

## **PROPERTY MANAGEMENT PLAN**



### **APPLICANT**

**Blackwell Capital Management, LLC**

### **PROJECT LOCATION**

**22004 Morgan Valley Road  
Lower Lake, CA 95457**

### **PROJECT PARCEL/PROPERTY**

**Lake County APN 012-069-25**

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## **PROJECT DESCRIPTION**

Blackwell Capital Management, LLC (BCM) is seeking a Major Use Permit from the County of Lake for a proposed commercial cannabis cultivation operation at 22004 Morgan Valley Road near Lower Lake, CA on Lake County APN 012-069-25 (Project Parcel/Property). The proposed commercial cannabis cultivation operation would be composed of an A-Type 3 Medium Outdoor and three A-Type 1C Specialty Cottage Outdoor Lake County License Types, with a total combined cultivation area of 54,760 ft<sup>2</sup> (as defined in Chapter 21, Article 27 of the Lake County Code). The proposed cultivation operation would contain up to 51,060 ft<sup>2</sup> of Outdoor Canopy Area, two 320 ft<sup>2</sup> Harvest Storage Areas, and a 120 ft<sup>2</sup> Pesticides & Agricultural Chemical Storage Area. The Project Parcel has been enrolled for coverage under the State Water Resources Control Board's (SWRCB) Cannabis General Order since July 11<sup>th</sup>, 2019 (WDID: 5S17CC419274).

The 37.8-acre APZ-zoned Project Parcel is located within the Soda Creek watershed (HUC12), and approximately 4.5 miles east of Lower Lake, CA. The Project Parcel is accessed via a private gravel access road off of a shared private gravel access road that connects to Morgan Valley Road approximately one-half mile southeast of the Project Parcel. Locking metal gates across the private gravel access road control access to the Project Parcel. Historical land uses of the Project Parcel include extensive agriculture (animal grazing), collective cannabis cultivation, as well as a rural residential estate. The property was burned in the Rocky Fire of 2015.

Topography of the Project Parcel is sloped from east to west, with elevations that range from approximately 2,130 to 2,480 feet above mean sea level. An unnamed intermittent Class II watercourse and tributary of Soda Creek (NHD/DFG Water ID: 130949887) flows from north to south through the western third of the Project Parcel. Multiple ephemeral Class III watercourses form on or just east of the Project Parcel and flow west towards the unnamed intermittent Class II watercourse. No cannabis cultivation activities nor agricultural chemicals storage would occur within 100 feet of any surface waterbody. All water for the proposed cultivation operation would come from an existing onsite groundwater well located at Latitude 38.89675° and Longitude - 122.50089°.

The cultivation season for the proposed outdoor cannabis cultivation operation would begin on or after May 15<sup>th</sup> of each year (depending on climactic conditions) and end on or before November 15<sup>th</sup> of each year. The proposed outdoor cultivation/canopy areas would be enclosed with 6-foot tall galvanized woven wire fencing, covered with privacy screen/mesh where necessary to screen the cultivation/canopy area from public view. Locking metal gates would be used to control access to the proposed outdoor cultivation/canopy areas. The growing medium of the proposed outdoor cultivation/canopy areas would be an amended native soil mixture at or below grade, composed of native soil and compost. All cannabis waste generated from the proposed cultivation operation would be chipped and composted onsite. Composted cannabis waste would be stored in a designated composting area, until it is incorporated into the growing medium of the cultivation

areas, as an organic soil amendment. All agricultural chemicals (fertilizers, amendments, pesticides, and petroleum products) will be stored within a proposed 120 ft<sup>2</sup> wooden shed (Pesticide & Agricultural Chemicals Storage Area).

### **Self-Distribution**

BCM is also seeking to obtain a Type 13 Cannabis Distributor Transport Only, Self-Distribution license, so that they may use an unmarked, registered, and insured vehicle to transport cannabis from the proposed cultivation operation to licensed cannabis processing, distribution, and manufacturing facilities throughout the State of California. The distribution vehicle would only travel from the Project Property to the premises of licensed cannabis processing/distribution/manufacturing facilities, and back to the Project Property. The vehicle will be locked and secured whenever it is not being loaded or unloaded, and it will never be left unattended while transporting cannabis. The reporting requirements of the California Cannabis Track-and-Trace system will be adhered to at all times, to record and report all cannabis transfers and movements.

# SECTION – C

AIR QUALITY MANAGEMENT PLAN

# **Air Quality Management Plan**

## **Purpose and Overview**

Blackwell Capital Management, LLC (BCM) is seeking a Major Use Permit from the County of Lake for a proposed commercial cannabis cultivation operation at 22004 Morgan Valley Road near Lower Lake, California on Lake County APN 012-069-25 (Project Property/Parcel). The proposed commercial cannabis cultivation operation would be composed of three fenced outdoor cultivation areas totaling 54,000 ft<sup>2</sup> (combined), two 320 ft<sup>2</sup> Harvest Storage Areas (metal shipping/storage containers), a 120 ft<sup>2</sup> Security Center/Shed (wooden building), and a 120 ft<sup>2</sup> Pesticides & Agricultural Chemical Storage Area (wooden building). The growing medium of the proposed outdoor cultivation areas would be an amended native soil mixture at or below grade, composed of native soil and compost. Drip irrigation systems would be used to conserve water resources, and all water would come from an existing onsite groundwater well located at Latitude 38.89675° and Longitude -122.50089°.

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

## **Equipment or Activities that May Cause the Issuance of Air Contaminants**

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

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

**Fugitive Dust:** The proposed cultivation operation may generate fugitive dust emissions through ground-disturbing activities, uncovered soil or compost piles, and vehicle or truck trips on unpaved roads. Fugitive dust would be controlled by applying gravel or crushed rock (no white rock) to the primary access roads and parking areas of the Project Property, by delaying ground disturbing activities until site conditions are not windy, by wetting soils with a mobile water tank and hose during ground disturbing activities, and by eliminating and/or covering soil stockpiles.

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

### **Odor Response Program**

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

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

### **Community Liaison/Emergency Contact Information**

The Community Liaison/Emergency Contact for the BCM's cultivation operation is Mr. Christopher Macleod. Mr. Macleod's cell phone number is (707) 900-1099, and his email address is [ctmacleod@gmail.com](mailto:ctmacleod@gmail.com). There are no residences within 1,000 feet of the Project Parcel. The residents and/or owners of all properties within 250 feet of the Project Parcel, will be provided with Mr. Macleod's contact information before cannabis cultivation begins.

# SECTION – D

## CULTURAL RESOURCES EVALUATION

Redacted for Confidentiality



# SECTION – E

## BIOLOGICAL RESOURCES ASSESSMENT

# SECTION – F

## GROUNDS MANAGEMENT PLAN

# Grounds Management Plan

## **Purpose and Overview**

Blackwell Capital Management, LLC is seeking a Major Use Permit from the County of Lake for a proposed commercial cannabis cultivation operation at 22004 Morgan Valley Road near Lower Lake, California on Lake County APN 012-069-25 (Project Property/Parcel). The proposed commercial cannabis cultivation operation would be composed of three fenced outdoor cultivation areas totaling 54,000 ft<sup>2</sup> (combined), two 320 ft<sup>2</sup> Harvest Storage Areas (metal shipping/storage containers), a 120 ft<sup>2</sup> Security Center/Shed (wooden building), and a 120 ft<sup>2</sup> Pesticides & Agricultural Chemical Storage Area (wooden building). The growing medium of the proposed outdoor cultivation areas would be an amended native soil mixture at or below grade, composed of native soil and compost. Drip irrigation systems would be used to conserve water resources, and all water would come from an existing onsite groundwater well located at Latitude 38.89675° and Longitude -122.50089°.

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

## **Chemicals Storage and Effluent**

Chemicals stored and used at/by the proposed cultivation operation include fertilizers/nutrients, pesticides, and petroleum products (Agricultural Chemicals). All fertilizers/nutrients and pesticides, when not in use, will be stored in their manufacturer's original containers/packaging, undercover, and at least 100 feet from surface water bodies, inside the secure Pesticides & Agricultural Chemicals Storage Area (proposed wooden building). Petroleum products will be stored under cover, in State of California-approved containers with secondary containment, and separate from pesticides and fertilizers within the proposed Pesticides & Agricultural Chemicals Storage Area. Spill containment and cleanup equipment will be maintained within the proposed Pesticides and Agricultural Chemicals Storage Area, as well as Materials Safety Data Sheets (MSDS/SDS) for all potentially hazardous materials used onsite. No effluent is expected to be produced by the proposed cultivation operation.

All fertilizers/nutrients will be mixed/prepared on an impermeable surface that is at least 100 feet from surface water bodies. Personnel will be trained how to appropriately prepare and apply fertilizers/nutrients before being allowed to use them. When using/preparing fertilizers and other chemicals, personnel will be required to use personal protective equipment (PPE) consistent with

the MSDS/SDS recommendations for the product they're using/preparing. PPE to be used by staff include safety glasses, gloves, dust masks, boots, pants, and long-sleeved shirts.

### **Solid Waste Management**

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

### **Site Maintenance**

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

# SECTION – H

## STORM WATER MANAGEMENT PLAN

# **Storm Water Management Plan**

## **Purpose and Overview**

Blackwell Capital Management, LLC (BCM) is seeking a Major Use Permit from the County of Lake for a proposed commercial cannabis cultivation operation at 22004 Morgan Valley Road near Lower Lake, California on Lake County APN 012-069-25 (Project Property/Parcel). The proposed commercial cannabis cultivation operation would be composed of three fenced outdoor cultivation areas totaling 54,000 ft<sup>2</sup> (combined), two 320 ft<sup>2</sup> Harvest Storage Areas (metal shipping/storage containers), a 120 ft<sup>2</sup> Security Center/Shed (wooden building), and a 120 ft<sup>2</sup> Pesticides & Agricultural Chemical Storage Area (wooden building). The growing medium of the proposed outdoor cultivation areas would be an amended native soil mixture at or below grade, composed of native soil and compost. Drip irrigation systems would be used to conserve water resources, and all water would come from an existing onsite groundwater well located at Latitude 38.89675° and Longitude -122.50089°.

The intent/purpose of this Storm Water Management Plan is to protect the water quality of the surface and stormwater management systems managed by Lake County, and to evaluate the impact on downstream property owners. The proposed cultivation operation will increase the impervious surface area of the Project Property by approximately 1,000 ft<sup>2</sup>, or less than 0.1% of the Project Parcel, through the construction/installation of two 320 ft<sup>2</sup> metal shipping/storage containers, two 120 ft<sup>2</sup> wooden buildings, and six 5,000-gallon heavy-duty plastic water storage tanks. The proposed outdoor cultivation/canopy area(s) would not increase the impervious surface area of the Project Parcel and should not increase the volume of runoff from the Project Site. The proposed parking lot will have a permeable gravel surface, and the proposed ADA parking space will be constructed of permeable pavers.

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

### **Receiving Water Bodies and Infrastructure**

An unnamed intermittent Class II watercourse and tributary of Soda Creek (NHD/DFG Water ID: 130949887) flows from north to south through the western third of the Project Parcel. Multiple ephemeral Class III watercourses form on or just east of the Project Parcel and flow west towards the unnamed intermittent Class II watercourse. All areas of the proposed cultivation operation will be located more than 100 feet from any surface waterbody, including the ephemeral Class III watercourses. Development of the proposed cultivation operation, with the implementation of the LID practices and erosion and sediment control measures outlined below, should not increase the volume of stormwater discharges from the Project Parcel onto adjacent properties or flood elevations downstream.

### **Ground Disturbance and Grading**

Soils of the Project Parcel are identified as Skyhigh-Millsholm loams by the NRCS Web Soil Survey (attached), and characterized as clay loam residuum from sedimentary rock. The proposed cultivation operation will increase the impervious surface area of the Project Property by approximately 1,000 ft<sup>2</sup>, or less than 0.1% of the Project Parcel, through the construction/installation of two 320 ft<sup>2</sup> metal shipping/storage containers, two 120 ft<sup>2</sup> wooden buildings, and six 5,000-gallon heavy-duty plastic water storage tanks. The proposed outdoor cultivation/canopy area(s) would not increase the impervious surface area of the Project Parcel and should not increase the volume of runoff from the Project Site. The proposed parking lot will have a permeable gravel surface, and the proposed ADA parking space will be constructed of permeable pavers.

The proposed outdoor cultivation/canopy area would be established on contour, by ripping, plowing/discing and furrowing the native soils of the Project Parcel. BCM will take extra care to preserve the rich topsoil of the Project Parcel when preparing the proposed cultivation/canopy areas. The growing medium of the proposed outdoor cultivation/canopy area will be an amended native soil mixture at or below grade, with drip irrigation systems to conserve water resources. Each spring, the native soil/growing medium of the proposed outdoor cultivation/canopy area will be plowed/disc'd and furrowed to create planting beds for the cultivation of cannabis. Each fall, the native soil/growing medium of the proposed outdoor cultivation/canopy area will be plowed/disc'd and planted with a nitrogen-fixing cover crop, to stabilize the site(s) for the winter wet weather period.

### **Erosion and Sediment Control Measures**

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

remove any sediment, nutrients, and/or pesticides mobilized by stormwater runoff, and prevent those pollutants from reaching nearby surface water bodies.

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

#### **Regulatory Compliance (Stormwater)**

The Project Parcel has been enrolled for coverage under the State Water Resources Control Board's (SWRCB) Cannabis General Order since July 11<sup>th</sup>, 2019 (WDID: 5S17CC419274). Site Management and Nitrogen Management Plans will be developed for the proposed cultivation operation, and submitted to the Central Valley Regional Water Quality Control Board (CVRWQCB) for review, prior to planting. Each year, prior to March 1<sup>st</sup>, an Annual Monitoring Report will be prepared and submitted to the CVRWQCB, demonstrating measures taken over the course of the previous year to comply with the Cannabis General Order. The stormwater management measures outlined above meet or exceed the requirements of the Lake County Storm Water Management Ordinance (Chapter 29 of the Lake County Ordinance Code). Development of the proposed cultivation operation, with implementation of the LID practices and erosion and sediment control measures outlined above, should not increase the volume of stormwater discharges from the Project Property onto adjacent properties or flood elevations downstream.



### **Storm Water Management Monitoring and Reporting**

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

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

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

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

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

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

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

## **Cannabis Vegetative Material Waste Management**

### **Cannabis Waste**

“Cannabis waste” is an organic waste, as defined in Section 42649.8(c) of the Public Resources Code. Cannabis waste generated from the proposed cannabis cultivation operation would be limited to cannabis plant leaves and stems. All other parts of cannabis plants cultivated at this site will be transferred to State of California-licensed Distributors and Manufacturers. The proposed cannabis cultivation operation should generate approximately 400 pounds of dried cannabis waste each cultivation season (May through November). All cannabis waste would be composted onsite.

### **Cannabis Waste Composting**

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

### **Cannabis Waste Records/Documentation**

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

## **Growing Medium Management**

### **Growing Medium Overview**

The growing medium of the proposed outdoor canopy areas will be an amended native soil mixture at or below grade, with drip irrigation systems to conserve water resources. Each year the growing medium of the proposed cultivation operation will be amended and reused. Each spring, the native soil/growing medium of the proposed outdoor cultivation areas will be plowed/disc'd and furrowed to create planting beds for the cultivation of cannabis. Each fall, the native soil/growing medium of the proposed outdoor cultivation areas will be plowed/disc'd and planted with a nitrogen-fixing cover crop, to stabilize the site(s) for the winter wet weather period.

### **Growing Medium Waste**

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



## Central Valley Regional Water Quality Control Board

11 July 2019

WDID: 5S17CC419274

### DISCHARGER

Chris Macleod  
PO Box 138  
Santa Rosa, CA 95402

### LANDOWNER

Leah Bradle  
PO Box 138  
Santa Rosa, CA 95402

### NOTICE OF APPLICABILITY, WATER QUALITY ORDER WQ-2019-0001-DWQ, CHRIS MACLEOD, APN 012-069-250-000, LAKE COUNTY

Chris Macleod (hereafter "Discharger") submitted information through the State Water Resources Control Board's (State Water Board's) online portal on 28 June 2019, for discharges of waste associated with cannabis cultivation related activities. Based on the information provided, the Discharger self-certifies the cannabis cultivation activities are consistent with the requirements of the State Water Board *Cannabis Cultivation Policy- Principles and Guidelines for Cannabis Cultivation* (Policy), and the *General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities*, Order No. WQ-2019-0001-DWQ (General Order). This letter provides notice that the Policy and General Order are applicable to the site as described below. You are hereby assigned waste discharge identification (WDID) number **5S17CC419274**.

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

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

Our records show the Discharger was previously enrolled under the Central Valley Regional Water Board's *Waste Discharge Requirements General Order for Discharges of Waste Associated with Medicinal Cannabis Cultivation Activities*, Order R5-2015-0113. For administrative purposes, the Discharger's enrollment for WDID 5A17MJ00001 under Order R5-2015-0113 is hereby terminated.

## 1. FACILITY AND DISCHARGE DESCRIPTION

All dischargers enrolled under the North Coast Regional Water Board's Order (R1-2015-0023) or the Central Valley Regional Water Board's Order (R5-2015-0113) as of 17 October 2017, (the adoption date of the General Order) may retain the reduced setbacks applicable under the appropriate Regional Water Board order unless the Executive Officer for the appropriate Regional Board determines that the reduced setbacks applicable under their regional order are not protective of water quality. However, sites that expand their cannabis cultivation area or other cannabis related activities must comply with the riparian setbacks in the General Order.

The information submitted by the Discharger states the disturbed area is equal to or greater than 2,000 square feet and less than 1 acre (43,560 square feet), no portion of the disturbed area is within the setback requirements, no portion of the disturbed area is located on a slope greater than 30 percent, and the cannabis cultivation area is less than 1 acre.

Based on the information submitted by the Discharger, the cannabis cultivation activities are classified as Tier 1, low risk.

## 2. SITE-SPECIFIC REQUIREMENTS

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

The application requires the Discharger to self-certify that all applicable Best Practicable Treatment or Control (BPTC) measures are being implemented, or will be implemented by the onset of the winter period (November 15 - April 1), following the enrollment date. Dischargers that cannot implement all applicable BPTC measures by the onset of the winter period, following their enrollment date, shall submit to the appropriate Central Valley Water Board a *Site Management Plan* that includes a time schedule and scope of work for use by the Central Valley Water Board in developing a compliance schedule as described in Attachment A of the General Order.

## 3. TECHNICAL REPORT REQUIREMENTS

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

1. A *Site Management Plan*, by **26 September 2019**, consistent with the requirements of General Order Provision C.1.a., and Attachment A, Section 5. Attachment D of the General Order provides guidance on the contents of the *Site Management Plan*.
2. A *Site Closure Report* must be submitted 90 days prior to permanently ending cannabis cultivation activities and seeking to rescind coverage under the Conditional Waiver. The *Site Closure Report* must be consistent with the requirements of General Order Provision C.1.e., and Attachment A, Section 5. Attachment D of the General Order provides guidance on the contents of the *Site Closure Report*.

#### 4. MONITORING AND REPORTING PROGRAM

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

#### 5. ANNUAL FEE

According to the information submitted, the discharge is classified as Tier 1, low risk with the current annual fee assessed at \$600. The fee is due and payable on an annual basis until coverage under this General Order is formally rescinded. To rescind coverage, the Discharger must submit a Notice of Termination, including a *Site Closure Report* at least 90 days prior to termination of activities and include a final MRP report.

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

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

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

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



(for) Patrick Pulupa,  
Executive Officer

KBH: ch

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




Soil Map—Lake County, California



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Lake County, California

Survey Area Data: Version 18, Sep 6, 2021

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

Date(s) aerial images were photographed: Jul 2, 2019—Jul 5, 2019

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



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
209	Skyhigh-Millsholm loams, 15 to 50 percent slopes	52.4	95.4%
212	Skyhigh-Sleeper-Millsholm association, 30 to 50 percent slopes	0.0	0.0%
1690	Maymen-Etsel-Snook complex, 30 to 75 percent slopes, low ffd	2.5	4.6%
<b>Totals for Area of Interest</b>		<b>55.0</b>	<b>100.0%</b>

# SECTION – I

## WATER USE MANAGEMENT PLAN

# **Water Use Management Plan**

## **Purpose and Overview**

Blackwell Capital Management, LLC is seeking a Major Use Permit from the County of Lake for a proposed commercial cannabis cultivation operation at 22004 Morgan Valley Road near Lower Lake, California on Lake County APN 012-069-25 (Project Property/Parcel). The proposed commercial cannabis cultivation operation would be composed of three fenced outdoor cultivation areas totaling 54,000 ft<sup>2</sup> (combined), two 320 ft<sup>2</sup> Harvest Storage Areas (metal shipping/storage containers), a 120 ft<sup>2</sup> Security Center/Shed (wooden building), and a 120 ft<sup>2</sup> Pesticides & Agricultural Chemical Storage Area (wooden building). The growing medium of the proposed outdoor cultivation areas would be an amended native soil mixture at or below grade, composed of native soil and compost. Drip irrigation systems would be used to conserve water resources, and all water would come from an existing onsite groundwater well located at Latitude 38.89675° and Longitude -122.50089°.

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

## **Description of Water Resources**

### **Surface Water**

The Project Parcel is located within the Soda Creek watershed (HUC12), and approximately 4.5 miles east of Lower Lake, CA. An unnamed intermittent Class II watercourse and tributary of Soda Creek (NHD/DFG Water ID: 130949887) flows from north to south through the western third of the Project Parcel. Multiple ephemeral Class III watercourses form on or just east of the Project Parcel and flow west towards the unnamed intermittent Class II watercourse. No cannabis cultivation activities nor agricultural chemicals storage would occur within 100 feet of any surface waterbody.

### **Groundwater**

Soils of the Project Parcel are identified as Skyhigh-Millsholm loams by the NRCS Web Soil Survey, and characterized as clay loam residuum from sedimentary rock. The United States Geological Survey Map of the Santa Rosa Quadrangle defines the area in the vicinity of the Project Parcel as the Lower Cretaceous-Upper Jurassic Great Valley Sequence, composed mostly of marine mudstones, siltstones, sandstones, and conglomerate. The Project Property is not located

within any of the 13 groundwater basins/source areas identified in the 2006 Lake County Groundwater Management Plan.

All water for the proposed cultivation operation would come from an existing onsite groundwater well located at Latitude 38.89675° and Longitude -122.50089°. This well was drilled in December of 2020, through clay, shale, and sandstone, to a depth of 185 feet below ground surface, however the well was only completed to a depth of 127 feet below ground surface. The well was screened between 30 and 127 feet below ground surface and had an estimated yield of 18 gallons per minute at the time it was drilled.

### **Water Resources Protection**

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

The Project Property was enrolled for coverage under the State Water Resources Control Board's Cannabis General Order (Order No. WQ-2019-0001-DWQ), as a Tier 2 Low Risk Discharger on July 11<sup>th</sup>, 2019 (WDID: 5S17CC419274). Site Management and Nitrogen Management Plans will be developed for the proposed cultivation operation, and submitted to the Central Valley Regional Water Quality Control Board (CVRWQCB) for review, prior to planting. Each year, prior to March 1<sup>st</sup>, an Annual Monitoring Report will be prepared and submitted to the CVRWQCB, demonstrating measures taken over the course of the previous year to comply with the Cannabis General Order. BCM will maintain compliance with the Cannabis General Order for the protection of water resources for as long as the proposed cultivation operation is operating.

### **Water Sources, Storage, & Irrigation**

All water for the proposed cultivation operation would come from an existing onsite groundwater well located at Latitude 38.89675° and Longitude -122.50089°. Irrigation water for the proposed cultivation operation would be stored within six proposed 5,000-gallon water storage tanks. The water storage tanks will be equipped with float valves to shut off the flow of water from the wells and prevent the overflow and runoff of irrigation water when full. PVC water supply lines will be run from the water storage tanks to the irrigation systems of each proposed cultivation area. The water supply lines will be equipped with safety valves, capable of shutting off the flow of water so that waste of water and runoff is prevented/minimized when leaks occur and the system needs repair, and inline water meters compliant with California Code of Regulations, Title 23, Division

3, Chapter 2.7. BCM staff will maintain daily water meter reading records for a minimum of five years, and will make those records available to Water Boards, CDFW, and Lake County staff upon request. The irrigation systems of the proposed cultivation/canopy areas will be composed of black poly tubing and drip tapes/lines and emitters.

### **Water Availability Analysis**

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

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

BCM's proposed cultivation practices are similar to commercial tomato or hops production, with an estimated water use requirement of 25 inches per year. The proposed outdoor cannabis canopy area is 51,060 ft<sup>2</sup> with an expected total annual water use requirement of approximately 2.5 acre-feet per year. The cultivation season for the proposed cultivation operation would begin on or after May 15<sup>th</sup> of each year (depending on climactic conditions) and end on or before November 15<sup>th</sup> of each year. The following table presents the expected water use of the proposed cultivation operation by month during the cultivation season in gallons and acre-feet.

May	June	July	August	September	October	November
33,000	98,000	163,000	196,000	163,000	130,000	32,000
0.1	0.3	0.5	0.6	0.5	0.4	0.1

The proposed cultivation operation would have a maximum daily water use requirement of approximately 6,540 gallons, and an average water demand of approximately 4,530 gallons per day during the cultivation season. On November 15<sup>th</sup>, 2021 JAK Drilling & Pump (License No. 1013957) conducted a 6-hour well performance test of the onsite groundwater well (attached). During the well performance test, the water level in the onsite groundwater well was monitored while it was pumped at 10 to 11 gallons per minute. The static water level in the onsite groundwater well was 25 feet bgs prior to the start of the well performance test. During the well performance test, the water level in the onsite groundwater well dropped to 103 feet bgs, where it stabilized for

the last 4.5 hours of the 6-hour well performance test. The water level within the well recovered to 31 feet bgs within 40 minutes after the pumping ceased (+92% recovery).

As demonstrated by the 6-hour well performance test, the onsite groundwater well can produce at least 10 gallons per minute. At 10 gallons per minute, the onsite groundwater well could produce the maximum estimated daily demand for water of the proposed cultivation operation in less than 11 hours. Additionally, BCM proposes to establish 30,000 gallons of water storage capacity on the Project Property, which is nearly five times the peak anticipated daily water demand of the proposed cultivation operation. As such, the existing onsite groundwater well is a sufficient water supply source for the proposed cannabis cultivation operation.

### **Water Conservation**

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

- Regularly inspect the entire water delivery system for leaks and immediately repair any leaky faucets, pipes, connectors, or other leaks.
- Apply weed-free mulch in cultivation areas that do not have ground cover to conserve soil moisture and minimize evaporative loss.
- Implement water conserving irrigation methods (drip or trickle and micro-spray irrigation).
- Maintain daily records of all water used for irrigation of cannabis. Daily records will be calculated by using measuring devices (inline water meters) installed on the main irrigation supply lines between the onsite groundwater wells and water storage tanks.

### **Monitoring and Reporting**

Prior to cultivation, an inline water meter compliant with California Code of Regulations, Title 23, Division 3, Chapter 2.7 will be installed on the main irrigation water supply line running between the existing onsite groundwater well and the water storage tanks of the proposed cultivation operation. Prior to cultivation, a water level meter equipped with data logging capabilities, will be installed on the existing onsite groundwater well. BCM's staff will record daily water meter readings, and will maintain those records onsite for a minimum of five years. BCM will make those records available to Water Boards, CDFW, and Lake County staff upon request.

State of California  
**Well Completion Report**  
 Form DWR 188 Submitted 2/9/2021  
 WCR2021-001805

Owner's Well Number \_\_\_\_\_ Date Work Began 12/13/2020 Date Work Ended 12/21/2020  
 Local Permit Agency Lake County Health Services Department - Environmental Health Division  
 Secondary Permit Agency \_\_\_\_\_ Permit Number WP0003517 Permit Date 06/10/2020

Well Owner (must remain confidential pursuant to Water Code 13752)	Planned Use and Activity
Name <u>Leah Bradle</u>	Activity <u>New Well</u>
Mailing Address <u>1007 B College Ave #152</u>	Planned Use <u>Water Supply Domestic</u>
City <u>Santa Rosa</u> State <u>CA</u> Zip <u>95401</u>	

Well Location	
Address <u>22004 Morgan Valley RD</u>	APN <u>012-069-25</u>
City <u>Lower Lake</u> Zip <u>95457</u> County <u>Lake</u>	Township _____
Latitude <u>38</u> <u>53</u> <u>48.2963</u> <u>N</u> Longitude <u>-122</u> <u>30</u> <u>3.2004</u> <u>W</u>	Range _____
Deg.    Min.    Sec.                    Deg.    Min.    Sec.	Section _____
Dec. Lat. <u>38.896749</u> Dec. Long. <u>-122.500889</u>	Baseline Meridian _____
Vertical Datum _____ Horizontal Datum <u>WGS84</u>	Ground Surface Elevation _____
Location Accuracy <u>Unknown</u> Location Determination Method <u>GPS</u>	Elevation Accuracy _____
	Elevation Determination Method _____

Borehole Information	Water Level and Yield of Completed Well
Orientation <u>Vertical</u> Specify _____	Depth to first water <u>17</u> (Feet below surface)
Drilling Method <u>Direct Rotary</u> Drilling Fluid <u>Foam</u>	Depth to Static _____
Total Depth of Boring <u>185</u> Feet	Water Level <u>17</u> (Feet) Date Measured <u>12/21/2020</u>
Total Depth of Completed Well <u>127</u> Feet	Estimated Yield* <u>18</u> (GPM) Test Type <u>Air Lift</u>
	Test Length <u>3</u> (Hours) Total Drawdown _____ (feet)
	*May not be representative of a well's long term yield.

Geologic Log - Free Form		
Depth from Surface Feet to Feet		Description
0	30	Brown dirt and gravel
30	70	Gravel mixed with brown dirt then some clay with sandstone
70	85	shale
85	185	soft shale with some sandstone

Casings										
Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	30	Blank	PVC	N/A	0.375	5.563			Solid
1	30	127	Screen	PVC	N/A	0.265	5.563	Milled Slots	0.032	Screen

Annular Material					
Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
20	127	Filter Pack	Other Gravel Pack	Pea Gravel	double washed pea gravel
0	20	Bentonite	Other Bentonite		Sanitary Seal

<b>Other Observations:</b>
----------------------------

Borehole Specifications		
Depth from Surface Feet to Feet		Borehole Diameter (inches)
0	30	10.875
30	185	7.875

Certification Statement				
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief				
Name <u>JAK DRILLING AND PUMP, Kharom Helliwege</u>				
Person, Firm or Corporation				
PO Box 250	Middletown	CA	95461	
Address	City	State	Zip	
Signed <u>electronic signature received</u>	02/09/2021	1013957		
C-57 Licensed Water Well Contractor	Date Signed	C-57 License Number		

DWR Use Only												
CSG #	State Well Number				Site Code			Local Well Number				
					N							W
Latitude Deg/Min/Sec						Longitude Deg/Min/Sec						
TRS:												
APN:												





Date: 11/15/2021

Technician: Jim Jackson

Client Name: Leah Bradle/Chris Macleod

Site Address: 22004 Morgan Valley Road, Lower Lake, CA

Well Pump Info (size, type, brand, etc.): Grundfos Solar

Power Source (hardwired, generator, solar only, solar with generator back up): Generator

Total Depth of Well? 127'

Diameter of Well? 5

Casing Type? PVC

Last time the water was pumped from the well? >24 hours (must rest 24-hours prior to testing)

Interval	Time	Flow Rate*	Pumping Level	*Flow Rate Measured via <input type="text" value="Bucket"/> or Meter
Start		Static	25.0	
5	12:20	11	26.0	Meter Start: _____
5	12:25	11	26.5	
5	12:30	11	27.5	Meter Stop: _____
5	12:35	11	28.0	
5	12:40	11	29.5	Field Quality Test Completed <input type="text" value="Y"/>
5	12:45	11	31.0	
10	12:55	11	49.0	pH: 7.6
10	13:05	11	63.0	
10	13:15	10	76.0	TDS: 2.22 ppm
10	13:25	10	82.0	
10	13:35	10	84.0	Hardness: 37 grains per gallon
10	13:45	10	103.0	
30	14:15	10	103.0	Iron: 1.0ppm
30	14:45	10	103.0	
30	15:15	10	103.0	
30	15:45	10	103.0	GPS: 39.896749, -122.500889
30	16:15	10	103.0	
30	16:45	10	103.0	
30	17:15	10	103.0	
30	17:45	10	103.0	
30	18:15	10	103.0	
STOP				
10	18:25	RECHARGE	77.0	
30	18:55	RECHARGE	31.0	

Was the pumping level measured from ground surface or  \_\_\_\_\_

# SECTION – J

SITE PHOTOS



Proposed Cultivation Area "F" (southeast view)



Proposed Cultivation Area "F" (northwest view)





**Proposed Cultivation Area "E" (north view)**



**Proposed Cultivation Area "D" (south view)**





Existing Onsite Groundwater Well

# Property Owner Consent Form

## Property Owner Consent Form to Allow Commercial Cannabis Cultivation

I, Leah Bradle, Trustee, declare under penalty of perjury that:

1. I am the record title owner of the property located at:

22004 Morgan Valley Road

Lower Lake, CA 95457

(Physical Address)

Lake County, California,

APN 012-069-25, or the title owner is a trust or business entity named, Young Trust and I have been duly authorized to represent such trust or business entity for purposes of executing this document.

2. I, or the trust or business entity I represent, am aware that the applicant is in the process of applying to the Lake County Community Development Department for a permit to cultivate commercial cannabis on the property described above in conformance with all the provisions of Chapter 21 the Lake County Code.

3. I, or the trust or business entity I represent, understand that, as the owner of the parcel containing a commercial cannabis cultivation site, I am required to sign this agreement in order for the applicant's application to go forward and understand that I may be liable under local, state, or federal law for the cannabis cultivation activities I am allowing on my property.

DocuSigned by:

Leah Bradle

3/23/2022

713561CAA3B4B4...

(Landowner Signature)

DocuSigned by:

Christopher Macleod

3/22/2022

C0CACC6D2C33430...

(Applicant Signature)

Christopher Macleod (Blackwell Capital Mangement, LLC)

(Print Applicants Name)

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_



# REALM

## Engineering

1767 Market Street, Suite C, Redding, CA 96001



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### *HYDROLOGY REPORT*

*22004 MORGAN VALLEY ROAD, LOWER LAKE, CA*

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*MARCH 24, 2022*





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Figure 1: Site Location Map

Figure 2: Area of Influence Diagram

Table 1: Estimated Monthly Water Use

Attachment A: Urgency Ordinance No. 3106

Attachment B: Existing and Proposed Conditions Site Plans

Attachment C: Onsite Well Completion and Performance Test Reports

Attachment D: Radius of Influence Analysis





## INTRODUCTION

The purpose of this Hydrology Study/Report is to provide adequate information regarding the water usage for a proposed cannabis cultivation operation and its impacts to surrounding areas. This report was written to meet the requirements of an Urgency Ordinance requiring land use applicants to provide enhanced water analysis during a declared drought emergency, approved by the Lake County Board of Supervisors on July 27<sup>th</sup>, 2021 (**Attachment A – Urgency Ordinance No. 3106**).

## PROJECT DESCRIPTION

Blackwell Capital Management, LLC (BCM) is seeking a Major Use Permit from the County of Lake for a proposed commercial cannabis cultivation operation at 22004 Morgan Valley Road near Lower Lake, CA on Lake County APN 012-069-25 (Project Parcel/Property). The proposed cultivation operation would contain up to 51,060 ft<sup>2</sup> of Outdoor Cultivation/Canopy Area, two 320 ft<sup>2</sup> Harvest Storage Areas, and a 120 ft<sup>2</sup> Pesticides & Agricultural Chemical Storage Area (**Attachment B: Existing and Proposed Conditions Site Plans**). All water for the proposed cannabis cultivation operation would come from an existing onsite groundwater well located at Latitude 38.89675° and Longitude -122.50089°.

The 37.8-acre APZ-zoned Project Parcel is located within the Soda Creek watershed (HUC12), and approximately 4.5 miles east of Lower Lake, CA. The Project Parcel is accessed via a private gravel access road off of a shared private gravel access road that connects to Morgan Valley Road approximately one-half mile southeast of the Project Parcel. Locking metal gates across the private gravel access road control access to the Project Parcel. Historical land uses of the Project Parcel include extensive agriculture (animal grazing), collective cannabis cultivation, as well as a rural residential estate. The property was severely burned in the Rocky Fire of 2015.

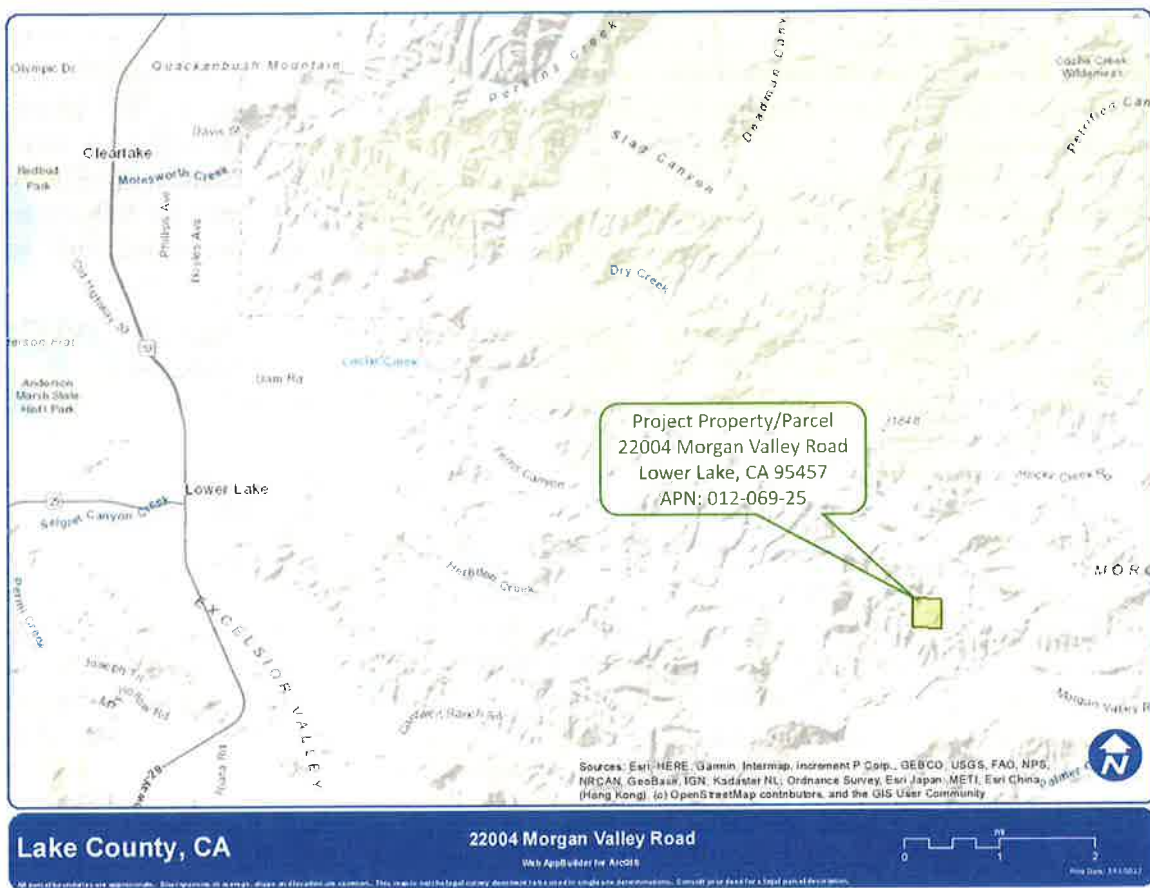
Topography of the Project Parcel is moderately sloped from east to west, with elevations that range from approximately 2,130 to 2,480 feet above mean sea level. An unnamed intermittent Class II watercourse and tributary of Soda Creek (NHD/DFG Water ID: 130949887) flows from north to south through the western third of the Project Parcel. Multiple ephemeral Class III watercourses form on or just east of the Project Parcel and flow west towards the unnamed intermittent Class II watercourse. No cannabis cultivation activities nor agricultural chemicals storage would occur within 100 feet of any surface waterbody.

Soils of the Project Parcel are identified as Skyhigh-Millsholm loams by the NRCS Web Soil Survey, and characterized as clay loam residuum from sedimentary rock. The United States Geological Survey Map of the Santa Rosa Quadrangle defines the area in the vicinity of the Project Parcel as the Lower Cretaceous-Upper Jurassic Great Valley Sequence, composed mostly of marine mudstones, siltstones, sandstones, and conglomerate. The Project Property is not located within any of the 13 groundwater basins/source areas identified in the 2006 Lake County Groundwater Management Plan<sup>1</sup>.

The cultivation season for the proposed outdoor cannabis cultivation operation would begin on or after May 15<sup>th</sup> of each year (depending on climactic conditions) and end on or before November 15<sup>th</sup> of each year. The proposed outdoor cultivation/canopy areas would be enclosed with 6-foot tall galvanized woven wire fencing, covered with privacy screen/mesh where necessary to screen



the cultivation/canopy area from public view. Locking metal gates would be used to control access to the proposed outdoor cultivation/canopy areas. The growing medium of the proposed outdoor cultivation/canopy areas would be an amended native soil mixture at or below grade, composed of native soil and compost. All cannabis waste generated from the proposed cultivation operation would be chipped and composted onsite. Composted cannabis waste would be stored in a designated composting area, until it is incorporated into the growing medium of the cultivation areas, as an organic soil amendment. All agricultural chemicals (fertilizers, amendments, pesticides, and petroleum products) will be stored within a proposed 120 ft<sup>2</sup> wooden shed (Pesticide & Agricultural Chemicals Storage Area).



**Figure 1 – Site Location Map**



## WATER USAGE

Cannabis has often been characterized as a high-water-use plant. Bauer et al. (2015)<sup>2</sup> and Carah et al (2015)<sup>3</sup> estimate that cannabis plants can consume up to approximately 6 gallons per plant per day, whereas grapes consume approximately 3.5 gallons per plant per day in the North Coast region of California. Other authors, however, have reported that water use requirement for cannabis plants are similar to those of other agricultural crops, such as corn and hops, with an estimated water use requirement of 25-35 inches per year (Hammon et al. 2015<sup>4</sup>). According to a recent study published in the Journal of Environmental Management (Dillis et al. 2020<sup>5</sup>), outdoor and mixed-light cannabis cultivation uses the most water during the month of August, with an estimated water use of approximately 58,704 gallons per acre during the month of August.

The total proposed outdoor cannabis cultivation/canopy area is 51,060 ft<sup>2</sup>. According to BCM's Property Management Plan, cannabis cultivation would occur between May 15<sup>th</sup> and November 15<sup>th</sup> of each year (~180-day Cultivation Season). Based on our experience, we estimate that the annual water use requirement for the proposed cultivation operation would be approximately 2.5 acre-feet or 815,000 gallons (~2 acre-feet per acre of inground outdoor cultivation area). The following table presents the expected water use requirement of the proposed cultivation operation in gallons by month during the cultivation season (May through November).

May	June	July	August	September	October	November
33,000	98,000	163,000	196,000	163,000	130,000	32,000

*Table 1 – Estimated Monthly Water Use*

Based on the water use estimates above, we estimate that the proposed cultivation operation would have a maximum water use requirement of approximately 6,540 gallons per day, with an average water demand of approximately 4,530 gallons per day during the cultivation season.

## WATER AVAILABILITY

All water for the proposed cultivation operation would come from the existing onsite groundwater well located at Latitude: 38.89675° and Longitude: -122.50089°. This groundwater well was drilled to a depth of 185 feet below ground surface (bgs) in December of 2020, through brown dirt, gravel, and clay (0-70 feet bgs) and shale with some sandstone (70-185 feet bgs). The onsite groundwater well was completed at a depth of 127 feet bgs. This well had an estimated yield of 18 gallons per minute (gpm) at the time it was drilled (**Attachment C: Onsite Well Completion and Performance Test Reports**). On November 15<sup>th</sup>, 2021 JAK Drilling & Pump (License No. 1013957) conducted a 6-hour well performance test of the onsite groundwater well. During the well performance test, the water level in the onsite groundwater well was monitored while it was pumped at 10 to 11 gpm. The static water level in the onsite groundwater well was 25 feet bgs prior to the start of the well performance test. During the well performance test, the water level in the onsite groundwater well dropped to 103 feet bgs, where it stabilized for the last 4.5 hours of the 6-hour well performance test (**Attachment C: Onsite Well Completion Report and Well Test**). The water level within the well recovered to 31 feet bgs within 40 minutes after the pumping ceased (+92% recovery). A Specific Capacity of 0.13 gpm/foot of drawdown (i.e., 10 gpm / 78 feet) was calculated from the well performance test data.



The well yield test data indicates that the onsite groundwater well can produce approximately 0.13 gpm for every foot of drawdown, and at least 10 gpm. The well recovery observations demonstrate that the well may be able to produce this water without causing overdraft conditions. The maximum estimated daily demand for water of the proposed cultivation operation is 6,540 gallons per day, which the onsite groundwater well could produce in 10 hours and 54 minutes when pumped at 10 gpm. Additionally, BCM proposes to establish 30,000 gallons of water storage capacity on the Project Property, which is over four times the peak anticipated daily water demand of the proposed cultivation operation, and could be used to reduce the amount of water that has to be pumped during the peak irrigation water use periods. Based on the estimated water usage rates, the measured pumping rates, the well recovery rate, and the proposed water storage capacity, the site appears to have the water necessary to meet the irrigation water demands of the proposed cultivation operation without creating aquifer overdraft.

## AQUIFER/GROUNDWATER RECHARGE

Groundwater recharge is the replenishment of an aquifer with water from the land surface. It is usually expressed as an average rate of inches of water per year, similar to precipitation. Thus, the volume of recharge is the rate times the land area under consideration times the time period, and is usually expressed as acre-ft per year. In addition to precipitation, other sources of recharge to an aquifer are stream and lake or pond seepage, irrigation return flow (both from canals and fields), inter-aquifer flows, and urban recharge (from water mains, septic tanks, sewers, and drainage ditches).

To estimate the groundwater recharge at the site, we first must assume that the recharge to the aquifer is primarily through rainfall across the 37.8-acre Project Parcel. Therefore, the annual precipitation available for recharge onsite can initially be estimated using the following data and equation.

$$37.8 \text{ acres} \times 2.75 \text{ feet (Average Annual Precipitation for Clearlake, CA)} = 104 \text{ acre-feet}$$
$$\text{Estimated Annual Precipitation Onsite} = 104 \text{ acre-feet/year}$$

However, this estimate does not account for surface run-off, stream underflow, and evapotranspiration that occurs in all watersheds. According to the USGS, the long-term average precipitation that recharges groundwater in the northern California region is approximately 15 percent, but can be as low as 1.67 percent. Since the Project Parcel is mountainous, but covered in well drained clay loam soils and vegetation, we estimate that the long-term average precipitation that recharges groundwater within the entire site to be approximately 10%. With this data and the precipitation data presented above, we can estimate the groundwater recharge of the Project Parcel by using the following equation.

$$104 \text{ acre-feet/year (annual precipitation onsite)} \times 0.1 \text{ (long term average recharge)} =$$
$$\text{Estimated Groundwater Recharge} = 10.4 \text{ acre-feet/year}$$

Based on the estimated average annual recharge to the aquifer(s) of the Project Parcel (10.4 acre-feet/year) and the estimated annual water usage of the proposed cannabis cultivation operation (2.5 acre-feet), it appears that proposed cultivation operation would have enough water to meet its demands without causing overdraft conditions.



However, the estimates above do not account for severe drought conditions, as we have seen over the last decade. The California Department of Water Resources ranked Water Year 2021 (October 1<sup>st</sup>, 2020 through September 30<sup>th</sup>, 2021) as the State's fourth driest on record. During Water Year 2021, less than 10 inches (approximately 9.5 inches) of precipitation fell on the USGS Cache Creek Precipitation Gage near Lower Lake, CA (closest USGS Precipitation Gage to the Project Property). If we rerun the calculations above using this precipitation data, we can obtain the following estimate for groundwater recharge during Water Year 2021.

$$\begin{aligned} &37.8 \text{ acres} \times 0.8 \text{ feet (Water Year 2021 Precipitation for Lower Lake, CA)} = 30 \text{ acre-feet} \\ &30 \text{ acre-feet (Water Year 2021 Onsite Precip)} \times 0.10 \text{ (long term average recharge)} = \\ &\text{Estimated Severe Drought Value for Groundwater Recharge} = 3 \text{ acre-feet} \end{aligned}$$

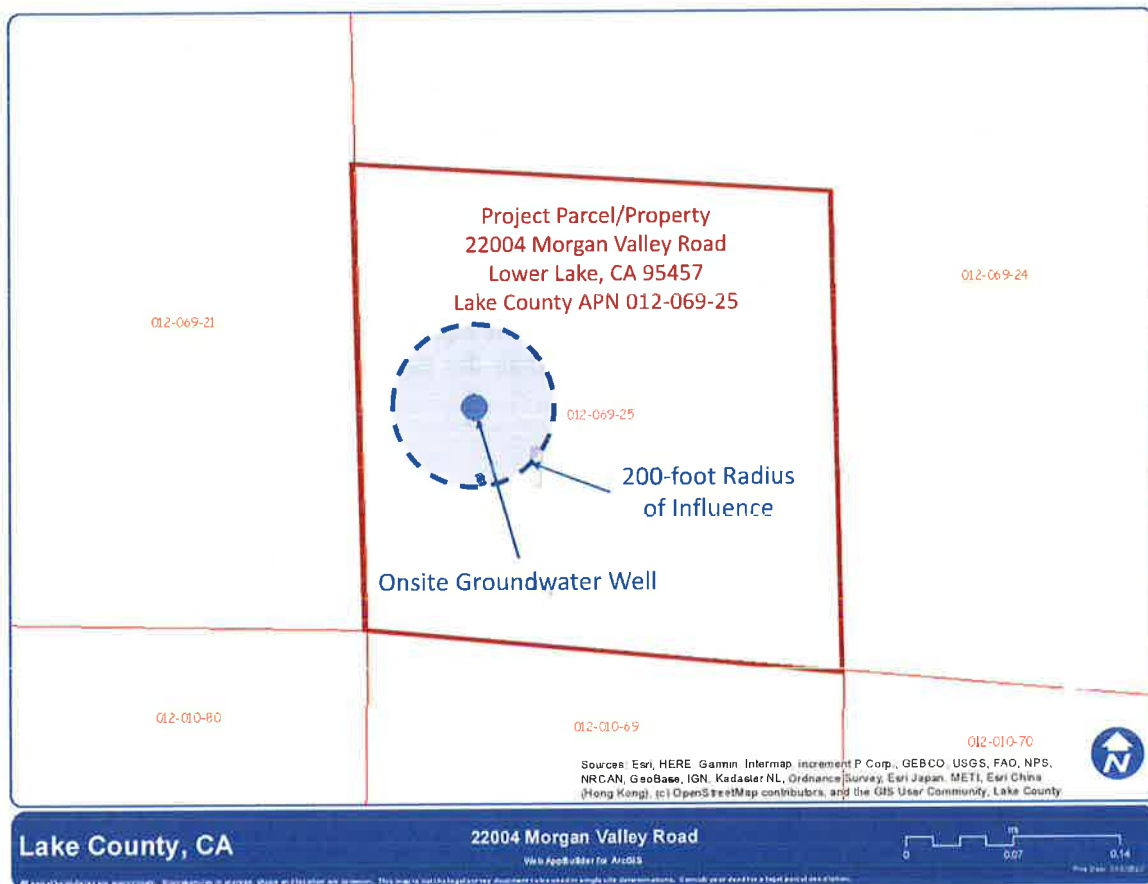
The estimated amount of water available to recharge the aquifer under the Project Parcel during a severe drought year (~3 acre-feet) is still greater than the estimated annual water usage of the proposed cultivation operation (2.5 acre-feet).

## POTENTIAL IMPACTS TO STREAMS & NEIGHBORING WELLS

Urgency Ordinance 3106 requires analysis of the "Cumulative impact of water use to surrounding areas due to project" implementation. To do this, we must first identify surrounding areas and uses that could be impacted from the project's well pumping/water usage. As outlined in previous sections of this report, all water for the proposed cultivation operation would come from an existing onsite groundwater well located at Latitude: 38.89675° and Longitude: -122.50089°, and the proposed cultivation operation would have an annual water use requirement of approximately 2.5 acre-feet or 815,000 gallons.

To evaluate potential well pumping impacts to surrounding areas and uses, the potential lateral extent of pumping from the onsite groundwater well was estimated. Using general relationships discussed in *Groundwater and Wells, Second Edition* (Driscoll 1986<sup>6</sup>), we estimated the lateral pumping influence using information from the onsite groundwater well's Well Completion Report and the November 15<sup>th</sup>, 2021 6-hour Well Performance Test (**Attachment C: Onsite Well Completion and Performance Test Reports**). An approximate relationship between specific capacity calculated from the well yield test and aquifer transmissivity was used to obtain aquifer characteristics and estimate a potential radius of pumping influence. Transmissivity was estimated for a unconfined aquifer, using the relationship of specific capacity (yield/drawdown) multiplied by the coefficient of 1,500 (unconfined aquifer). To develop the slope of the drawdown curve from the pumping well, the value of  $\Delta s$  (drawdown over on log graph cycle) was calculated for a distance-drawdown relationship, where  $T = 528Q/\Delta s$  (Driscoll 1986, equation 9.11<sup>6</sup>). The analysis is shown on the attached semi-log plots (**Attachment D – Radius of Influence Analysis**).

The specific capacity for the onsite groundwater well was calculated to be 0.13 gpm/foot drawdown (10 gpm / 78 feet drawdown) from the 6-hour Well Performance Test. Using this data and the general relationships outlined above, we calculated a zone of pumping influence extending approximately 200 feet from the onsite groundwater well, assuming an unconfined aquifer. The estimated area of influence does not extend beyond the boundaries of the Project Parcel (**Figure 2 – Area of Influence Diagram**), therefore we do not anticipate any impacts to neighboring wells.



**Figure 2 – Area of Influence Diagram**

Multiple ephemeral watercourses form on or just east of the Project Parcel and flow west into an intermittent watercourse that flows from north to south through the western third of the Project Parcel. The intermittent watercourse passes within 200 feet of the onsite groundwater well. However the potential for stream depletion as a result of pumping the onsite groundwater well for the proposed cultivation operation is not considered a concern to this assessment, as intermittent watercourses in this region are typically dry by May of each year when pumping for the proposed cultivation operation would begin. Therefore, we do not anticipate any significant impacts to surface water bodies as a result of pumping of the onsite groundwater well for the proposed cultivation operation.





## **DROUGHT MANAGEMENT PLAN**

The Urgency Ordinance approved by the Lake County Board of Supervisors on July 27<sup>th</sup>, 2021 requires applicants to provide a plan depicting how the applicants will reduce water use during a declared drought emergency (**Attachment A – Urgency Ordinance No. 3106**). The proposed cultivation operation would have up to 51,060 ft<sup>2</sup> of outdoor cultivation/canopy area, with an estimated water use requirement of approximately 2.5 acre-feet or 815,000 gallons per year/cultivation season. All water for the proposed cultivation operation would come from the existing onsite groundwater well located at Latitude: 38.89675° and Longitude: -122.50089°, and BCM proposes to establish 30,000 gallons of water storage capacity on the Project Parcel.

Per the Water Conservation and Use requirements outlined in the State Water Resources Control Board's Cannabis General Order, BCM shall implement the following Best Practical Treatment and Control (BPTC) measures to conserve water resources:

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

With the Water Conservation and Use requirements outlined above, the proposed cultivation operation would efficiently use water resources at all times. Additionally, Article 27 Section 27.11 of the Lake County Zoning Ordinance requires commercial cannabis cultivators using water from a groundwater well to install a water level monitor on their water supply well, and to regularly record readings from the continuous water level monitor. Well water level monitoring and reporting shall be performed as follows:

### **Seasonal Static Water Level Monitoring**

Seasonal monitoring of well water levels provides information regarding long-term groundwater elevation trends. The water level in the onsite groundwater well shall be measured and recorded prior to the start of the cultivation season (March/April), and once in the fall (November) after the cultivation season has ended. Data reported to the Lake County Community Development Department as part of the Project's annual reporting requirements shall include a hydrograph plot of all seasonal water level measurements for the onsite groundwater well.

### **Water Level Monitoring During Extraction**

The purpose of monitoring the water level in a well during extraction is to evaluate the performance of the well to determine the effect of the pumping rate on the water source during each cultivation season. This information can be used to determine the capacity and yield of the onsite groundwater well for determining pump rates and the need for water storage. The frequency of water level monitoring will depend on the source, the source's capacity, and the pumping rate. It is recommended that initially the water level be monitored twice per week or more, and that the frequency be adjusted as needed depending on the impact the pumping rate has on the well water level. Data reported to the Lake County Community Development Department as part of the



Project's annual reporting requirements shall include a hydrograph plot of the water level readings during the cultivation season.

In addition to the monitoring and reporting described above, the Project's annual report shall include an analysis of the water level monitoring data, demonstrating whether or not use of the onsite groundwater well is causing significant drawdown and/or impacts to the surrounding area and what measures were taken to reduce impacts. If there are impacts, a revised Water Management Plan shall be prepared and submitted to the Lake County Community Development Department, for review and approval, demonstrating how the project will mitigate the impacts in the future.

### **DROUGHT EMERGENCY RESPONSE**

When a drought emergency has been declared for the area of the proposed cultivation operation, BCM may implement the following additional measures, as needed or appropriate to the site, to reduce water use and ensure both success of the cultivation operation and decreased impacts to surrounding areas:

- Install moisture meters to monitor how much water is in the soil at the root level and reduce watering to only what is needed to avoid excess;
- Cover the soil and drip lines with removable plastic mulch to reduce evaporation;
- Irrigate only in the early morning hours or before sunset;
- Cover plants with shaded meshes during peak summer heat to reduce plant stress and water needs;
- Add a soil amendments/ingredients to growing medium that retains water in a way to conserve water and aid plant growth/health. Soil amendments/ingredients such as peat moss, coco coir, compost, perlite, and vermiculite retain water and provide a good environment for cannabis to grow.

Additionally, to ensure both success and decreased impacts to the surrounding areas, BCM plans to reduce their outdoor cultivation/canopy area and water usage by 10 percent or more, when a drought emergency has been declared for their region. To reduce their water usage by 10 percent or more, BCM will not plant at least 5,106 ft<sup>2</sup> of their proposed cultivation/canopy area. The cultivation/canopy area(s) to be left fallow will depend on when a drought emergency is declared (before or after the proposed cultivation/canopy areas have been planted), and BCM will prioritize the preferred cultivation/canopy areas over less desirable cultivation/canopy areas (based on cultivation experience). By implementing the Drought Management Plan outlined above, BCM would reduce the estimated annual water demand for the proposed cultivation operation from approximately 815,000 gallons to 733,500 gallons or less during periods of drought.





## CONCLUSIONS

All water for the proposed cultivation operation would come from the existing onsite groundwater well located at Latitude: 38.89675° and Longitude: -122.50089°, and the proposed cultivation operation includes 30,000 gallons of water storage capacity. The proposed cultivation operation would have up to 51,060 ft<sup>2</sup> of outdoor cultivation/canopy area, with an estimated water use requirement of approximately 2.5 acre-feet or 815,000 gallons per year/cultivation season. The proposed cultivation operation would have a maximum estimated water use requirement of approximately 6,540 gallons per day, with an average water demand of approximately 4,530 gallons per day during the cultivation season (May through November).

Based on the results from a 6-hour Well Performance Test conducted on November 15<sup>th</sup>, 2021, it appears that the existing onsite groundwater well can produce at least 10 gallons per minute without overdrawing the well. Using data from the 6-hour Well Performance Test we can calculate a Specific Capacity of 0.13 gpm/foot of drawdown. Based on the estimated average annual recharge to the aquifer(s) of/under the Project Parcel (~10.4 acre-feet/year) and the estimated annual water usage of the proposed cannabis cultivation operation (~2.5 acre-feet/year), it appears that the aquifer storage and recharge area are sufficient to provide for sustainable annual water use at the site and on the Project Parcel.

The calculated zone of pumping influence for the proposed cultivation operation extends approximately 200 feet from the onsite groundwater well. An intermittent watercourse passes within 200 feet of the onsite groundwater well. Intermittent watercourses in this region are typically dry by May of each year when pumping for the proposed cultivation operation would begin. Therefore, we do not anticipate any significant impacts to surface water bodies as a result of pumping of the onsite groundwater well for the proposed cultivation operation. There are no neighboring wells within 200 feet of the onsite groundwater well. Therefore, we do not anticipate any impacts to neighboring wells as a result of pumping of the onsite groundwater well for the proposed cultivation operation.



## LIMITATIONS

Realm Engineering is not responsible for the independent conclusions, opinions or recommendations made by others based on the records review, site inspection, field exploration, and interpretations presented in this report.

Groundwater systems of Lake County are typically complex, and available data rarely allows for more than general assessment of groundwater conditions and delineation of aquifers. Hydrologic interpretations are based on Well Completion Reports made available to us through the California Department of Water Resources, available geologic maps and hydrological studies and professional judgment. This analysis is based on limited available data and relies significantly on interpretation of data from disparate sources of disparate quality.

It should be noted that hydrological assessments are inherently limited in the sense that conclusions are drawn and recommendations developed from information obtained from limited research and site evaluation. Additionally, the passage of time may result in a change in the environmental characteristics at this site and surrounding properties. This report does not warrant against future operations or conditions, nor does this warrant operations or conditions present or a type or at a location not investigated.

This report is for the exclusive use of Blackwell Capital Management, LLC, their affiliates, designates and assignees, and no other party shall have any right to rely on any service provided by Realm Engineering without prior written consent.

Please feel free to contact me with any questions that you may have regarding this Hydrology Study/Report.

Sincerely,  
Jason Vine, P.E. 67800



Realm Engineering  
1767 Market Street, Suite C  
Redding, CA 96001  
530-526-7493  
info@realm-engineering.com



## REFERENCES

- <sup>1</sup>Lake County Watershed Protection District, Lake County Groundwater Management Plan, 2006
- <sup>2</sup>Bauer, S., Olson, J., Cockrill, A., et al. 2015. Impacts of surface water diversions for marijuana cultivation on aquatic habitat in four northwestern California watersheds. PLOS ONE, 10(9): e0137935
- <sup>3</sup>Carah, J.K., Howard, J.K., Thompson, S.E., et al. 2015. High time for conservation: adding the environment to the debate on marijuana liberalization. Bioscience, 65, pp.822-829
- <sup>4</sup>Hammon, B., Rizza, J. and Dean, D. 2015. Current impacts of outdoor growth of cannabis in Colorado. Colorado State University Extension, Fact Sheet No. 0.308
- <sup>5</sup>Dillis, C.R., Grantham, T.E., McIntee, C., McFadin, B., Grady, K.V. 2020. Water storage and irrigation practices for cannabis drive seasonal patterns of water extraction and use in Northern California. Journal of Environmental Management, Volume 272, 15 October 2020, 110955
- <sup>6</sup>Driscoll, Fletcher G., 1986, Groundwater and Wells, Second Edition, Johnson Division, St. Paul Minnesota, 1089p.

**ATTACHEMENT A**

**URGENCY ORDINANCE NO. 3106**

**BOARD OF SUPERVISORS, COUNTY OF LAKE, STATE OF CALIFORNIA**

**ORDINANCE NO. 3106**

**AN URGENCY ORDINANCE REQUIRING LAND USE APPLICANTS TO PROVIDE ENHANCED WATER ANALYSIS DURING A DECLARED DROUGHT EMERGENCY**

**WHEREAS**, the Sheriff, acting as the OES Director of Lake County, declared a local emergency due to drought conditions on May 6, 2021; and

**WHEREAS**, the Lake County Board of Supervisors approved the ratification of the declaration of a local emergency due to drought conditions on May 11, 2021; and

**WHEREAS**, the Board of Supervisors wish to ensure continued access to drinking water from private wells or from water purveyors throughout the county; and

**WHEREAS**, the Board of Supervisors wish to ensure that all current agricultural activities and projects find success during this declared drought emergency; and

**WHEREAS**, the Board of Supervisors of the County of Lake finds that additional information is critical to ensuring that the Planning Commission approves projects based on evidence of water use and water impacts and the analysis of the impacts to the surrounding areas.

**NOW THEREFORE**, the Board of Supervisors of the County of Lake hereby ordains as follows:

**Section One:** Due to the exceptional drought that we are experiencing and the declaration of a drought emergency, any land use approvals are required to provide adequate information regarding water usage for the project being considered and its impacts to surrounding areas. All projects that require a CEQA analysis of water use must include these additional items:

- A. Hydrology report prepared by a California licensed civil engineer, hydro-geologist, hydrologist, or geologist experienced in water resources
  - a. Approximate amount of water available for the project's identified water source
  - b. Approximate recharge rate for the project's identified water source
  - c. Cumulative impact of water use to surrounding areas due to project
- B. Drought Management Plan
  - a. Provide a plan depicting how the applicants plan to reduce water use during a declared drought emergency, to ensure both success and decreased impacts to the surrounding areas

**Section Two:** This urgency ordinance, if approved, shall take effect on all future Planning Commission considerations until the declared drought emergency has expired or if the Board of Supervisors revokes the ordinance.

**Section Three:** It can be seen with certainty that there is no possibility that this urgency Ordinance may have a significant effect on the environment.

**Section Four:** All ordinances or parts of ordinances or resolutions or parts of resolutions in conflict herewith are hereby repealed to the extent of such conflict and no further.

**Section Five:** This ordinance shall go into effect immediately, and before the expiration of fifteen days after its passage, it shall be published at least once in a newspaper of general circulation printed and published in the County of Lake.

**Section Six:** This Ordinance is adopted as an urgency Ordinance pursuant to the provisions of Government Code sections 25123 and 25131 and shall be effective immediately upon adoption. Based on the declaration of purpose and facts constituting the urgency set forth above in Section One of this Ordinance, the Board of Supervisors finds and determines that the adoption of this Ordinance as an urgency Ordinance is necessary for the immediate preservation of the public peace, health and safety to address critical groundwater conditions in Lake County.

The Foregoing Ordinance was introduced before the Board of Supervisors on the 27th day of July, 2021, and passed by the following vote on the 7th day of July, 2021.

**AYES:** Supervisors Simon, Crandell, Scott, Pyska, and Sabatier

**NOES:** None

**ABSENT OR NOT VOTING:** None

COUNTY OF LAKE



Chair, Board of Supervisors

**ATTEST:** CAROL J. HUCHINGSON  
Clerk of the Board of Supervisors

**By:** \_\_\_\_\_  
Deputy

**APPROVED AS TO FORM:**

ANITA L. GRANT  
County Counsel

**By:** \_\_\_\_\_



## **ATTACHEMENT B**

### **EXISTING AND PROPOSED CONDITIONS SITE PLANS**



## **ATTACHEMENT C**

### **ONSITE WELL COMPLETION AND PERFORMANCE TEST REPORTS**



State of California  
**Well Completion Report**  
 Form DWR 188 Submitted 2/9/2021  
 WCR2021-001805

Owner's Well Number \_\_\_\_\_ Date Work Began 12/13/2020 Date Work Ended 12/21/2020  
 Local Permit Agency Lake County Health Services Department - Environmental Health Division  
 Secondary Permit Agency \_\_\_\_\_ Permit Number WP0003517 Permit Date 06/10/2020

Well Owner (must remain confidential pursuant to Water Code 13752)	Planned Use and Activity
Name <u>Leah Bradle</u>	Activity <u>New Well</u>
Mailing Address <u>1007 B College Ave #152</u>	Planned Use <u>Water Supply Domestic</u>
City <u>Santa Rosa</u> State <u>CA</u> Zip <u>95401</u>	

Well Location	
Address <u>22004 Morgan Valley RD</u>	APN <u>012-069-25</u>
City <u>Lower Lake</u> Zip <u>95457</u> County <u>Lake</u>	Township _____
Latitude <u>38</u> <u>53</u> <u>48.2963</u> N Longitude <u>-122</u> <u>30</u> <u>3.2004</u> W	Range _____
Deg. Min. Sec. Deg. Min. Sec.	Section _____
Dec. Lat. <u>38.896749</u> Dec. Long. <u>-122.500889</u>	Baseline Meridian _____
Vertical Datum _____ Horizontal Datum <u>WGS84</u>	Ground Surface Elevation _____
Location Accuracy <u>Unknown</u> Location Determination Method <u>GPS</u>	Elevation Accuracy _____
	Elevation Determination Method _____

Borehole Information	Water Level and Yield of Completed Well
Orientation <u>Vertical</u> Specify _____	Depth to first water <u>17</u> (Feet below surface)
Drilling Method <u>Direct Rotary</u> Drilling Fluid <u>Foam</u>	Depth to Static _____
Total Depth of Boring <u>185</u> Feet	Water Level <u>17</u> (Feet) Date Measured <u>12/21/2020</u>
Total Depth of Completed Well <u>127</u> Feet	Estimated Yield* <u>18</u> (GPM) Test Type <u>Air Lift</u>
	Test Length <u>3</u> (Hours) Total Drawdown _____ (feet)
	*May not be representative of a well's long term yield.

Geologic Log - Free Form		
Depth from Surface	Feet to Feet	Description
0	30	Brown dirt and gravel
30	70	Gravel mixed with brown dirt then some clay with sandstone
70	85	shale
85	185	soft shale with some sandstone

Casings										
Casing #	Depth from Surface Feet to Feet		Casing Type	Material	Casings Specificatons	Wall Thickness (inches)	Outside Diameter (inches)	Screen Type	Slot Size if any (inches)	Description
1	0	30	Blank	PVC	N/A	0.375	5.563			Solid
1	30	127	Screen	PVC	N/A	0.265	5.563	Milled Slots	0.032	Screen

Annular Material					
Depth from Surface Feet to Feet		Fill	Fill Type Details	Filter Pack Size	Description
20	127	Filter Pack	Other Gravel Pack	Pea Gravel	double washed pea gravel
0	20	Bentonite	Other Bentonite		Sanitary Seal

**Other Observations:**

Borehole Specifications		
Depth from Surface Feet to Feet	Borehole Diameter (inches)	
0	30	10.875
30	185	7.875

Certification Statement				
I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief				
Name	JAK DRILLING AND PUMP, Kharom Hellwege			
	Person, Firm or Corporation			
PO Box 250	Middletown	CA	95461	
Address	City	State	Zip	
Signed	electronic signature received	02/09/2021	1013957	
	C-57 Licensed Water Well Contractor	Date Signed	C-57 License Number	

DWR Use Only																			
CSG #	State Well Number				Site Code			Local Well Number											
					N							W							
Latitude Deg/Min/Sec						Longitude Deg/Min/Sec													
TRS:																			
APN:																			



Date: 11/15/2021

Technician: Jim Jackson

Client Name: Leah Bradle/Chris Macleod

Site Address: 22004 Morgan Valley Road, Lower Lake, CA

Well Pump Info (size, type, brand, etc.): Grundfos Solar

Power Source (hardwired, generator, solar only, solar with generator back up): Generator

Total Depth of Well? 127'

Diameter of Well? 5

Casing Type? PVC

Last time the water was pumped from the well? >24 hours (must rest 24-hours prior to testing)

Interval	Time	Flow Rate*	Pumping Level	*Flow Rate Measured via <input checked="" type="checkbox"/> Bucket or Meter
Start		Static	25.0	
5	12:20	11	26.0	Meter Start: _____
5	12:25	11	26.5	
5	12:30	11	27.5	Meter Stop: _____
5	12:35	11	28.0	
5	12:40	11	29.5	Field Quality Test Completed <input checked="" type="checkbox"/> Y
5	12:45	11	31.0	
10	12:55	11	49.0	pH: 7.6
10	13:05	11	63.0	
10	13:15	10	76.0	TDS: 2.22 ppm
10	13:25	10	82.0	
10	13:35	10	84.0	Hardness: 37 grains per gallon
10	13:45	10	103.0	
30	14:15	10	103.0	Iron: 1.0ppm
30	14:45	10	103.0	
30	15:15	10	103.0	
30	15:45	10	103.0	GPS: 39.896749, -122.500889
30	16:15	10	103.0	
30	16:45	10	103.0	
30	17:15	10	103.0	
30	17:45	10	103.0	
30	18:15	10	103.0	
STOP				
10	18:25	RECHARGE	77.0	
30	18:55	RECHARGE	31.0	

Was the pumping level measured from ground surface or ☒ top of casing?



## **ATTACHEMENT D**

### **RADIUS OF INFLUENCE ANALYSIS**

## Radius of Influence Analysis

Well Radius (from Well Completion Report) =  $5.6''/2 \times 1'/12'' = 0.23$  feet

Specific Capacity (using data from Well Performance Test Report)  
 $10 \text{ gpm (yield)} / 78 \text{ feet (drawdown)} = 0.13 \text{ gpm/foot of drawdown}$   
Specific Capacity (SC) = 0.13

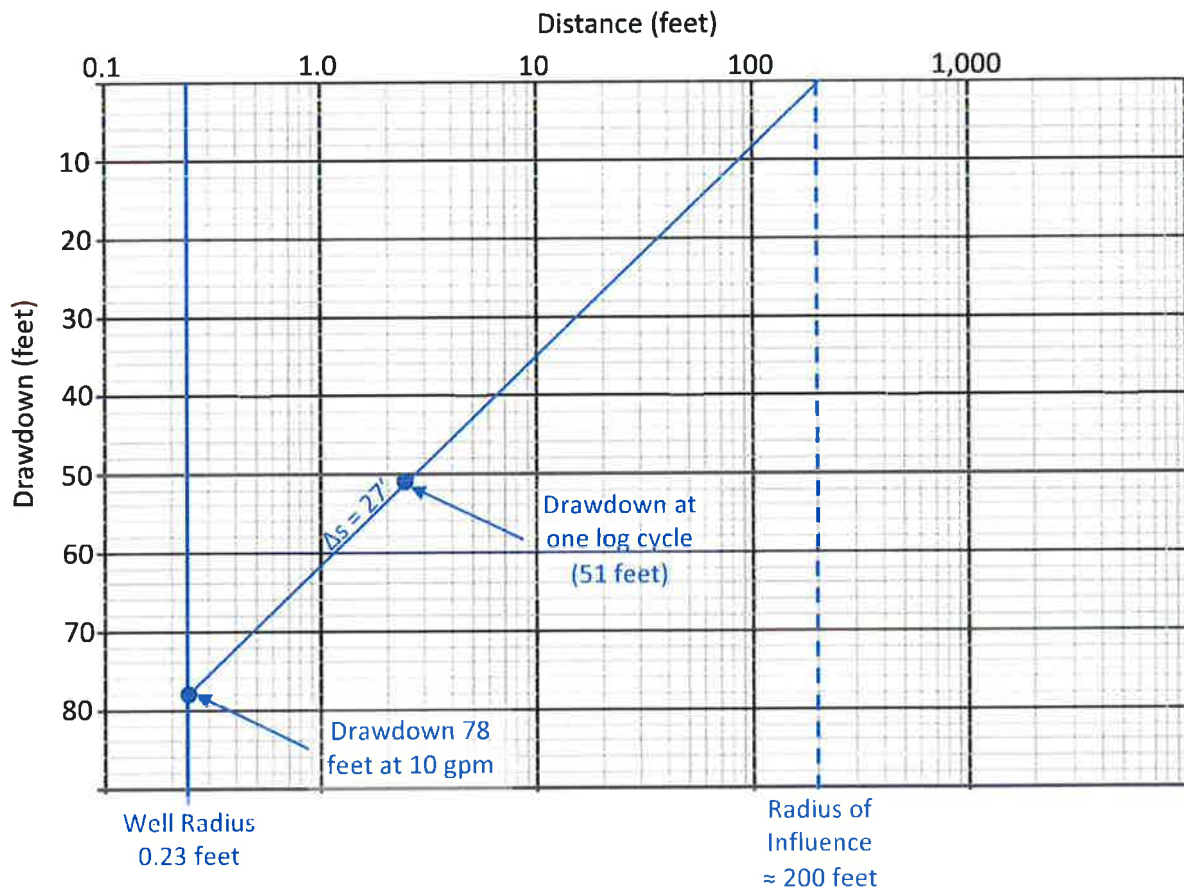
Modified Jacob's equation from Driscoll Appendix 16-D (Driscoll 1986<sup>6</sup>)

Transmissivity Confined Aquifer  $T = SC \times 1500$ ;  $T = 195 \text{ gpft/day}$

Distance Drawdown Equation Driscoll 9.11 (Driscoll 1986<sup>6</sup>)  $T = 528Q / \Delta s$

$\Delta s = 528Q/T$ ;  $\Delta s = 528 \times 10 \text{ gpm} / 195$

$\Delta s = 27'$



### **Diversion/Theft Prevention**

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

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

### **Community Liaison and Emergency Contact**

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

The Community Liaison/Emergency Contact for the BCM's cultivation operation is Mr. Christopher Macleod. Mr. Macleod's cell phone number is (707) 900-1099, and his email address is [ctmacleod@gmail.com](mailto:ctmacleod@gmail.com). The residents and/or owners of all properties within 250 feet of the Project Parcel, will be provided with Mr. Macleod's contact information before cannabis cultivation begins.



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

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

### **Video Surveillance**

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

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

- Entrances to the property, cultivation areas, and Security Center;
- Perimeter of the cultivation/canopy area; and
- The monitoring and recording station (within the proposed Security Center).

# **Security Management Plan**

## **Purpose and Overview**

Blackwell Capital Management, LLC is seeking a Major Use Permit from the County of Lake for a proposed commercial cannabis cultivation operation at 22004 Morgan Valley Road near Lower Lake, California on Lake County APN 012-069-25 (Project Property/Parcel). The proposed commercial cannabis cultivation operation would be composed of three fenced outdoor cultivation areas totaling 54,000 ft<sup>2</sup> (combined), two 320 ft<sup>2</sup> Harvest Storage Areas (metal shipping/storage containers), a 120 ft<sup>2</sup> Security Center/Shed (wooden building), and a 120 ft<sup>2</sup> Pesticides & Agricultural Chemical Storage Area (wooden building). The growing medium of the proposed outdoor cultivation areas would be an amended native soil mixture at or below grade, composed of native soil and compost. Drip irrigation systems would be used to conserve water resources, and all water would come from an existing onsite groundwater well located at Latitude 38.89675° and Longitude -122.50089°.

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

## **Secured Entry and Access**

The Project Parcel is accessed via a private gravel access road off of a shared private gravel access road that connects to Morgan Valley Road approximately one-half mile southeast of the Project Parcel. Locking metal gates across the private gravel access road would control access to the Project Parcel and proposed cultivation operation. These gates will be closed and locked outside of core operating/business hours (8am to 6pm) and whenever BCM's managerial personnel are not present.

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

# SECTION – G

## SECURITY MANAGEMENT PLAN