The Stormwater Manager or general contractor should organize orientation sessions with all installation, inspection, and maintenance personnel upon initiation of a specific project activity or change in key personnel. These sessions should be setup to ensure that all contractor and sub-contractor operations are implemented in accordance with this Plan. Training sessions should be included as part of regular safety meetings to familiarize works with the requirements of the Plan.

7.0 CANNABIS VEGETATIVE MATERIAL WASTE MANAGEMENT

7.1. Requirements / Goals

According to the Ordinance, the Property Management Plan must have a section on Cannabis Vegetative Material Waste Management. Projected waste for the Proposed Project would be approximately 300 lbs. of solid waste and approximately 2,000 lbs. of organic waste annually.

The cannabis vegetative material waste management section shall include:

- (1) Provide an estimate of the type and amount of cannabis vegetative waste that will be generated on an annual basis.*
- (2) Describe how the permittee will minimize cannabis vegetative waste generation.*
- (3) Describe how solid waste will be disposed.*
- (4) Describe the methodology on how the amount of cannabis vegetative waste that is generated on the site, the amount that is recycled, and the amount and where cannabis vegetative waste is disposed of is measured.*

7.2. Cannabis Vegetative Material Waste Management

7.2.1. Types and Volumes of Green Waste

Sources of cannabis vegetative material waste on this cultivation operation may consist of leaves, stems, and root balls that remain after flower harvest, trimming and grooming during cultivation, and whole dead plants. Cannabis vegetative waste will be minimized by processing the waste by chipping or grinding, drying, and composting. This will reduce the volume and water content of the waste.

Cannabis green waste will be weighed daily, weekly, or as needed, and data shall be recorded in Metrc (track and trace) for reporting requirements. Cannabis waste should be shredded and mixed with at least an equal quantity of compostable materials such as food waste, yard waste, or growing medium (to render the cannabis unconsumable). Cannabis waste must be kept inside the locked fence or other locked compound at all times.

If cannabis waste is to be disposed offsite, it should first be shredded and blended with an equal part of non-consumable material, such as cardboard. Cannabis waste must be kept inside the locked garden area or other locked compound until ready for transport. It would then be transported as solid waste to the proper disposal facility.

Non-cannabis green waste will be shredded in a wood-chipper, as necessary. Vegetative waste will be mixed with soil and inoculated with humus and composted. If vegetative waste is composted, compost heaps should be at least one cubic yard in size to generate and sustain necessary heat for composting (to sustain aerobic digestion). Compost heaps should be segregated into batches as they age, with humus being the resulting product after several weeks of composting. Compost heaps should be turned often to encourage aeration and aerobic digestion and supplemental water added to keep the heaps moist, but not wet (to discourage anaerobic digestion).

Sources of non-Cannabis green waste on this cultivation operation consist of the following:

- spent soil, mulch, humus, etc.

- landscape maintenance: lawn and weed trimmings, fallen leaves and twigs, treated lumber, wood fencing, etc.

The volume of non-Cannabis green waste that is generated on the property is estimated to be: 1 cubic yard per month per acre, or 12 cubic yards per acre per year

7.2.2. Handling and Disposal of Cannabis Vegetative Waste

There will be a dedicated area in each cultivation compound where Cannabis waste is handled. This area will be surveilled by video camera, and Cannabis waste will be weighed at regular intervals as part of the Track and Trace Program. Cannabis waste will be handled with appropriate PPE, including long-sleeved shirts, pants, boots, dust mask, eye protection, and gloves. Cannabis waste will be composted onsite.

California Department of Food and Agriculture’s CalCannabis Cultivation Licensing Program dictates specific Cannabis waste management practices, that will be adopted, as applicable, by this cultivation operation. The following draft regulations from the CalCannabis Cultivation Licensing Program are quoted as follows, and incorporated by reference:

§ 8305. Cannabis Waste Management

(a) For the purposes of this Chapter, “cannabis waste” is waste that is not hazardous waste as defined in Section 40141 of Public Resources Code, and is solid waste, as defined in Section 40191 of Public Resources Code, that contains cannabis and that has been made unusable and unrecognizable in the manner prescribed in subsection (e). A licensee may not sell cannabis waste.

(b) A licensee shall manage all waste that is hazardous waste, as defined in Section 40141 of Public Resources Code, in compliance with all applicable hazardous-waste statutes and regulations.

(c) A licensee shall dispose of cannabis waste as identified in the licensee’s Cultivation Plan approved by the Department. A licensee shall not dispose of cannabis waste in an unsecured waste receptacle, whether in the control of the licensee or not.

(d) Cannabis that a licensee intends to render into cannabis waste shall be held in the designated holding area for a minimum of 72 hours. A licensee shall affix to each batch one or more documents with batch information and weight. At no time during the 72-hour hold period may the cannabis be handled, moved, or rendered into cannabis waste. The cannabis the licensee intends to render into cannabis waste is subject to inspection by the Department.

(e) A licensee shall make cannabis into cannabis waste by rendering the cannabis unusable and unrecognizable. The licensee shall render the cannabis into cannabis waste before removing the cannabis waste from the licensed premises. A licensee shall render the cannabis into cannabis waste by grinding and incorporating the cannabis with other ground material so that the resulting mixture is at least 50 percent noncannabis material by volume. A licensee shall render cannabis into cannabis waste and track that waste by batch.

(f) Cannabis that a licensee wishes to deposit at a compostable materials handling facility or at an in-vessel digestion facility may be rendered cannabis waste by incorporating any nonhazardous compostable material, as defined in Title 14 of the California Code of Regulations at Section 17852 (a)(11), that a compostable materials handling facility or in-vessel digestion facility may lawfully accept.

(g) Unless a licensee will compost onsite, after a licensee renders the cannabis into cannabis waste, a licensee shall do one of the following with the cannabis waste:

- (1) Dispose of the cannabis waste at a manned and fully permitted solid waste landfill;*
- (2) Deposit the cannabis waste at a manned solid waste operation or a manned fully permitted compostable materials handling facility; or*

- (3) *Deposit the cannabis waste at a manned solid waste operation or a manned fully permitted in-vessel digestion facility.*
- (h) *In addition to all other tracking requirements set forth in Sections 8404 and 8405 of this Chapter, a licensee shall use the track-and-trace system and onsite documents to ensure the cannabis waste materials are identified, weighed, and tracked while on the licensed premises and when disposed of or deposited in accordance with subsection (g).*
- (i) *A licensee shall enter the date and time that the cannabis was rendered cannabis waste and the weight of the resulting cannabis waste into the track-and-trace database.*
- (j) *A licensee shall maintain accurate and comprehensive records regarding cannabis waste material that account for, reconcile, and evidence all activity related to the generation and disposal or disposition of cannabis waste. A licensee shall obtain a record from the solid waste facility evidencing the acceptance of the cannabis waste material at the facility. The record shall contain the name and address of the facility, the date, and the volume or weight of the cannabis waste accepted. These documents are records subject to inspection by the Department and shall be kept in compliance with Section 8400 of this Chapter.*
- (k) *A licensee shall enter the date and time of the disposal or deposit of the cannabis waste at a solid waste facility, compostable materials handling facility, or an in-vessel digestion facility into the track-and-trace system.*

8.0 GROWING MEDIUM MANAGEMENT

According to the Ordinance, the Property Management Plan must have a section on Growing Medium Management:

The growing medium management section shall include:

- (1) Provide an estimate of the type and amount of new growing medium that will be used and amount of growing medium will be disposed of on an annual basis.*
- (2) Describe how the permittee will minimize growing medium waste generation.*
- (3) Describe any non-organic content in the growing medium used (such as vermiculite, silica gel, or other non-organic additives).*
- (4) Describe how growing medium waste will be disposed.*
- (5) Describe the methodology on how the amount of growing medium waste that is generated on the site, the amount that is recycled, and the amount and where growing medium waste is disposed of, is measured.*

The CDFA CalCannabis Program describes soils handling as follows:

“Soils used in cannabis cultivation may be treated, reused, stockpiled, and/or discarded. For reuse, soils are piled and covered with tarps for an extended period (months to a year) to allow heat from sunlight to destroy any potential soil pathogens or pests. Another practice for soil reuse is to run a compost tea through the soils between harvests to restore soil nutrients. Although it is not a direct component of the Proposed Program, another aspect of soil reuse can include laboratory testing of soil samples to identify nutrient deficiencies or other issues. Identifying such deficiencies allows the soil to be properly treated or amended with fertilizers or other soil amendments, thereby correcting these deficiencies, prior to being reused with a new cannabis crop.” (CDFA 2017)

“Outdoor cultivation typically involves planting rooted cannabis cuttings or seeds in the early spring and harvesting the plants in the fall (mid-September through November), after the plants flower. Soils used in the pots or grow bags are typically amended to ensure that nutrients are available to the plants throughout the growing season. Compost teas, which are created by steeping compost material in water, may also be used to fulfill nutrient needs (Ingham 2014). Water and nutrient supplement needs for outdoor cultivation may vary depending on the type of growing container selected. For example,

raised beds typically require more watering and additional liquid nutrient application compared to other growing container options.” (CDFA 2017)

For the purposes of this Plan, growing medium consists of soil and non-organic amendments (vermiculite, perlite, silica gel, etc.). It does not include fertilizers or organic amendments such as mulch, humus, worm castings, etc.

8.1.3. Types and Volumes of Growing Medium

A growing medium or grow medium is the matrix that the Cannabis plant is cultivated in. The three main types of grow mediums for Cannabis plants are soil mixes, soil-less mixes, and hydroponics. The types differ in how nutrients, oxygen, and water are delivered to the plant, and how the roots are anchored.

Soil mixes combine soil with amendments, such as peat, humus (compost), worm castings, and perlite. Soil mixes naturally contain some nutrients, which means it will provide the nutrients Cannabis plants need for at least the first few weeks of life; supplemental fertilizer may be needed. Soil-less growing medium is composed of inert (non-living soil) ingredients like coco coir, perlite, peat moss, rockwool, or vermiculite. Because there are no nutrients in these inert substances, all nutrients must be delivered by irrigation. Hydroponics growing mediums use containers to suspend the roots over a water bath. Nutrients are introduced into the bath.

This cannabis operation will grow in above-ground containers or beds in the ground. The growing medium for this cultivation operation is estimated, by canopy area, to import approximately 500 cubic yards of soil/medium that would be amended each year for combined mature plant and nursery cannabis cultivation purposes.

8.1.4. Growing Medium Handling, Disposal, and Waste Reduction

Growing media waste can be reduced or eliminated by composting and blending old soils with new soils and amendments. No significant amounts of growing media are expected to be disposed. Instead, media is reduced in volume yearly because it is absorbed by the plants and metabolized by soil organisms (bacteria, fungi, invertebrates). Soil staging areas and compost piles will be located near each cultivation site as shown on the project Site Plans. Cannabis green waste must be stored inside a secure area. BMPs will be employed to ensure that these piles do not contaminate stormwater or cause nuisance dust or odor issues.

9.0 WATER USE

9.1. Requirements / Goals

According to the Ordinance, the Property Management Plan must have a section on Water Use:

- (a) Intent: To conserve the County’s water resources by minimizing the use of water.*
- (b) All permitted activities shall have a legal water source on the premises, and have all local, state, and federal permits required to utilize the water source. If the permitted activity utilizes a shared source of water from another site, such source shall be a legal source, have all local, state, and federal permit required to utilize the water source, and have a written agreement between the owner of the site where the source is located and the permitted activity agreeing to the use of the water source and all terms and conditions of that use.*
- (c) Permittee shall not engage in unlawful or unpermitted drawing of surface water.*
- (d) The use of water provided by a public water supply, unlawful water diversions, transported by a water hauler, bottled water, a water-vending machine, or a retail water facility is prohibited.*

(e) Where a well is used, the well must be located on the premises or an adjacent parcel. The production well shall have a meter to measure the amount of water pumped. The production wells shall have continuous water level monitors. The methodology of the monitoring program shall be described. A monitoring well of equal depth within the cone of influence of the production well may be substituted for the water level monitoring of the production well. The monitoring wells shall be constructed and monitoring begun at least three months prior to the use of the supply well. An applicant shall maintain a record of all data collected and shall provide a report of the data collected to the County annually.

(f) Water may be supplied by a licensed retail water supplier, as defined in Section 13575 of the Water Code, on an emergency basis. The application shall notify the Department within 7 days of the emergency and provide the following information:

- a. A description of the emergency.
- b. Identification of the retail water supplier including license number.
- c. The volume of water supplied.
- d. Actions taken to prevent the emergency in the future.

(g) All permittees shall prepare a Water Use Management Plan to be approved by the Lake County Water Resources Department. Said plan shall:

- a. Identify the source of water, including location, capacity, and documentation that it is a legal source.
- b. Described the proposed irrigation system and methodology.
- c. Describe the amount of water projected to be used on a monthly basis for irrigation and separately for all other uses of water and the amount of water to be withdrawn from each source of water on a monthly basis.

9.2. Water Availability Analysis

9.2.1. Water Source and Supply

There are five (5) existing, permitted groundwater wells that would be used for cultivation. The yield for each well is summarized in the Table 2. The wells range in depth from 114 ft to 460 ft and have a combined yield of 720 gpm (1,161 acre-feet/year or AFY).

Table 2. Summary of project well information.

Site	Name (Well Latitude/Longitude)	Well #	Depth (ft)	Yield (gpm)	Yield (AFY)
A	Northwestern Hops Field (38.982011, -122.599900)	1	240	60	96.8
B	Southwest Clearing (38.978344, -122.599803)	5	340	300	483.9
C	Northeast Hops Field (38.982033, -122.594181)	2	114	60	96.8
D	Central Hops Field (38.979569, -122.595764)	4	358	200	322.6
E	Chaparral Clearing (38.980981, -122.586219)	3	460	100	161.3
			Total	720	1,161

Project Water Demand

Water demand is estimated as 1.2 to 14.7 gallons per canopy square foot per year, which equates to 290-3,560 gallons per day (gpd) per acre. Using the upper end of this range, and assuming 65% of the time the cultivation is in the vegetative state and 35% it is in the flowering state and the water use during the flowering period is about 1.7 times the water used during the vegetative state, the total estimated irrigation water demand, for 15 acres of cannabis canopy is as follows:

- Average Daily – 53,470 gpd
- Maximum Daily (Flowering Period) – 73,425 gpd
- Yearly (assuming up to 180-day outdoor season):
 - 29.5 acre-feet per year (AFY)

Table 3. Estimated projected monthly water use based on vegetative (65% or 117 days) and flowering (35% or 63 days) periods.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Irrigation (1,000 gal)	0	0	0	641	1,324	1,282	1,324	1,969	2,203	881	0	0	9,624

The estimated irrigation water demand reported above is an average daily rate over the course of the growing season; however, seasonal water demand likely varies in response to temporal and environmental variables (e.g., temperature, relative humidity, wind, plant age and size, etc.).

9.2.2. Irrigation Methodology and Storage

Irrigation for the cultivation operation will use water supplied by existing irrigation wells. The irrigation water would be pumped from the wells via PVC piping to adjacent 5,000-gallon water storage tanks. Water would be pumped using a solar powered and/or PG&E powered pump, where water would be pumped through an above ground pipe system (aka, irrigation lines) to the cultivation area.

From the tanks, the water would either gravity feed or be pumped through, new, above ground irrigation lines to each of the proposed garden areas. The applicant will use separately designated mixing tanks for fertigation (fertilizer mixing and irrigation) purposes. The drip lines will be sized to irrigate the cultivation areas at a rate slow enough to maximize absorption and prevent runoff. Drip irrigation systems, when implemented properly, conserve water compared to other irrigation techniques.

The project proposes to use the existing groundwater wells to fill forty-six (46) 5,000-gallon water tanks adjacent to the proposed cultivation areas, amounting to a total of 230,000-gallons of storage, representing 3 to 5 days of water storage for the cannabis operation.

9.2.3. Water Conservation

Water conservation practices will be implemented, including some combination of the following strategies and actions:

Standard Operational Measures:

- No surface water diversion;
- Selection of plant varieties that are suitable for the climate of the region;
- The use of drip irrigation (instead of spray irrigation);
- Cover drip lines with straw mulch or similar to reduce evaporation;
- Water application rates modified from data from soil moisture meters and weather monitoring;
- Shutoff valves on hoses and water pipes;
- Daily visual inspections of irrigation systems;
- Immediate repair of leaking or malfunctioning equipment; and

- Water use metering and budgeting – a water budget will be created every year and water use efficiency from the previous year will be analyzed.

Drought Emergency Water Conservation Measures:

Drought can reduce both water availability and water quality necessary for productive farming, ranches, and grazing lands, resulting in significant negative direct and indirect economic impacts to the farm.

To plan and prepare for drought conditions, the project will follow recommendations for monitoring, planning, and preparedness provided by the National Integrated Drought Information System - <https://www.drought.gov/sectors/agriculture>.

In addition to the above ongoing conservation measures, water metering, and reporting, during times of drought emergencies or water scarcity, the project will implement the following additional measures, as needed or appropriate to the site, to reduce water use and ensure both success and decreased impacts to surrounding areas:

- Install additional water storage and/or implement a rainwater catchment system;
- Install moisture meters to monitor how much water is in the soil at the root level and reduce watering to only what is needed to avoid excess;
- Cover the soil and drip-lines with removable plastic covers or similar to reduce evaporation;
- Irrigate only in the early morning hours or before sunset;
- Cover plants with shaded meshes during peak summer heat to reduce plant water needs; and/or
- Use a growing medium that retains water in a way to conserve water and aid plant growth. Organic soil ingredients like peat moss, coco coir, compost and other substances like perlite and vermiculite retain water and provide a good environment for cannabis to grow.

CASQA Construction BMP Fact Sheet NS-1: Water Conservation Practices should be implemented to prevent discharges from water supply equipment. Water application rates should be minimized as necessary to prevent runoff and ponding and water equipment leaks should be repaired immediately. Implement Construction BMP Fact Sheet NS-7: Potable Water / Irrigation to manage the potential pollutants generate during discharges from irrigation lines and unplanned discharges from water sources.

10.0 MONITORING AND REPORTING FOR COUNTY LICENSING

10.1. Requirements / Goals

According to the Ordinance, the licensee must perform annual compliance monitoring and prepare annual reports as follows:

6. Compliance Monitoring

- i. A compliance monitoring inspection of the cultivation site shall be conducted annually during growing season.*
- ii. The permittee shall pay a compliance monitoring fee established by resolution of the Board of Supervisors prior to the inspection.*
- iii. If there are no violations of the permit or state license during the first five years, the inspection frequency may be reduced by the Director to not less than once every five years.*

7. Annual Reports

i. Performance Review

(a) All cannabis permittees shall submit a "Performance Review Report" on an annual basis from their initial date of operation for review and approval by the Planning Commission. The Planning Commission may delegate review of the annual Performance Review Report to the Director at the time of the initial hearing or at any time thereafter. This annual "Performance Review Report" is intended to identify the effectiveness of the approved development permit, use permit, Operations Manual, Operating Standards, and conditions of approval, as well as the identification and implementation of additional procedures as deemed necessary. In the event the Planning Commission identifies problems with specific Performance Review Report that could potentially lead to revocation of the associated development or use permit, the Planning Commission may require the submittal of more frequent "Performance Review Reports."

(b) Pursuant to sub-section 6. i. above, the premises shall be inspected by the Department on an annual basis, or less frequently if approved by the Director. A copy of the results from this inspection shall be given to the permittee for inclusion in their "Performance Review Report" to the Department.

(c) Compliance monitoring fees pursuant to the County's adopted master fee schedule shall be paid by permittee and accompany the "Performance Review Report" for costs associated with the inspection and the review of the report by County staff.

(d) Non-compliance by permittee in allowing the inspection by the Department, or refusal to pay the required fees, or noncompliance in submitting the annual "Performance Review Report" for review by the Planning Commission shall be deemed grounds for a revocation of the development permit or use permit and subject the holder of the permit(s) to the penalties outlined in this Code.

The Cannabis General Order has annual monitoring and reporting requirements as follows:

A. Annual Report

Annual Reports shall be submitted to the Regional Water Board by March 1 following the year being monitored. For example, the monitoring report for activities conducted in the year 2018 is due on March 1, 2019. The Annual Report shall include the following:

1. Facility Status, Site Maintenance Status, and Stormwater Runoff Monitoring.
2. The name and contact information for 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 penalty of perjury statement and shall be signed by the Discharger or the Discharger's authorized agent.
and shall be signed by the Discharger or the Discharger's authorized agent.

11.0 GRADING PLANS

The majority of the proposed project cultivation area is part of a former hops farm. The site has been developed to include hops farming, orchards, agricultural support facilities, including a 1,200 square foot single family residence, septic system, barn, accessory structures, multiple wells, and accessory agricultural facilities (e.g., irrigation facilities). The pre-existing agriculture activities covered over 18 acres. Other land uses on the project site include residential, timberland, grazing land, and open space. There are also remnants of almond orchards in existence prior to 1993. No new grading will be taking place in the proposed planting area. Per the Preliminary Grading Plan submitted with the application materials, no grading is required, however, vegetation/brush clearing and tilling may will be required to prepare Site B – Southwest Clearing and Site E – Chaparral Clearing for cultivation.

If necessary, a grading permit will be obtained prior to initiating any grading work. All existing roads and driveways will be utilized for project access. An erosion and sediment control plan has been created and will be implemented for this project. Should additional, more extensive, grading be needed, the erosion and sediment control plan will be updated.

12.0 BIOLOGICAL AND FISH AND WILDLIFE PROTECTION

12.1. Requirements / Goals

Graening and Associates, LLC conducted a biological resources assessment and Lawrence Ray conducted a botanical field survey for a cannabis cultivation operation on a 302.45-acre parcel. The project site is comprised of APNs 010-053-01 and 010-053-02, located at 2050 Ogulin Canyon Rd Clearlake, California (Biological Assessment). The study area was the entire parcel. This report will also act as a fish and wildlife protection plan designed to minimize any adverse impact on fish and wildlife and to ensure that the cultivation site and operations performed on site do not destroy local sensitive habitats. The project proposes 15-acres of outdoor cannabis cultivation either full-sun or using light deprivation within temporary hoop structures.

The Biological Assessment evaluated the potential of the parcel to contain sensitive plant and wildlife habitat. The assessment determined whether the property contains sensitive plants or wildlife requiring mitigation under the California Environmental Quality Act (CEQA) or National Environmental Policy Act (NEPA). Field surveys were conducted, including floristic-level botanical survey listing all plant taxa¹ within the survey boundaries.

12.2. Inventory of Flora and Fauna from Field Survey

All plants detected during the field survey of the Study Area by Lawrence Ray are listed in the Botanical/Floristic Survey Report. Six distinct Vegetation Alliances were encountered during the site visits.

- **Blue Oak Woodland/Quercus douglasii Woodland Alliance.** *Quercus douglasii* is dominant or co-dominant in the tree canopy *Aesculus californica*, *Juniperus californica*, *Pinus sabiniana*, *Quercus agrifolia*, *Q. lobata*, and *Q. wislizeni*. Trees < 20 m; with conifers 35m; canopy is intermittent to continuous, or savanna-like; it may be one or two tiered. Shrub layer is sparse to intermittent. Herbaceous layer is sparse or grassy, and forbs are present seasonally. Habitats: Valley bottoms, foothills, rocky outcroppings. Soils are shallow, low in fertility, moderately to excessively drained with extensive rock fragments. Elevation: 30-1900 m.
- **Chamise chaparral/Adenostoma fasciculatum Shrub Alliance.** *Adenostoma fasciculatum* is dominant in the shrub canopy with *A. sparsifolium*, *Arctostaphylos glandulosa*, *A. manzanita*, *A. viscida*, *Ceanothus* spp., *Diplacus aurantiacus*, *Eroidictyon californicum*, *Eriogonum fasciculatum*, *Hesperoyucca whipplei*, *Heteromeles arbutifolia*, *Quercus berberidifolia*, *Q. wislizeni*, *Salvia apiana*, *S. leucophylla*, *S. mellifera*, and *Toxicodendron diversilobum*. Emergent trees may be present at low cover. Shrubs < 4 m; canopy is intermittent to continuous. Herbaceous layer is sparse to intermittent. Habitats: Varied topography. Soils are commonly shallow over colluvium and many kinds of bedrock. Elevation: 10-1800 m.
- **Ghost pine woodland/Pinus sabiniana Woodland Alliance.** *Pinus sabiniana* is dominant or co-dominant in the tree canopy with *Aesculus californica*, *Juniperus californica*, *J. occidentalis*, *P. coulteri*, *Quercus chrysolepis*, *Q. douglasii*, and *Q. wislizeni*.

Trees < 20m; canopy open to intermittent and one or two tiered. Shrubs are common or infrequent. Herbaceous layer is sparse or grassy. Habitats: Streamside terraces, valleys, slopes, and ridges. Soils are shallow, often stony, infertile, and moderately to excessively drained. Elevation: 300-2100 m.

- **Annual brome grasslands/Bromus (diandrus, hordeaceus) – Brachypodium distachyon** Bromus diandrus, B. hordeaceus, or Brachypodium distachyon is dominant or co-dominant with non-natives in the herbaceous layer. Emergent trees and shrubs may be present at low cover. Herbs < 75 cm; cover is intermittent to continuous. Habitats: All topographic settings in foothills, waste places, rangelands, openings in woodlands. Elevation: 0-2200 m.
- **Quercus wislizeni Woodland Alliance, Interior Live Oak Woodland.** Quercus wislizeni is dominant or co-dominant in tree canopy with Aesculus californica, Arbutus menziesii, Lithocarpus densiflorus, Pinus sabiniana, Quercus chrysolepis, Quercus douglasii and Quercus kelloggii. Trees <20m, canopy is intermittent or continuous, or savanna-like. Shrub layer is open to intermittent. Herbaceous layer is sparse or grassy. Upland slopes, valley bottoms, terraces. Soils are shallow and moderately to excessively drained. Elevation: 500-4500 m.

All plants detected during the field survey of the Study Area by Graening and Associates, LLC are listed in the Biological Resources Assessment. All plants detected during the field surveys of the Study Area are listed in Appendix 2 of the Biological Resources Assessment. The following animals were detected within the Study Area during the field surveys:

acorn woodpecker (*Melanerpes formicivorus*); American crow (*Corvus brachyrhynchos*); Anna's hummingbird (*Calypte anna*); ant (Formicidae); Barn owl (*Tyto alba*); Bewick's wren (*Thryomanes bewickii*); black phoebe (*Sayornis nigricans*); black-tailed jackrabbit (*Lepus californicus*); butterfly (Lepidoptera); Botta's pocket gopher (*Thomomys bottae*); Bushtit (*Psaltriparus minimus*); California quail (*Callipepla californica*); California scrub jay (*Aphelocoma californica*); California thrasher (*Toxostoma redivivum*); California towhee (*Melospiza crissalis*); cat (*Felis catus*); cliff swallow (*Petrochelidon pyrrhonota*); Columbian black-tailed deer (*Odocoileus hemionus columbianus*); Common raven (*Corvus corax*); Coyote (*Canis latrans*); Cricket (Gryllidae); dog (*Canis familiaris*); dragonfly (Odonata); Eurasian collared dove (*Streptopelia decaocto*); goat (*Capra hircus*); grasshopper (Orthoptera); honey bee (*Apis mellifera*); house finch (*Haemorhous mexicanus*); killdeer (*Charadrius vociferus*); lesser goldfinch (*Spinus psaltria*); mourning dove (*Zenaidura macroura*); Northern flicker (*Colaptes auratus*); Northern mockingbird (*Mimus polyglottos*); Nuttall's woodpecker (*Picoides pubescens*); Oak titmouse (*Baeolophus inornatus*); Pacific chorus frog (*Pseudacris regilla*); red-breasted nuthatch (*Sitta canadensis*); Redshouldered hawk (*Buteo lineatus*); Sheep (*Ovis aries*); sparrow (Emberizidae); spotted towhee (*Pipilo maculatus*); turkey vulture (*Cathartes aura*); water strider (Gerridae); western fence lizard (*Sceloporus occidentalis*); White breasted nuthatch (*Sitta carolinensis*); wild turkey (*Meleagris gallopavo*); and wrentit (*Chamaea fasciata*).

12.3. Vegetation Communities and Wildlife Habitat Types

Terrestrial Vegetation Communities:

The Study Area contains the following terrestrial vegetation communities: agricultural; ruderal/developed; mixed oak/conifer woodland; pasture / annual grassland; and chaparral. These vegetation communities are discussed here and are delineated in the Exhibits. Aquatic vegetation communities are discussed in the section on jurisdictional waters.

Agricultural/Disturbed. These areas consist of converted natural habitat that was in agricultural production as hop fields or orchards. Vegetation within this habitat type consists primarily of agricultural crops lacking a consistent community structure. This habitat is classified as Holland vegetation type – “Urban – 11100”. 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.

Mixed oak/conifer woodland. The mixed oak/pine woodland consists of an open canopy of blue oak (*Quercus douglasii*) and gray pine (*Pinus sabiniana*) with an understory of annual grasses (*Bromus* spp., *Avena*, et al) and herbs and occasional common manzanita (*Arctostaphylos manzanita*), as well as *Adenostoma fasciculatum*, *Heteromeles arbutifolia*, *Eriodictyon californicum*, *Avena fatua*, *Bromus*, *Stipa* spp., and *Melina californica*. The mixed oak/pine woodland is found on ridges and slopes throughout the Study Area. This vegetation can be classified as “71.020.00 *Quercus douglasii* woodland alliance (Allen et al. 1991)” or as the Holland Type “Blue oak - foothill pine”.

Pasture and Annual Grassland. The California Annual Grassland Series (Sawyer and Keeler-Wolf, 1995) consists of open fields of non-native annual grasses and forbs. These annual grasslands have replaced native habitats of perennial bunchgrasses or foothill chaparral. Mowing or grazing disturbances, rather than periodic wildfires, typically keep this plant community from undergoing successional changes to woodland or back to perennial grassland. Annual species are dominant in the grassland, including bromes (*Bromus* spp.), wild oats (*Avena* sp.), clover (*Trifolium* spp.), spreading hedgeparsley (*Torilis arvensis*) and other common grasses and forbs such as *Elymus capital-medusae*, *Ceanotaurea*, *Madia*, *Clarkia*, *Croton setiger*, and *Hordeum murinum*. This type of grassland can be classified as “42.026.00 *Bromus* (*diandrus*, hordeaceous) – *Brachypodium distachyon* Herbaceous Semi-Natural Alliance” or as the Holland Type “Nonnative grassland”.

Chaparral. The slopes and ridges of the Study Area are vegetated with a dense cover of shrubs. The warm south-facing slopes are vegetated with chamise (*Adenostoma fasciculatum*) as the dominant shrub with infrequent buckbrush (*Ceanothus cuneatus*) and common manzanita, and with very little understory. This type of chaparral can be classified as “37.101.00 *Adenostoma fasciculatum* shrubland alliance” or as the Holland Type “Chamise chaparral”. There is also scrub oak chaparral, with scrub oak dominant (*Quercus berberidifolia*), but also containing *Adenostoma fasciculatum*, *Quercus wislizeni*, *Rhus trilobata*, *Bromus*, *Eriodictyon californicum*, *Torilis arvensis*, *Poa secunda*, *Cynosurus echinoides*, *Cercocarpus betuloides*, and *Fraxinus dipetala*.

Riparian: Riparian habitats are limited to the fringes of the perennial watercourse. Typical plants in riparian zones include white alder (*Alnus rhombifolia*), willows (*Salix* spp.), big-leaf maple (*Acer macrophyllum*), blackberry (*Rubus* spp.), and sedges (*Carex* spp.)

Wildlife Habitat Types:

Wildlife habitat types were classified using CDFW’s Wildlife Habitat Relationship System. The Study Area contains the following wildlife habitat types: Montane Chaparral; Chamise-

Redshank Chaparral; Mixed Chaparral; Valley Foothill Riparian; Blue Oak Woodland; Annual Grassland; Orchard – Vineyard; Pasture; Urban; and Barren.

Critical Habitat and Special-status Habitat:

No critical habitat for any federally-listed species occurs within the Study Area. Special-status habitats were detected within the Study Area: wetlands and riparian habitat. The CNDDDB reported no specialstatus habitats within the Study Area. The CNDDDB reported 5 special-status habitats in a 10-mile radius outside of the Study Area: Clear Lake drainage resident trout 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. However, the surrounding Study Area contains the following special-status habitats: riparian habitat.

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 specific designated wildlife corridors exist within or near the Study Area, but the large open spaces on the property allow for ample animal movement. The perennial watercourse in Ogulin Canyon may serve as a fishery seasonally. The Study Area is not located within any known adopted Habitat Conservation Plan or Natural Community Conservation Plan.

12.4. Listed Species and Other Special-Status Species

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

- Birds
 - Northern Spotted Owl (*Strix occidentalis caurina*) Threatened
- Amphibians
 - California Red-legged Frog (*Rana draytonii*) Threatened
- Fishes
 - Delta Smelt (*Hypomesus transpacificus*) Threatened
- Flowering plants
 - Burke's Goldfields (*Lasthenia burkei*) Endangered
 - Few-flowered Navarretia (*Navarretia leucocephala* ssp. *pauciflora* =*N. pauciflora*) Endangered
 - Slender Orcutt Grass (*Orcuttia tenuis*) Threatened

Migratory birds should also be considered in the impact assessment.

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

Special-status plant species, especially Konocti manzanita (*Arctostaphylos manzanita elegans*), have a moderate potential to occur in the Study Area in areas of chaparral. The non-native grasslands and ruderal habitat within the Study Area have a low potential for harboring special-status plant species due to the dominance of aggressive non-native grasses and forbs. Streams, riparian corridors, and riverine wetlands within the Study Area can sustain aquatic special-status species and diverse wildlife species.

12.5. Potentially-Jurisdictional Water Resources

The field survey determined that the Project Area does not contain any channels or wetlands. The following water features were detected within the surrounding Study Area during the field survey:

- an unnamed perennial (Class I) watercourse in Blackeye Canyon. This feature has intermittent riparian habitat along the river corridor
- several unnamed intermittent (Class II) watercourses that are tributary to the Class I channel
- several ephemeral (Class III) watercourses
- wetlands associated with the Class I and Class II watercourses
- a stock pond with a fringe of emergent wetland vegetation

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

12.6. Impact Analysis and Mitigation Measures

The Biological Assessment evaluated 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. The evaluation is summarized below.

Potential Direct / Indirect Adverse Effects Upon Special-status Species:

No impacts to special-status plant or animal species are expected from implementation of the proposed project. No mitigation is necessary.

During the field survey, no listed species or special-status species were observed within the Study Area. State and federal databases do not report any listed species or special-status species. No direct impacts to listed species or special-status species are expected from implementation of the proposed project. Indirect impacts to special-status species could occur from destruction of occupied or suitable habitat. Special-status species that occur in the vicinity could migrate into sensitive habitats between the time that the field survey was completed and the start of construction.

The non-native grasslands within the Study Area have a low potential for harboring special-status plant species due to the dominance of aggressive non-native grasses and forbs. The Study Area contains disturbed and undisturbed chaparral habitat. The disturbed chaparral habitat consists of relatively pure stands of chamise, with no manzanita or other shrubs or trees; this habitat has a low potential to contain special-status plant species. Areas of undisturbed chaparral have a moderate potential to sustain special-status plant species, such as Konocti manzanita. Destruction of undisturbed chaparral is a potentially-significant impact to special-status plant species.

The perennial and intermittent stream corridors (Class I and II watercourses) and associated

riparian vegetation can sustain diverse wildlife populations and have a moderate potential to support special status animal species. Destruction of riparian habitat is a potentially-significant impact to special-status animal species.

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. If ground-clearing or tree-felling construction activities are conducted during the nesting season, nesting birds could be directly impacted by tree removal and indirectly impacted by noise, vibration, and other construction-related disturbance. Therefore, Project construction is considered a potentially significant adverse impact to nesting birds.

Recommended Mitigation Measures:

The majority of cultivation areas are located on lands currently cleared or in agricultural production, and do not contain sensitive habitats. For these areas, no mitigation is required.

If the establishment of cultivation operations requires the destruction of sensitive habitats, such as riparian habitat or undisturbed chaparral habitat, the following mitigation measure should be implemented:

- A pre-construction survey for special-status species should be performed by a qualified biologist to ensure that special-status species are not present. If any listed species or special-status species are detected, construction should be delayed, and the appropriate wildlife agency (CDFW and/or USFWS) should be consulted and project impacts and mitigation reassessed. With the implementation of this mitigation measure, adverse impacts upon special-status species would be reduced to a less-than-significant level.*

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.

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

The Study Area is not inside any federally-designated critical habitat. The Project Area contains no special-status habitats, but special-status habitats are directly adjacent to some project areas.

Recommended Mitigation Measures:

If the establishment of cultivation operations requires the destruction of riparian habitat, the following mitigation measures should be implemented:

- Riparian habitat may contain special-status plant or animals species. A pre-construction survey for special-status species should be performed by a qualified*

biologist to ensure that special-status species are not present. If any listed species or special-status species are detected, construction should be delayed, and the appropriate wildlife agency (CDFW and/or USFWS) should be consulted and project impacts and mitigation reassessed.

- Riparian habitat is protected under Fish and Game Code Section 1600; a Streambed Alteration Agreement would be needed before this habitat is disturbed. Issuance of this Agreement requires implementation of avoidance and minimization measures and compensation for habitat loss.

If the establishment of cultivation operations requires the destruction of undisturbed chaparral habitat, the following mitigation measure should be implemented:

- Performance of a pre-construction botanical survey to identify if any special-status plant species are present and to delineate sensitive and non-sensitive plant habitat at a finer scale, which may reduce the overall area needed for protection.

With the implementation of these mitigation measures, impacts to special-status habitats would be reduced to a less than significant level.

Potential Direct / Indirect Adverse Effects on Jurisdictional Water Resources:

There are no water resources within the Project Area. There are several water resources within the surrounding Study Area: channels and riverine wetlands.

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 project areas have been designed with 100 to 150-foot setbacks from channels and situated on terraces or ridgetops. Because of these avoidance measures, no direct impacts to water resources are expected.

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 is non-compliant with these requirements. Following is a summary of their proximity to the cultivation areas:

- "Northwest Hops Field": this hop field is directly adjacent to the perennial stream in Ogulin Canyon/Blackeye Canyon. The Water Board requires a 150-foot setback from Class I watercourses; this potential cultivation area will be reduced in size to comply with the Cannabis Cultivation Order setback requirements.
- "Southwest Clearing": this area complies with the Cannabis General Order setback requirements; the nearest stream, a Class II watercourse, is at least 120 feet away.
- "Northeast Hops Field": this hop field is directly adjacent to the perennial stream in Ogulin Canyon/Blackeye Canyon and is also near wetlands associated with the pond. The Water Board requires a 150-foot setback from Class I watercourses and wetlands; this potential cultivation area will be reduced in size to comply with the Cannabis General Order setback requirements.
- "Central Hops Field": this area complies with the Cannabis General Order setback requirements the nearest stream, a Class II watercourse, is at least 240 feet away.
- "Chaparral Clearing": this area complies with the Cannabis General Order setback requirements; the nearest streams, a Class II and Class II watercourse, are at least 200 feet away.

The proposed project is compliant with the setback requirements of Cannabis Cultivation Order WQ 2019-0001-DWQ.

Recommended Mitigation Measures:

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

It is recommended that a formal delineation of jurisdictional waters be performed before construction work, or ground disturbance, is performed within 50 feet of any wetland or channel.

Potential Impacts to Wildlife Movement, Corridors, etc.:

No specific wildlife corridors exist within or near the Study Area, but the large open spaces on the property allow for ample animal movement. The perennial watercourse in Ogulin Canyon may serve as a fishery on a seasonal basis and also functions as a wildlife corridor. 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 project. These fences do not allow animal movement and may act as a local barrier to wildlife movement. However, the fenced 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.

Potential Conflicts with Ordinances, Habitat Conservation Plans, etc.:

Construction of the project will require the removal of mature trees that may be protected by the County and CALFIRE. This is a potentially significant impact before mitigation.

The project does not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or another approved governmental habitat conservation plan. The Study Area is not within the coverage area of any adopted Habitat Conservation Plan or Natural Community Conservation Plan.

Recommendation Mitigation Measures:

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.

The Oak Woodlands Protection Act and the County of Lake identify mitigation standards and requirements for projects that remove oak woodlands. Under the Oak Woodlands Protection Act, Lake County shall require one or more oak woodland alternatives “to mitigate the significant effect of the conversion of oak woodlands.” Alternatives to mitigate the significant effect of the conversion of oak woodlands: replace removed trees at a rate of 3:1 and maintain trees pursuant to Section 4526 of Senate Bill No. 1334 terminating seven years after the trees are planted.

If development of the 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.

13.0 CULTURAL RESOURCE MITIGATION PLAN

A Cultural Resources Assessment was prepared by Natural Investigations Co. dated August 13, 2019.

Should any archaeological, paleontological, or cultural materials be discovered during site development, all activity shall be halted in the vicinity of the find(s), the local overseeing Tribe shall be notified, and a qualified archaeologist retained to evaluate the find(s) and recommend mitigation procedures, if necessary, subject to the approval of the Community Development Department.

The applicant shall halt all work and immediately contact the Lake County Sheriff's Department, Middletown Rancheria, and the Community Development Department if any human remains are encountered.

14.0 CALFIRE 4290 AND 4291 SRA REQUIREMENTS

The applicant will adhere to Calfire 4290 and 4291 SRA Requirements. Including the following:

- Adhere to road standards for fire equipment access.
- Adhere to standards for signs identifying streets, roads, and buildings.
- Provide 2,500-gallon water tanks at each cultivation Site.
- Maintain defensible space as appropriate.

15.0 LITERATURE CITED AND FURTHER READING

California Department of Food and Agriculture. 2017. CalCannabis Cultivation Licensing Program Draft Program Environmental Impact Report. State Clearinghouse #2016082077. Prepared by Horizon Water and Environment, LLC, Oakland, California. 484 pp.

California Stormwater Quality Association. 2011. California Stormwater Best Management Practice Handbook – Construction. California Stormwater Quality Association, Menlo Park, California 886 pp.

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Central Valley Region’s Best Management Practices Manual for Cannabis Cultivation. Appendix A in: Waste Discharge Requirements for Cannabis Cultivation Order R5-2015-0113.

Denver Department of Public Health and Environment. 2018. Cannabis Environmental Best Management Practices. Denver Department of Public Health & Environment (DDPHE) Cannabis Sustainability Working Group, Denver, Colorado. 71 pp.

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Newman, J. (editor). 2008. Greenhouse and Nursery Management Practices to Protect Water Quality. Publication Number: 3508. University of California Agriculture and Natural Resources Publications, Oakland, CA. 160 pp.

Pacific Watershed Associates. 2015. Handbook for Forest, Ranch, & Rural Roads: A Guide for Planning, Designing, Constructing, Reconstructing, Upgrading, Maintaining, and Closing Wildland Roads. Available at: <https://www.pacificwatershed.com/sites/default/files/RoadsEnglishBOOKApril2015b.pdf>

Vossen, P. 2007. Current Opportunities in the California Olive Oil Industry. Farm Advisor UC Cooperative Extension – Sonoma County. California Plant and Soil Conference.

USEPA NPDES Stormwater Program’s National Menu of BMP’s website at <https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater>

16.0 APPENDIX: CASQA INDUSTRIAL AND COMMERCIAL HANDBOOK BMP FACT SHEETS

17.0 APPENDIX: PEST MANAGEMENT GUIDELINES

18.0 APPENDIX: MATERIAL DATA SAFETY SHEETS

19.0 APPENDIX: EMPLOYEE MANUAL

(Bound Separately)

20.0 APPENDIX: LOG OF INSPECTIONS, RECORDS, AND DATA COLLECTION

(Bound Separately)