PROPERTY MANAGEMENT PLAN
FOR THE CANNABIS CULTIVATION OPERATION AT
4440 GEORGE ROAD, LAKEPORT, CALIFORNIA

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1.0 INTRODUCTION

This Property Management Plan has been prepared to fulfill the requirements of Ordinance No. 3084 of the Lake County Code which pertains to commercial Cannabis cultivation. This Property Management Plan, and all the sub-plans, have been prepared using the guidance in Subsection 5 of Ordinance No. 3073. The Ordinance describes the Plan as follows:

"*All permittees shall prepare a Property Management Plan. 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*. "

Ordinance No. 3084, Section 4, Subsection 2 i (d) (11), states that the applicant must prepare a "Written Description":

"A statement of the applicant's proposal for solid waste disposal, vegetative waste disposal, storm water management, fish and wildlife protection, water resources protection, energy use, water use, pest management, fertilizer use, property management, grading, organic farming, and protection of cultural resources."

This Property Management Plan fulfills the requirements for the "Written Description."

This 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 or other non-compliance event occurs, or whenever a violation notice is issued.

2.0 PROPERTY LOCATION AND PROJECT DESCRIPTION

The cannabis cultivation operation is located on an 87-acre property at 4440 George Road, Lakeport, California (see exhibits). The property consists of the following parcels:

- 4440 George Road, 4.12 acres, APN 008-031-48
- 4460 George Road, 30.1 acres, APN 008-031-60
- 4520 George Road, 7.83 acres, APN 008-032-43
- 4550 George Road, 45.24 acres, APN 008-032-44

The cultivation area will take place within a 505-feet by 480-feet by 8-feet fenced enclosure for screening. The license types will consist of (2) A-Type 3 “medium outdoor”, (1) A-Type 1C “outdoor specialty cottage”, (1) A-Type 3B “mixed-light”, Type 4 “nursery”, and a Type 13-Self Distributor License. The license types would allow a total of 89,620 square feet of outdoor canopy area, a 22,000 square feet of “mixed-light” canopy within greenhouses using light deprivation, and 22,000 square feet of immature plants solely used for cloning and propagation used for selling and distribution. The total proposed license type would allow a total of 111,620 square feet of mature cannabis plants and 22,000 square feet of immature plants for nursery. The total cultivation area will be 237,220 square feet. The ancillary facility will include the following structures (see site map):

- 50,000 square feet processing facility
- 24,000 square feet of greenhouse for nursery to house 22,000 square feet nursery with walkway
- 50,000 square feet drying facility
- 200 square feet storage sheds:
    - Fertilizer and pesticides
    - Equipment and tools
    - Security room
- Parking lots with ADA parking
- Portable restrooms outside of the structure and a permanent restroom within the processing facility.
- 24,000 square feet of greenhouse structures used for mixed light canopy

The existing uses within the property boundary consists of extensive agricultural use for wine grapes. The project property is currently improved with an agricultural shop for storage, an agricultural pond built in the 1970s for irrigation, and five existing storage tanks. The cultivation site was a previous hemp site prior to applying for cannabis cultivation. The cultivation operation will be located well outside of the setback requirement. It will be approximately 150 feet from the property line and over 150 feet from all watercourses. Lavender will be grown around the cultivation area or other pleasing fragrant plants to help mask potential odors.

2.1. Maps

The required maps are provided in the Maps section at the end of this Property Management Plan.

3.0 GRADING

3.1. Rules and Regulations

The Lake County Grading Ordinance (Chapter 30 of the Lake County Code) states that a grading permit is needed if the volume of soil that is graded is 50 cubic yards or more or if 1 acre of native vegetation is cleared.

The State Water Resources Control Board's *Order WQ 2019-0007-DWQ General Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities* (Cannabis General Order)

The Cannabis General Order's Attachment A has specific requirements for site development and site expansion, including, but not limited to, the following:

- *A California Licensed Timber Operator shall be used if any commercial tree species are to be removed from the cannabis cultivation site. All timberland conversions shall be permitted and compliant with the Forest Practice Rules and CAL FIRE permitting requirements.*
- *Prior to commencing any cannabis land development or site expansion activities the cannabis cultivator shall secure a qualified biologist. The cannabis cultivator and the Qualified Biologist shall consult with CDFW and CAL FIRE and designate and mark a no-disturbance buffer to protect identified sensitive plant and wildlife species and communities.*
- *Prior to land disturbance activities for new or expanded cannabis cultivation activities, the cannabis cultivator shall perform a records search of potential Native American archeological or cultural resources (CHRIS potential discovery) at a California Historical Resources Information System (CHRIS) information center. A CHRIS qualified archaeologist shall perform the records search and document the results.*
- *In timberland areas, unless authorized by CAL FIRE or the Regional Water Board Executive Director, Cannabis cultivators shall not remove trees within 150 feet of fish bearing water bodies or 100 feet of aquatic habitat for non-fish aquatic species (e.g., aquatic insects) (Public Resources Code section 4526.)*
- *All grading and earthwork shall be done by a state-licensed C-12 Earthwork and Paving contractor, as applicable.*

The Cannabis General Order also states:

> *"To avoid water quality degradation from erosion and sedimentation, land disturbance activities shall only occur between April 1 and November 15 of each year, unless authorized by a Regional Water Board Executive Officer-approved work plan and compliance schedule. Cannabis cultivators shall ensure land disturbance activities are completed and site stabilization measures are in place prior to the onset of fall and winter precipitation. All land disturbance activities between November 16 and March 31 shall be supervised by a Qualified Professional (such as an appropriately certified or registered Storm Water Pollution Prevention Plan Practitioner)."*

3.2. Project-related Grading Activities

Establishment of the cultivation compound will not require grading other than localized excavations for structural slabs and footers and the only vegetation clearing will be the removal of vineyards (see exhibits). If establishment of the cultivation facilities require extensive grading, a grading permit will first be obtained. An erosion and sediment control plan has already been created and will be implemented for this project. Should extensive grading be performed, the erosion and sediment control plan should be updated.

4.0 AIR QUALITY MANAGEMENT PLAN

4.1. 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.*

4.2. Air Quality Setting, Potential Impacts, and Mitigation

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 currently meets the EPA's health standards for five of those pollutants: carbon monoxide; nitrogen dioxide; sulfur dioxide; lead; and coarse particulates. For the other two — ground-level ozone and fine particulate pollution — Lake County is considered to be a part of a regional non-attainment area.

Sensitive receptors: There are no public sensitive receptors adjacent to the Property. The public facilities such as schools and churches are greater than 1 mile away. The Project Area is about 200 feet away from an adjacent commercial building, and the nearest residence is about 1,000 feet away.

Short-term grading or construction emissions produces fugitive dust and other particulate matter, as well as exhaust emissions generated by earthmoving activities from operation of tractors, tillers, etc., during site preparation. Construction emissions are caused by onsite or offsite activities. Onsite emissions principally consist of exhaust emissions (NOX, CO, ROG, PM10, and PM2.5) from heavy-duty construction equipment, motor vehicle operation, and

fugitive dust 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). However, only minor grading and metal building fabrication construction-related activities are needed for implementation of the proposed cultivation operations. Only a few persons working for a few weeks will be needed for site preparation, and such low numbers of man-hours would not generate significant vehicle emissions.

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 primarily from the consumption of propane and electricity for greenhouse operations. Outdoor 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. Electrical generators will only be used to supply temporary electrical service during emergencies.

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)

The CDFA CalCannabis Program concluded that small outdoor Cannabis cultivation operations would not contribute significantly to greenhouse gas emissions because of the limited use of combustion-powered equipment and vehicles and because County ordinances limit the use of generators to emergency use only (CDFA 2017).

Indoor and mixed cultivation operations have the potential to generate energy demands and GHG emissions as explained in this excerpt:

> "*Cannabis cultivation under the Proposed Program would generate energy demand and GHG emissions from use of high-intensity lighting, ventilation, and temperature control necessary to grow cannabis indoors and in mixed-light operations. The high energy demand of indoor cultivation represents the largest contributor of GHG emissions associated with the Proposed Program. Nurseries, outdoor, and mixed-light grow operations could also utilize fuel-powered equipment that would contribute to GHG emissions*." (CDFA 2017)
>
> "*Section 8315 would reduce the current levels of GHG emissions produced in the state from indoor cultivation to meet the state's GHG reduction target (specifically, to assist in achieving the SB 32 goal of reducing statewide GHG emissions to 40 percent below*

1990 levels by December 31, 2030). The measure requires that the energy provided must be from any combination of the following sources: (a) on-grid power with 42 percent renewable sources; (b) on-site zero-net-energy renewable sources providing 42 percent of power; or (c) purchase of carbon offsets for any portion of power above 58 percent not from renewable sources; (d) the cultivator must demonstrate that the equipment used is 42 percent more energy efficient compared to standard equipment, using 2014 as a baseline year. The implementation of these measures would reduce the current baseline energy demand and associated GHG emissions for cannabis cultivation in the state." (CDFA 2017)

Lake County Ordinance 3084 has the following regulations:

Indoor cultivation and mixed light cultivation lighting shall not exceed 1,200 watts and shall conform to all applicable electrical codes.

Electrical Generators
The indoor or mixed-light cultivation of cannabis shall not rely on a personal gasoline, diesel, propane, or similar fuels, powered generator as a primary source of power and shall only allow properly permitted (when applicable) generators for temporary use in the event of a power outage or emergency that is beyond the permittee 's control. (Lake County Ordinance 3084)

(1) On-grid power with 42 percent renewable source. (2) Onsite zero net energy renewable source providing 42 percent of power. (3) Purchase of carbon offsets for any portion of power above 58 percent not from renewable sources. (4) Demonstration that the equipment to be used would be 42 percent more energy efficient than standard equipment, using 2014 as the baseline year for such standard equipment.

An air quality impact assessment was performed for this project by Natural Investigations Co. Construction emissions and operational emissions were calculated using the California Emissions Estimator Model (CalEEMod)®, Version 2016.3.2 (California Air Pollution Control Officers Association, 2017). Model output and reports from CalEEMod are provided in the appendix of the air quality assessment. Default values were used unless otherwise indicated.

Construction and operational emissions indicate incremental contributions to greenhouse gasses from power consumption inside greenhouses. However, the County's Cannabis Ordinance and CDFA CalCannabis require that at least 42% of the power be derived from renewable sources. This would reduce the project's contribution to greenhouse gas emissions to a less than significant level.

The CDFA CalCannabis Program concluded that small indoor Cannabis cultivation operations would not contribute significantly to greenhouse gas emissions because of the requirement to achieve the State's greenhouse gas emissions targets, as explained in the following excerpt:

"*Licensees under the Proposed Program would also be required to comply with environmental protection measures established in Section 8313 and Section 8315 of the proposed regulations. These measures would potentially reduce criteria air pollutant emissions associated with cannabis cultivation compared to the baseline by prohibiting the use of diesel generators other than for backup power, and by requiring that indoor cultivators achieve the state's greenhouse gas emissions reduction targets by utilizing*

renewable sources for their electrical power needs, purchasing carbon offsets, and/or use efficient equipment. For these reasons, licensed cannabis cultivation under the Proposed Program is generally not anticipated to conflict with or obstruct implementation of an applicable air quality plan, and/or violate any air quality standard or contribute substantially to an existing or projected air quality violation." (CDFA 2017)

4.3. Permits

According to the Ordinance:

"*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, prior to the construction of the facility described in the Property Management Plan. 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*."

Air permits from the LCAQMD may be necessary to operate these proposed facilities if regulated machines or equipment are used. For Cannabis operations, examples would be the constant use of electricity generators or large HVAC units, such as might be needed for indoor (greenhouse) operations. The Ordinance prohibits the regular use of electrical generators for Cannabis cultivation; properly permitted generators may be used for emergency backup power for mixed light and indoor cultivation operations.

LCAQMD permits may be necessary to construct or operate the project as currently designed because fans and HVAC will be used in the greenhouses. Any LCAQMD permits obtained should be listed in this Plan.

4.4. 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 are mitigation measures that can be used to control dust. Staff should be informed of speed limits and dust pollution. The roadways may be clearly marked for limited speed to control dust. Dusty road segments can be armored with gravel, roadbase, or asphalt. A road maintenance program should be implemented. On tilled earth and stockpiles, fugitive dust can be controlled 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.

5.0 ODOR CONTROL PROGRAM

According to the Ordinance:

"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."

5.1. Odor Complaint / Response

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

- Joseph Gustafson, email: gusto2000.jg@gmail.com, mobile phone: (707) 350-0270
- _____

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 log book.

5.2. Odor Monitoring Program

If necessary, an odor monitoring program will be implemented. 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.

5.3. 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 small size of the cultivation operation, 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.

5.3.1. Administrative Controls

When the facility is constructed and operational, this section should describe activities such as building management responsibilities (e.g., isolating odor-emitting activities from other areas of the buildings through closing doors and windows). This section should describe the organizational responsibilities and the roles of the staff members who will be trained about odor control; the specific administrative and engineering 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, including the importance of closing doors and windows and ensuring exhaust and filtration systems are running as required). This section should 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). Any examples of facility recordkeeping forms should be included as appendices to this plan.

5.3.2. 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.
- Alterations to atmospheric controls (temperature, air exchange, humidity) using dehumidifier, HVAC system, and/or fans.
- 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.
- Biofiltration is a technology in the research phase that uses filters made of an organic medium such as wood chips that are inoculated with bacteria and consume odorous

molecules. Biofiltration may be successful at treating biodegradable VOCs, but it requires a large footprint and careful operation control.

- Odor absorbing neutralizers: use oils and liquids from plant compounds and mist them into the exhaust air at cultivation facilities to neutralize odorous VOCs. Contact your odor control supplier about the effectiveness of VOC reduction as it will vary (20%-90%) by product and contact time.
- 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.
- An ozone generator. Ozone destroys volatile compounds upon contact. Ozone generators: are mostly used for sanitization purposes and have also been used in industrial settings to control strong odors. These generators are harmful to humans and can damage or destroy crops because they are a direct emission source of ozone pollution, therefore ozone generators are not recommended as a best practice for odor control (Denver Dept. of Health and Environment 2018).
- Charcoal (or activated carbon) filtration is an effective odor neutralizer for indoor cultivation operations. Air is mechanically drawn through the charcoal filters, then the Cannabis chemicals are bound to the carbon, and then clean air is expelled from the greenhouse.

6.0 CULTURAL RESOURCES

6.1. Requirements / Goals

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

(a) Intent: All permittees shall protect the cultural, historical, archaeological, and paleontological resources on the lot of record where the permitted activity is located.
(b) The Department shall consult with appropriate Tribe regarding the potential of such resources being located on the lot of record.
(c) Based on that consultation, the Department may require a cultural resource study of the property to determine the extent such resources exist on the lot of record.
(d) Based on that study and in consultation with the appropriate Tribe(s), the Department may require the inclusion in this section.
(e) This section shall include:

a. Detailed procedures on actions to take if such resources are found.
b. Describe the procedures to be followed if cultural, historical, archaeological, and paleontological resources are found on the property.

6.2. Cultural Resources Assessment

The following Cultural Resources Assessment was performed for this project and is bound separately:

- Natural Investigations Co. 2020. Cultural Resources Assessment for the Cannabis Cultivation Operation at 4440 George Road, Lakeport, California.

No archaeological resources were newly identified during the field survey and no other cultural resources were previously recorded within the proposed project areas or the Property itself. Thus, the proposed project does not have the potential to cause a significant impact on any resource that currently qualifies as a historical resource, or that has been recommended eligible for listing in the CRHR (Natural Investigations Co., 2020).

6.3. Protective measures

Protective measures consist primarily of minimizing ground disturbance, especially in sensitive areas. For this property, sensitive areas are areas that have not previously been tilled or graded, and primarily those areas that are near streams. Note that the riparian zones of streams are also protected under various federal, state, and county regulations. Another protective measure is worker awareness training. During training events, workers should be made aware of the regulations protecting cultural resources, the location of sensitive areas, and indicators of buried historic or archaeological resources or human remains, such as fragments of bone, shells, or pottery, unusual odors or staining of soil, building foundations, etc.

6.4. Inadvertent Discovery Work Plan

An Inadvertent Discovery Work Plan is only required by the County for properties known to have cultural resources. No cultural resources are known to occur within, or adjacent to, the cultivation areas. Nevertheless, Inadvertent Discovery Measures are provided here and will be implemented, and are taken directly from the California Department of Food and Agriculture's

Program Environmental Impact Report (2017) prepared for the CalCannabis Cultivation Licensing program:

> "*Existing cultivation activities themselves would generally have limited potential for adverse impacts on cultural resources. However, cultivation may involve excavation within soil that has not been disturbed previously. As such, while considered unlikely, excavation could encounter buried historic or archaeological resources or human remains. A mitigation measure—CR-1—was added that would ensure that any unexpected discoveries of cultural resources during cultivation do not result in significant impacts.*
>
> *It is also considered unlikely that cultivation itself would result in modification or demolition of historic structures that could affect the characteristics that make the building eligible for listing in the CRHR; such impacts would be more likely to occur as part of site development and, as a result, would be evaluated by the local agency during its approval process for site development. In addition, the CalCannabis Licensing Program's environmental protection measures related to cultural resources, specifically the accidental discovery of human remains (Section 8313[c] of the proposed regulations), would require applicants to halt cultivation activities and implement Health and Safety Code Section 7050.5 if human remains were discovered…….*
>
> ***Mitigation Measure CR-1**: Suspend Cultivation Immediately if Cultural Resources Are Discovered, Evaluate All Identified Cultural Resources for CRHR Eligibility, and Implement Appropriate Mitigation Measures for Eligible Resources.*
>
> *Not all cultural resources are visible on the ground surface. As a result, before initiation of ground-disturbing activities, the licensee shall arrange for cultivation employees to receive training about the kinds of archaeological materials that could be present at the cultivation site and the protocols to be followed should any such materials be uncovered during cultivation. Training shall be conducted by an archaeologist who meets the U.S. Secretary of the Interior's professional standards. Training shall be required during each phase of cultivation to educate new cultivation personnel.*
>
> *If any cultural resources, including structural features, unusual amounts of bone or shell, flaked or ground stone artifacts, historic-era artifacts, human remains, or architectural remains, are encountered during cultivation activities, work shall be suspended immediately at the location of the find and within a radius of at least 50 feet and the appropriate jurisdiction will be contacted.*
>
> *All cultural resources uncovered during cultivation within the site shall be evaluated for eligibility for inclusion in CRHR. Resource evaluations shall be conducted by individuals who meet the U.S. Secretary of the Interior's professional standards in archaeology, history, or architectural history, as appropriate. If any of the resources meet the eligibility criteria identified in PRC Section 5024.1 or State CEQA Guidelines Section 21083.2(g), mitigation measures will be developed and implemented in accordance with State CEQA Guidelines Section 15126.4(b) before cultivation resumes.*

For any resources eligible for listing in the CRHR that would be significantly adversely affected by cultivation, additional mitigation measures shall be implemented. Mitigation measures for archaeological resources may include (but are not limited to) avoidance; incorporation of sites within parks, greenspace, or other open space; capping the site; deeding the site into a permanent conservation easement; or data recovery excavation. Mitigation measures for archaeological resources shall be developed in consultation with responsible agencies and, as appropriate, interested parties such as Native American tribes. Implementation of the approved mitigation is required before resuming any cultivation activities with the potential to affect identified eligible resources at the site."

7.0 ENERGY USAGE

7.1. Requirements / Goals

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

(a) Intent: Permittees shall minimize energy usage.
(b) In this section permittees shall:

a. Provide energy calculation as required by the California Building Code

b. Identify energy conservation measures to be taken and maintained including providing proof of compliance with CCR Title 3, Division 8, Chapter 1, Section 8305 the Renewable Energy Requirements.

c. If alternative energy sources are to be used, describe those sources and the amount of electricity that will be provided.

d. For indoor cannabis cultivation licensees, ensure that electrical power used for commercial cannabis activity shall be provided by any combination of the following:

(1) On-grid power with 42 percent renewable source. (2) Onsite zero net energy renewable source providing 42 percent of power. (3) Purchase of carbon offsets for any portion of power above 58 percent not from renewable sources. (4) Demonstration that the equipment to be used would be 42 percent more energy efficient than standard equipment, using 2014 as the baseline year for such standard equipment.

e. Describe what parameters will be monitored and the methodology of the monitoring program.

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

"The indoor or mixed-light cultivation of cannabis shall not rely on a personal gasoline, diesel, propane, or similar fuels, powered generator as a primary source of power and shall only allow properly permitted (when applicable) generators for temporary use in the event of a power outage or emergency that is beyond the permittee's control."

The CDFW CalCannabis Program states the following:

"Outdoor cultivation utilizes natural daylight for photosynthesis, although cultivators may have use artificial lighting to maintain immature plants as a source for propagation. Outdoor cultivation operations typically start the plants indoors or in greenhouses before moving them outside during the summer months. Under the Proposed Program, it is anticipated that this cultivation type would have the least lighting needs, compared to indoor, mixed-light, and nursery operations."

"*Note that lighting may be used for propagation under any of the Proposed Program's license types, although for outdoor licenses, this is permissible only to maintain immature plants as a source for propagation*."

"Outdoor cultivation is conducted without the use of artificial lighting for plant growth, with the exception that artificial lighting is permissible to maintain immature plants as a source or plant propagation (CDFA 2017)."

7.2. Energy Calculations

The proposed project is a mixture will be full sun/outdoor cultivation, mixed light, and indoor cultivation. The Property has electricity provided by PG&E. Use of electricity provided by PG&E for indoor cannabis cultivation may require a commercial/agricultural account. When indoor cultivation operations are initiated, this Energy Use subplan should be updated, and energy calculations performed. Approximately __ 1,000-watt fixtures will be installed across the two greenhouses (approximately __ watts per square foot).

For the outdoor cultivation operation, a small solar-powered electrical system may be installed to power low voltage items such as security cameras, and water pumps for drawing groundwater and mixing liquid fertilizers into the irrigation systems.

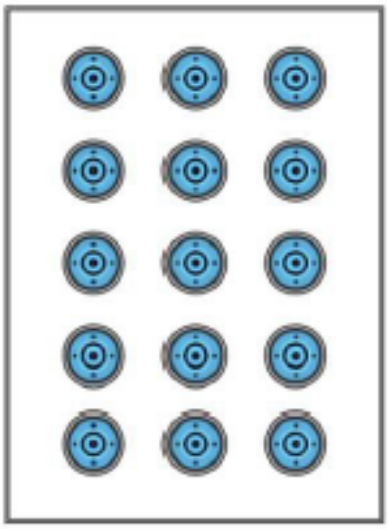
All new buildings, alterations, additions, and commercial buildings in California must comply with the Building Energy Efficiency Standards according to Title 24, Part 6 of California Code of Regulation. Energy compliance documentation is typically required at the building permit application phase. The following online resource can be used to calculate energy usage and conservation measures: http://www.energy.ca.gov/title24/orc/. Also refer to the 2016 Building Energy Efficiency Standards for Residential and Non-Residential Buildings.

If indoor cultivation operations are initiated, this Energy Use Plan must be updated and a lighting plan created. CalCannabis has this example of a Cannabis facility lighting diagram:

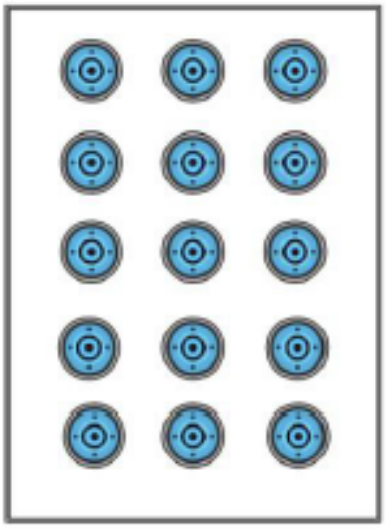
EXAMPLE PLAN

Lighting Diagram

Canopy Area 1 (identified in the premises diagram as greenhouse 1)



Canopy Area 2 (identified in the premises diagram as greenhouse 2)



Aggregate Wattage per Canopy Area
15 lights X 1200 watts per light = 18,000 watts
Each canopy area (greenhouse) is 1,500 square feet
18,000 watts / 1,500 square feet = **12 watts/square foot**

Maximum Wattage of Each Light

 = 1200 maximum watt light

Sample diagram of cannabis lighting plan

7.3. Energy Conservation Measures

A comprehensive list of energy conservation measures is available in the volume by Denver Public Health and Environment (2018)—Cannabis Environmental Best Management Practices.

A combination of the following energy conservation measures may be employed at this operation:

- use of solar power where electricity is needed, and use of high-efficiency storage batteries, such as lithium-ion
- use of passive solar energy techniques such as proper site selection, overhanging eaves, tree canopy cover, walls with high thermal inertia, etc.
- use of LED lights or other high-efficiency lighting
- use of ambient light whenever possible
- use of highly insulative materials to reduce energy needed for structure heating and cooling
- use of electric vehicles or bicycles instead of combustion-powered vehicles, whenever possible
- use of hand tools instead of power tools

All new buildings, alterations, additions, and commercial buildings in California must comply with the Building Energy Efficiency Standards according to Title 24, Part 6 of California Code of Regulation.

7.4. Alternative Energy Sources

Solar Photovoltaic Systems (Solar PV), convert sunlight into usable electricity. Solar panels use sunlight to generate electricity, and inverters convert that electricity from variable direct current (DC) to alternating current (AC) at the correct voltage, frequency, and phase needed to tie into the facility's electrical infrastructure and the larger electrical grid.

The conceptual solar power system planned for each cultivation area will consist of an array of solar panels, an inverter, control panel, and batteries. For a typical 1-acre outdoor garden, we assume a power requirement of 5 kW hours/day, primarily to pump well water, mix nutrients in tanks, and operate security systems. The following assumptions were made: each solar panel produces 250 watts of power with a full sun input of 6 hours per day; this equates to 1 kWh/day (Solar-Estimate.org). Thus, at least 5 panels will be needed.

Small wind turbine systems can be installed alone or in conjunction with solar photovoltaic systems. The small size and variability of energy produced by these systems makes them most applicable for supplementing another power source. The amount of energy small wind turbines can provide depends on the site, size and height of the turbine, but small wind systems for commercial buildings typically generate 20 kilowatts to 100 kilowatts. To determine the amount of wind energy available at a site, installing an anemometer for at least 12 months prior to system purchase is recommended.

7.5. Monitoring Program

The Ordinance requires energy monitoring, but primarily for indoor or mixed light cultivation. Energy consumption should be monitored and metered data stored. Energy consumption will be metered using Electric Meters (KWh Meters) for alternating current and DC meters that

measure power in ampere-hours. The meters are included in the controllers / inverters that are part of the solar power system.

8.0 FERTILIZER USAGE

8.1. Requirements / Goals

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

(a) Intent: To ensure consistency fertilizer storage and use with the other sections of the property management plan.
(b) This section shall describe how cultivation and nursery permittees will comply with the following fertilizer application and storage protocols:

a. Comply with all fertilizer label directions;
b. Store fertilizers in a secure building or shed;
c. Contain any fertilizer spills and immediately clean up any spills;
d. Apply the minimum amount of product necessary;
e. Prevent offsite drift;
f. Do not spray directly to surface water or allow fertilizer product to drift to surface water. Spray only when wind is blowing away from surface water bodies;
g. Do not apply fertilizer when they may reach surface water or groundwater; and
h. The use of fertilizer 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.

(c) This section shall include a map of any spring, top of bank of any creek or seasonal stream, edge of lake, delineated wetland or vernal pool on the lot of record of land or within 100 feet of the lot of record and a 100-foot setback from any identified spring, top of bank of any creek or seasonal stream, edge of lake, delineated wetland or vernal pool.
(d) Describe what parameters will be monitored and the methodology of the monitoring program.

The following Site Management Plan was prepared for this project and is bound separately:

- Natural Investigations Co. 2020. Site Management Plan for the Cultivation Operations at 4440 George Road, Lakeport. Prepared for the RWQCB.

The following Nitrogen Management Plan was prepared for this project and is bound separately:

- Natural Investigations Co. 2020. Nitrogen Management Plan for the Cultivation Operations at 4440 George Road, Lakeport. Prepared for the RWQCB.

8.2. Inventory of Fertilizers

To establish an outdoor garden, native soil is typically enriched with imported organic matter such as worm castings or compost. After the first year, and after the native soils have been blended with imported organics, dry and liquid fertilizers are typically used to optimize plant macronutrients and micronutrients. When the greenhouses are operational, this Plan will be updated with an inventory of fertilizers and their annual application rates.

8.3. Storage and Handling Protocols

Bulk fertilizers and soil amendments are mixed with soils, and then either tilled in to the ground for in-ground cultivation, or placed in to grow bags or raised beds or other containers. Dry/bulk fertilizers and soil amendments can also be applied directly to the planting stations by shovel. Liquid or granular fertilizers can be mixed with water in mixing tanks; plastic tubing and driplines can then be used to gravity-feed the water / fertilizer mixture to the planting stations.

Liquid fertilizers (or compost teas) can also be applied by using a spray tank mounted to a backpack, all-terrain vehicle, golf cart, or a garden cart.

Fertilizers and other chemicals will be stored in a stormproof shed, Conex container, and/or outbuilding so that stormwater is not contaminated. Fertilizers will be properly labeled and open containers sealed when stored. Personal protective equipment will be used by staff when handling fertilizers and other chemicals, such as safety glasses, gloves, dust mask or respirator, boots, and pants and long-sleeved shirt. Fertilizers will be handled and applied according to their instructions. See Material Safety Data Sheets in the Appendix for specific information. The following fertilizer application and storage protocols will be implemented:

- Comply with all label directions;
- Store chemicals in a secure building or shed to prevent access by wildlife;
- Contain any chemical leaks and immediately clean up any spills;
- Apply the minimum amount of product necessary;
- Prevent offsite drift;
- Do not apply chemicals when pollinators are present;
- Do not spray directly to surface water or allow chemical product to drift to surface water.

8.4. Monitoring Program

The monitoring program for fertilizers is incorporated in to the Stormwater Monitoring Program. In general, 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.

8.5. Maps

The required maps are provided in the Maps section at the end of this Property Management Plan.

9.0 FISH AND WILDLIFE PROTECTION

9.1. Requirements / Goals

According to the Ordinance, the Property Management Plan must have a section on Fish and Wildlife Protection:

(a) Intent: To minimize adverse impacts on fish and wildlife.
(b) In this section permittees shall include:
a. A description of the fish and wildlife that are located on or utilize on a seasonal basis the lot of record where the permitted activity is located.
b. A description of the habitats found on the lot of record.
c. A description of the watershed in which the permitted activity is located.
d. Describe how the permittee will minimize adverse impacts on the fish and wildlife.
e. A map showing the location of any conservation easements or wildlife corridors proposed.

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

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

At the State level, in areas inside timberland, any tree removal is subject to the conditions and requirements set forth in the Z'berg-Nejedly Forest Practice Act and the California Forest Practice Rules. If development of a project will result in the removal of commercial tree species, one of the following permits from CAL FIRE 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.

The following Biological Site Assessment was performed for the proposed project and is bound separately:

- Natural Investigations Co. 2020. Biological Site Assessment for the Cannabis Cultivation Operations at 4440 George Road, Lakeport. 46 pp.

9.2. Description of Fish & Wildlife, Habitats, and Watersheds

9.2.1. Fish and Wildlife

A wildlife survey was conducted on February 26, 2020 by consulting biologist Tim Nosal, M.S. (Natural Investigations Co., Inc.). The following animals were detected on the Property during the field survey: American bullfrog (*Lithobates catesbeianus*); black-tailed jackrabbit (*Lepus californicus*); Botta's pocket gopher (*Thomomys bottae*); California ground squirrel (*Otospermophilus beecheyi*); coyote (*Canis latrans*); river otter (*Lutra canadensis);* acorn woodpecker (*Melanerpes formicivorus*); America coot (*Fulica americana*); American crow (*Corvus brachyrhynchos*); belted kingfisher (*Megaceryle alcyon*); Brewer's blackbird (*Euphagus cyanocephalus*); bufflehead (*Bucephala albeola*); California scrub jay (*Aphelocoma californica*); common raven (*Corvus corax*); dark-eyed junco (*Junco hyemalis*);

Eurasian collared-dove (*Streptopelia decaocto*); great blue heron (*Ardea herodias*); mallard (*Anas platyrhynchos*); mourning dove (*Zenaida macroura*); northern flicker (*Colaptes auratus*); prairie falcon (*Falco mexicanus*); red-shouldered hawk (*Buteo lineatus*); red-tailed hawk (*Buteo jamaicensis*); red-winged blackbird (*Agelaius phoeniceus*); sparrow (Emberizidae); western bluebird (*Sialia mexicanus*); wild turkey (*Meleagris gallopavo*) and common songbirds. No special-status species were detected on the Property.

The California Natural Diversity Data Base was queried, and any reported occurrences of special-status species were plotted in relation to the cultivation areas using GIS software (see exhibits). The CNDDB reported no special-status species within the boundaries of the Property or the operational areas. Within a 10-mile buffer around the Property, the CNDDB reported various special-status species occurrences, summarized in the following table. A federal species list was also generated from the USFWS website.

Special-status Species Reported by CNDDB in the Vicinity of the Property

Scientific Name	Common Name	Status*	General Habitat**	Microhabitat**
Agelaius tricolor	tricolored blackbird	CT	HIGHLY COLONIAL SPECIES, MOST NUMEROUS IN CENTRAL VALLEY & VICINITY. LARGELY ENDEMIC TO CALIFORNIA.	REQUIRES OPEN WATER, PROTECTED NESTING SUBSTRATE, & FORAGING AREA WITH INSECT PREY WITHIN A FEW KM OF THE COLONY.
Ammodramus savannarum	grasshopper sparrow	SSC	DENSE GRASSLANDS ON ROLLING HILLS, LOWLAND PLAINS, IN VALLEYS & ON HILLSIDES ON LOWER MOUNTAIN SLOPES.	FAVORS NATIVE GRASSLANDS WITH A MIX OF GRASSES, FORBS & SCATTERED SHRUBS. LOOSELY COLONIAL WHEN NESTING.
Amsinckia lunaris	bent-flowered fiddleneck	1B.2	CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.	50-500M.
Andrena blennospermatis	Blennosperma vernal pool andrenid bee		THIS BEE IS OLIGOLECTIC ON VERNAL POOL BLENNOSPERMA.	BEES NEST IN THE UPLANDS AROUND VERNAL POOLS.
Antirrhinum subcordatum	dimorphic snapdragon	4.3	CHAPARRAL, LOWER MONTANE CONIFEROUS FOREST.	GENERALLY ON SERPENTINE OR SHALE IN FOOTHILL WOODLAND OR CHAPARRAL ON S- AND W-FACING SLOPES. 185-800 M.
Antrozous pallidus	pallid bat	SSC	DESERTS, GRASSLANDS, SHRUBLANDS, WOODLANDS & FORESTS. MOST COMMON IN OPEN, DRY HABITATS WITH ROCKY AREAS FOR ROOSTING.	ROOSTS MUST PROTECT BATS FROM HIGH TEMPERATURES. VERY SENSITIVE TO DISTURBANCE OF ROOSTING SITES.
Archoplites interruptus	Sacramento perch	SSC	HISTORICALLY FOUND IN THE SLOUGHS, SLOW-MOVING RIVERS, AND LAKES OF THE CENTRAL VALLEY.	PREFERS WARM WATER. AQUATIC VEGETATION IS ESSENTAL FOR YOUNG. TOLERATES WIDE RANGE OF PHYSIO-CHEMICAL WATER CONDITIONS.
Arctostaphylos manzanita ssp. elegans	Konocti manzanita	1B.3	CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.	VOLCANIC SOILS. 395-1615 M.
Arctostaphylos stanfordiana ssp. raichei	Raiche's manzanita	1B.1	CHAPARRAL, LOWER MONTANE CONIFEROUS FOREST.	ROCKY, SERPENTINE SITES. SLOPES AND RIDGES. 450-1000 M.
Ardea herodias	great blue heron	SSC	COLONIAL NESTER IN TALL TREES, CLIFFSIDES, AND SEQUESTERED SPOTS ON MARSHES.	ROOKERY SITES IN CLOSE PROXIMITY TO FORAGING AREAS: MARSHES, LAKE MARGINS, TIDE-FLATS, RIVERS AND STREAMS, WET MEADOWS.
Artemisiospiza belli belli	Bell's sage sparrow	WL	NESTS IN CHAPARRAL DOMINATED BY FAIRLY DENSE STANDS OF CHAMISE. FOUND IN COASTAL SAGE SCRUB IN SOUTH OF RANGE.	NEST LOCATED ON THE GROUND BENEATH A SHRUB OR IN A SHRUB 6-18 INCHES ABOVE GROUND. TERRITORIES ABOUT 50 YDS APART.
Bombus caliginosus	obscure bumble bee	SSC		
Brasenia schreberi	watershield	2B.3	FRESHWATER MARSHES AND SWAMPS.	AQUATIC FROM WATER BODIES BOTH NATURAL AND ARTIFICIAL IN CALIFORNIA.
Calasellus californicus	An isopod	SSC	KNOWN FROM LAKE, NAPA, MARIN, SANTA CRUZ AND SANTA CLARA COUNTIES.	
Calycadenia micrantha	small-flowered	1B.2	CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND, MEADOWS AND SEEPS.	ROCKY TALUS OR SCREE; SPARSELY VEGETATED AREAS. OCCASIONALLY

	calycadenia			ON ROADSIDES; SOMETIMES ON SERPENTINE. 5-1500 M.
Carex comosa	bristly sedge	2B.1	MARSHES AND SWAMPS.	LAKE MARGINS, WET PLACES; SITE BELOW SEA LEVEL IS ON A DELTA ISLAND. -5-1005M.
Ceanothus confusus	Rincon Ridge ceanothus	1B.1	CLOSED-CONE CONIFEROUS FOREST, CHAPARRAL, CISMONTANE WOODLAND.	KNOWN FROM VOLCANIC OR SERPENTINE SOILS, DRY SHRUBBY SLOPES. 75-1065 M.
Corynorhinus townsendii	Townsend's big-eared bat	SSC	THROUGHOUT CALIFORNIA IN A WIDE VARIETY OF HABITATS. MOST COMMON IN MESIC SITES.	ROOSTS IN THE OPEN, HANGING FROM WALLS & CEILINGS. ROOSTING SITES LIMITING. EXTREMELY SENSITIVE TO HUMAN DISTURBANCE.
Cryptantha dissita	serpentine cryptantha	1B.2	CHAPARRAL.	SERPENTINE OUTCROPS. 330-730M.
Dubiraphia brunnescens	brownish dubiraphian riffle beetle	SSC	AQUATIC; KNOWN ONLY FROM THE NE SHORE OF CLEAR LAKE, LAKE COUNTY.	INHABITS EXPOSED, WAVE-WASHED WILLOW ROOTS.
Emys marmorata	western pond turtle	SSC	A THOROUGHLY AQUATIC TURTLE OF PONDS, MARSHES, RIVERS, STREAMS & IRRIGATION DITCHES, USUALLY WITH AQUATIC VEGETATION, BE	NEED BASKING SITES AND SUITABLE (SANDY BANKS OR GRASSY OPEN FIELDS) UPLAND HABITAT UP TO 0.5 KM FROM WATER FOR EGG-LAYIN
Entosthodon kochii	Koch's cord moss	1B.3	CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLANDS.	MOSS GROWING ON SOIL ON RIVER BANKS. KNOWN FROM SERPENTINE ON THE PLUMAS NF. 500-1000 M.
Erethizon dorsatum	North American porcupine	SSC		
Eriastrum brandegeeae	Brandegee's eriastrum	1B.1	CHAPARRAL, CISMONTANE WOODLAND.	ON BARREN VOLCANIC SOILS; OFTEN IN OPEN AREAS. 425-840 M.
Gratiola heterosepala	Boggs Lake hedge-hyssop	CE	MARSHES AND SWAMPS (FRESHWATER), VERNAL POOLS.	CLAY SOILS; USUALLY IN VERNAL POOLS, SOMETIMES ON LAKE MARGINS. 10-2375 M.
Harmonia hallii	Hall's harmonia	1B.2	CHAPARRAL.	SERPENTINE HILLS AND RIDGES. OPEN, ROCKY AREAS WITHIN CHAPARRAL. 500-900 M.
Hesperolinon adenophyllum	glandular western flax	1B.2	CHAPARRAL, CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.	SERPENTINE SOILS; GENERALLY FOUND IN SEPENTINE CHAPARRAL. 150-1315 M.
Hesperolinon bicarpellatum	two-carpellate western flax	1B.2	SERPENTINE CHAPARRAL.	SERPENTINE BARRENS AT EDGE OF CHAPARRAL. 60-1005 M.
Horkelia bolanderi	Bolander's horkelia	1B.2		
Hydrochara rickseckeri	Ricksecker's water scavenger beetle	SSC	AQUATIC.	
Kopsiopsis hookeri	small groundcone	2B.3	NORTH COAST CONIFEROUS FOREST.	OPEN WOODS, SHRUBBY PLACES, GENERALLY ON GAULTHERIA SHALLON. 90-885 M.
Lasionycteris noctivagans	silver-haired bat	SSC	PRIMARILY A COASTAL & MONTANE FOREST DWELLER FEEDING OVER STREAMS, PONDS & OPEN BRUSHY AREAS.	ROOSTS IN HOLLOW TREES, BENEATH EXFOLIATING BARK, ABANDONED WOODPECKER HOLES & RARELY UNDER ROCKS. NEEDS DRINKING WATER.
Lasthenia burkei	Burke's goldfields	FE, CE	VERNAL POOLS, MEADOWS AND SEEPS.	MOST OFTEN IN VERNAL POOLS AND SWALES. 15-600 M.

Lavinia exilicauda chi	Clear Lake hitch	CE	FOUND ONLY IN CLEAR LAKE, LAKE CO, AND ASSOCIATED PONDS. SPAWNS IN STREAMS FLOWING INTO CLEAR LAKE.	ADULTS FOUND IN THE LIMNETIC ZONE. JUVENILES FOUND IN THE NEARSHORE SHALLOW-WATER HABITAT HIDING IN THE VEGETATION.
Layia septentrionalis	Colusa layia	1B.2	CHAPARRAL, CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.	SCATTERED COLONIES IN FIELDS AND GRASSY SLOPES IN SANDY OR SERPENTINE SOIL. 145-1095M.
Legenere limosa	legenere	1B.1	VERNAL POOLS.	IN BEDS OF VERNAL POOLS. 1-880 M.
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	4.2	CHAPPARAL, CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND, VERNAL POOLS.	VERNALLY WET AREAS, DITCHES, AND PONDS. 60-1335 M.
Navarretia leucocephala ssp. pauciflora	few-flowered navarretia	FE, CT	VERNAL POOLS.	VOLCANIC ASH FLOW, AND VOLCANIC SUBSTRATE VERNAL POOLS. 400-855 M.
Navarretia leucocephala ssp. plieantha	many-flowered navarretia	FE, CE	VERNAL POOLS.	VOLCANIC ASH FLOW VERNAL POOLS. 30-950 M.
Orcuttia tenuis	slender Orcutt grass	FT, CE	VERNAL POOLS.	OFTEN IN GRAVELLY POOLS. 35-1760 M.
Pandion haliaetus	osprey	WL	OCEAN SHORE, BAYS, FRESH-WATER LAKES, AND LARGER STREAMS.	LARGE NESTS BUILT IN TREE-TOPS WITHIN 15 MILES OF A GOOD FISH-PRODUCING BODY OF WATER.
Pekania pennanti	fisher - West Coast DPS	CT	INTERMEDIATE TO LARGE-TREE STAGES OF CONIFEROUS FORESTS & DECIDUOUS-RIPARIAN AREAS WITH HIGH PERCENT CANOPY CLOSURE.	USES CAVITIES, SNAGS, LOGS & ROCKY AREAS FOR COVER & DENNING. NEEDS LARGE AREAS OF MATURE, DENSE FOREST.
Phalacrocorax auritus	double-crested cormorant	WL	COLONIAL NESTER ON COASTAL CLIFFS, OFFSHORE ISLANDS, & ALONG LAKE MARGINS IN THE INTERIOR OF THE STATE.	NESTS ALONG COAST ON SEQUESTERED ISLETS, USUALLY ON GROUND WITH SLOPING SURFACE, OR IN TALL TREES ALONG LAKE MARGINS.
Plagiobothrys lithocaryus	Mayacamas popcornflower	1A	MEADOWS? VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND, CHAPARRAL?	MOIST SITES. 285-450M.
Potamogeton zosteriformis	eel-grass pondweed	2B.2	MARSHES AND SWAMPS.	PONDS, LAKES, STREAMS. 0-1860 M.
Progne subis	purple martin	SSC	INHABITS WOODLANDS, LOW ELEVATION CONIFEROUS FOREST OF DOUGLAS-FIR, PONDEROSA PINE, & MONTEREY PINE.	NESTS IN OLD WOODPECKER CAVITIES MOSTLY, ALSO IN HUMAN-MADE STRUCTURES. NEST OFTEN LOCATED IN TALL, ISOLATED TREE/SNAG.
Rana boylii	foothill yellow-legged frog	SSC	PARTLY-SHADED, SHALLOW STREAMS & RIFFLES WITH A ROCKY SUBSTRATE IN A VARIETY OF HABITATS.	NEED AT LEAST SOME COBBLE-SIZED SUBSTRATE FOR EGG-LAYING. NEED AT LEAST 15 WEEKS TO ATTAIN METAMORPHOSIS.
Sidalcea oregana ssp. hydrophila	marsh checkerbloom	1B.2	MEADOWS AND SEEPS, RIPARIAN FOREST.	WET SOIL OF STREAMBANKS, MEADOWS. 1100-2300 M.
Taricha rivularis	red-bellied newt	SSC		
Taxidea taxus	American badger	SSC	MOST ABUNDANT IN DRIER OPEN STAGES OF MOST SHRUB, FOREST, AND HERBACEOUS HABITATS, WITH FRIABLE SOILS.	NEEDS SUFFICIENT FOOD, FRIABLE SOILS & OPEN, UNCULTIVATED GROUND. PREYS ON BURROWING RODENTS. DIGS BURROWS.
Tracyina rostrata	beaked tracyina	1B.2	CISMONTANE WOODLAND, VALLEY AND FOOTHILL GRASSLAND.	OPEN GRASSY MEADOWS WITHIN OAK WOODLAND AND GRASSLAND

				HABITATS. 90-790 M.
Trichostema ruygtii	Napa bluecurls	1B.2	CISMONTANE WOODLAND, CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND, VERNAL POOLS, LOWER MONTANE CONIFEROUS FOREST.	OFTEN IN OPEN, SUNNY AREAS. ALSO HAS BEEN FOUND IN VERNAL POOLS. 30-590M.
Viburnum ellipticum	oval-leaved viburnum	2B.3	CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.	215-1400 M.

***Definitions of Status Codes**: FE = Federally listed as endangered; FT = Federally listed as threatened; FPE = Federally proposed for listing as endangered; FPT = Federally proposed for listing as threatened; FC = Candidate for Federal listing; MB = Migratory Bird Act; CE = California State listed as endangered; CT = California State listed as threatened; CR = California rare species; CCE= California candidate for listing as Endangered; CCT= California candidate for listing as Threatened; CSSC = California species of special concern; CWL= California Watch List; CFP = California fully protected species; CBR = Considered but Rejected; CNPS (California Native Plant Society) List 1A = Plants presumed extinct in California by CNPS; CNPS List 1B = CNPS designated rare or endangered plants in California and elsewhere; CNPS List 2 = CNPS designated rare or endangered plants in California, but more common elsewhere; and CNPS List 4 = CNPS Watch List: Plants of limited distribution.

9.2.2. Habitats

Special-status Habitats

No designated critical habitat for any federally-listed species occurs on the Property. The CNDDB reported no special-status habitats on the Property. The CNDDB reported the following special-status habitats in a 10-mile radius outside of the Property: Clear Lake Drainage Cyprinid/Catostomid Stream; Clear Lake Drainage Resident Trout Stream; Clear Lake Drainage Seasonal Lakefish Spawning Stream; Coastal and Valley Freshwater Marsh; Northern Volcanic Ash Vernal Pool.

Vegetation Communities

The Property is located within the Inner North Coast Range geographic subregion, which is contained within the Northwestern California geographic subdivision of the larger California Floristic Province (Baldwin et al. 2012). This region has a Mediterranean-type climate, characterized by distinct seasons of hot, dry summers and wet, moderately-cold winters. The Property and vicinity are in Sunset Climate Zone 7, California's Gray Pine Belt, with hot summers and mild but pronounced winters without sever winter cold or high humidity (Brenzel, 2012). The Property contains various vegetation community types, described next.

Ruderal/Disturbed. These areas consist of disturbed or converted natural habitat that is now either in ruderal state, graded, or urbanized with gravel roads. Vegetation within this habitat type consists primarily of nonnative weedy or invasive species or ornamental plants lacking a consistent community structure. This habitat is classified as "Urban" and "Barren" wildlife habitat types by CDFW's Wildlife Habitat Relationship System (WHR). 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.

Agricultural/Vineyard. These areas consist of converted natural habitat is in agricultural production as vineyard. 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.

Freshwater Marsh: Freshwater marsh habitat can be found along the margin of the pond. Composition of the marsh varies with slope and depth along the shoreline. Vegetation within this habitat include broadleaf cattail (*Typha latifolia*), hardstem tule (*Schoenoplectus acutus*), willows (*Salix* sp.), spikerush (*Eleocharis* sp.), rush (*Juncus* sp.) curly dock (*Rumex crispus*), rush (*Juncus* sp.) and a variety of annual herbs. This vegetation can be classified as the Holland Type "Coastal and Valley Freshwater Marsh" or as "*Schoenoplectus* (Hardstem bulrush marsh) Alliance and *Typha* (Cattail marshes) Alliance" (Sawyer et al. 2009)".

Wildlife Habitats

The habitat types found on the Property are classified as Annual Grassland, Fresh Emergent, Lacustrine, Cropland, Orchard – Vineyard, Urban, and Barren wildlife habitat types by CDFW's Wildlife Habitat Relationship System (WHR).

The vineyards and 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 and horticultural disturbances. The pond and surrounding marsh have a moderate potential to harbor special-status species.

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

Implementation of the 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. No preserves or wildlife corridors need to be established for impact mitigation.

9.2.3. Watershed

The topography of the Study Area is a flat agricultural field. The elevation averages 1,400 feet with only a few feet of elevation difference across the entire property. Drainage flows to agricultural ditches, which collect into a channelized, unnamed ephemeral watercourse, which flows to Manning Creek and then Clear Lake. Prior to the establishment of this cultivation operation, land uses were entirely vineyard. The surrounding land uses are vineyards and row crop agriculture, an air strip, and ranch estates. The watershed of the surrounding area has a mosaic of vegetation types, with south-facing slopes supporting chaparral, grasslands, and oak savannas, while the north-facing slopes are dense with mixed oak and conifer forests and woodlands. Bottomlands contain slow-moving streams with riverine wetlands; these are often impounded and diverted for agriculture.

9.3. Fish & Wildlife Impact Avoidance and Minimization Measures

9.3.1. Periodic Biological Monitoring and Worker Training

Trees and other vegetation must be inspected for the presence of active bird nests before tree felling or ground clearing. If active nests are present in the project area during construction of the project, CDFW should be consulted to develop measures to avoid "take" of active nests prior to the initiation of any construction activities. Avoidance measures may include establishment of a buffer zone using construction fencing or the postponement of vegetation removal until after the nesting season, or until after a qualified biologist has determined the young have fledged and are independent of the nest site.

When workers are made aware of the importance of biological resources, they are better able to avoid resource impacts. When possible, periodically include environmental / biological information in safety meetings or other staff meetings. Make workers aware that impacts to biological resources cause work delays and may result in serious penalties. Establish an effective communication chain to report any potential resource questions or conflicts to the cultivation manager, who can contact the on-call consulting biologist.

Should any biological issues arise please contact:

- Project Biologist, Dr. Geo Graening at (916) 452-5442.

9.3.2. Protection of Waterbodies and Sensitive Habitats

Potential adverse impacts to water resources could occur during cultivation activities by modification or destruction of stream banks or riparian vegetation, the filling of wetlands, or by increased erosion and sedimentation in receiving water bodies due to soil disturbance. The cultivation operations are several hundred feet away from the nearest waterbody. There is no evidence that project implementation will impact any water resources. Water resource protection will be achieved by compliance with this Plan and compliance with the State Water Board's Cannabis Cultivation General Order.

Note that if the total area of ground disturbance required for construction activities of the cultivation operation is greater than 1 acre, the landowner or cultivator will need to enroll for coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ) and implement a storm water pollution prevention plan.

If operational activities occur near sensitive habitats, it is recommended that signage and/or fencing be erected that identifies the resource and limits entry to these areas. Security fencing that surrounds the cultivation compounds can function as wildlife exclusion devices. It is recommended that fencing be constructed to prevent passage of wildlife through the fencing.

If development of the project will result in the removal of commercial tree species, one of the following permits is needed from CalFire: 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.

9.3.3. Operational Best Management Practices

The implementation of best management practices during construction and operations will ensure that biological resources are protected. The following are suggested practices and rules to be implemented:

- Restrict vehicular traffic to existing access roads whenever possible.
- Reduce vehicle speeds, especially on roadways.
- Minimize water usage
- Do not litter: litter attracts animals.
- Do not feed wildlife. Pets are not allowed within operational areas.
- No hunting or collecting of any animals or plants.
- Use tobacco products only in approved areas.

- Check under tires and equipment for resting animals.
- Use only designated toilet facilities.
- Implement an effective pollution prevention plan. By ensuring that potential pollutants, such as sediment and petroleum products, do not contaminate waterways or natural habitats, biological resources will be better protected.

9.4. Maps

The required maps are provided in the Maps section at the end of this Property Management Plan.

10.0 OPERATIONS MANUAL

10.1. Requirements / Goals

According to the Ordinance, the Property Management Plan must have a section that is an Operations Manual:

(a) Intent: To describe the operating procedures of the commercial cannabis cultivation site to ensure compliance with the use permit, protect the public health, safety and welfare, as well as the natural environment of Lake County.
(b) This section shall include the following:
1. Authorization for the County, its agents, and employees, to seek verification of the information contained within the development permit or use permit applications, the Operations Manual, and the Operating Standards at any time before or after development or use permits are issued;
2. A description of the staff screening processes;
3. The hours and days of the week when the facility will be open;
4. [blank]
5. Description of measures taken to minimize or offset the carbon footprint from operational activities;
6. Description of chemicals stored, used and any effluent discharged as a result of operational activities.
(c) Grounds.
(1) 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:
i. 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.
ii. 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.
iii. 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.
iv. 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.
(2) If the lot of record is bordered by grounds outside the applicant's control that are not maintained in the manner described in subsections (a) through (d) 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.
(d) Any other information as may be requested by the Director and/or by the Planning Commission.

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."

As this Operational Manual is refined and expanded, it may be bound separately. Note that the Standard Operating Procedures for Cannabis cultivation at this Property is a separate document.

10.2. Operational Information

10.2.1. Authorization of County Visits

One of the conditions of County licensing is that the cultivator give authorization for the County, its agents, and employees, to verify the information contained within the development permit or use permit applications, the Operations Manual, and the Operating Standards, at any time before or after development or use permits are issued.

10.2.2. Staff Screening Process

The staff screening process will consist, at a minimum of: criminal reports / background checks; in-person interviews; and the requirement that all applicants must provide a comprehensive resume and contact info of several references. Staff should wear identification badges.

Note that for Cannabis Use Permit renewal, the Ordinance requires a list of employees on the Property during the past year and a copy of the background checks certification for each.

10.2.3. Hours of Operation

This cultivation operation is closed to the public. Visitation is only allowed when specific permission is granted.

The cultivation operation hours of operation are:
- Monday, from 8 a.m. to 5 p.m.
- Tuesday, from 8 a.m. to 5 p.m.
- Wednesday, from 8 a.m. to 5 p.m.
- Thursday, from 8 a.m. to 5 p.m.
- Friday, from 8 a.m. to 5 p.m.
- Saturday, from 8 a.m. to 5 p.m.
- Sunday, closed

Holiday hours: t.b.d.

Cannabis Ordinance 3084 restricts deliveries and pickups to 9 am – 7 pm on Monday through Saturday and 12 pm – 5 pm on Sunday.

10.2.4. Other Information

Measures that will be taken to minimize or offset the carbon footprint from operational activities are:

- energy-saving measures (see Energy Usage subsection)
- water-saving measures (see Water Use subsection)
- solid waste reduction measures (see Waste Management subsection)
- air emissions reduction measures (see Air Quality Management subsection)
- proper site selection, use of existing contours instead of mass grading
- cultivation of fast-growing plants, which remove carbon dioxide from the air and fix it in plant biomass

The description of chemicals stored and used, and any effluent discharged as a result of operational activities is found in the Fertilizer subsection, the Pesticide subsection, the Hazardous Waste Management portion of the Waste Management subsection, and the Stormwater Management Subsection.

10.3. 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 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 water bars, culverts and side ditches. Weeds and grasses will be controlled by mulching or by cutting with a lawnmower or line trimmer. Drainage ditches and swales will regularly mowed and cleaned, including the removal of litter, debris, and sediment. Containers 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. 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.

10.4. Maps

The required maps are provided in the Maps section at the end of this Property Management Plan.

11.0 PEST MANAGEMENT

11.1. Requirements / Goals

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

(a) Intent: To ensure consistency pest management with the other sections of the property management plan.
(b) This section shall describe how cultivation and nursery permittees will comply with the following pesticide application and storage protocols:

a. All pesticide applications must fully comply with the California Food and Agriculture Code, Division 6 Pest Control Operations and Division 7 Agriculture Chemical; Chapter 1 – 3.6 and California Code of Regulations, Division 6 Pest Control Operations.

b. These pesticide laws and regulations include but are not limited to:

i. Comply with all pesticide label directions;
ii. Store chemicals in a secure building or shed to prevent access by wildlife;
iii. Contain any chemical leaks and immediately clean up any spills;
iv. Prevent offsite drift;
v. Do not apply pesticides when pollinators are present;
vi. Do not allow drift to flowering plants attractive to pollinators;
vii. Do not spray directly to surface water or allow pesticide product to drift to surface water. Spray only when wind is blowing away from surface water bodies;
viii. Do not apply pesticides when they may reach surface water or groundwater; and
ix. Only use properly labeled pesticides.
x. The use of pesticides 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.

c. This section shall include a map of any spring, top of bank of any creek or seasonal stream, edge of lake, delineated wetland or vernal pool on the lot of record of land or within 100 feet of the lot of record and a 100 foot setback from any identified spring, top of bank of any creek or seasonal stream, edge of lake, delineated wetland or vernal pool.

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

"The use of any pesticide that has been banned for use in the state is prohibited."

A Site Management Plan was prepared for this project and is bound separately:

- Natural Investigations Co. 2020. Site Management Plan for the Cultivation Operations at 4440 George Road, Lakeport. Prepared for the RWQCB.

11.2. Inventory of Pesticides

Under state and federal law, a pesticide is any substance intended to control, destroy, repel, or otherwise mitigate a pest. Any organism that causes damage or economic loss, or transmits or produces disease, may be the target pest. Pests can be insects or animals (e.g. mice), unwanted plants (weeds) or organisms that cause plant diseases. "Pesticide" is an umbrella term that includes many kinds of chemicals—natural and synthetic. A pesticide is any substance intended to control, destroy, repel or attract a pest. Any living organism that causes damage, economic loss, and/or transmits or produces disease may be the target pest. Some common pesticides include insecticides, herbicides, rodenticides, molluscicides, fungicides,

repellents, disinfectants and sanitizers. (California Department of Pesticide Regulation fact sheet, available at http://www.cdpr.ca.gov/).

At this cultivation operation, pests will be controlled by employing only approved, organic-certified pesticides. Weeds will be controlled using a line trimmer or mulch; herbicides will not be used. Live traps will be used for rodents.

The following pesticides may be used at this facility, as needed:
- insecticidal bacteria such as *Bacillus thuringiensis*
- Horticultural oils, herbal oils, and vegetable oils
- Insecticidal soaps
- Minerals such as sulfur or potassium and sodium bicarbonate
- alcohol or other disinfectants

Note that the Department of Pesticide Regulation has developed a brief synopsis of appropriate pesticide usage called Legal Pest Management Practices for Marijuana Growers in California which can be found as Attachment D in Order R5-2015-0113. Currently, no regulated pesticides are registered for use on Cannabis. Therefore, commercial cultivators are limited to only using pesticides that are exempt from residue-tolerance requirements and are either: (1) registered and labeled for a use that is broad enough to include use on cannabis (e.g., unspecified green plants), or (2) exempt from registration requirements as a minimum-risk pesticide under FIFRA Section 25(b). The CA Department of Pesticide Regulation lists allowable pesticides in their publication "Legal Pest Management Practices for Marijuana Growers in California." This publication is presented in the Appendix.

11.3. Pesticide Application and Storage Protocols

Note that the Department of Pesticide Regulation has developed a brief synopsis of appropriate pesticide usage called *Legal Pest Management Practices for Marijuana Growers in California* which can be found as Attachment D in Order R5-2015-0113. Currently, no pesticides are registered for use on Cannabis. Therefore, commercial cultivators are limited to only using pesticides that are exempt from residue-tolerance requirements and are either: (1) registered and labeled for a use that is broad enough to include use on cannabis (e.g., unspecified green plants), or (2) exempt from registration requirements as a minimum-risk pesticide under FIFRA Section 25(b).

The CDFA CalCannabis Program describes pesticide use as follows:

> "*Although California Department of Pesticide Regulation (CDPR) is responsible for managing California's statewide pesticide regulatory program, the local enforcement of pesticide use regulations is delegated to County Agricultural Commissioners (CACs). With oversight by CDPR, CACs plan and develop county programs and regulate pesticide use to ensure that applicators comply with label directions and pesticide laws and regulations (CDPR 2011). CACs oversee pesticide use reporting, promote best management practices, and monitor field applications, and they may assist in cleanup of accidental pesticide spills.*
>
> *CACs inspect operations and records of growers, nonagricultural (including industrial and institutional) applicators, pest control dealers, agricultural pest control advisers*

(PCAs), farm labor contractors, and government agencies for compliance with worker protection standards and other pesticide safety requirements. CACs, assisted by CDPR, investigate incidents in which pesticides harm agricultural workers, people nearby, and the environment, including environmental damage (such as fish or wildlife kills) and water quality contamination. When an enforcement action is needed, CACs have the option to revoke or suspend the right of a company to do business in their county or to issue civil or criminal penalties (CDPR 2011)….License and certificate types issued by CDPR under the pesticide regulatory program include, but are not limited to, the following (CDPR 2017)…..

Because there are no restricted-use pesticides registered for use on cannabis, application of pesticides for cannabis cultivation would not require any type of license or certificate. Cultivators, however, may obtain a QAC or QAL, or private applicator certificate, or hire individuals with these credentials, in order to avail themselves of information such as proper mixing, loading, and application techniques and selection and use of personal protective equipment. Cannabis cultivators would not necessarily be required to obtain the services of a PCA but, nonetheless, may choose to do so in order to get professional advice on pest control." (CDFA 2017)

Cultivators must comply with pesticide laws and regulations as enforced by the Department of Pesticide Regulation. The CDFA CalCannabis Licensing Program has the following pesticide application and storage protocols, which will be implemented:

(1) Comply with all pesticide label directions;
(2) Store chemicals in a secure building or shed to prevent access by wildlife;
(3) Contain any chemical leaks and immediately clean up any spills;
(4) Apply the minimum amount of product necessary to control the target pest;
(5) Prevent offsite drift;
(6) Do not apply pesticides when pollinators are present;
(7) Do not allow drift to flowering plants attractive to pollinators;
(8) Do not spray directly to surface water or allow pesticide product to drift to surface water. Spray only when wind is blowing away from surface water bodies;
(9) Do not apply pesticides when they may reach surface water or groundwater; and
(10) Only use properly labeled pesticides. If no label is available consult the Department of Pesticide Regulation.

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 a stormproof shed, Conex container, and/or outbuilding so that stormwater is not contaminated. Chemicals will be properly labeled and open containers sealed when stored. When handling chemicals, staff will use personal protective equipment such as safety glasses, gloves, dust mask or respirator, boots, pants and long-sleeved shirt. Pesticides will not be applied on windy days or within 24 hours of a forecasted rain event.

11.4. Maps

The required maps are provided in the Maps section at the end of this Property Management Plan.

12.0 SECURITY

12.1. 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 1080 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."

12.2. General Security Measures

General security measures will consist of the following:

- A security plan, updated as needed
- staff screening process
- 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
- an alarm system that can notify security personnel and record incidents where physical barriers have been breached;
- theft and loss control program
- video surveillance system.

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

- _____
- _____

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 engage in lengthy conversation with the public or respond directly to complaints: direct all such concerns to the Security Officer.
- 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.

The cultivation operation is accessed by private gravel roads; the entrances will be secured with a metal bar gate and padlock 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 visitor 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.

12.3. 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 Administrators are:

- _____
- _____

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 should 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

12.4. Alarm System

The alarm system should 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 for onsite employees. A responsible person should be required to respond within 30 minutes upon request.

12.5. 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 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
- interior cameras shall have motion sensors that activates the camera when motion is detected.
- sufficient lighting shall be provided to illuminate the camera's field of vision
- thermal (infra-red) motion sensing technology shall be use for perimeter fencing.

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. The system should also have a failure notification system.

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.

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 Wi-Fi router. Power supplies shall be self-contained, such as solar arrays and batteries.

12.6. Lighting

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

- diagrams that identify all lighting on the lot (bulb type, wattage, lumens, sensors, etc.).
- 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.
- Lighting is typically prohibited in hoop structures.

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
- Ensuring that mixed-light or indoor growing facilities are fully shielded, and that no light escapes from these facilities.

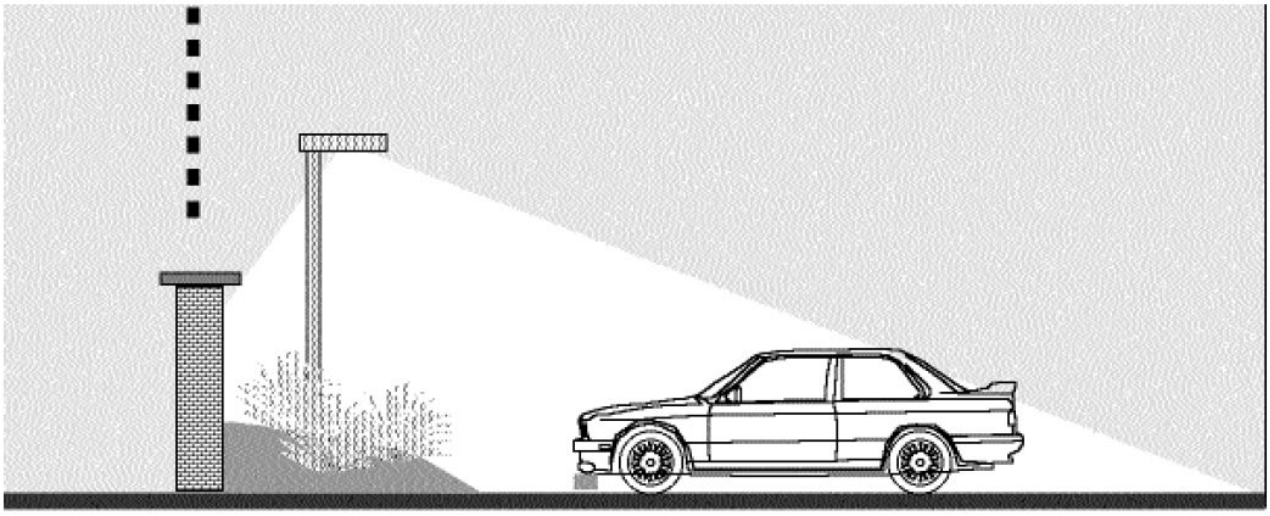
The following best management practices will be implemented, as applicable(IDA 2020):

- 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.

130.34.020 Outdoor Lighting Standards

All outdoor lighting shall be located, adequately shielded, and directed such that no direct light falls outside the property line, or into the public right-of-way as illustrated in Figure 130.34.020.1 (Light Source Not Directly Visible Outside Property Perimeter).

Figure 130.34.020.1 - Light Source Not Directly Visible Outside Property Perimeter



Property Line **Source: Dark Sky Society**

12.7. Fencing

The cultivation site will be enclosed with a sturdy fence. The posts should be set in the ground and should be made of steel tubing (at least 3" diameter) or wood posts (at least 4" diameter). Terminal posts should be set in concrete or otherwise anchored 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. 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).

Each fenced cultivation compound will have at least 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. The gate 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.

12.8. Maps

The required maps are provided in the Maps section at the end of this Property Management Plan.

13.0 STORM WATER MANAGEMENT

13.1. Requirements / Goals

According to the Ordinance, the Property Management Plan must have a section on Storm Water 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 storm water 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 storm water 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 Storm Water 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, Storm Water Management Ordinance of the Lake County Ordinance Code.
g. Describe the proposed grading of the property.
h. Describe the storm water 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.

If the total area of ground disturbance during construction of a project is 1 or more acres, the project proponent must enroll under the State Water Quality Control Board's Construction General Permit prior to the initiation of construction. In conjunction with enrollment under this Permit, a Storm Water Pollution Prevention Plan, Erosion Control Plan, and a Hazardous Materials Management/Spill Response Plan must be created and implemented during construction to avoid or minimize the potential for erosion, sedimentation, or accidental release of hazardous materials.

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

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

- _____

- _____

- the default stormwater management consultant is: Dr. G.O. Graening, QSD #00473, QISP #597.

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, Storm Water 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-storm water 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 storm water 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 storm water manager shall be assigned authority to mobilize crews to make immediate repairs to the control measures;
- 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.

13.3. Compliance

13.3.1. 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. Setback distances were stated earlier in this Plan. 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.

13.3.2. Water Board Permitting

This cultivation operation is enrolled in the State Water Resources Control Board's *Order WQ 2019-0007-DWQ General Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities* (General Order). Compliance with this Order will ensure that cultivation operations will not significantly impact water resources by using a combination of Best Management Practices, buffer zones, sediment and erosion controls, inspections and

reporting, and regulatory oversight. Note also that a sediment and erosion control plan is being implemented as part of the larger Site Management Plan (bound separately).

13.3.3. Grading, Discharge Flows, and Downstream Effects

Establishment of the cultivation operations requires minimal grading because they have been located on row crop agricultural fields that were graded previously. The cultivation operation will not alter the hydrology of the Property significantly for several reasons. Although new impervious surfaces will be created, the Property has a large stormwater management system consisting of vegetated swales, agricultural ditches, and a large pond. These features will detain stormflows and improve water quality through biological processes. The large vegetated buffers surrounding this facility, coupled with vegetated swales, serve to moderate stormflows and regulate stream volumes such that flooding can be completely avoided. These large vegetated buffers and swales allow stormwater that is discharged from operation areas to be slowed, filtered, and percolate into soils or collect in the pond. Should a new facility be planned and constructed that would significantly impact hydrological function, the Ordinance requires documentation that downstream hydrology and public roads and bridges will not be negatively impacted.

13.4. Storm Water Management

13.4.1. 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 storm water 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 as soon as possible after grading or construction is complete.
- 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 grading.

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 1st of every year
Rainy season beings	October 15
Implementation of dry season BMPs	April 1st 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

13.4.2. Pollutant Source Identification

Inventory of Materials and Activities that May Pollute Storm Water

Construction or cultivation activities that have the potential to contribute sediment to storm water 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 storm water 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

Existing (pre-construction) Control Measures

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

- vegetated drainage swales
- stormwater basin (the pond)
- sufficient buffer distances between cultivation areas and drainages
- armoring of driveways and roads with gravel, roadbase, or asphalt
- side ditches and pipe culverts under roads
- preservation of existing vegetation

13.4.3. 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 Storm Water 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 storm water 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

Erosion and sediment control diagrams are provided in the Maps section that indicate the recommended type and placement of erosion control devices.

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

Erosion and sediment control diagrams are provided in the Maps section that indicate the recommended type and placement of sediment control devices.

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 numerous a public road and agricultural access roads and driveways (see exhibits). George Road is a paved, two-lane road maintained by the County. The private access road system consists of private unpaved roads that are well designed. This property has several minor vehicle stream crossings (see Exhibits). These consist mainly of pipe culverts that convey flows from Class III watercourses under the ranch roads.

The driveways and access roads are typically armored with gravel or roadbase and follow ridgelines and gentle contours. Most sections are well armored. Additional gravel or roadbase is recommended in some locations. 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 storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources
- All BMPs to identify whether they have been properly implemented
- Any storm water 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.

13.5. Maps

The required maps are provided in the Maps section at the end of this Property Management Plan.

14.0 WASTE MANAGEMENT

14.1. Requirements / Goals

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

(a) Intent: To minimize the generation of waste and dispose of such waste properly, to prevent the release of hazardous waste into the environment, minimize the generation of cannabis vegetative waste and dispose of cannabis vegetative waste properly, and manage growing medium and dispose of growing medium properly.
(b) This section shall include the following components:

a. Solid Waste Management

The solid waste section shall include:

1. Provide an estimate of the amount of solid waste that will be generated on an annual basis and daily during peak operational seasons, broken down into the following categories: paper; glass; metal; electronics; plastic; organics; inerts; household hazardous waste; special waste, and mixed residue

2. Describe how the permittee will minimize solid waste generation, including working with vendors to minimize packaging.

3. Describe the waste collection frequency and method.

4. Describe how solid waste will be temporarily stored prior to transport to a compost, recycling, or final disposal location.

5. Describe the composting, recycling, or final disposal location for each of the above categories of solid waste.

b. Hazardous Waste Management

The hazardous waste section shall include:

1. Hazard Analysis.

The applicant shall conduct a hazard analysis to identify or evaluate known or reasonably foreseeable hazards for each type of cannabis product produced at their facility in order to determine whether there exist any hazards requiring a preventive control. The hazard analysis shall include:

The identification of potential hazards, including:

i. Biological hazards, including microbiological hazards;

ii. Chemical hazards, including radiological hazards, pesticide(s) contamination, solvent or other residue, natural toxins, decomposition, unapproved additives, or food allergens; and/or

iii. Physical hazards, such as stone, glass, metal fragments, hair or insects.

The evaluation of the hazards identified in order to assess the severity of any illness or injury that may occur as a result of a given hazard, and the probability that the hazard will occur in the absence of preventive controls.

The hazard evaluation shall consider the effect of the following on the safety of the finished cannabis product for the intended consumer:

i) The sanitation conditions of the manufacturing premises;

ii) The product formulation process;

iii) The design, function and condition of the manufacturing facility and its equipment;

iv) The ingredients and components used in a given cannabis product;

v) The operation's transportation and transfer practices;

vi) The facility's manufacturing and processing procedures;

vii) The facility's packaging and labeling activities;

viii) The storage of components and/or the finished cannabis product;

ix) The intended or reasonably foreseeable use of the finished cannabis product.

x) Any other relevant factors.

(2) Management Plan

The Management Plan shall:

i. Identify all Resource Conservation and Recovery Act (RCRA), Non-RCRA hazardous waste and Universal wastes and the volume of each.

ii. Identify all containers and container management.
iii. Describe storage locations and chemical segregation procedures.
iv. Describe hazardous waste manifest and recordkeeping protocol.
v. Outline inspection procedures.
vi. Identify emergency spill response procedures.
vii. Describe staff responsibilities.
viii. Describe the staff training program.
ix. Describe the methodology on how the amount of hazardous materials and waste that is generated on the site, the amount that is recycled, and the amount and where hazardous materials and waste is disposed of, is measured, and
x. Include a map of any private drinking water well, spring, top of bank of any creek or seasonal stream, edge of lake, delineated wetland or vernal pool on the lot of record or within 100 feet of the lot of record and a 100 foot setback from any identified private drinking water well, spring, top of bank of any creek or seasonal stream, edge of lake, delineated wetland or vernal pool. The map shall also include any public water supply well on the lot of record or within 200 feet of the lot of record and a 200 foot setback from any public water supply well.

Pursuant to the California Health and Safety Code, the use of hazardous materials shall be prohibited except for limited quantities of hazardous materials that are below State threshold levels of 55 gallons of liquid, 500 pounds of solid, or 200 cubic feet of compressed gas. The production of any Hazardous Waste as part of the cultivation process is prohibited.

(c) Cannabis Vegetative Material Waste Management

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.

(d) 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.

14.2. Solid Waste Management

14.2.1. Solid Waste Sources and Volumes

The volume of solid waste generated at a typical cultivation site of 1 to 2 acres is estimated below on a peak daily basis and an annual basis, in pounds.

Estimated Solid Waste Generation Per Typical Cultivation Site

	Annual Basis (pounds per year)	Peak daily (pounds per day)
Paper	20	1
Glass	10	<1
Metal	10	<1
Electronics	1	n/a
Plastic	100	10
Organics	2,000	100
Inerts*	10	1
Household hazardous waste	1	n/a
Special waste	1	n/a
Mixed residue	10	1

* Inert waste is waste which is neither chemically nor biologically reactive and will not decompose. Examples are sand and concrete.

Sanitary Waste

BMPs will be implemented to prevent the discharge of pollutants from sanitary and septic waste. Refer to CASQA Construction Factsheet BMP WM-9 Sanitary / Septic Waste Management.

There are currently no toilets on the Property because the cultivation operation has not yet been established. There will be 2 flush toilets in the processing facility and 1 chemical toilet in each garden (during peak work periods). Assuming about 10 gallons per person per day (5 flushes, 2 gallons / flush), the following is the estimated toilet waste load:

- for normal operations with 5 employees = 50 gallons per day
- for peak labor (harvesting, trimming) with 20 employees = 200 gallons per day.

For sites with residences, residential wastewater generation is about 50 gallons per person per day (which includes toilet, shower, kitchen, laundry, etc.)

A portable toilet will be rented and maintained for facility staff. The servicing company is: [United Site Services, Inc.]Action Sanitary. The frequency of service is: weekly; monthly; or as needed.

Note that under the Cannabis General Order, alternative sanitary waste disposal systems (*e.g.* outhouse, pit privy, or similar) are not typically allowed. Use of this alternative requires approval from the Regional Water Board Executive Officer.

There are no outhouses, pit privies, or similar alternative disposal systems on this property.

Liquid Waste

For Cannabis cultivation operations, liquid wastes may derive from the following:

- compost teas and other activities where fertilizers are mixed with water
- hydroponic cultivation techniques inside greenhouses.

BMPs will be implemented to prevent the discharge of pollutants from non-hazardous liquid wastes. Refer to CASQA Construction BMP Factsheet WM-10 Liquid Waste Management and CASQA Industrial and Commercial BMP Factsheet SC-31 Outdoor Liquid Container Storage.

14.2.2. Waste Collection, Storage, and Disposal

At least one solid waste bin will be located at each cultivation site and at any processing facility. Waste bins will consist of trash cans (20 or 35 gallon) with lids or roll-off dumpsters with lids. The locations of waste bins / containers are shown in the Maps section. These solid waste containers should not be used to dispose Cannabis green waste.

Recyclables will be segregated from solid waste and stored in bins. At weekly intervals, staff should transfer them by truck in trash cans, with tight lids or plastic garbage bags and tarped loads and deposit them in an appropriate recycling facility. Recyclables such as scrap metal, glass, metal and plastic containers, can be conveniently unloaded at a recycling drop-off center (a Lake County Integrated Waste Management facility or private facility). Cardboard and newspaper may be recycled or mixed in with other composting materials.

Yard waste, green waste, and other compostable materials will be segregated from the solid waste and shredded and composted onsite to produce mulch or to be used as a soil amendment, or deposited at an appropriate transfer facility. Non-cannabis compost and recyclable wood can be dropped off at any compost facility where it is processed as new compost/humus. Household toxic materials will be segregated from the solid waste and disposed of at a Lake County Integrated Waste Management facility.

Waste will be transported to an appropriate licensed facility by cultivation operation staff using personal vehicles or be hauled by a private waste-hauling contractor, such as Waste Management, Inc., or C & S Waste Solutions. The licensed waste-hauler that is used at this facility is:_____.

The Lake County Integrated Waste Management facilities include the following:

- Eastlake Landfill, 16015 Davis Ave, Clearlake
- Lake County Waste Solutions Transfer Station and Recycling Center, 230 Soda Bay Road, Lakeport
- South Lake Refuse and Recycling Center, 16015 Davis Street, Clearlake
- Quackenbush Mountain Resource Recovery and Compost Facility, 16520 Davis Street, Clearlake

The following material handling and waste management measures will be implemented:

- Prevent or minimize handling of wastes that can be readily mobilized by contact with stormwater during a storm event;
- Contain all stored wastes (e.g., particulates, powders, shredded paper, etc.) that can be transported or dispersed by the wind or contact with stormwater during handling;
- Cover waste disposal containers and material storage containers when not in use;
- Divert run-on and stormwater generated from within the facility away from all stockpiled materials;
- Clean all spills of wastes that occur during handling in accordance with the spill response procedures); and
- Observe and clean as appropriate, any outdoor material or waste handling equipment or containers that can be contaminated by contact with chemical/industrial materials or wastes.

A sandbag barrier (Construction BMP Factsheet SE-8) can be placed around waste storage areas to prevent stormwater run-on from adjacent upstream areas. Materials can be elevated with palettes or cement blocks to minimize contact with stormwater. Spill clean-up materials, material safety data sheets, a material inventory, and emergency contact numbers should be maintained and stored in the residence, office, outbuilding, or shipping container.

To reduce or eliminate pollution of storm water from stockpiles of soil and cultivation materials, stockpiles should be surrounded with sediment controls (Construction Factsheets BMP SE-5: Fiber Rolls, SE-8: Sandbag Barrier, and WM-3 Stockpile Management) as needed. Plastic covers can be used, as needed, before rain events or before strong winds begin.

BMPs will be implemented to minimize storm water contact with waste materials and prevent waste discharges (Construction Factsheet BMP WM-5 Solid Waste Management). Solid waste should be removed and disposed off-site at least weekly at a proper receiving facility. Any chemicals will be stored in the shipping containers or sheds. Chemical wastes will be appropriately and clearly marked in containers and segregated from other non-waste materials.

Storage of soil amendments and chemicals should employ the following CASQA Industrial BMP fact sheets:

- SC-31: Outdoor Liquid Container Storage
- SC-32: Outdoor Equipment Operations
- SC-33: Outdoor Storage of Raw Materials
- SC-34: Waste Handling and Disposal
- SC-40: Contaminated or Erodible Surfaces
- TC-30: Vegetated Swale
- TC-31: Vegetated Buffer Strip.

Sanitary Waste

For septic systems, the septic tank should be pumped at regular intervals (e.g. every 3 to 5 years) or when full. The tank should be emptied, and the waste hauled, by a licensed contractor and disposed at a permitted wastewater disposal facility. The cultivation operation should not be located on top of the leachfield.

Chemical / portable toilets should be serviced regularly. A licensed operator should vacuum the holding tank and transport it in a tank truck to a permitted wastewater disposal facility. The following are best management practices for chemical / portable toilets:

- Locate toilets on flat, stable ground, and at least 25 feet away from storm drains or stream channels.
- Use a secondary containment device, such as a tray.
- Place toilets inside security fences to prevent vandalism.
- Consider securing toilets to the ground with cables and stakes if they are located in open areas subject to high winds.
- Ensure easy access for pump truck and toilet service staff.
- Record the location of portable toilets on the stormwater pollution prevention plan.
- Make note of portable toilet condition on weekly stormwater inspection records.
- Report leaks and spills to the site manager and to the toilet rental company
- Follow vendor recommendations for a suitable number of portable toilets for the anticipated site workforce. As a guideline, there should be at least one toilet for every ten persons.
- Provide for a suitable cleaning and maintenance schedule, and have a spill kit nearby.

14.2.3. Solid Waste Reduction

The CDFA CalCannabis Program states, "*Cultivators must comply with the California Integrated Waste Management Act of 1989, which requires that all California cities and counties reduce, recycle, and compost at least 50 percent of wastes by 2000*." (CDFA 2017)
Solid waste should be reduced using some combination of the following strategies and activities:

- Provide filtered water and dedicated cups instead of bottled water for staff.
- Use biodegradable containers.
- Use durable materials to reduce the use of disposable materials.
- Preferably select vendors that use reusable packaging and shipping containers; encourage vendors to do so.
- Minimize the volume of packaging material required by selecting products packaged efficiently or by buying in bulk.
- Grow cannabis plants in the ground instead of in bags, where possible.
- Employ soil fertility practices, such as nitrogen fixation cover crops and mulching, to reduce the importation of fertilizers and soil amendments.
- Use electricity-powered vehicles and equipment and install a solar array and battery storage.

14.3. Hazards and Hazardous Waste

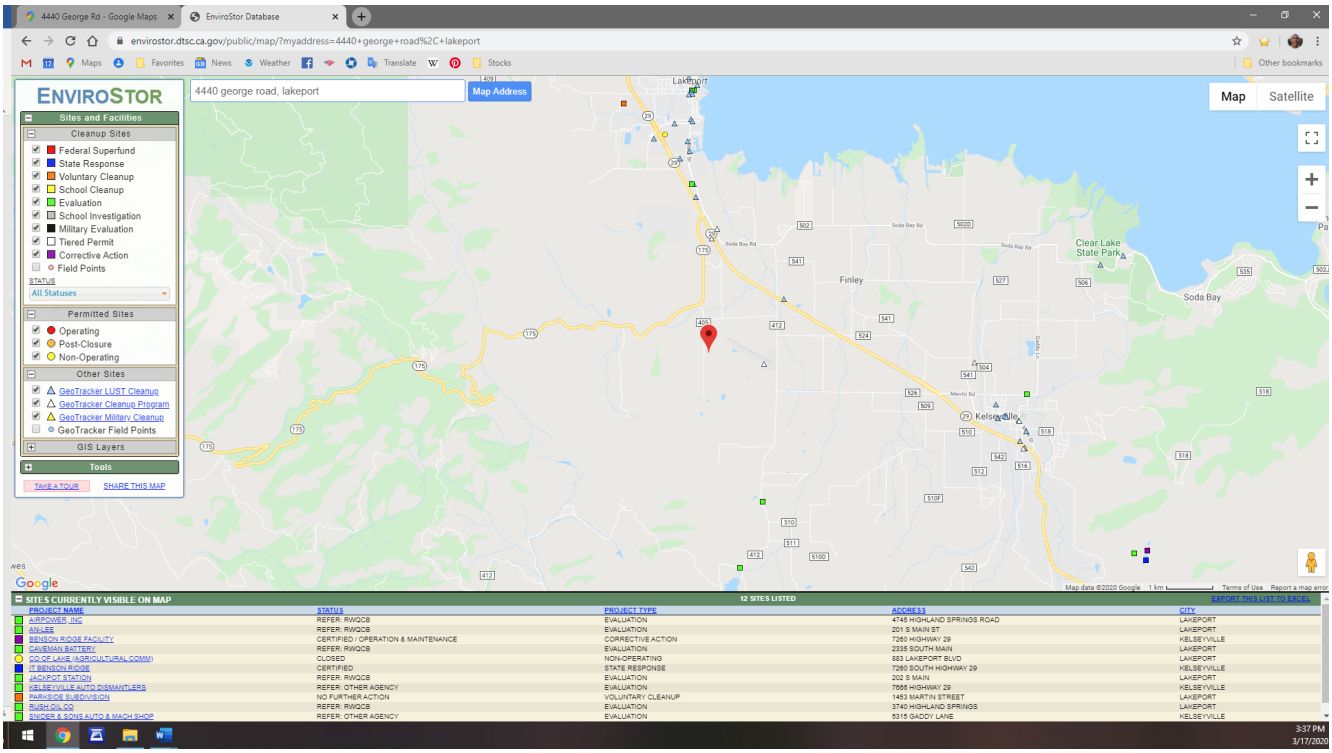
14.3.4. EnviroStor Query

The Ordinance, as well as CalCannabis Licensing Program regulations (Section 8102[b][19]), require that applicants have conducted a hazardous materials record search of the EnviroStor database for the proposed premises. If hazardous sites were encountered, the regulations require that applicants provide documentation of protocols implemented to protect employee health and safety.

The following hazardous materials databases were queried on March 17, 2020 by Natural Investigations Co. scientists:

- EnviroStor is an online search and Geographic Information System tool for identifying sites that have known contamination or sites for which there may be reasons to investigate further. The EnviroStor database includes the following site types: Federal Superfund sites (National Priority List); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites (https://www.envirostor.dtsc.ca.gov/public/).
- GeoTracker is a geographic information system maintained by the California State Water Resources Control Board (SWRCB) that provides online access to environmental data at the Internet address (URL) = http://geotracker.waterboards.ca.gov/.

No hazardous sites were found on the Property or on adjacent properties. The EnviroStor database and GeoTracker database did not report contamination cases or hazardous material usage on the Property or adjacent properties. The nearest contamination case over 1,000 feet to the east at the Lampson Field airport.



Screen capture of EnviroStor database query.

14.3.1. Hazard Analysis

This Hazard Analysis analyzes only the cultivation, harvesting, and processing (drying, curing, trimming, grading) of Cannabis. A Cannabis manufacturer makes or packages a prepared cannabis product (edibles, topicals, tinctures, extracts, vape cartridges, capsules and more). If Cannabis is manufactured at this facility, this Hazard Analysis will be expanded and revised.

Potential Biological Hazards

For unprocessed Cannabis, the primary biological hazard is microbiological, and specifically, fungal growth. In rare instances, some Cannabis crops can be contaminated with fecal coliforms that derive from soils or improper hygiene. Insects and arachnids, such as mites, could also be present on Cannabis product. For cultivation staff, the biological hazards are primarily snake bites, insect and arachnid stings bites, and weather exposure.

Potential Chemical Hazards

For unprocessed Cannabis, the primary chemical hazards are chemical residues: fertilizers; insecticides; and fungicides. Petroleum product usage could also lead to contamination of Cannabis product or soil. For cultivation staff, the chemical hazards are exposure to hazardous or toxic chemicals or to irritants.

Potential Physical Hazards

For unprocessed Cannabis product, physical hazards include the introduction of material fragments such as stone, glass, metal fragments, or hair. Such contamination could occur from a variety of sources, such as fugitive dust, dirty containers during transport, etc. For cultivation staff, the physical hazards are cuts or punctures by sharp objects, crushing by falling objects, weather exposure, and structure fires or wildfire.

14.3.2. Hazard Evaluation

Evaluation of Biological Hazards

Arthropod infestations (such as mites, aphids, or whiteflies) and fungal growths are common hazards. Arthropod infestations and fungal vectors and fungal growth will be controlled in various ways. Regular testing for fungal spores on raw product should be conducted. If a biological contaminant is found, the incident should be investigated to determine the source. Areas inside cultivation compounds can be graveled or paved to suppress dust and mud. Live traps may be deployed to remove rodents from operational areas. 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. The number of workers and visitors should be minimized, as mites can travel on clothes. Increasing ventilation, such as the addition of fans, can lower humidity levels and discourage fungal growth.

To reduce the risk of snake bites and insect stings, staff will be required to wear personal protective equipment, such as boots, gloves, and pants. Insect repellants should be employed. Care and caution should be taken when reaching in to dark spaces or lifting materials that provide refuge for animals.

Evaluation of Potential Chemical Hazards

Chemical contamination of raw product is possible, but unlikely. Regular testing for chemical residues on raw product should be performed. Chemical contamination can be reduced by implementation of Best Management Practices, which are identified in other subsections of this Plan. The use of organic-certified chemicals will also reduce this hazard significantly.

For cultivation staff, the risk of chemical exposure can be reduced by the use of personal protective equipment and the implementation of Best Management Practices, which are identified in other subsections of this Plan.

Evaluation of Potential Physical Hazards

For unprocessed Cannabis product, contamination of raw product by physical residues is relatively common, but easy to avoid. Facilities should be kept as clean as possible. Disposable coveralls (e.g. Tyvek) can be used to increase sanitation levels. Plastic sheeting can be used when raw product must be handled or stored. Equipment, such as scissors and saws, will be sanitized with ethanol.

To reduce the risk of weather exposure, staff should be provided with plenty of drinking water and shade refuges. For fire hazards, staff should be trained in fire prevention and fire safety. Fire extinguishers should be placed in strategic places and checked regularly for proper function. Staff should have access to news and communication sources so that any emergency broadcasts or evacuation notices can be received in a timely manner.

14.4. Hazardous Waste Management Plan

Cannabis cultivation operations may involve the use of hazardous materials, such as fuel for power equipment and generators, and pesticides. Transport, storage, and use of these materials could endanger human health and the environment in the event that upset or accident conditions cause a release of the materials. Numerous existing laws and regulations are designed to prevent spills of hazardous materials and limit damage in the event that such materials are released. The CalCannabis Licensing Program would only authorize lawful cultivation activities that comply with existing laws regarding storage and use of hazardous materials. California Health and Safety Code provisions and the CalARP program would require any cannabis cultivation facility storing more than a threshold quantity of regulated substances to prepare a Hazardous Materials Business Plan. These plans would include emergency response procedures to coordinate response in the event of a release and chemical accident prevention measures. With adherence to existing hazardous materials laws, the risk of accidental releases of hazardous materials from cultivation activities that could cause substantial hazards is considered low.

In addition, the CalCannabis Licensing Program's environmental protection measures (Sections 8301[a][4], 8302[a][5], and 8313 of the proposed regulations, as provided in Appendix A) would minimize potential accidental releases of hazardous materials by requiring

licensees to store chemicals in a secure building or shed, and to contain any chemical leaks and immediately clean up any spills. Therefore, the risk of accidental releases of hazardous materials from lawful cannabis cultivation operations would be lower than many other ongoing activities in the State, including existing unpermitted cannabis cultivation activities.

The Lake County Division of Environmental Health is the Certified Unified Program Agency (CUPA) for all of Lake County, dealing with hazardous waste and hazardous materials. The CUPA typically requires a Hazardous Materials Business Plan for the following volumes of hazardous materials: greater than 55 gallons of liquid; 200 standard cubic feet of compressed gas; or 500 pounds of a solid. All permittees 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.

However, the Cannabis Ordinance 3084 limits use of hazardous materials to volumes less than the State threshold: 55 gallons of a liquid; 500 pounds of a solid; or 200 cubic feet of a gas. Ordinance 3084 also prohibits the generation of hazardous waste as part of the Cannabis cultivation process.

Chemicals will be stored in the processing building so that stormwater is not contaminated. Chemicals will be properly labeled, properly segregated, and open containers sealed when not in use. Staff, when handling chemicals, will use personal protective equipment such as safety glasses, gloves, dust mask, boots, and pants and long-sleeved shirt. Chemicals will be properly labeled and open containers sealed when stored. Personal protective equipment such as safety glasses, gloves, dust mask, boots, and pants and long-sleeved shirt, will be used by staff when handling chemicals.

Gasoline in 1 or 5-gallon containers is used to fuel small engines such as an electrical generator, quad ATV, tillers and line trimmers. No significant quantities of petroleum products are currently used. All large equipment maintenance operations should typically occur at service stations outside of the Project Area. Should vehicle and equipment fueling or maintenance be performed in the Project Area, the following CASQA Industrial BMP fact sheets will be followed:

- SC-20: Vehicle and Equipment Fueling
- SC-21: Vehicle and Equipment Cleaning
- SC-22: Vehicle and Equipment Maintenance and Repair

Material Safety Data Sheets (MSDS) will be kept on file for each chemical used at this facility. MSDS sheets will be made available to all staff for viewing. When a new chemical is brought on to this facility, there should be a brief “tailgate” meeting to discuss proper storage, handling, and disposal of the chemical. MSDS for the facility are provided in the Appendix.

The CDFA CalCannabis Program concluded:

> “*With adherence to existing hazardous materials laws, the risk of accidental releases of hazardous materials from cultivation activities that could cause substantial hazards is considered low. In general, cannabis cultivation would not make intensive use of hazardous materials. In addition, the Proposed Program’s environmental protection measures (Sections 8301[a][4], 8302[a][5], and 8313 of the proposed regulations, as*

provided in Appendix A) would minimize potential accidental releases of hazardous materials by requiring licensees to store chemicals in a secure building or shed, and to contain any chemical leaks and immediately clean up any spills. Therefore, the risk of accidental releases of hazardous materials from lawful cannabis cultivation operations would be lower than many other ongoing activities in the state, including existing unpermitted cannabis cultivation activities." (CDFA 2017)
"*Cannabis cultivation sites may be located in areas of high risk for wildfire*." (CDFA 2017)

A sandbag barrier (Construction BMP Factsheet SE-8) can be placed around waste storage areas to prevent stormwater run-on from adjacent upstream areas. Sheds or shipping containers should be used to store hand tools, small parts, and most cultivation materials that can be carried by hand. Very large items can be stored in the open in the general storage areas. Such materials should be elevated with palettes or cement blocks to minimize contact with stormwater. Spill clean-up materials, material safety data sheets, a material inventory, and emergency contact numbers should be maintained and stored in the processing building office.

To reduce or eliminate pollution of storm water from stockpiles of soil and cultivation materials, stockpiles will be surrounded with sediment controls (Construction BMP Factsheets SE-5: Fiber Rolls, SE-8: Sandbag Barrier, and WM-3 Stockpile Management) as needed. Plastic covers can be used, as needed, before rain events or before strong winds begin.

BMPs will be implemented to minimize storm water contact with waste materials and prevent waste discharges (Construction BMP Factsheet WM-5 Solid Waste Management). Solid waste should be removed and disposed off-site at least weekly at a proper receiving facility. Any chemicals will be stored in the processing building. Chemical wastes will be appropriately and clearly marked in containers and segregated from other non-waste materials.

Storage of soil amendments and chemicals should employ the following CASQA Industrial BMP Fact Sheets:

- SC-31: Outdoor Liquid Container Storage
- SC-32: Outdoor Equipment Operations
- SC-33: Outdoor Storage of Raw Materials
- SC-34: Waste Handling and Disposal
- SC-40: Contaminated or Erodible Surfaces
- TC-30: Vegetated Swale
- TC-31: Vegetated Buffer Strip.

14.5. Pollution Prevention and Spill Response

A pollution prevention and spill response subplan will be implemented. Such a plan requires the following practices: good housekeeping; preventative maintenance; other BMPs; spill and leak prevention and response measures; and a monitoring program.

The following will be implemented

- Maintenance of at least 1 spill kit for petroleum hydrocarbons on site and in fuel supply trucks to include:
    - Containment drum;
    - Oleophilic absorbent pads; and
    - Granular spill absorbent suitable for petroleum, brake fluid, and antifreeze;
- Daily inspection of equipment for oil and fuel leaks;
- Fueling only in the designated area; and
- Training of personnel on handling of leaks (training at tailgate safety meetings).

If there is a spill or accidental discharge in to any waterbodies, immediately notify the Office of Emergency Services so that the local health officer can decide what actions, if any, may need to be taken to protect public safety.

Any significant release or threatened release of a hazardous material requires immediate reporting by the responsible person to the Cal OES State Warning Center (800) 852-7550 and the Unified Program Agency (UPA) or 911. The UPA may designate a call to 911 as meeting the requirement to call them.

14.6. Cannabis Vegetative Material Waste Management

14.6.1. Types and Volumes of Green Waste

The CDFA CalCannabis Program describes green waste as follows:

> *"Green waste is generated throughout the cannabis cultivation process. Some plants fail to reach maturity, pruning generates waste, nuisance weeds must be removed, and other plant material remains unused following harvesting, processing, and preparation for a new crop to be planted. Processing, including trimming, is described in Section 3.8 below.*
>
> *Some cultivators may use sugar leaves, branch stalks, or stems for various cannabis or hemp products; typically, however, after the flowers are harvested, the remainder of the cannabis plant becomes green waste. Removal of some large plants, particularly in outdoor cultivation operations, may require a chainsaw due to the strength and thickness of the plant's stem. Green waste is generally not piled and stored near active cannabis crops to avoid botrytis or other fungal pest issues that may occur on the waste and spread to the living cannabis plants. Disposal of green waste would follow procedures established by the Proposed Program. On-site composting is an option. If off-site disposal is used, the cultivator would make all cannabis waste unusable and unrecognizable before it leaves the licensed premises by grinding and mixing the green waste with non-consumable solid wastes such that the resulting mixture is at least 50 percent non-cannabis waste. Under Section 8305, Cannabis Waste Management, of the Proposed Program regulations, acceptable types of non-cannabis waste are any nonhazardous compostable materials, as defined in Title 14 of the California Code of Regulations at Section 17852(a)(11). After the waste is ground and mixed, licensees may dispose of it at a manned and permitted solid waste landfill, compostable materials handling facility, or in-vessel digestion facility as described in the regulations." (CDFA 2017)*

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

- mulch, humus, etc.
- landscape maintenance: lawn and weed trimmings, treated lumber, wood fencing, etc.
- Cannabis processing waste: leaves, stems, and root balls that remain after flower harvest, trimming, and grooming; whole dead plants; etc.

Volume of green waste generated by this cultivation operation is estimated at:

- two cubic yards per month per acre, or 24 cubic yards per year per acre.

Cannabis green waste should be weighed daily, weekly, or as needed, and data should be recorded for reporting requirements.

14.6.2. Handling and Disposal of Green Waste

There will be a dedicated area in the 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 personal protective equipment, including long-sleeved shirts, pants, boots, dust mask, eye protection, and gloves. Cannabis waste will either be composted onsite or disposed at a licensed landfill offsite after rendering it unconsumable.

Non-cannabis green waste can be shredded in a wood chipper, as necessary. Green waste can be mixed with soil and inoculated with humus. 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). Cannabis waste should be shredded and mixed with at least an equal amount 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 (see Solid Waste Management Plan).

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.

14.7. Growing Medium Management

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. See the Fertilizer subsection of this Plan for a discussion of organic amendments.

14.7.1. 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.

The specific cultivation methods and growing mediums are not known at this time. When the cultivation operation is established, this Plan should be updated with specific information.

14.7.2. 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. 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.

14.8. Maps

The required maps are provided in the Maps section at the end of this Property Management Plan.

15.0 WATER RESOURCES

15.1. Requirements / Goals

According to the Ordinance, the Property Management Plan must discuss Water Resources.

The Lake County Groundwater Management Plan, together with the Lake County Water Inventory and Analysis (CDM 2006) and the Lake County Water Demand Forecast (CDM 2006), serve to manage the water resources in Lake County and provide a framework for the County and other water users to implement effective water resource management programs.

If implementation of the project requires the placement of fill, removal of riparian vegetation, or other alterations to channels delineated as jurisdictional waters, such alteration or degradation will require several permits. Any alteration of a channel below the ordinary high water mark requires a waiver from USACE or a Clean Water Act Section 404 permit. Avoidance and minimization measures, as well as compensatory mitigation for loss of jurisdictional waters, is required by federal and state permits to maintain the policy of "No Net Loss" of wetlands and other protected water resources. Compensatory mitigation would consist of any combination of in-lieu fee payment to a mitigation bank, stream enhancement, or land dedication, at mitigation ratios determined by USACE. Clean Water Act Section 401 Water Quality Certification would be required in conjunction with a Section 404 permit.

The placement of fill or structures in waters of the State may require a permit from the State Water Resources Control Board (Waste Discharge Requirements). Alteration of a channel or destruction of vegetation of a streambank within the limits of riparian vegetation (the Stream Zone) would require a California Fish and Game Code Section 1600 streambed alteration agreement. Clean Water Act Section 401 Water Quality Certification would be required in conjunction with these permits. Avoidance and minimization measures, as well as compensatory mitigation for loss of jurisdictional waters, are required under state permits

15.2. Description of Water Resources

15.2.3. Surface Water

Non-wetland waters were classified using the California Forest Practice Rules. The California Forest Practice Rules define a Class I watercourse as 1) a watercourse providing habitat for fish always or seasonally, and/or 2) providing a domestic water source; a Class II watercourse is 1) a watercourse capable of supporting non-fish aquatic species, or 2) a watercourse within 1000 feet of a watercourse that seasonally or always has fish present; a Class III watercourse is a watercourse with no aquatic life present and that shows evidence of being capable of transporting sediment to Class I and Class II waters during high water flow conditions.

The field survey by Natural Investigations Co. (2020) determined that the Project Area does not contain any channels or wetlands. The following water features were detected on the Property (see Exhibits):

- an unnamed ephemeral channel (Class III watercourse)
- a pond with a fringe of wetland vegetation.

The cultivation site should not divert surface water. State permits are needed to use surface water.

15.2.4. Groundwater

According to maps in the Lake County Groundwater Management Plan, the Project Area appears to be located in the Big Valley Groundwater Management Plan Area.

The Cannabis cultivation operations will use water from a permitted agricultural well or the pond (which is fed by surface water).

15.3. Water Resource Protection

This Property has several minor vehicle stream crossings (see Exhibits). These consist mainly of pipe culverts that convey flows from the agricultural ditches and Class III watercourse under the ranch roads. Proper road maintenance procedures are detailed in other sections of this Plan.

This cultivation operation is enrolled as a Tier II / Low Risk cultivation operation in the State Water Resources Control Board's *Order WQ 2019-0007-DWQ General Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities* (General Order). Compliance with this Order will ensure that cultivation operations will not significantly impact water resources by using a combination of Best Management Practices, buffer zones, sediment and erosion controls, inspections and reporting, and regulatory oversight. Note also that a sediment and erosion control plan is being implemented as part of the larger Site Management Plan:

- Natural Investigations Co. 2020. Site Management Plan for the Cultivation Operations at 4440 George Road, Lakeport. Prepared for the RWQCB.

Potential adverse impacts to water resources could occur during construction by modification or destruction of stream banks or riparian vegetation, the filling of wetlands, or by increased erosion and sedimentation in receiving water bodies due to soil disturbance. Project implementation will not directly impact any channels or wetlands. Soil disturbance from project implementation could increase erosion and sedimentation. Regulations at both the County and State levels require creation and implementation of an erosion control plan / stormwater management plan. Furthermore, if the total area of ground disturbance from project implementation is greater than 1 acre, the project proponent will need to enroll for coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 2009-0009-DWQ).

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

15.3.1. Avoidance and Minimization Measures

Zoning Setbacks and Site Selection

The County's Cannabis Ordinance requires that all cultivation operations be located at least 100 feet away from all waterbodies (i.e. spring, top of bank of any creek or seasonal stream, edge of lake, wetland or vernal pool).

Additionally, cultivators who enroll in the State Water Board's Waste Discharge Requirements for Cannabis Cultivation Order WQ 2019-0007-DWQ must comply with the Minimum Riparian Setbacks, as summarized in the following table. Cannabis cultivators must comply with the minimum riparian setbacks described below for all land disturbance, cannabis cultivation activities, and facilities (e.g., material or vehicle storage, diesel powered pump locations, water storage areas, and chemical toilet placement).

The project area is setback as follows:

- over 3,000 feet from the nearest Class I watercourse
- over 1,000 feet from the nearest Class II watercourse
- 480 feet from the nearest Class III watercourse
- 510 feet from the nearest wetland

Thus, this cultivation operation is located as far away as possible from waterbodies and in the flattest practical areas to reduce the potential for water pollution.

Vegetative Buffers

Generous vegetative buffers exist between this cultivation operation and the nearest water resource. These vegetated areas will be preserved as much as possible. The exception are any fire breaks needed for wildfire protection. Areas that are covered in grasses will be regularly mowed or trimmed. Leaf litter and trash should be removed regularly. Areas that are covered in natural habitats should not be trimmed.

15.3.2. Best Management Practices

Water resource protection BMP's were identified and discussed in the Stormwater Management subsection.

15.4. Water Quality Monitoring Program

15.4.1. Objectives

The Project Site Monitoring Program should be developed and implemented to address the following objectives:

- To demonstrate that the site is in compliance with all permits and ordinances;
- To determine whether non-visible pollutants are present at the project site and are causing or contributing to exceedances of water quality objectives;

- To determine whether immediate corrective actions, additional BMP implementation, or Plan revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges; and
- To determine whether BMPs indicated in the Plan are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.

Note that water quality monitoring and sampling is also required under the State Water Board's Cannabis General Order.

15.4.2. Types of Inspections and Frequency

Based on the project site's location, construction / cultivation periods, and rainfall erosivity factor, this project should perform inspections at the following times: beginning of the rain season; before and after any storm that produces over 1 inch of rain; and during any storm that produces a significant stormwater discharge. Each inspection event should be logged in the Inspection Log in this Plan or in a separate binder.

The inspectors should be prepared to collect samples and conduct visual inspections. Inspectors are not required to physically collect samples or conduct visual inspections under the following conditions:

- During dangerous weather conditions such as flooding and electrical storms; and
- Outside of scheduled site business hours.

15.4.3. Inspection and Sampling Personnel

All inspection and sampling activities should be performed by the stormwater manager until site personnel are properly trained to take over these tasks. The name(s) and contact number(s) of the assigned inspection and sampling personnel are:

- _____
- _____
- the default Stormwater Management Consultant is Dr. G.O. Graening, QSD #00473, QISP #597.

15.4.4. Record Keeping and Reports

The site manager or storm water manager should retain records of all storm water monitoring information and copies of all reports for a period of at least three years. Each inspection event can be logged in the Inspection Log in a binder. These records include:

- The date, place, time of facility inspections, sampling, visual inspections, and/or measurements, including precipitation;
- The individual(s) who performed the facility inspections, sampling, visual inspections, and or measurements;
- The date and approximate time of analyses;
- The individual(s) who performed the analyses;
- Rain gauge readings from site inspections;
- Non-storm water discharge inspections and visual inspections and storm water discharge visual observation records;
- Visual observation and sample collection exception records; and

- The records of any corrective actions and follow-up activities that resulted from analytical results, visual inspections, or inspections.

15.4.5. Visual Inspection Plan

The inspector is only required to conduct visual observations (inspections) during business hours only. Within 2 business days (48 hours) prior to significant rain events, the inspector should visually observe (inspect):

- All storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources (if needed, the site manager should implement appropriate corrective actions);
- All BMPs to identify whether they have been properly implemented in accordance with the Plan (if needed, the site manager shall implement appropriate corrective actions); and
- Any storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

The inspector should conduct during-rain event visual observations (inspections) at regular intervals during extended storm events. The inspector should visually observe (inspect) storm water discharges at all discharge locations. Within two business days (48 hours) after major rain events, the inspector should conduct post rain event visual observations (inspections) to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the Plan accordingly.

For the visual inspections described above, the inspector should observe the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants. The inspector should maintain on-site records of all visual observations (inspections), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

15.4.6. Sampling Plan for Pollutants

Water sampling is only required if a significant water pollution event occurs. The inspector should analyze one or more effluent samples for any parameters indicating the presence of pollutants during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water. Samples of discharge should be collected at the designated sampling locations shown on the WPCDs for observed breaches, malfunctions, leakages, spills, operational areas, soil amendment application areas, and historical site usage areas that triggered the sampling event.

The inspector should analyze samples for all applicable pollutant parameters. The inspector should collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) for comparison with the discharge sample. The inspector should compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis. The inspector should keep all field /or analytical data. Samples should be analyzed for the applicable constituents using the USEPA analytical methods.

15.4.7. General Sampling Methodology

The storm water manager should designate and train personnel to collect, maintain, and ship samples in accordance with the Surface Water Ambient Monitoring Program's 2008 Quality Assurance Program Plan. The storm water manager should ensure that testing laboratories will receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory), and should use only the sample containers provided by the laboratory to collect and store samples.

The storm water manager should ensure that all sampling and sample preservation are in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including a discharger's own field instruments for measuring pH and turbidity) should be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. The storm water manager should ensure that all laboratory analyses are conducted according to test procedures under 40 Code of Federal Regulations Part 136, unless other test procedures have been specified in this General Permit or by the Regional Water Board. With the exception of field analysis conducted by the inspectors for turbidity and pH, all analyses should be sent to and conducted at a laboratory certified for such analyses by the State Department of Health Services.

Sample Collection and Analysis for Monitoring Turbidity and pH

Parameter	Test Method	Minimum Sample Volume	Sample Collection Container Type	Detection Limit (minimum)
Turbidity	Field meter/probe with calibrated portable instrument	500 mL	Polypropylene or Glass (Do not collect in meter sample cells)	1 NTU
pH	Field meter/probe with calibrated portable instrument or calibrated pH test kit	100 mL	Polypropylene	0.2 pH units
Notes: NTU = Nephelometric Turbidity Unit				

An adequate stock of monitoring supplies and equipment for monitoring non-visible pollutants should be available on the project site prior to a sampling event. Monitoring supplies and equipment should be stored in a cool-temperature environment that will not come into contact with rain or direct sunlight. Sampling personnel should be available to collect samples in accordance with the sampling schedule. Supplies maintained at the project site should include, but are not limited to, surgical gloves, sample collection equipment, coolers, appropriate number and volume of sample bottles, identification labels, re-sealable storage bags, paper towels, personal rain gear, ice, Sampling Activity Log forms, and Chain of Custody (COC) forms. The storm water manager should obtain and maintain the field-testing instruments for analyzing samples in the field by trained sampling personnel.

Grab samples should be collected and preserved in accordance with the applicable test method. Only personnel trained in proper water quality sampling should collect samples. Samples should be collected by placing a separate lab-provided sample container directly into a stream of water down gradient and within close proximity to the potential non-visible pollutant discharge location. This separate lab-provided sample container should be used to collect water, which should be transferred to sample bottles for laboratory analysis. The up gradient and uncontaminated background samples should be collected first prior to collecting the down gradient to minimize cross-contamination. The sampling personnel should collect the water upgradient of where they are standing. Once the separate lab-provided sample container is filled, the water sample should be poured directly into sample bottles provided by the laboratory for the analyte(s) being monitored. To maintain sample integrity and prevent cross-contamination, sampling collection personnel should:

- Wear a clean pair of surgical gloves prior to the collection and handling of each sample at each location;
- Not contaminate the inside of the sample bottle by not allowing it to come into contact with any material other than the water sample;
- Discard sample bottles or sample lids that have been dropped onto the ground prior to sample collection;
- Not leave the cooler lid open for an extended period of time once samples are placed inside;
- Not sample near a running vehicle where exhaust fumes may impact the sample;
- Not touch the exposed end of a sampling tube, if applicable;
- Avoid allowing rainwater to drip from rain gear or other surfaces into sample bottles;
- Not eat, smoke, or drink during sample collection;
- Not sneeze or cough in the direction of an open sample bottle;
- Minimize the exposure of the samples to direct sunlight, as sunlight may cause biochemical transformation of the sample to take place;
- Decontaminate sampling equipment prior to sample collection using a laboratory-grade soapy water wash, distilled water rinse, and final rinse with distilled water; and
- Dispose of decontamination water/soaps appropriately; i.e., not discharge to the storm drain system or receiving water.

Immediately following collection, samples for field analysis will be tested in accordance with the field instrument manufacturer's instructions and results recorded on the Sampling Activity Log. Immediately following collection, sample bottles for laboratory analytical testing should be capped, labeled, documented on a COC form provided by the analytical laboratory, sealed in a re-sealable storage bag, placed in an ice-chilled cooler, at as near to 4 degrees Celsius as practicable, and delivered within 24 hours to a California state-certified laboratory.

15.5. Maps

The required maps are provided in the Maps section at the end of this Property Management Plan.

Sample Collection, Preservation, and Analysis for Monitoring Non-visible Pollutants

Constituent	Analytical Method	Minimum Sample Volume	Sample Bottle	Sample Preservation	Reporting Limit	Maximum Holding Time
VOCs-solvents	EPA 8260B	3 × 40 mL	VOA-glass	Store at 4˚ C, HCl to pH<2	1 µg/L	14 days
SVOCs	EPA 8270C	1 × 1 L	Glass-amber	Store at 4˚ C	10 µg/L	7 days
Pesticides	EPA 8081A	1 × 1 L	Glass-amber	Store at 4˚ C	0.1 µg/L	7 days
Herbicides	EPA 8151A	1 × 1 L	Glass-amber	Store at 4˚ C	Check lab	7 days
COD	EPA 410.4	1 × 250 mL	Glass-amber	Store at 4˚ C, H_2SO_4 to pH<2	5 mg/L	28 days
TDS	EPA 160.1 (TDS)	1 × 100 mL	Polypropylene	None	ppm	Immediate
pH	EPA 150.1	1 × 100 mL	Polypropylene	None	Unitless	Immediate
Alkalinity	SM 2320B	1 × 250 mL	Polypropylene	Store at 4˚ C	1 mg/L	14 days
Nitrate	EPA 353.2	1 × 125 mL	Polypropylene	Store at 4˚ C, H_2SO_4 to pH<2	Check lab	28 days
Phosphate	EPA 365.3	1 × 125 mL	Polypropylene	Store at 4˚ C	Check lab	28 days
Organic nitrogen	TKN – NH_3	1 × 1 L	Glass-amber	Store at 4˚ C, H_2SO_4 to pH<2	Check lab	28 days
TOC	EPA 415.1	1 × 250 mL	Glass	Store at 4˚ C, H_2SO_4 to pH<2	Check lab	28 days
Potassium	EPA 200.7	1 × 250 mL	Polypropylene	Store at 4˚ C, HNO_3 to pH<2	0.1 mg/L	6 months
Phenols	EPA 8270C	1 × 1 L	Glass-amber	Store at 4˚ C	Check lab	7 days
Metals (Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, Se, Na, Th, Va, Zn)	EPA 6010B/ 7470A	1 × 250 mL	Polypropylene	Store at 4˚ C, HNO_3 to pH<2	0.1 mg/L	6 months
Metals (chromium VI)	EPA 7199	1 × 500 mL	Polypropylene	Store at 4˚ C	1 µg/L	24 hours

Notes:

°C = degree(s) Celsius
µg/L = microgram(s) per Liter
COD = chemical oxygen demand
DO = dissolved oxygen
EPA = U.S. Environmental Protection Agency
HCl = hydrogen chloride
H_2SO_4 = hydrogen sulfide
HNO_3 = nitric acid
L = liter
mg/L = milligrams per liter
mL = milliliter(s)
ppm = parts per million
PCB = polychlorinated biphenyl
SVOC = semi-volatile organic compound
TDS = total dissolved solids
VOA = volatile organic analysis
VOC = volatile organic compound

16.0 WATER USE

16.1. 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.

16.2. Water Use Management Plan

16.2.1. Water Sources and Metering

The Cannabis cultivation operations will use water from an existing, agricultural groundwater well (see Maps). This well is permitted with the County and uses an electric pump. The capacity of this well is: 185 gallons per minute.

The cultivation site should not take water directly from any watercourse. State permits are needed to divert surface water. Note that water may be supplied by a licensed retail water supplier, as defined in Section 13575 of the Water Code, on an emergency basis. The cultivator shall notify the Department within 7 days of the emergency and provide the following information: a description of the emergency; identification of the retail water supplier including license number; the volume of water supplied; and actions taken to prevent the emergency in the future.

A water meter will be been installed for the cultivation site; water consumption will be logged daily. A water budget will be created every year and water use efficiency will be analyzed for the previous year.

16.2.2. Estimated Water Use

Water use requirements for outdoor cannabis production are similar to water use requirements for other agricultural crops such as corn (CDFA 2017). CDFA (2017) reports the following regarding the water use for cannabis:

> "*According to Hammon et al. (2015), water use requirements for outdoor cannabis production (25-35 inches per year) are generally in line with water use for other agricultural crops, such as corn (20-25 inches per year), alfalfa (30-40 inches per year), tomatoes (15-25 inches per year), peaches (30-40 inches per year), and hops (20-30 inches per year). Lindsey (2012) similarly cites a University of California researcher who suggested that cannabis does well under irrigation management and, as a small-acreage crop, will use far less water than crops such as cotton. Estimates of daily water usage per cannabis plant range from 5 gallons (Live Science 2014) to 6-8 gallons (CDFW 2016)*."

CDFA (2017) concludes the following regarding groundwater impacts from small cultivation operations:

> "*Based on the relatively low quantities of water use (from 0.002 to 1.8 acre-feet per year), the likelihood that an individual cultivator or group of cultivators using groundwater from a defined alluvial aquifer would, by themselves, cause substantial groundwater overdraft is considered unlikely, for several reasons. First, groundwater overdraft is typically caused by the combination of various uses in a basin and is not typically attributable to a particular user or set of users; in other words, it is typically a cumulative issue (which is discussed in more detail in Chapter 6, Cumulative Considerations). In addition, the size limitations for cultivation sites under the Proposed Program would limit the maximum extent of water use. For instance, the highest estimate, provided by Hammon et al. (2015), would result in less than 3 acre-feet of annual usage at the largest allowable cultivation site of 1 acre. Finally, no information is available to suggest that there would be high concentrations of cultivators using groundwater from an alluvial basin in a particular location in a manner that could substantially affect neighboring wells*." (pages 4.8-34 to 4.8-35)

Daily Water Consumption

The following estimates were used from the CalCannabis Environmental Impact Report (CDFA 2017):

- 500 Cannabis plants per acre, each requiring 6 gallons per day = 3,000 gallons per day for an acre of Cannabis canopy

This is equivalent to 2.1 gallons per minute for an acre of Cannabis canopy. The proposed project will cultivate up to 4 acres of canopy, if allowed. Thus, the daily requirement is 10.5 gallons per minute for 5 acres of Cannabis canopy. The yield of the well on the Property is 185 gallons per minute. Thus, there is more than sufficient water supply on this Property to support 5 acres of Cannabis cultivation.

Annual Water Consumption

Using the assumptions of 3,000 gallons per day for 1 acre of Cannabis canopy, and 120 growing days, the estimated annual water demand is estimated at 360,000 gallons per acre per year (= 1 acre foot per year). This is consistent with the range of values reported in the CalCannabis Environmental Impact Report = from 0.002 to 1.8 acre-feet per year.

16.2.3. Water Conservation

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

- selection of plant varieties that are suitable for the climate of the region
- the use of driplines and drip emitters (instead of spray irrigation)
- mulching to reduce evaporation
- water application rates modified from data from soil moisture meters and weather monitoring
- rooftop water collection (where feasible and permitted)
- shutoff valves on hoses and water pipes
- daily visual inspections of irrigation systems
- immediate repair of leaking or malfunctioning equipment
- water metering and budgeting

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.

16.2.4. Irrigation System

Watering by hand using hoses or watering cans is probably the most common watering method currently being used (Denver Public Health and Environment 2018). Many growers prefer the hands-on aspect of hand mixing and hand feeding each plant. However, this method allows for the largest margin of error. Nutrient mixing by hand can easily vary by day or by employee, leading to inconsistent final solutions. The total volume of water being applied to each plant can vary greatly, especially if staff are inattentive. Nevertheless, most cultivation operations use the hand watering method at some stage of plant growth. Cultivators must have good standard operating procedures and employee training for hand watering to minimize mistakes (Denver Public Health and Environment 2018).

Drip irrigation is widely considered the most water efficient way of irrigating a crop (Denver Public Health and Environment 2018). Nutrified water is pumped through irrigation tubes and drip emitters to each plant. Many options exist for flow volumes and types of emitters. Drip irrigation allows the cultivator to fine tune how much water is given to each plant. High-quality drip emitters are pressure compensated, so each plant gets the same amount of water regardless of position on the irrigation line. Many cultivators using drip irrigation systems water several times per day (pulse irrigation), delivering the total desired volume of water over a longer period. This allows the cultivator to carefully manage the amount of water runoff. Drip

irrigation is usually accompanied by a fertigation system that automatically injects nutrients into the water line according to specifications and can be run on programmed time schedules.

At the cultivation site, the water supply will fill plastic storage tanks (___ gallons); a water meter will meter the water use. Water filtration systems may also be installed. This tank will supply gravitational head to the irrigation system. PVC pipes will deliver the water to the planting stations. Mixing tanks will be used to add liquid soil amendments or fertilizers and spliced into these supply lines. At each planting station, black polyvinyl flexible tubes and drip emitters will be used to irrigate the plants.

17.0 MONITORING AND REPORTING FOR COUNTY LICENSING

17.1. 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.

Also, the Cannabis General Order has annual monitoring and reporting requirements as follows (Order WQ 2019-0007-DWQ, Attachment B: Monitoring And Reporting Program):

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 Storm Water 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.

18.0 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.

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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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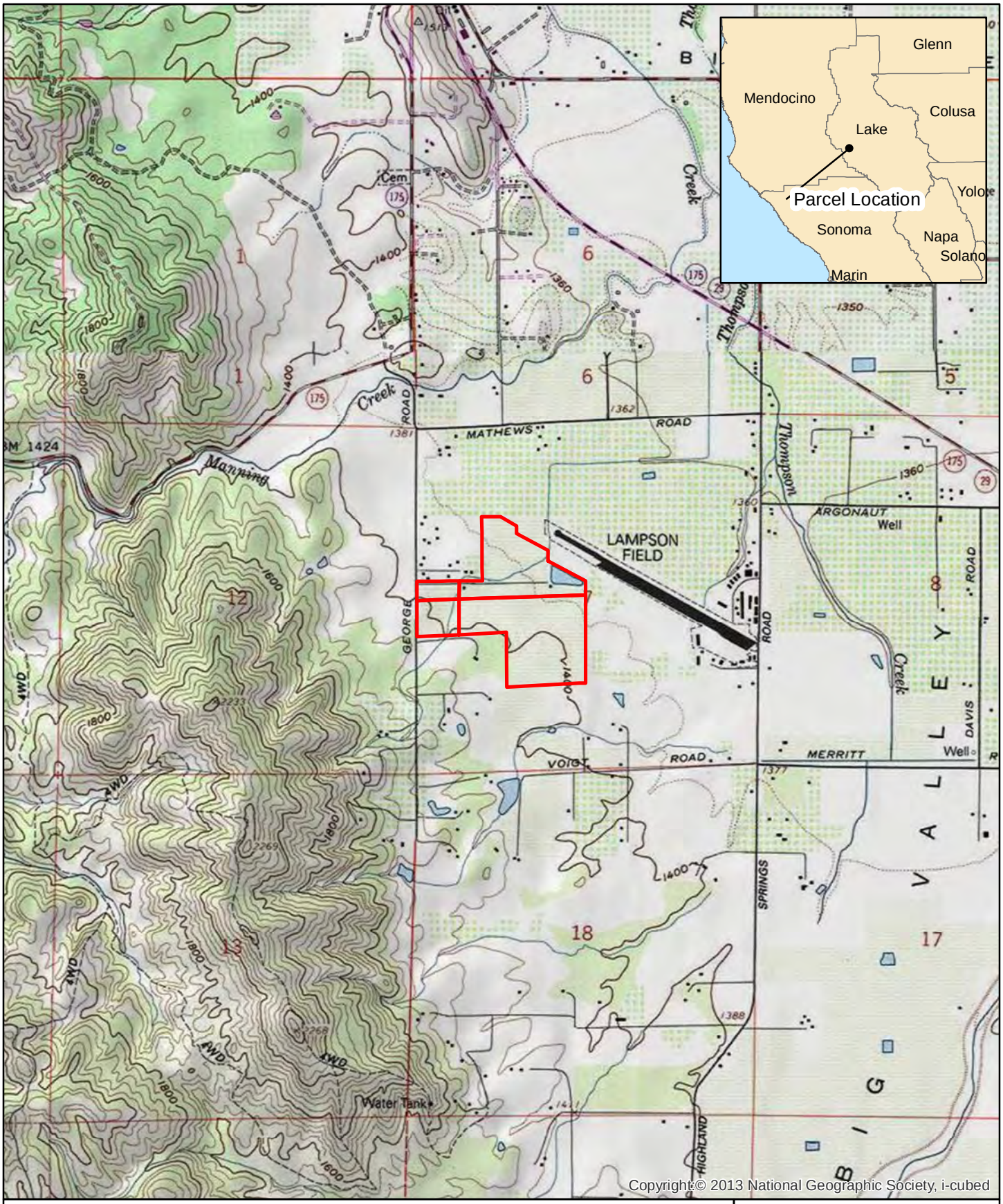
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USEPA NPDES Storm Water Program's National Menu of BMP's website at https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#edu

19.0 MAPS AND EXHIBITS



Parcel Location

0 0.5 1 Kilometers

0 0.5 1 Miles

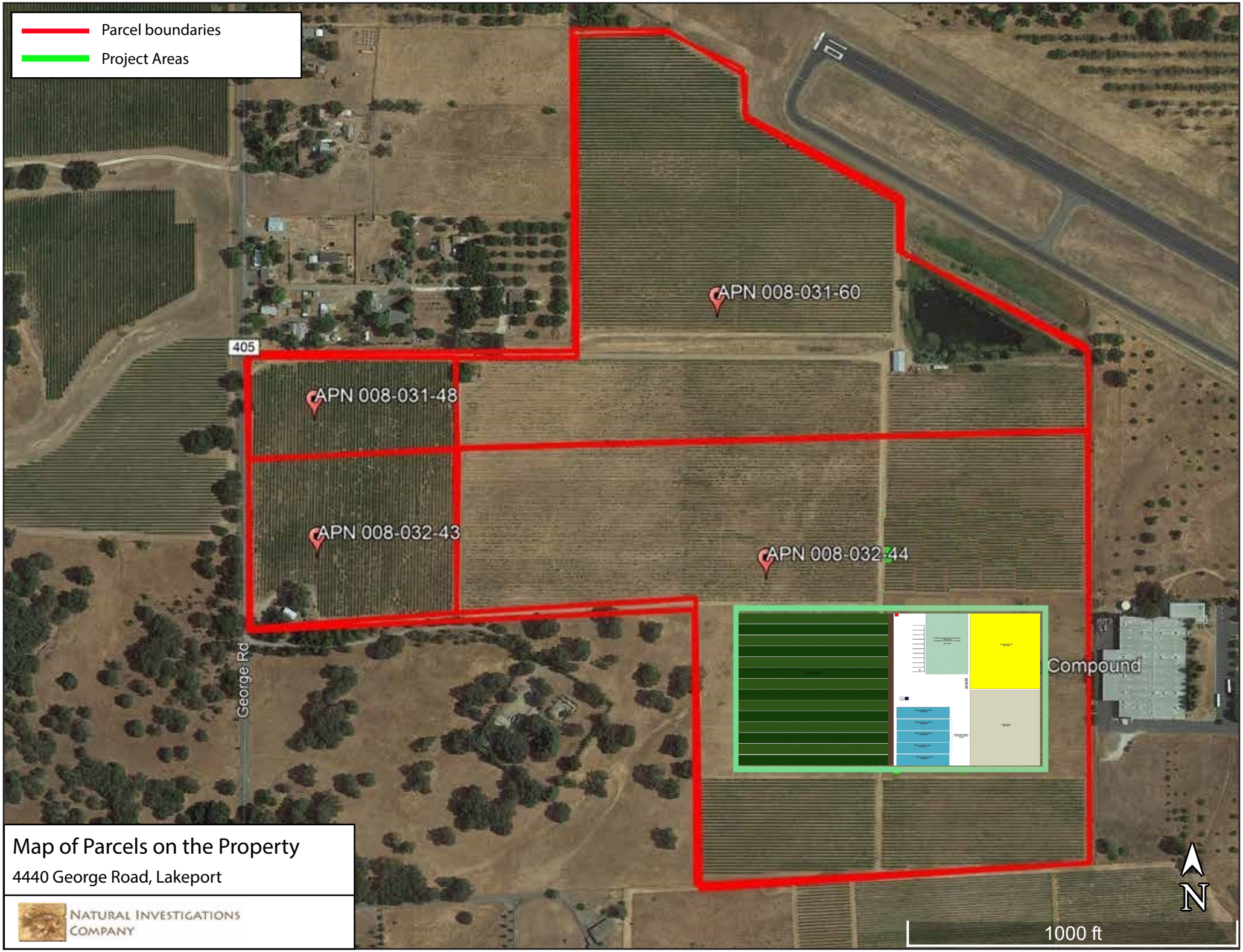
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George Road Properties
Parcel Location Map

Natural Investigations Company

Map Date 2/19/2020

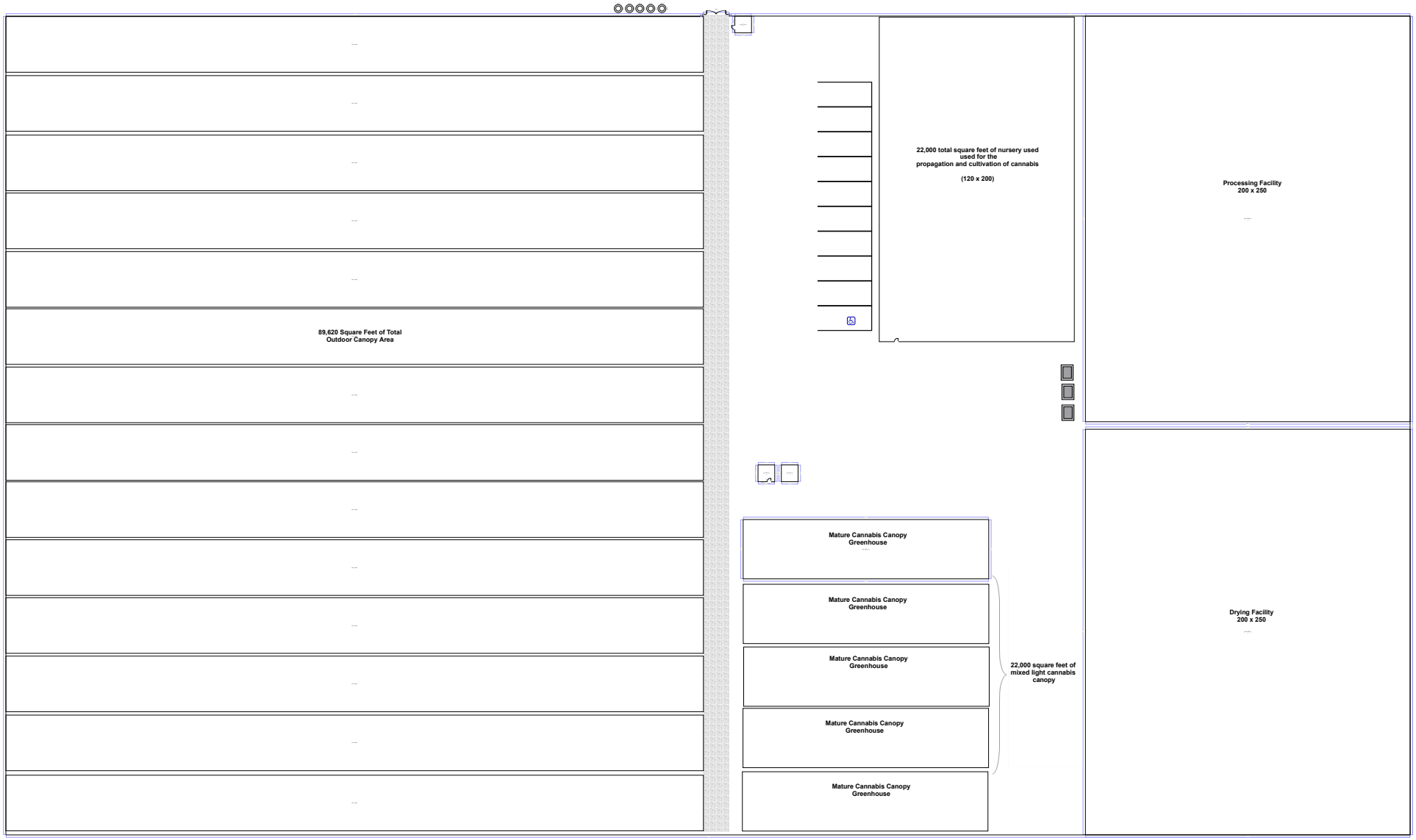
Highland Springs 1993 Quadrangle:Township 13N, Range 9W, Section 7

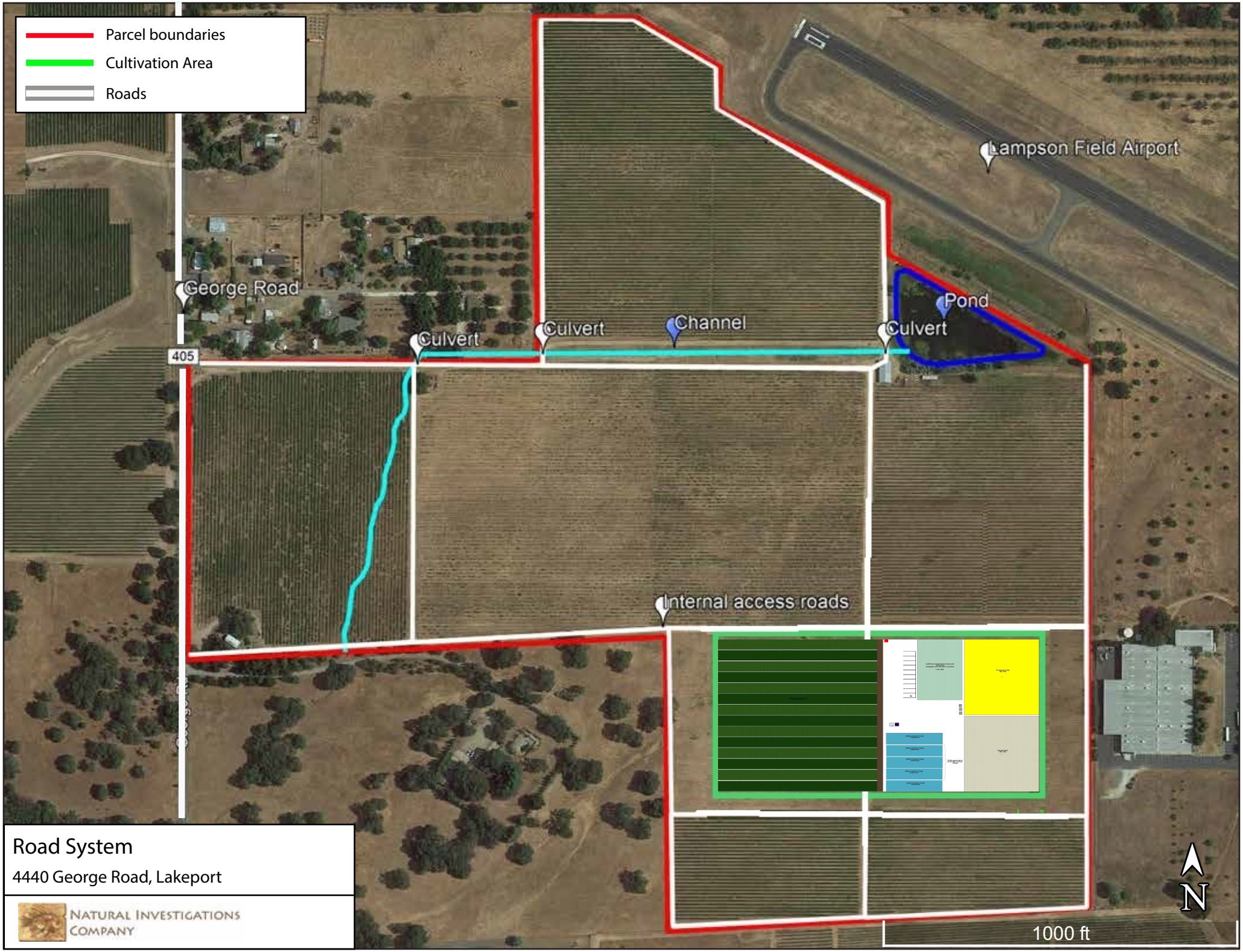


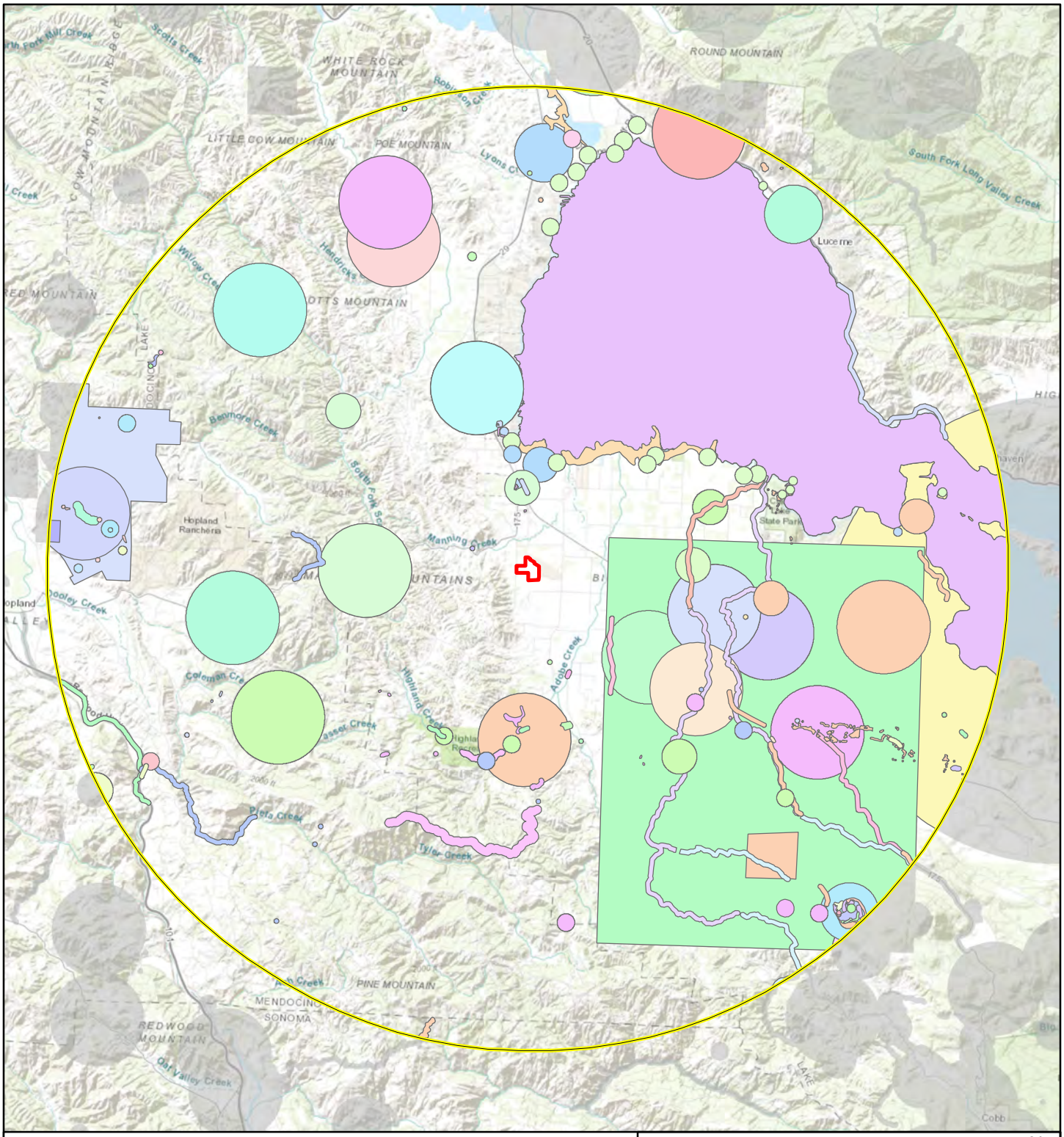
Map of Parcels on the Property

4440 George Road, Lakeport

Natural Investigations Company


89,620 Square Feet of Total
Outdoor Canopy Area
22,000 total square feet of nursery used
used for the
propagation and cultivation of cannabis
(120 x 200)
Processing Facility
200 x 250
Drying Facility
200 x 250
Mature Cannabis Canopy
Greenhouse
Mature Cannabis Canopy
Greenhouse
Mature Cannabis Canopy
Greenhouse
Mature Cannabis Canopy
Greenhouse
Mature Cannabis Canopy
Greenhouse
22,000 square feet of
mixed light cannabis
canopy


Parcel boundaries
Cultivation Area
Roads
Lampson Field Airport
George Road
405
Culvert
Culvert
Channel
Culvert
Pond
Internal access roads
Road System
4440 George Road, Lakeport
Natural Investigations Company
N
1000 ft



Project Location 10 Mile Buffer

1:190,000 1 inch = 3 miles

0 3 6 Miles

N

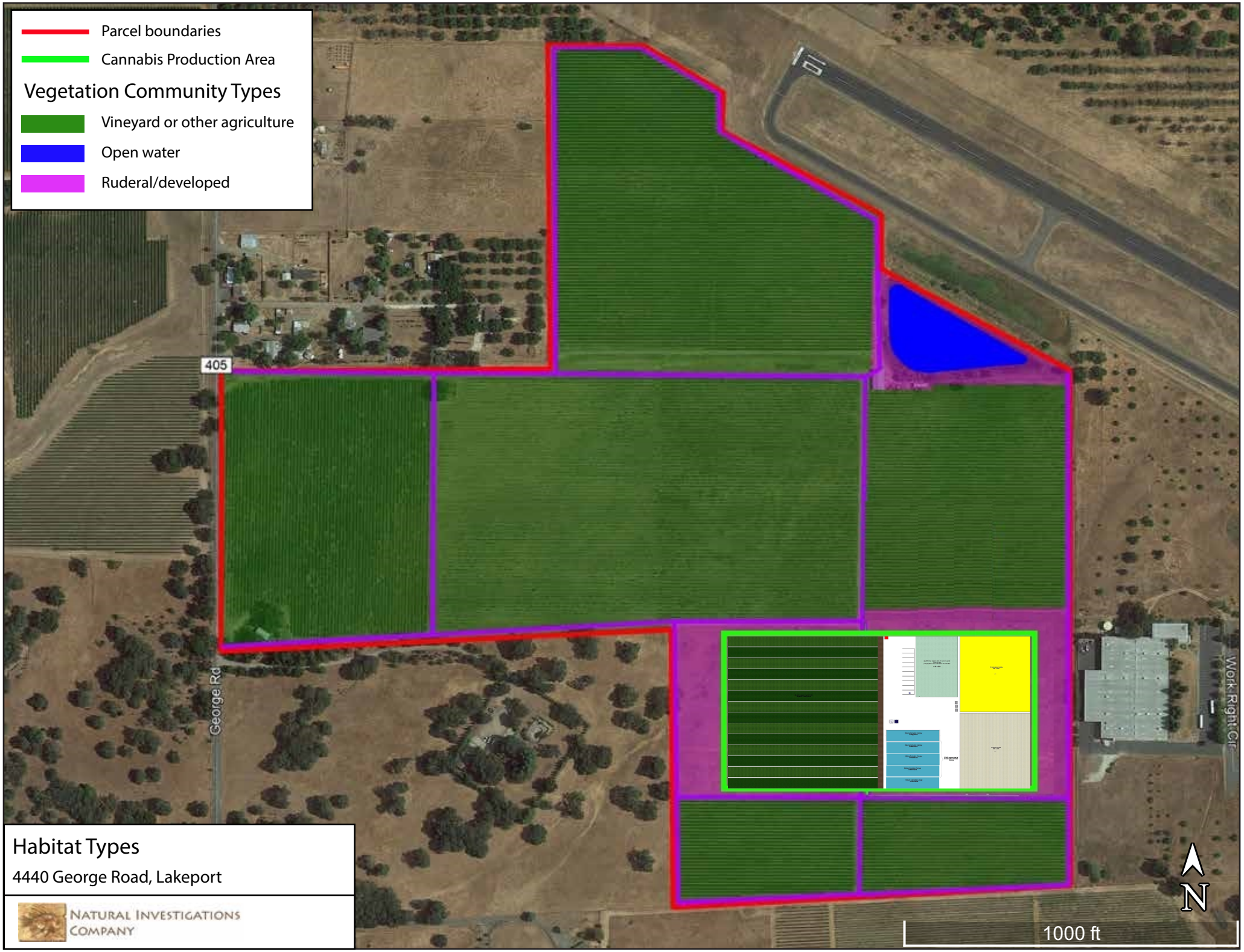
Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist inshowing features discussed in an attached document. Natural Investigations Company can not guarantee the accuracy and content of electronic files.The master file is stored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

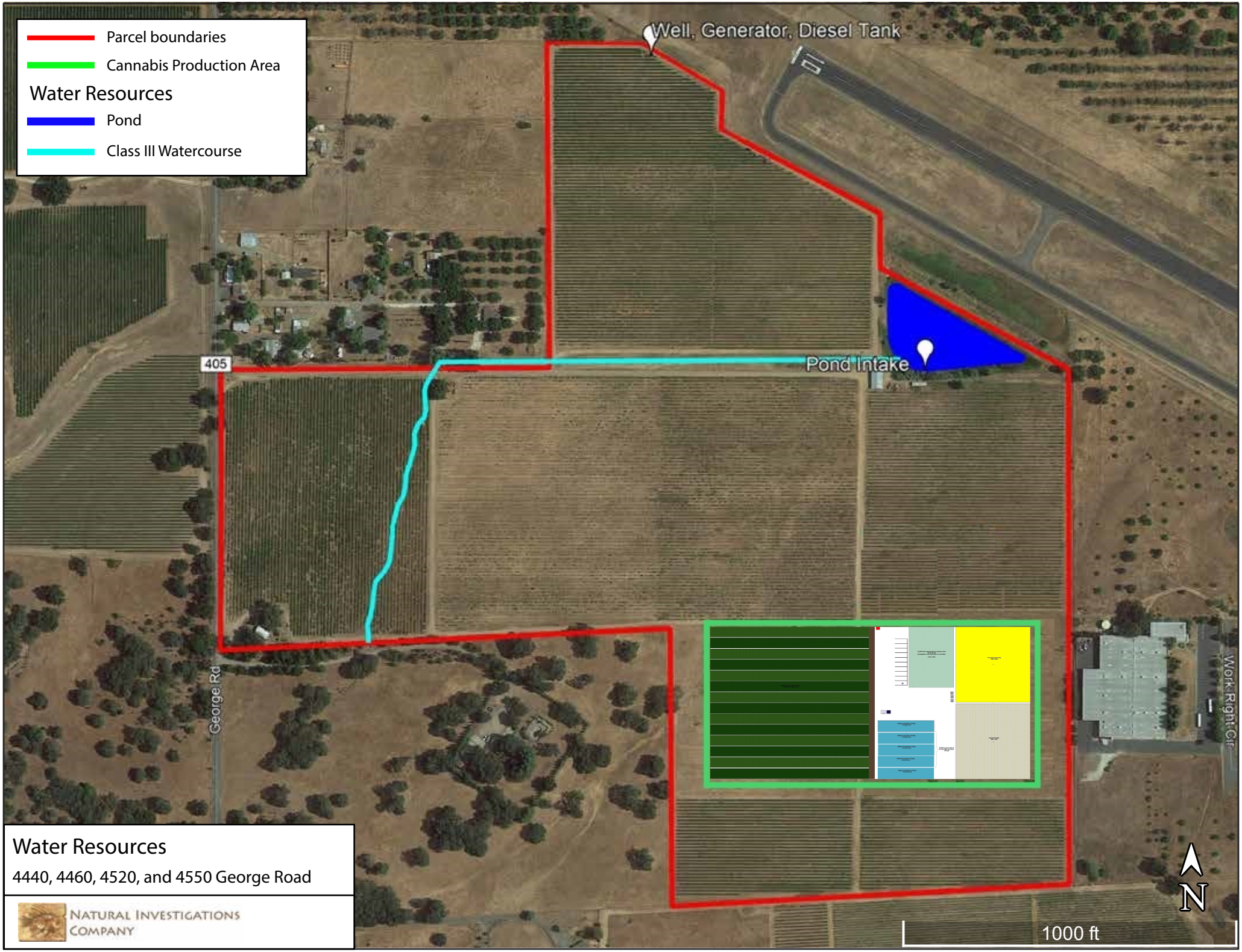
Special-Status Species Occurrences Map

George Road Properties

Highland Springs 1993 Quadrangle:
Township 13N, Range 9W, Section 7

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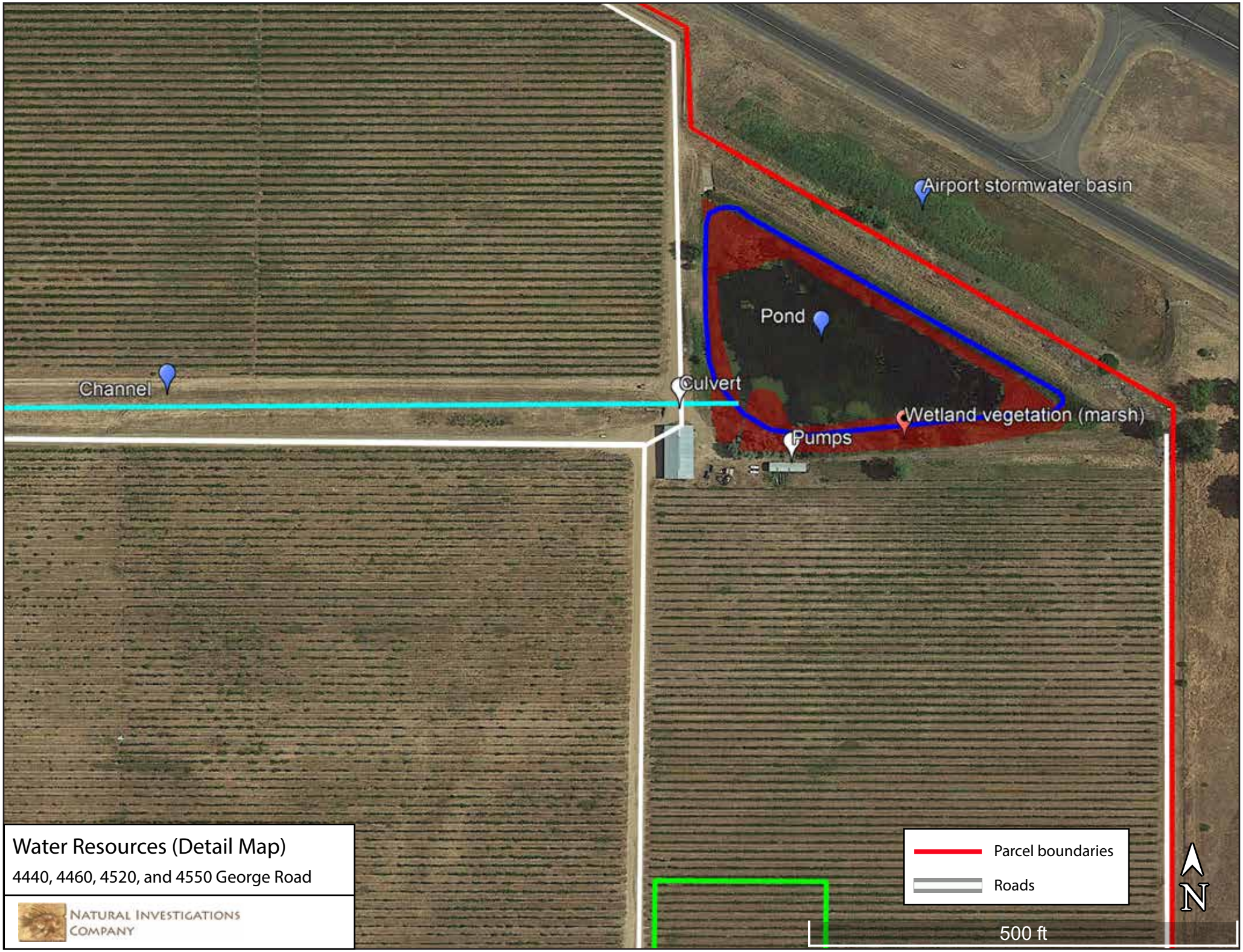

Parcel boundaries
Cannabis Production Area
Vegetation Community Types
Vineyard or other agriculture
Open water
Ruderal/developed
405
George Rd
Work Right Cir
Habitat Types
4440 George Road, Lakeport
Natural Investigations Company
N
1000 ft

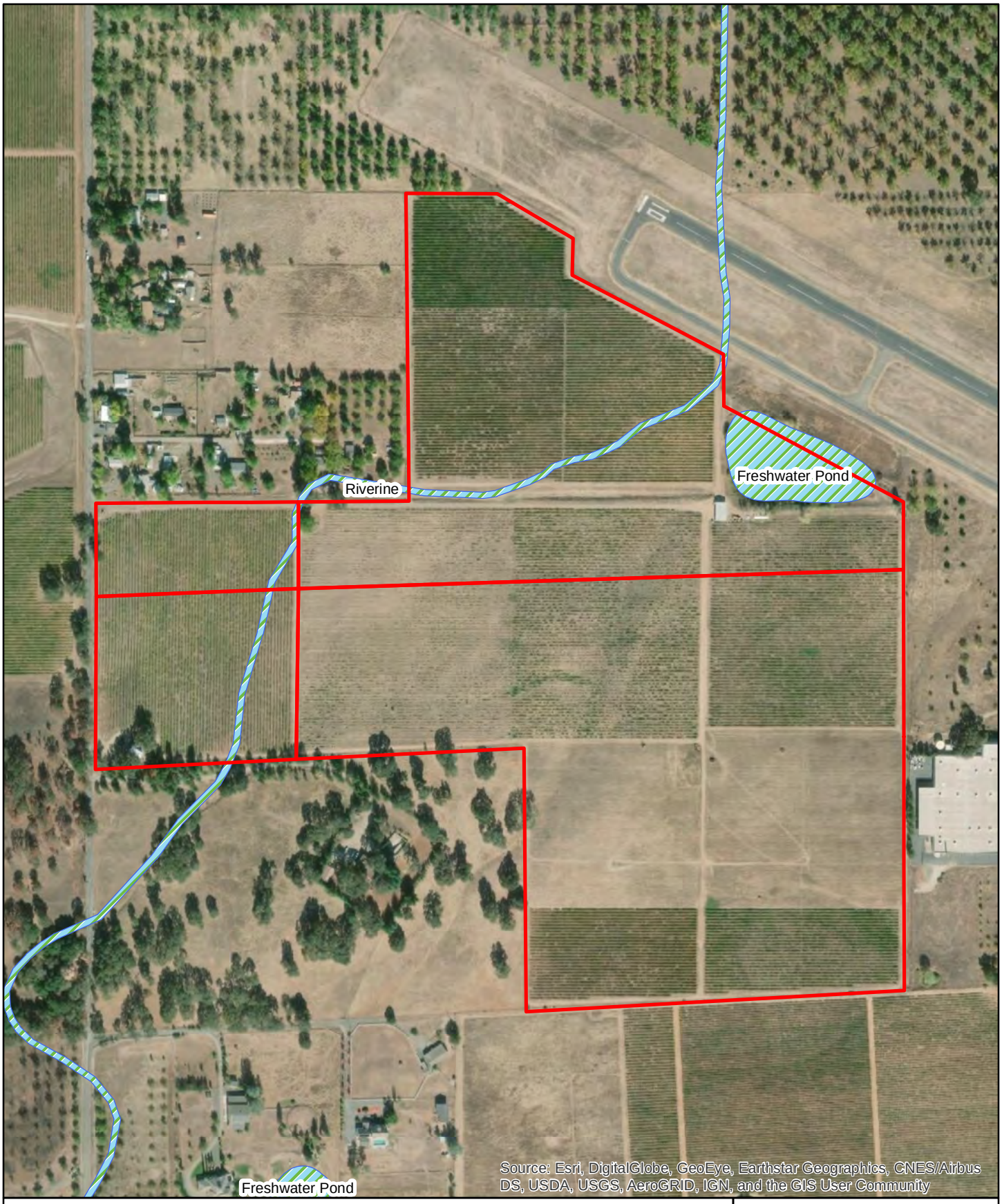


Water Resources

4440, 4460, 4520, and 4550 George Road

Natural Investigations Company


Airport stormwater basin
Pond
Channel
Culvert
Wetland vegetation (marsh)
Pumps
Water Resources (Detail Map)
4440, 4460, 4520, and 4550 George Road
Natural Investigations Company
Parcel boundaries
Roads
N
500 ft



Parcel Location

Wetlands and Channels

0 125 250 Meters

0 500 1,000 Feet

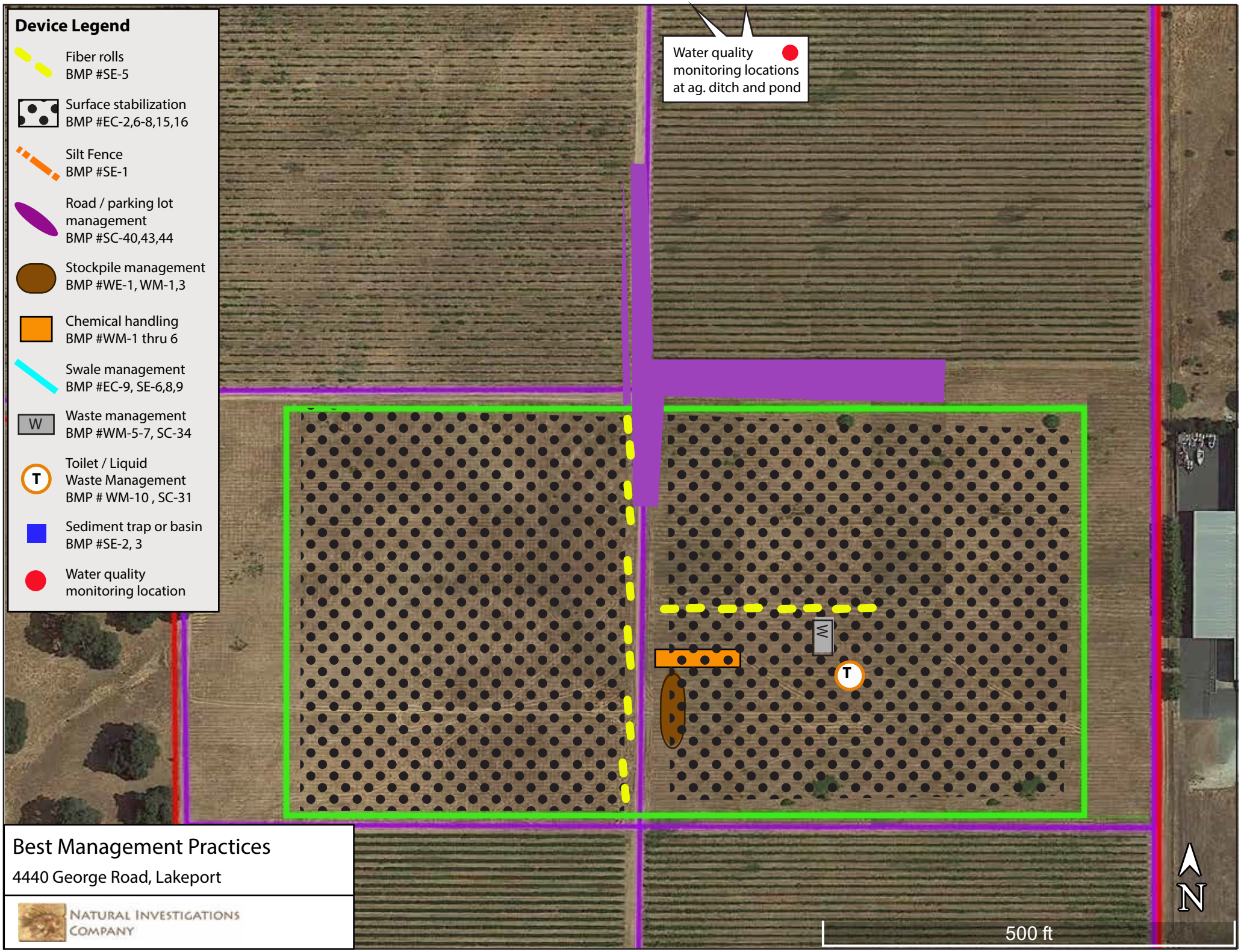
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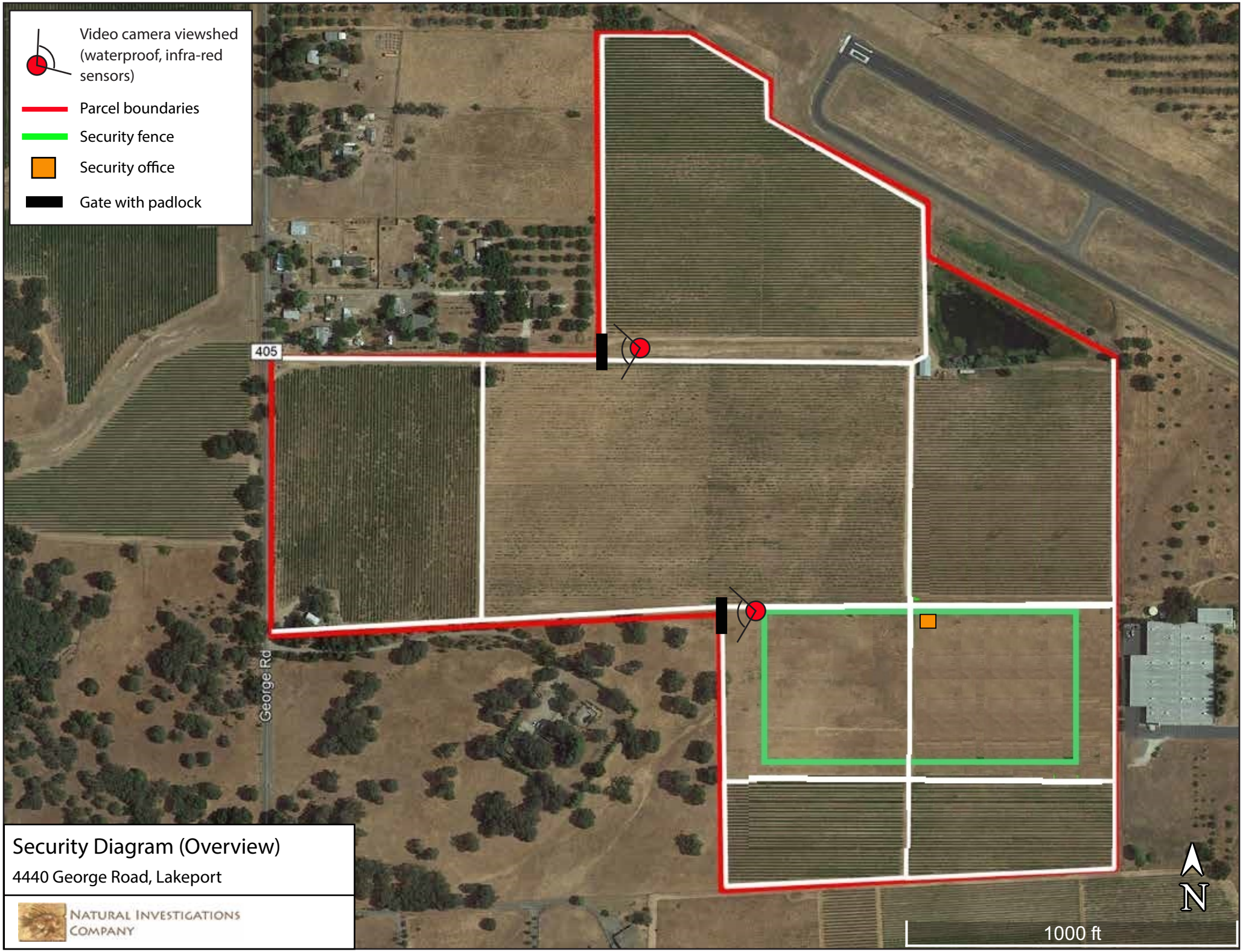
George Road Properties
National Wetlands Inventory
Features Map

Natural Investigations Company

Map Date 2/19/2020

Highland Springs 1993 Quadrangle:Township 13N, Range 9W, Section 7


Device Legend
Fiber rolls
BMP #SE-5
Surface stabilization
BMP #EC-2,6-8,15,16
Silt Fence
BMP #SE-1
Road / parking lot management
BMP #SC-40,43,44
Stockpile management
BMP #WE-1, WM-1,3
Chemical handling
BMP #WM-1 thru 6
Swale management
BMP #EC-9, SE-6,8,9
W
Waste management
BMP #WM-5-7, SC-34
T
Toilet / Liquid Waste Management
BMP # WM-10 , SC-31
Sediment trap or basin
BMP #SE-2, 3
Water quality monitoring location
Water quality monitoring locations at ag. ditch and pond
W
T
Best Management Practices
4440 George Road, Lakeport
Natural Investigations Company
N
500 ft



Security Diagram (Overview)

4440 George Road, Lakeport

Natural Investigations Company


Video camera viewshed (waterproof, infra-red sensors)
Parcel boundaries
Security fence
Security office
Gate with padlock
Security Diagram (Detail)
4440 George Road, Lakeport
Natural Investigations Company
N
500 ft

FLOMEC®



TM SERIES®
water meters

TM SERIES (WATER METERS)

FLOMEC® TM Series Water Meters are accurate, economical and designed to last. Choose TM Water Meters for water processing and irrigation applications:

- Meets Schedule 80 PVC specifications
- Standard low-profile display
- Seven sizes with three fitting types available
- Flowrates from 1 to 600 gallons per minute (3.8 to 2271 L/min)

FEATURES / BENEFITS

- Easy to install
- Displays in gallons, litres and cubic feet
- Indicates Batch, Cumulative Totals and Rate of Flow
- Available in NPT, BSPP, Spigot and Flange (3" & 4" only) Fittings
- Non-volatile totals means amounts are retained when batteries are replaced or power is lost
- Lithium battery life: 5 years

PRODUCT CONFIGURATION

PRODUCT IDENTIFIER 1

TM = Water Meter, Schedule 80 PVC

TURBINE SIZE 2

050 = ½" (15 mm)
075 = ¾" (20 mm)
100 = 1" (25 mm)
150 = 1-½" (40 mm)
200 = 2" (50 mm)
300 = 3" (80 mm)
400 = 4" (100 mm)

FITTING TYPE 3

Blank = Spigot (Pipe) End
-**N** = NPT Female
-**B** = BSPP Female (1", 1-1/2", 2", 3" & 4" meters only)
-**F** = 150# ANSI Flange (3" and 4" meters only)

ELECTRONIC CHOICE 4

Blank = Local Display (Standard)
-P = Pulse Output

	1	2	3	4
--->>>>	TM	300	-N	-P

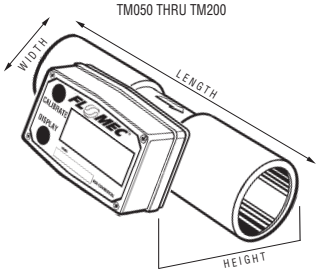
DIMENSIONS

Meter Size	Length	Height	Width
TM050	3.8" (96 mm)	2.6" (66 mm)	2.0" (51 mm)
TM050-N	5.8" (147 mm)	2.6" (66 mm)	2.0" (51 mm)
TM075	3.8" (96 mm)	2.7" (68 mm)	2.0" (51 mm)
TM075-N	5.8" (147 mm)	2.7" (68 mm)	2.0" (51 mm)
TM100	4.1" (104 mm)	3.1" (79 mm)	2.0" (51 mm)

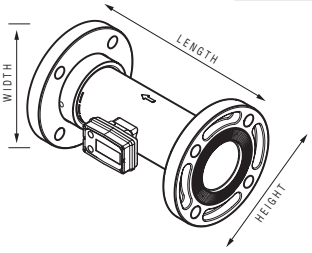
Meter Size	Length	Height	Width
TM100-N	6.1" (155 mm)	3.1" (79 mm)	2.0" (51 mm)
TM150	5.4" (137 mm)	3.7" (94 mm)	2.1" (53 mm)
TM150-N	7.4" (188 mm)	3.7" (94 mm)	2.1" (53 mm)
TM200	5.5" (140 mm)	4.2" (107 mm)	2.4" (61 mm)
TM200-N	7.5" (190 mm)	4.2" (107 mm)	2.4" (61 mm)

Meter Size	Length	Height	Width
TM300 (SPIGOT)	11.5" (292 mm)	5.34" (136 mm)	3.5" (89 mm)
TM400 (SPIGOT)	13.5" (343 mm)	6.34" (161 mm)	4.5" (114 mm)
TM300-N (NPT)	14.7" (373 mm)	5.78" (147 mm)	4.37" (111 mm)
TM400-N (NPT)	17.0" (432 mm)	6.76" (172 mm)	5.34" (136 mm)
TM300-F (FLANGE)	12.0" (305 mm)	7.5" (190 mm)	7.5" (190 mm)
TM400-F (FLANGE)	14.0" (356 mm)	9.0" (229 mm)	9.0" (229 mm)

TM050 THRU TM200



TM300 & TM400



**Length guidelines are estimates; actual length can vary up to ± 1/2" (13 mm)*

***Computer display adds 1.1 in. (28 mm) to height*

SPECIFICATIONS

Fitting Type:	Schedule 80 Spigot (Pipe) End		
	NPT (Female)		
	BSPP (Female) (1 inch, 1-1/2 inch, & 2 inch meters only)		
	150# ANSI Flange or DIN 100 Flange (3" and 4" meters only)		
Meter Sizes Available:	1/2" 3/4" 1" 1-1/2" 2" 3" 4"		
Flow Range:	1/2" (050)	1 - 10 GPM	(3.8 - 38 L/min)
	3/4" (070)	2 - 20 GPM	(7.6 - 76 L/min)
	1" (100)	5 - 50 GPM	(19 - 190 L/min)
	1-1/2" (150)	10 - 100 GPM	(38 - 380 L/min)
	2" (200)	20 - 200 GPM	(76 - 760 L/min)
	3" (300)	40 - 400 GPM	(151 - 1514 L/min)
	4" (400)	60 - 600 GPM	(227 - 2271 L/min)
Accuracy (% of Reading):	± 3.0%		
Pressure Rating (1/2" - 2"):	225 psi (15.3 bar) @ 73° F (23° C)		
BSP	150 psi (10.3 bar) @ 73° F (23° C)		
Pressure Rating (3" - 4"):	225 psi (15.3 bar) @ 73° F (23° C)		
DIN	135 psi (9.1 bar) @ 73° F (23° C)		
For CE Applications	135 psi (9.1 bar) @ 73° F (23° C)		
Operating Temperature Range:	+32° F to +140° F (0° C to +60° C)**		

Typical K-Factor:	1/2" (050)	2,500 PPG (660 Pulses/L)
	3/4" (070)	1,100 PPG (291 Pulses/L)
	1" (100)	565 PPG (149 Pulses/L)
	1-1/2" (150)	215 PPG (57 Pulses/L)
	2" (200)	100 PPG (26 Pulses/L)
	3" (300)	43 PPG (11 Pulses/L)
	4" (400)	17 PPG (4.5 Pulses/L)
Wetted Materials (1/2" - 2"):	Housing:	PVC
	Bearings:	Ceramic
	Shaft:	Tungsten Carbide
	Rotor:	PVDF
	Rings:	316 Stainless Steel
Wetted Materials (3" - 4"):	Housing:	PVC
	Bearings:	PEEK
	Shaft & Thrust Washers:	Stainless Steel
	Rotor & Nose Cone:	Acetal
	Signal Generator:	Ferrite
Calibration Report:	Comes standard with P (Pulse out) TM models	
	N.I.S.T. – Certification available	

*At the end of Extended Flow Range accuracy may decrease. Damage to the meter may occur if running at high Extended Range.

**PVC pressure rating will incrementally decrease above 73° F (23° C).

ACCESSORIES / ELECTRONICS

Part No.	Description
113275-1	FM Approved Remote Kit Assembly (will not make meter FM Approved)
125260-01	90° Display Adapter Kit
125080-1	Pulse Access Dust Cover (must be used in conjunction with FM Approved Remote Kit Assembly)
145507-01	Kit, Adapter, TM-QSI1-Q09 Display
145507-02	Kit, Adapter, TM-QSI2-Q09 Display
145507-03	Kit, Adapter, TM-QSI3-Q09 Display
145507-04	Kit, Adapter, TM-QSI1-No Display
145507-05	Kit, Adapter, TM-QSI2-No Display
145507-06	Kit, Adapter, TM-QSI3-No Display
145507-07	Kit, Adapter, TM-QSI1-Display Ready
145507-08	Kit, Adapter, TM-QSI2-Display Ready
145507-09	Kit, Adapter, TM-QSI3-No Display

APPLICATIONS

- OEM water treatment equipment / skids
- Sub-metering of facility water usage
- Waste water treatment equipment
- Irrigation
- Batching
- Plant process water
- Water based cooling systems
- Chemical feed systems
- Monitoring clean fluids
- Cooling towers
- Blending

APPROVALS

Service & Warranty: For technical assistance, warranty replacement or repair contact your **FLOMEC®** or **GPI®** distributor: In North or South America: **888-996-3837 / FLOMEC.net**
Outside North or South America: **+61 2 9540 4433 / FLOMEC.net**

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Pete's TRACTOR & PUMP

Pete Lucchesi: 707 272-0474
Luke Lucchesi: 707 272-2661
petestractor@yahoo.com

Customer: Joseph Gustafson
Cell Phone: 707-350-0270
Job Address: 4440 George Rd. ~ Lakeport, CA. 95453

E-Mail: gusto2000.jg@gmail.com
Contact: Joseph Gustafson

WELL DEPTH	CASING SIZE	STATIC LEVEL	PUMP TYPE	PUMP SETTING	MAX PUMP OUTPUT	TOTAL DRAWDOWN	DED HEAD	AMPS	VOLTAGE
	8"		Submercible						

DATE	TIME	TECH	WATER LEVEL	GAL. PER MINUTE	WATER COLOR	WATER METER	COMMENTS
10/1/2020	8:00am	Pete	N/A	185	Clear		Pump 6 hr
	8:15am			185			Total of 1110.00 GA7
	8:30am			185			
	8:45am			185			
	9:00am			185			
	9:30am			185			
	10:00am			185			
	10:30am			185			
	11:00am			185			
	11:30am			185			
	12:00pm			185			
	12:30pm			185			
	1:00pm						
	1:30pm						
	2:00pm						