

Attachment 4A

Cultivation and Operations Plan

Roc Squatch Farms
1734 Warren Creek Road
Blue Lake, CA

APN 516-211-025
APP#PLN-12176-CUP

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1.0 PROJECT DESCRIPTION

1.1 Project Location

The project is located on Assessor Parcel Number (APN) 516-211-025, also known as 1734 Warren Creek Road, near the community of Blue Lake. The subject parcel is approximately 5.01 acres in size per the Humboldt County WebGIS. The parcel has a plan designation Dispersed Housing (DH) per the Northern Humboldt General Plan (NHGP)¹. The parcel is zoned Agricultural General (AG)². The parcel is currently developed with a slab (formerly part of a home which burned), an agricultural accessory structure and is served by private water and sewer. The parcel receives PG&E services.

1.2 Project Proposal

Roc Squatch Farms (Applicant) is proposing to permit a new 10,000 square foot (sf) outdoor 'dry-farming' method cannabis cultivation area with a Zoning Clearance Certificate (ZCC).

About the Applicant

Rocci Costa of Roc Squatch Farms, the Applicant, is a Humboldt native and master cultivator. His family has been in Blue Lake since 1888. Blue Lake School is built on the old Costa Farm. His maternal grandparents were the first and second post masters of Blue Lake. Merle Clark, the Applicants maternal grandmother, was born on the day Blue Lake was incorporated and passed two weeks before Blue Lake's centennial. She was celebrated as a Marshall in the annual founding parade for decades. The Applicant's brother has owned the parcel on Warren Creek for 20 years. The Applicant has deep roots in the Blue Lake Community and intends to continue his family legacy in the area.

Farm Vision

The Applicant would like to establish an organic, environmentally sustainable, small family farm on the Warren Creek parcel. Utilizing regenerative, permaculture and dry-farming techniques, the Applicant's commitment is to have minimal effect on the environment and a maximum

¹ Northern Humboldt General Plan. Page 44.

² Humboldt County Code Zoning Regulations, Title III, Division 1, S314-7.2(2000)

impact of stewardship of the land. In addition, the Applicant is committed to having a positive effect on the community, a beneficial impact on the local economy and a friendly and productive relationship with their neighbors.

Farm Methodology - Organic, Dry Farming

The flood plains of Humboldt County's '58 and '64 deluges offer one of the most unique micro-systems in the world for dry farming cannabis. In combination with Humboldt County's temperate rainforest climate, the sky and the soil are a perfect match for growing low-input, sustainable and high-quality cannabis.

Dry farming has a long history of use around the world and specifically in California. One of the neighboring farms to the parcel currently dry-farms vegetables. Today, dry farming is being used to great success on permitted cannabis farms in Humboldt County. Sunboldtgrown, overseen by Sunshine Johnston, and Highwater Farms, managed by Chrystal Ortiz, both pioneers in cannabis dry farming, have been dry farming in the flood plains of Holmes for 3 years.

Additional benefits of dry-farming are:

- The "dust mulch" (i.e., the dry layer of soil that is cultivated to trap moisture) is dry enough that few weeds grow, so herbicides are unnecessary, or, for organic farmers, little weeding is required.
- Less water used on crops will have positive impacts on water quality and in-stream flows.
- The energy used to transport and pump irrigation water is eliminated.
- Establishment and maintenance of drip irrigation systems are eliminated.
- Better tasting, more densely nutritious products.³

³ Dry Farming. CAWSI California Ag Water Stewardship Initiative
http://agwaterstewards.org/practices/dry_farming/

1.3 Overview of State and Local Regulations Regarding Medical Cannabis Cultivation

In November of 1996, the voters of the State of California approved proposition 215, also known as The Compassionate Use Act of 1996 (CA Code S1136.5). Proposition 215 decriminalised the cultivation and use of marijuana by seriously ill individuals upon a physician's recommendation. California Code Section 11362.5(d) specially states that Section 11357, relating to the possession of marijuana, and Section 11358, relating to the cultivation of marijuana, shall not apply to a patient, or to a patient's primary caregiver, who possesses or cultivates marijuana for the personal medical purposes of the patient upon the written or oral recommendation or approval of physician. Effective January 1, 2004, Senate Bill (SB) 420, the Medical Marijuana Program Act (MMP), set forth the guidelines for Proposition 215 and established a voluntary patient identification card system.

The guidelines recognized the rights of patients and caregivers to associate collectively or cooperatively to grow medical marijuana. SB 420 also gives local governments autonomy when establishing increase guidelines for the amount a patient can grow and possess. Conversely, it ensures 'no tolerance' counties must adhere to the minimum guidelines. In February 2007, the California State Board of Equalization (BOE) issued a Special Notice confirming its policy of taxing marijuana transactions, as well as its requirement that businesses engaging in such activities hold a Seller's Permit. Prior to 2005, BOE did not issue seller's permits to sellers of property that may be considered illegal. By 2006, BOE directed staff to begin issuing the seller's permits for people selling tangible personal property that is subject to sales tax regardless of the fact the property being sold may be illegal.

As required by additional legislation in 2003, the Attorney General adopted Guidelines for the Security and Non-Diversion of marijuana Grown for Medical Use (Guidelines) in August 2008. The purpose of the Guidelines is the following:

- (1) Ensure that marijuana grown for medical purposes remains secure and does not find its way to non-patients or illicit markets;

- (2) Help law enforcement agencies perform their duties effectively and in accordance with California Law; and
- (3) Help patients and primary caregivers understand how they may cultivate, transport, possess and use medical marijuana under California Law.

The Guidelines set forth definitions for cooperatives, collectives and the lawful operation of these facilities. The Guidelines require that cooperatives and collectives obtain a seller;s permit from the BOE to track sales, whether a profit was gained or not. The Guidelines suggest detailed membership application be required of new patients and caregiver to help ensure that marijuana grown for medical use is not diverted to illicit markets. The Guidelines describe permissible reimbursements and allocations, allowing cooperatives to recover the costs associated with cultivation of the medical marijuana. Finally, the guidelines recommend that collectives provide adequate security to ensure that patients are safe and the surrounding homes or businesses are not negatively impacted by nuisance activity such as loitering or crime.

In December 2015, the California legislature adopted comprehensive legislation initially known as the Medical Marijuana Regulation and Safety Act (MMRSA) and eventually renamed “Medicinal and Adult-Use Cannabis Regulation and Safety Act” (MAUCRSA). The MAUCRSA established a statewide regulatory scheme, headed by a new Bureau of Medical Marijuana Regulation (BMMR, which was renamed Bureau of Cannabis Control, BCC) with the Department of Consumer Affairs. The MAUCRSA requires both State and local licenses, inventory tracking, testing, labeling of products, as well as specific penalties for non-compliance.

1.4 Land Use, Zoning and Surrounding Uses

The Project site has a land use designation of DH as identified by the NHGP. The site is zoned AG. According to the County of Humboldt Zoning Regulations, Section 314-7.2, principally permitted uses in the AG zoning district include general agriculture, including agricultural accessory uses and structures. Additionally, the AG District allows for one-family dwellings and farm dwellings.⁴ Legal cannabis cultivation facilities are allowable land uses in the zone per

⁴ Humboldt County Code Zoning Regulations, Title III, Division 1, S314-7.2 (2000).

CMMLUO Section 55.4.8.2.1, which states, "...On parcels 5 acres in size or larger, a Zoning Clearance Certificate may be issued for new outdoor or mixed-light commercial cannabis cultivation for an area up to 10,000 square feet that was not previously in existence as of January 1, 2016, on parcels with Prime Agricultural Soils, in zoning districts RA, U, FP, DF, AG or AE, on slopes of 15% or less, and with documented current water right or other non-diversionary source of irrigation water..." The zoning districts adjacent to the subject parcel are also AG. Parcels to the south and east of the subject parcel have classifications of DH per the NHGP. The minimum lot size for this classification is one acre.⁵

1.5 Project Construction Schedule

Because this is a proposed cultivation site, the project will be developed upon permit approval. Upon permit approval, the Applicant will submit permit applications to the Humboldt County Building Department for Warren Creek Road pothole and turn out improvements and site development, including private access road improvements.

1.6 Project Power Usage and Source

The property currently receives PG&E Services. The Applicant will use PG&E as a power source and Applicant will participate in PG&E's Carbon Offset program.

The Applicant intends to add solar power as a back up within the first 3 years of operations. The Applicant will not be using a generator and will not be storing fuel on site or receiving fuel deliveries.

1.7 Cannabis Smell Abatement

Per the County Smell Abatement ordinance, the Applicant notified all neighbors of their application as required. On 12/30/2019 the Applicant received an email with subject line: 'More Questions and Feedback' from the County Planner, Elizabeth Moreno, detailing that one neighbor was concerned that 'smell would affect the neighborhood'. Per the attached map, only one neighbor is within the 600 ft setback for smell. The neighbor within the setback is up wind of the Applicant's property. The air travels up river from the coast to inland. None of the neighbors are likely to smell any cannabis unless they walk by the property during flowering.

⁵ Northern Humboldt General Plan. Page 44

Smell abatement by using enclosed greenhouses has the impact of requiring massive fans which use additional energy, generate noise and could negatively impact the neighborhood and wildlife. Given those negative impacts, the Applicant has chosen to grow outdoor using the least resources possible.

1.8 Road Easement

The existing easement road goes through prime agricultural land on the parcel. The Applicant proposed to move the road to the edge of the property so as to be most efficient and safety conscious with the space, while still ensuring that neighbors have access to cross the property. As described later, the Applicant intends to fully fence the property which will bring the access road into compliance with county regulations.

2.0 CULTIVATION AND OPERATIONS PLAN

2.1 Water Source and Usage

The water source for domestic and irrigation uses will be rainwater catchment. Water will be collected from the gutters of the Garage in an approved catchment system.

Average rainfall for the area is 46 inches per year.

The Garage dimensions are 25 ft by 40 ft with an anticipated rainwater harvesting capacity of 28,675 gallons annually according to the USGS Rainfall Calculator.⁶

Ideally, up to 30,000 gallons of rainwater will be filtered and stored in five (5) 5,000 gallon tanks and two (2) 2,500 which can be ph balanced. One 2,500 gallon tank will be designated as storage for fire suppression. Anticipated cultivation max water usage totals 25,000 gallons as detailed below. 25,000 plus 2,500 for fire suppression leaves 1000 gallon extra water storage capacity over anticipated rainwater collection.

The Applicant will be dry farming and thereby using as little water as possible in the growing process. Dry farming does not use irrigation, rather the farmer waters in the plants one time when planting. The plants will be watered in the greenhouse nursery (20 x 50) and on being planted in the ground. After being planted and watered once, they will be left to find water on their own. The plants will extend tap roots down and the warm weather will wick water up to the plants as the temperature rises each day.

Water usage varies throughout the cultivation cycle depending on the time of year and stage of plant within its life cycle. The Applicant estimates the following monthly water usage, primarily for use in the nursery and on the watering in of the outdoor crops twice a year:

Month	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Gallons	1 K	1 K	5 K	2 K	5 K	5 K	1 K	1 K	1 K	1 K	1 K	1 K

⁶ USGS Rainfall Calculator <https://water.usgs.gov/edu/activity-howmuchrain.html>

The site has an existing permitted well. The Applicant agrees to forbear from using well water for cannabis related purposes or cultivation. The Applicant is pursuing approval for domestic use from that well.

2.2 Site Drainage

The cultivation area is near the northern edge of the parcel and is relatively flat. The southern portion of the parcel is forested and has slopes greater than 15%. Because of the soil type at the cultivation area, the soil is able to absorb and infiltrate the high volume of rain received annually in the area. There are no culverts on the property that modify natural drainage patterns. Because the development is concentrated within the relatively flat agricultural lands, the impervious surface area is reduced.

Since there is no irrigation of plants when 'dry farming', there is no drainage either. The greenhouse Nursery (20 X 50) uses all its water so there is no drain off. The domestic water is discharged into a septic.

2.3 Watershed and Wildlife Habitat Protection

The Applicant will pay special attention to avoid causing any disturbance to local surface water habitats or the natural wildlife. In particular, provisions will be taken to ensure the viability of the local habitat to ensure the future livelihood and sustainability of:

- The Spotted Owl
- The Marbled Murrelet
- California King Salmon

Primarily, the Applicant intends to dry farm and use rainwater and will not divert surface water for irrigation of the cultivation area. The Applicant will ensure that all nutrients and pesticides used for cultivation will be not be stored onsite and applied appropriately to discourage contamination of groundwater and ingestion by wildlife species (see Section 2.4 Storage of Regulated Products below for additional information).

The Applicant is further committed to maintaining the balance of the land by using the 'dry farming' method. The Applicant has chosen this farming protocol with intentions to tread lightly on the land, the watershed and the wildlife habitat.

Light Pollution and Spillage

The Nursery Greenhouse (20X50) used by the Applicant for the cultivation of cannabis will be built to specifications that comply with Humboldt County 313-55.4.11 (t) and (u).

This includes ensuring that very little, if any, light escapes, minimizing any impact to the surrounding habitat. No light emitted by the Applicants greenhouse will be visible from any neighboring property between sunset and sunrise. The Applicant will accomplish this by utilizing natural light and covering greenhouses with black tarps when utilizing an artificial lighting source to keep light from escaping (Kemp, 2016).

All light sources used in the production of cannabis in the Nursery greenhouse will comply with International Dark Sky Association standards for Lighting Zone 0 and Lighting Zone 1, and will be designed to regulate light spillage onto neighboring properties resulting from backlight, uplight, or glare. The Applicant will accomplish this by shielding and utilizing downward facing lights for safety, security and convenience purposes.

The Applicant will turn off the cultivation lights when they are not in use and any lights used for safety, security or convenience purposes will be motion-sensing lighting, therefore, the lights will only be used as needed. The Applicant acknowledges and understands that all complaints regarding light spillage must be addressed within 10 working days of receiving written notification of such a violation.

2.4 Storage of Regulated Products.

The Applicant will follow the NCRWQCB's Best Management Practices (BMPs) regarding the storage of regulated products as described by Order No. R1-2015-0023. The Applicant anticipates cultivating organically and avoiding the use of pesticides. Nonetheless, should pesticides be on site, the following BMPs will be utilized on site and included in the WRPP:

- Evaluate irrigation water, soils, growth media and plant tissue to optimize plant growth and avoid over-fertilization

- All chemicals will be removed from the site and not stored overnight.
- Products will be labeled properly and applied according to the label.
- Integrated pest management strategies will be implemented that applies pesticides only to the area of need and at times when runoff losses are least likely, including losses of organic matter from dead plant material.
- The Applicant will periodically calibrate pesticide application equipment.
- The Applicant will sue anti-backflow devices on water supply hoses, and other mixing/loading practices designed to reduce the risk of runoff and spills.
- Petroleum products shall be stored with a secondary containment system.
- Throughout the rainy season, any temporary containment facility will have a permanent cover and side wind protection, or be covered during non-working days and prior to and during rain events.
- Materials shall be stored in their original containers and the original product labels shall be maintained in place in a legible condition. Damaged or otherwise illegible labels will be replaced immediately.
- Bagged and boxed materials shall be stored on pallets and will not be allowed to accumulate on the ground. To provide protection from wind and rain throughout the rainy season, bagged and boxed materials will be covered during non-working days and prior to rain events.
- The Applicant will have proper storage instructions posted at all times in an open and conspicuous location.
- The Applicant will keep ample supply of appropriate spill clean-up material near storage areas.

2.5 Cultivation Activities

The Applicant is proposing 10,000 square feet outdoor cultivation with a 1,000 square foot Nursery (20 X 50). The Applicant had previously considered using green-houses and light-deprivation methods, however after researching the ability to dry-farm and to minimize environmental impacts, the Applicant has determined that outdoor is the optimal solution.

The Applicant will source genetics i.e. seeds and clones from a licensed nursery.

2.6 Schedule of Cultivation Activities

The Applicant will cultivate cannabis two (2) times per year by utilizing the outdoor, dry farm, cultivation method. The following schedule outlines the approximate timing associated with the activities described:

Dates	Description of Activities
November - Mid-February	Growth of covercrop
End of February	Till in cover crop and amend soil
March	Plant autoflower plants in ground
April	Start full term seeds in Nursery Cloning of mother plants in Nursery to provide starts for outdoor cultivation
May	Start full term clones in Nursery Harvest Outdoor Autoflower crop Till and Amend field Plant full term plants
June - August	Leafing, weeding and regular crop maintenance
September - October	Harvest full term outdoor plants
November	Till soil and winterization of cultivation area Seed cover crop

Cultivation Cycle

The Applicant's cultivation process is described in three parts:

- Propagation
- Growing
- Harvesting

During all phases of cultivation, the Applicant will keep meticulous records using State approved track and trace program. The Applicant will thoroughly train on selected inventory management system. Records will accurately identify and record the seeds or vegetative planting stock as to genus and species, and to subspecies, variety, cultivar, and/or hybrid if applicable. Records will also track plants individually as they progress through phases of cultivation.

The following items will be considered when determining strain selection:

- The availability of the strain
- Medicinal benefits
- Other strains currently in production
- Average yield
- Length of cultivation cycle
- Market demand
- Amount of plant material and quality available for extraction
- Difficulty of processing

Cultivation Overview:

Propagation: Propagation of clones will occur in the Nursery greenhouse (20X50). The nursery will house several "mother plants," from which cuttings will be taken, rooted, then planted into an organic medium like peat moss until ready to be placed into vegetation.

Definitions

- Cloning Mother: Parent plant with strong genetics, grown to produce several hundred cuttings of a specific strain, and receiving a Vegetative nutrient regimen to grow vigorously and support large amounts of cuttings

- Father/Breeding Mother: Parent plants with the strongest and most desired genetics, mated through pollination to produce seeds
- Male/Female: Plant sex determines whether plants may become Cloning Mothers, Breeding parents, or recycled
- Nursery (20X50): Dedicated space containing Cloning Mothers, Clones and seedlings.
- Teen Adult: Plant grown to the desired height, pruned to maximize output, and mature enough to be ready for flowering
- Seeds: Genetic experiments from Breeding Parents to generate potential new Cloning Mothers or cannabis strains

Propagation

There are three pieces to propagation:

1. Developing strong genetics by breeding parents to generate seeds
2. Germinating seeds and determining plant sex to grow new cloning mothers
3. Replicating strong genetics through cuttings of a single cloning mother

The Applicant will focus on propagation through taking cuttings, or "clones" from mother plants. Cuttings will be taken from mother plants in the vegetative stage only. Cannabis is an annual plant that has a life cycle of one year, however if kept in a vegetative state can live for many years.

Nursery skills include, but are not limited to, the following items:

- Assessing and selecting mother plants
- Preparation for cutting clones
- Procedure for cutting clones, including root hormone applications
- Transplanting clones
- Clone care, organization, and tracking
- Sprouting seeds
- Nurturing seedlings

Breeding to generate seeds

Each selected breed stock plant will be uniquely identified and coded both for breeding record keeping purposes, and to allow for the identification and removal of any plant with offspring that quality assurance shows as inferior. The Applicant will visually inspect the seeds for ripeness.

In order to produce a Seed, the Applicant starts with one Breeding Mother and one Breeding Father placed in a sealed and sterile growing environment. All pollen-bearing plants will be strictly isolated with sterilization procedures and minimization of physical traffic deterring contamination potential.

The Applicant will grow the Breeding Mother and Breeding Father until they are quite large, and then flower them by changing the light photoperiod hours.

The Breeding Mother produces resin glands and flowers. The Breeding Father releases pollen into the air that sticks to the resin on the Breeding Mother. The resin then helps facilitate the pollen to enter the pistil for reproduction. The result is offspring in the form of Seeds that can be grown from a Baby plant into another Breeding Mother, Breeding Father, or Cloning Mother.

Breeding Program

The Applicant hopes to use these methods to develop a unique seed bank from which to create cultivars that are disease-resistant and original genetics.

Germination and Sex Determination

Germination is a process that causes the Seed to sprout a root and so it is ready to be planted. The germination percentages and rates will be tested before growing into a cloning mother.

After germination, baby plants grow large enough to allow for cuttings. The Applicant uses cuttings to determine sex by proxy through a vegetative process. Plants proven to be Male will be removed from the general population, evaluated as Breeding Fathers, and otherwise disposed of.

Female plants will be evaluated for desirable traits, such as potency, yield, or pest/disease immunities. In order to refine these desired traits, the Breeding Process must be performed multiple times using the same variety before it is “stable,” the point at which traits are at their strongest points genetically.

Selected Female plants will be selected as prospective Cloning Mothers. The first set of cuttings from these prospective Cloning Mothers will be flowered and evaluated for genetic, cannabinoid, and terpene profiles. If the desired characteristics are present, the Female will become a Cloning Mother.

Replicating strong genetics through cloning

Cuttings are new areas of growth on a mature Cloning Mother, which can be cut and grown into new plants that retain the same genetic makeup of the Cloning Mother.

In the Cloning Process, a sterile razor will cut several of the new branches that have potential flower sites. Several of these cuttings are taken at once, promoting even growth of the Cloning Mother while taking care not to kill the Mother plant. This process cuts off the growth hormones in these sites, signaling the Cloning Mother to develop more hormones, branches, and flower sites in new areas.

Cuttings are placed immediately in water, preventing a possible air bubble from forming in the stem that might block fluid uptake. The cutting is then placed in the preferred medium.

The cutting is then placed in a humidity dome, a plastic tray with a dome-like lid that has vents on it. Once the tray is filled up with cuttings to the required amount, the dome is placed over top of it. The dome is placed on a special waterproof heating mat that heats up, increasing biological activity under the tray, which will promote vigorous root growth.

Cultivation agents monitor the cuttings, identifying any problems and culling any cuttings that do not survive. As the Cloning Mothers continue to grow, the Applicant can add new cuttings. When cuttings establish roots, they become Clones with the exact genetic makeup of the Cloning Mother. These Clones then enter the Growing phase of cannabis cultivation.

Growing

As an outdoor cultivation, preparation and maintenance of the soil is essential to promoting maximum plant health and productivity.

Essential soil building and preparation activities include plowing, tilling and compacting the soil for optimal dry farming outcomes.

There are three important pieces to growing mature cannabis plants:

1. Light management and photo periods, which control plant growth
2. Vegetative phase, during which the cannabis plant grows
3. Flowering phase, during which the cannabis plant produces harvestable flowers/biomass

Light management and photo periods

Like all living things, cannabis plants depend on the sun's cycles to trigger different life changes during one yearly season. Since cannabis is an annual plant, the changing of the sun from spring to summer to fall has different hours of daylight and darkness. The Nursery greenhouse (20X50) will be on an 18 hour light cycle to germinate and grow seedlings and clones as well as maintain mother plants. Otherwise, plants will be grown in full sun in the outdoor cultivation area.

Vegetative phase

After rooting, clones and seeds are transplanted into 4" or 5" pots within the Nursery. Following an initial vegetative stage of approximately 3 weeks, the plants are moved to the outdoor cultivation area and planted in the ground.

Plants will receive ongoing maintenance including foliar feeding, the removal of excess leaf, known as 'leafing', and observation to ensure plant health.

Flowering

The Flowering Adult stops concentrating on making more branches and starts to produce pre-flowers, which then changes to a full flowering physical change. Once mature, the Flowering Adult will hit a peak, stop producing flowers, and will be coated with THC resin via trichomes, which is the psychoactive element in cannabis.

Harvesting

Plants will be monitored continuously throughout the cultivation process. During the flowering stage of plant development the Applicant will begin monitoring trichome development and

maturity. Depending on the strain, the Applicant will determine—based on trichome maturity—the point at which a crop is ready to be harvested.

Mature plants that are ready to be harvested will be identified and logged into the inventory management system, adhering to any seed-to-sale tracking regulations that have been promulgated by the state. During the harvest, plants will be chopped at the stalk and individually weighed. Plants will again be weighed after the drying and curing has been completed. Information will be tracked and entered into the inventory management system at each stage in the process.

Drying and Curing

The Applicant will be drying cannabis in the existing Garage structure (as noted on the Site Map). The Applicant is pursuing the opportunity to sell the harvest as fresh frozen and thereby not dry or cure on site at all.

In the meantime, the Applicant is responsible for implementing and maintaining drying and curing practices to protect crops from contamination and maintain the quality of all cannabis biomass produced by the company.

All drying/curing operations will be performed in limited access areas with full surveillance camera coverage in accordance with security policies and procedures and as detailed in the Security Section. The drying room will be maintained to ensure that there is sufficient ventilation for airborne moisture to escape providing adequate air circulation throughout the drying area and sufficient odor mitigation.

Harvested plant material will be placed on racks and hung upside down in the drying and curing room.

Before processing or handling any raw plant material, all equipment—clippers, hand scissors, scales, bins, pans, trays, etc.—will be sterilized as per Roc Squatch Farms SOPs. All equipment will, additionally, be sterilized after each use.

Cultivation Inputs

The Applicant strives to attain the highest standards of cultivation inputs. By following rigorous protocols and restrictions, the Applicant maintains the high quality of cannabis produced and mitigates the risk of wasted production.

Part of this commitment to quality is the Applicant's intent to attain the equivalent of Clean Green Certification, which indicates that:

- The product has been grown to standards that meet or exceed the standards used by the USDA in awarding organic certification, and is thus "organic" in nature
- No synthetic pesticides have been used at any point of the production/cultivation process
- Production methods are salmon-safe
- All practices adhere to the standards of fair-trade
- That all processes involved during the growing and cultivation of marijuana are in full compliance with local and state jurisdictions

The Applicant has established standards for:

- Nutrients
- Growing medium
- Pesticides
- Disease and pest management procedures

Nutrients

There are three main macronutrients that a plant needs: Nitrogen, Phosphorus, and Potassium. In addition to these nutrients there are also many micronutrients and vitamin supplements that can amend a growing medium or feed a plant to help with its growing processes. Nutrients break down through a natural bacterial enzyme process, which helps facilitate the uptake of nutrients into a plant's roots, thus feeding the plant. This process happens in nature with the decay of organic matter on the ground.

The Applicant will use primarily dry organic nutrient regimens with the highest quality nutrients available, from select manufacturers sourced locally. Nutrients will be applied foliarly by a trained and licensed applicator.

The Applicant will maintain a list of each substance to be used as a production or handling input, indicating its composition, source, location(s) where it will be used, and documentation

of commercial availability, as applicable. The Applicant will maintain this list electronically in the crop management system.

Soils Management Plan

The Applicant has enforced a strict gardening policy of using and reusing of organic substances to create sustainable resources, reduce consumption of those resources, and prevent any type of harmful environmental impact. This includes the cannabis plant growing soil.

The Applicant will use native soils, and organic amendments purchased from a local supply house. Any spent or used materials will be composted and redistributed throughout the cultivation area.

Mycorrhizae will be added to the soil, increasing its mass through a blend of symbiotic organisms. This additive is a mixture of organic beneficial microbes to help break down old root material and provide nutrition. The microbes provide aeration so oxygen can reach further to penetrate more into the plants roots. They also capture nitrogen and help make phosphorus more available, facilitating plant growth. Mycorrhizae will be used throughout the entire plant cultivation cycle.

The Applicant will seed a cover crop between growing seasons from the months of November - February. Cover crops reduce the loss of water from the soil and provide organic matter and nutrients to the soil.

Pesticides

Our goal is to operate as a pesticide free organic far. Applicant will adhere to any County and State requirements for pesticide application.

Disease and Pest Management Procedures

The Applicant will use resistant cultivars and maximize biological prevention of pests and diseases.

Integrated Pest Management (IPM)

The goal of IPM is to apply a combination of control methods to prevent, reduce, or maintain pest populations at non-damaging levels.

The Applicant will implement and monitor IPM practices to predict potential levels of crop damage, mitigate risk, and control pests.

A variety of mechanical, physical, and biological controls will be implemented. The Director of Cultivation may implement the use of appropriate biological controls including predatory wasps and mites and nematodes, lacewings, ladybugs, pirate bugs, and others for preventative or mitigation purposes. The use of biodynamics will be limited to recognized and effective applications. The Applicant may implement any practice allowed by the USDA Organic Standards.

Regular IPM practices include, but are not limited to:

- Daily monitoring of pest populations
- Removal of pest habitat, food sources, and breeding areas
- Utilization of verified “pest-free” supplies
- Prevention of access to handling facilities
- Management of environmental factors, such as temperature, light, humidity, atmosphere, and air circulation, to prevent pest reproduction
- Disposition of infected crops
- Evaluation of the cost or prevention in relation to yield and quality improvements
- Use of organic pesticides as a last resort

Early identification of pest infections is crucial.

Should a pest infestation occur, the Applicant will develop IPM programs on an as-needed basis for the Warren Creek facility, considering at a minimum:

- Current status of infestation
- Regulatory considerations
- Public perception
- Pest and crop life-cycle stages
- Location, size, density of infestation
- Potential to spread

- Environmental impacts
- Clean Green Certification
- Previous results of measures.

Pesticide spraying protocols

Should the need arise to use pesticides to prevent crop failure, the Applicant will adhere to spraying protocols and will maintain records of any pesticide use in the cultivation and will adhere to State and Local requirements for record keeping.

Records must include:

- Reason for application
- Method of application
- Frequency of application
- Next scheduled date of application
- Employee responsible for next application
- Status of lights, HVAC, and air circulation during application (i.e., lights on, HVAC off, and fans off)
- PPE required for application (i.e., mask required, Tyvex suit optional)
- Restrictions preventing application (i.e., do not apply within four hours of any foliar application)
- Life Cycle Stage restrictions - (i.e., apply in vegetative state only or may be applied in all stages)
- Re-entry intervals
- Posting requirement
- Other precautions (i.e. cover medium)

Disease Management

The Applicant will determine acceptable methods of disease management. The scope for disease management will include, but is not limited to:

- Soil, media, and crop nutrient management practices

- Sanitation measures to remove disease vectors and habitat for pest organisms
- Cultural practices that enhance crop health, including selection of plant species and varieties with regard to suitability to site-specific conditions and resistance to prevalent pests, weeds, and diseases
- Practices which suppress the spread of disease organisms
- Application of biological, botanical, or mineral inputs

Signs of Pest Infestations or Disease

The Applicant will also oversee at least weekly surveillance or inspection of plant material, identifying:

- Changes in biological colonies
- Mold and mildew
- Leaf and tip burn, discoloration, and spotting
- Changes in appearance of the media
- Changes in stalk density and branch elasticity

All crops are to be inspected by two or more trained employees for all visible foreign matter and sub-standard material to be removed. These employees will also perform a visual microscopic and naked-eye inspection of each crop processed to determine:

- Organoleptic characteristics (color, texture and odor)
- Presentation of the material (raw, cut, crushed, compressed)
- The presence of admixtures, foreign matter (sand, glass particles, dirt), mold, or signs of decay
- The presence of insects
- The presence of foreign material originating from poor or degraded containers

The Applicant will schedule regular in-house testing based on current operational needs and recorded in the crop management system. Tests that will be performed include:

- Soil pH

- Nutrient pH
- Total Dissolved Solids (TDS)
- Electro-Conductivity (EC)
- Soil EC/pH testing using a saturated media extraction (1 part soil to 2 parts filtered water)
- The leachate pour-through method

Damaged and/or degraded plant material will be removed and disposed of and in accordance with waste disposal policies and procedures.

Cannabis Disposal

All waste, including waste composed of or containing marijuana products, will be stored, secured, and managed in accordance with applicable state and local laws and regulations. Additional waste disposal provisions include detailed plans for excess product disposal, liquid, and solid waste disposal based on guidelines from the Department of Environmental Conservation, composting practices, and the disposal of expired, contaminated, or otherwise unusable cannabis products.

In order to reduce the potential to misuse the disposal procedures for diversion, the cannabis waste disposal plan is a four-step system:

1. Record waste cannabis.
2. Store waste cannabis.
3. Verify waste cannabis.
4. Destroy waste cannabis.

Steps two and four will take place on surveillance camera.

Record waste cannabis

Before waste cannabis is disposed of, every detail of each product or package will be logged in the inventory system. This will be sufficient to identify the source of the waste material, from the

plant number of a clone that dies to the weight of waste flower from a particular plant. The reason for the disposal and the person disposing of the cannabis will also be noted.

The Applicant will be trained to handle the proper procedures for disposal, and to record all details of a disposal in the inventory control system.

Storing and segregating waste cannabis

The same person who records the waste cannabis details will put the waste into a bag numbered according to the inventory control system disposal item, and set it in a container clearly designated for disposal and covered by a dedicated surveillance camera.

Cultivation-related wastes including, but not limited to, empty soil/soil amendment/, empty plant pots or containers, dead or harvested plant waste, and spent growth medium shall, for as long as they remain on the site, be stored at locations where they will not enter or be blown into surface waters, and in a manner that ensures that residues and pollutants within those materials do not migrate or leach into surface water or groundwater.

Verify waste cannabis

As part of a daily physical inventory, the Applicant will review and verify that all waste materials are accounted for and correctly filed in the inventory control system. This review will be logged in the inventory control system and a separate tamper-proof hardcopy disposal log.

These materials will either be destroyed immediately, or the supervisor will move the waste cannabis to a clearly designated locked and secured container segregated from all usable cannabis within the on-site product vault.

Destroy waste cannabis

Cannabis flowers, undesirable buds, stems, unsanitary product (such as that dropped on the floor), must be rendered unusable and unrecognizable by grinding and mixing with other ground materials such as soil or other compostable material, so that the resulting mixture is at least 50 percent non-cannabis waste by volume. These materials will be stored in a locked and secured container until destroyed. Waste cannabis will be destroyed by means of composting in a 10' x 10' composting area.

Other Waste Management

Non-cannabis waste will be sorted and stored in the Trash and Recycling receptacles identified on the site map.

Trash will be removed weekly.

Recycling will be removed monthly.

2.7 Security Plan

The Applicant will utilize existing security measures onsite to protect the cultivation area from theft. The Applicant proposes to install an electronic gate where the access driveway intersects with Warren Creek Road and only the Applicant and the neighbor who has an easement for access to an adjacent parcel will have the security code to operate the gate. The cultivation site will be secured by six-foot (6') fencing and eight (8) security cameras. The cameras will be located as follows:

1. Camera 1 Inside the Garage
2. Camera 2 Inside the Garage
3. Camera on the main entrance gate - arriving/departing
4. On the compost/material destruction area and locked garbage container
5. Camera 1 on the outdoor field - View 1
6. Camera 2 on the outdoor field - View 2
7. Camera 1 in Nursery - View 1
8. Camera 2 in Nursery - View 2

3.0 PROCESSING PLAN AND SALES

3.1 Processing Plan

The Applicant plans to harvest, dry and sell untrimmed bulk cannabis to a licensed Processor or Manufacturer. The Applicant will dry and cure untrimmed cannabis biomass in the existing Garage/Drying Facility (as noted on the Site Map) on-site. All processing will be outsourced to a permitted processing facility. No trimming or packaging will take place on site.

As the Applicant will not be processing cannabis on-site, the processing location will be at a permitted processing facility within Humboldt to be determined. The processing responsibilities may be assumed by the legal biomass purchaser and completed at a permitted facility of their choice.

3.2 Estimated Number of Employees

Cultivation and Drying will be performed by Applicant and family members with a maximum of four people on-site during regular hours of operation. For the majority of the season the Applicant and his family member will be the only laborers. Should additional assistance be required at planting or harvest, the Applicant would work through a licensed management company such as Six Rivers, LLC or with an employment agency such as Dark Staffing or Emerald Employment for short term labor needs.

Hours of Operations will be Monday through Friday 9:00 am to 5:00 pm.

3.4 Employee Safety Practices

Safety is a top priority for the Applicant. The Applicant will visibly post and maintain an Emergency Contact list that is easily accessible. The Emergency Contact List will be kept in three (3) locations on the property: - the office, the drying room, and break room.

3.5 Toilet and Handwashing Facilities

The applicant plans on contracting with Six River's Portables for ADA compliant B&B portable Toilets and Handwashing Stations, including having them regularly services. Facilities will be in compliance with the Department of Industrial Relations Field Sanitary Requirements for agricultural workers.

Toilet and handwashing facilities will be made available at all times. Toilet and handwashing facilities will be cleaned and maintained regularly to ensure health and safety. Handwashing requirements will be posted in the Toilet.

3.7 Source of Drinking Water

Drinking water will be provided by the Applicant, who will purchase bottled water in refillable 5 gallon jugs. The drinking water will be made available to individuals during their shifts.

3.8 Minimizing Road Impacts

Access to the site is via Warren Creek Road. Warren Creek Road is a partially paved road. To reach the subject property, it is approximately 1.79 miles (9,447 feet) from the intersection of West End Road and Warren Creek Road. Due to the low number of family members needed to operate throughout the cultivation season, it is anticipated that the project will not significantly increase traffic on Warren Creek Road. During peak operations harvest additional labor will be sourced through a licensed employment or management company. The Applicant will encourage carpooling to reduce the number of cars using Warren Creek Road.

Per the Land Use Memorandum submitted by Robert W Bronkall, Deputy Director on 01/06/2020, the Applicant will construct the recommended 7 turnouts outlined and have all potholes filled prior to commencement of operations. In addition, the Applicant will participate in the neighborhood road association.

3.9 On-Site Housing

The parcel has an undeveloped one-family slab. No on-site housing will be provided for laborers.

Applicant plans to apply for a building permit to build a proposed single family home with secured enhanced drying room on the lower level. Only the Applicant or family member would occupy the home.

Pending the ability to obtain a permit through the County, the Applicant would like to use a Tiny Home on-site, while permitting and building the single family home.

4.0 RESOURCES

County of Humboldt. 2016. Commercial medical Marijuana Land Use Ordinance. Pages 19-35

Watch: Dry Farming Cannabis. 2018. CannabisNow
<https://cannabisnow.com/watch-dry-farming-cannabis/>

Dry Farming. CAWSI California Ag Water Stewardship Initiative
http://agwaterstewards.org/practices/dry_farming/

County of Humboldt. 1968. Northern Humboldt General Plan. Page 44.

County of Humboldt. Humboldt County Code. Division III - Chapter 4: Regulations Outside the Coastal Zone. Page 29. Date accessed: 04/24/2017.
<http://humboldt.gov/DocumentCenter/View/1184>.

International Dark Sky Association. 2016. Recommended Lighting Zones. Date Accessed: 12/5/2016
<http://darksky.org/lighting/model-lighting-laws-policy/recommended-lighting-zones/>

North Coast Regional Water Quality Control Board. 2015. Best Management Practices for Discharges of Water Resulting from Cannabis Cultivation and Associated Activities or Operations with Similar Environmental Effects. Pages 14-15. Date Accessed: 10/12/2016
https://www.waterboards.ca.gov/northcoast/board_decisions/adopted_orders/pdf/2015/150728_Appendix%20B_BMP_clean.pdf