

Cultivation and Operations Manual
For
Emerald Mountain Coast

Cannabis Cultivation Facilities
APN No. 522-021-009-000

Lead Agency:

Humboldt County Planning Department
3015 H Street
Eureka, CA 95501

Prepared By:

SL Consulting Services Inc
973 Dowler Dr
Eureka, California 95501

In Consultation with:

Emerald Mountain Coast
4235 Excelsior Road
Eureka, CA 95503

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1. Project Summary

1.1. Project Objective

Emerald Mountain Coast is proposing to permit Commercial Cannabis Cultivation Activities in Accordance with the County Of Humboldt Commercial Cannabis Land Use Ordinance (CCLUO). The project is seeking a Special Permit for commercial cannabis cultivation of 18,050 square feet Mixed Light cultivation with 3,000 square feet of appurtenant nursery facility. The project proposes moving existing cultivation to sites on-property that are better suited (see Site Plan). **Drying/curing activities to take place in an existing 30'x46' ag exempt shop building. Processing to occur off-site in a licensed facility.** Cultivation will occur in greenhouses in raised beds using amended soil. Project will add four (4) proposed buildings, the two (2) 30'x50' buildings for processing and two (2) proposed detached sleeping units. Water will be provided by an onsite existing permitted well. There is 45,000 gallons of existing hard plastic tank storage, the project proposes adding rain catchment off the barns, additional tank storage and a 500,000 gallon pond to support cultivation. Water will be used to apply beneficial bacteria (compost tea, beneficial bacteria) and for foliar organic pesticide application. Nursery structures will be cold frame structures with supplemental lighting. Blackout tarps will be pulled over the greenhouses. Power will be provided by a WhisperWatt 25 (Model DCA25USI4CAN), four (4) Honda 3000 and two (2) Honda 6000 generators on site. EMC will limit the use of the generator to an as needed basis following all guidelines set up by Humboldt County and the State of California.

2. Land Use

2.1. Site Description

The Project is located near Willow Creek, CA (APN 522-021-009-000) just east of the intersection of Stover and Bair Roads. The subject parcel is zoned TPZ and is approximately 167.46 total acres in size (per the County of Humboldt's WebGIS). The property is primarily forested, with some developed flats. Cultivation areas are buffered by forest.

2.2. State of California Commercial Cannabis Activity License

Emerald Mountain Coast will operate under a California Cultivation license.

2.3. State Water Resources Control Board

Water will be provided by an existing permitted well and a total of 45,000 gallons of hard plastic tank storage in various sized tanks up to a max size of 5000 gallons. The project proposes adding rain catchment off the barns, additional plastic tank storage and a 500,000 gallon pond to support cultivation. The property will be enrolled under the Waterboard's Cannabis Cultivation general order.

2.4. Cal Fire

The subject property is located within a State Responsibility Area (SRA) for fire protection and SRA requirements have been met. All structures on the property meet the 30-foot SRA setback requirement

from property lines.

2.5. California Department of Fish and Wildlife

A Lake and Streambed Alteration Agreement (LSAA) from the Department of Fish and Wildlife (DFW) has been secured for the subject parcel.

2.6. Cultural Resources

If buried archaeological or historical resources are encountered during construction or cultivation activities, the applicant or contractor shall call all work in the immediate area to halt temporarily, and a qualified archaeologist is to be contacted to evaluate the materials. Prehistoric materials may include obsidian or chert flakes, tools, locally darkened midden soils, ground stone artifacts, dietary bone, and human burials. If human burial is found during construction, state law requires that the County Coroner be contacted immediately. If the remains are found to be those of a Native American, the California Native American Heritage Commission will then be contacted by the Coroner to determine appropriate treatment of the remains. The applicant is ultimately responsible for ensuring compliance with this condition.

3. Cultivation and Processing

3.1. Propagation and Initial Transplant

Operator starts plants taken from cuttings from “mother” plants maintained in the nursery greenhouse. Cuttings are taken from mother plants and placed into trays to root under low intensity lights.

Once the cuttings are rooted, they are transplanted into 4” pots within the nursery spaces to reach the appropriate size to plant. String lights will be used with blackout covers for light control to maintain vegetative stage. Once the risk of frost has passed, juvenile plants are then transplanted to the cultivation greenhouses.

3.2. Outdoor Cultivation Plan and Schedule

The cultivation will occur within the cultivation greenhouses as outlined in the site plan.

See schedule of operations below.

Proposed Cultivation Schedule

Cultivation Operations Schedule		
Month	Cultivation Activities	Processing Activities
January	Maintenance	No activity
February	Maintenance	No activity
March	Raising nursery stock	No activity
April	Plant beds	No activity
May	Maintain plants	No activity
June	Maintain plants	No activity
July	Watering/maintain plants/1st harvest/replant	Bucking down plants, drying
August	Watering/maintain plants/leaf and prune	Bucking down plants, drying
September	Watering/maintain plants/begin harvest	Bucking down plants, drying
October	Harvest	Bucking down plants, drying
November	Maintenance/Cover crop	No activity
December	Maintenance/Cover crop	No activity

3.3. Irrigation Plan and Schedule

Irrigation and fertigation of plants occurs using drip irrigation and hand watering methods at agronomic rates which conserves water by not allowing excess water runoff.

Water is used for supplemental foliar spraying of pesticides and drip watering of inoculants such as, compost tea and beneficial bacteria.

See section 5.1 for water usage estimates.

3.4. Harvesting, Drying, and Trimming

Plants that are ready for harvest have their flowering branches removed and are brought to the drying facility. Once taken to the drying building then hung and suspended in the drying facilities. The drying facilities are equipped with air conditioning and dehumidifiers to ensure proper curing and elimination of conditions for mold. All work surfaces are maintained in a clean and sanitary manner. Contamination prevention protocols are strictly followed within the facilities.

Dried buds are bucked off the stalks and put into totes for transport to an off-site trimming facility. Waste plant stalk/stem material is composted onsite just outside the cultivation area.

3.5. Processing Facility

Drying will occur at the existing 30’x46’ ag exempt shop. No trimming will occur on-site.

3.6. Employee Plan

Emerald Mountain Coast is an “agricultural employer” as defined in the Alatorre-Zenovich-Dunlap-Berman Agricultural Labor Relations Act of 1975 (Part 3.5 (commencing with Section 1140) of Division 2 of the Labor Code), and complies with all applicable federal, state and local laws and regulations governing California Agricultural Employers.

□ Job Descriptions And Employee Summary

- Agent in Charge: Responsible for business oversight and management of the Emerald Mountain Coast. Responsibilities include, but are not limited to: inventory and tracking, personnel management, record keeping, budget, and liaison with State and County inspectors as needed. This is a part-time to full-time, seasonal position.
- Operations and Compliance Managers: Oversight and management of the day to day cultivation of medical cannabis. Responsibilities include, but are not limited to: plant propagation and transplant, soil management, irrigation, fertilization, pesticide management, and harvest activities. This is a full-time, year-round position.
- Seasonal Laborer: Provides cultivation, harvesting and processing support. This is a part-time to full-time, seasonal position.

3.7. Staffing Requirements

In addition to the Agent in Charge and full time Operations Manager, EMC intends to employ one (1) full time Assistant Cultivator, one (1) Seasonal Processing Manager and up to four (4) seasonal labor positions for an estimated total of approximately eight (8) employees maximum at the Project site at any given time.

Month	Cultivation	Harvest/ Processing
January	-	0
February	-	0
March	3	0
April	3	4
May	3	4

June	3	0
July	4	4
August	4	4
September	4	0
October	4	4
November	3	0
December	3	0

3.8. Employee Training and Safety

On site cultivation, harvesting, drying and processing is performed by employees trained on each aspect of the procedure including: cultivation and harvesting techniques and use of pruning tools; proper application and storage of pesticides and fertilizers. All cultivation and processing staff are provided with proper hand, eye, body and respiratory Personal Protective Equipment (PPE). Access to the onsite facilities are limited to authorized and trained staff.

All employees are trained on proper safety procedures including fire safety; use of rubber gloves and respirators; proper hand washing guidelines; and protocol in the event of an emergency. Contact information for the local fire department, CAL FIRE, Humboldt County Sheriff and Poison Control as well as the Agent in Charge will be posted at the employee restroom. Each employee is provided with a written copy of emergency procedures and contact information. The material safety data sheets (MSDS) are kept on site and accessible to employees.

3.9. Toilet and Handwashing Facilities

Portable toilets and handwashing stations will be provided until an ADA bathroom can be constructed.

3.10. Drinking Water Source

Bottled water will be provided and empty bottles will be properly disposed of.

3.11. On Site Housing

On-site housing is proposed in the form of three (3) detached 10’x12’ sleeping areas for employees as indicated on the site plan. Housing is provided for all full-time on-site cultivation employees.

3.12. On Site Parking

See plot plan for parking locations.

4. Security Plan and Hours of Operation

4.1. Facility Security

Entry gates are located at entrances. The entry gates remain locked at all times and access to the cultivation area is limited exclusively to employees. Motion sensors located at access points and any buildings holding drying or processed inventory. The drying facility area has low intensity, downcast and shielded exterior lighting to illuminate the entrances, and will include a small number of motion activated security lights. All lighting will be designed and located so that direct rays are confined to the property. Security cameras and alarm system is installed at entrances to the site.

4.2. Hours of Operation

Activities associated with cultivation in the greenhouses (watering, transplanting, and harvesting) generally occur during daylight hours. All other activities typically occur no earlier than 8 AM and extend no later than 8 PM.

5. Environment

5.1. Water Source and Projected Water Use

Water is provided by an existing permitted well onsite.

Emerald Mountain Coast utilizes water management strategies such as drip irrigation to conserve water use.

The table below outlines the estimated irrigation water usage for cultivation during a typical year. Variables such as weather conditions and specific cannabis strains will have a slight effect on water use. The majority of the water used for the plants occurs in July and August. A total of 180,500 gallons of water usage is estimated (10 gallons per square foot canopy).

TABLE 4.1 ESTIMATED ANNUAL IRRIGATION WATER USAGE											
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
---	---	5,000	22,200	22,200	22,200	33,300	33,300	23,700	23,700	---	---

5.2. Water Storage

There is 51,400 gallons of existing hard plastic tank storage:

- (3) 1,300 gallon
- (1) 3,500 gallon
- (3) 2,500 gallon
- (1) 1,500 gallon
- (7) 5,000 gallon

The project proposes adding rain catchment off the barns, additional tank storage and a 500,000 gallon rain catchment pond to support the cultivation operation and for use as an emergency fire suppression water source. The well will be used to supplement rainwater catchment.

5.3. Site Drainage, Runoff, and Erosion Control

Emerald Mountain Coast will enroll with the State Water Quality Control Board State general order and a Water Resource Protection Plan (WRPP) will be developed utilizing best management practices (BMP's) in accordance with the NCRWQCB's recommendations.

5.4. Site Drainage and Runoff

The site has a forested buffer surrounding the property to mitigate runoff.

Buffers and setbacks from neighboring drainages are met. Cultivation occurs on existing log landings that are less than 15% in slope.

5.5. Erosion Control

Emerald Mountain Coast will utilize best management practices including but not limited to:

- Maintenance of roads, including rocking and armoring.
- Proper management of solid, liquid and cultivation waste (see section 3.8)
- Cultivation facilities and spoil stockpiles will meet all required setbacks from riparian and wetland areas.
- Irrigation and application of fertilizers will be applied at agronomic rates.
- Regulated products will be safely stored with secondary containment (see section 3.7)

5.6. Watershed and Habitat Protection

Adherence to the proposed best management practices ensures that the watershed and surrounding habitat are protected. The cultivation activities and associated structures meet all required setbacks from the nearest watercourse, providing a suitable buffer between the cultivation operation and habitat. Additionally, site development and maintenance activities utilize BMP's in accordance with the NCRWQCB's recommendations. Any grading and earthwork activities will be conducted by a licensed contractor in accordance with approved grading permits.

5.7. Monitoring and Reporting

Monitoring will be conducted to confirm the effectiveness of corrected measures listed in the Water Resource Protection Plan and determine if the site meets all Standard Conditions. Inspections will include photographic documentation of any controllable sediment discharge sites as identified on the site map. Visual inspection will occur at those locations on the site where pollutants or wastes, if uncontained, could be transported into receiving waters, and those locations where runoff from roads or developed areas drains into or towards surface water. The inspection will also document the progress of any plan element subject to a time schedule, or in the process of being implemented.

- Before and after any significant alteration or upgrade to a given stream crossing, road segment, or other controllable sediment discharge site. Inspection should include photographic documentation, with photo records to be kept on site.
- Prior to October 15 and December 15 to evaluate site preparedness for storm events and storm water runoff.
- Following any rainfall event with an intensity of 3 inches precipitation in 24 hours. Precipitation data can be obtained from the National Weather Service by entering the site zip code at <http://www.srh.noaa.gov/forecast>.

A Monitoring and Reporting Form will be submitted upon initial enrollment in the Order and then annually by March 1 to the Water Board. The annual report will include data from the monitoring reports.

5.8. Energy Plan

Due to the remote location and off the grid nature of the site, it will be necessary for Emerald Mountain Coast to use generators for power. EMC will limit the use of the generators to an as needed basis following all guidelines set up by Humboldt County and the State of California. The generators will be in operation from March to November for supplemental lighting within the mixed light greenhouses and non-commercial nursery and drying and for the processing facilities..

Generators used onsite:

- Two WhisperWatt 25
- Two (2) Honda 3000 generators

At 23 feet the WhisperWatt generates 65 decibels and will be placed in an enclosure to ensure noise generation remains below 50 decibels at 100'. The Honda generators have a peak of 57 decibels in operation and will generate less than 50 decibels of noise at 100' at load.

See Section 5.11 for details on the storage of generator fuel.

5.9. Light Pollution Control Plan

Mixed light greenhouses use blackout tarp over the lighted canopy areas whenever supplemental lighting is utilized outside of daylight hours. The project will meet International Dark Sky Standards.

5.10. Best Management Practices

Best Management Practices (BMP's) are employed when storing, handling, mixing, application and disposal of all fertilizers, pesticides and fungicides. All nutrients, pesticides and fungicides are located in a locked storage room, and contained within water tight, locked and labeled containers in accordance with manufacturer's instruction. Application rates will be tracked and reported with the end of the year monitoring report required in the SMP. Employees responsible for application are trained to handle, mix, apply or dispose of pesticides/fungicides with proper hand, eye body and respiratory protection in accordance with the manufacturer's recommendations.

5.11. Fertilizers

Nutrients and biological inoculants used for cultivation and kept on site include:

- Age Old Bloom and Age Old Grow (±30 gallons),
- Sea Pal (±10 gallons),
- Maxsea All Purpose/Bloom (±9 gallons),
- Earth Juice Sea Blast (40 lb bag)
- Liquid bone meal (12 gallons)
- Green sand (50 lb bag),
- Oyster shell (50 lb bag)

- ❑ Rock phosphorous (50 lb bag)
- ❑ Chicken manure (50 lb bag)
- ❑ Potash (50 lb bag)
- ❑ Feather meal (50 lb bag)
- ❑ Sea kelp (50 lb bag)
- ❑ Azomite (50 lb bag),
- ❑ Nutri Rich fertilizer pellets (50 lb bag)

Pesticides and fungicides used for cultivation include:

- ❑ Neem oil (1 gallon)
- ❑ Azamax (1 gallon)
- ❑ Doctor Zyme's eliminator (3 gallons)
- ❑ Beauveria bassiana (beneficial fungus)
- ❑ QST Subtilis (beneficial bacteria)

Fuels, oils other regulated substances stored on site include:

- ❑ Gasoline 150 gallons
- ❑ Diesel 300 gallons
- ❑ Motor Oil, up to 10 gallons
- ❑ Coolant, up to 5 gallons
- ❑ Isopropyl/Ethyl Alcohol/Bleach – up to 5 Gallons

Fuel is stored in an existing 10x12 storage shed with a concrete floor with secondary containment.

5.12. Waste Management Plan

Animal-proof trash and recycling containers are located near the commercial buildings. Solid waste and recycling is hauled off-site to a transfer station at least once per month.

5.13. Cultivation Waste and Soil Management

Cultivation vegetative matter such as root balls are composted on site. Soil is generally reused and stored in the greenhouse beds and reused. If soil must be disposed of, it is self-hauled to at a licensed transfer facility or landscaping yard for re-amendment and re-sale.

5.14. Materials Management Plan

Waste bins with lids are kept adjacent to cultivation sites and emptied out the day they are filled up or weekly.

Waste materials are stored in a trailer and self-hauled off weekly to a licensed waste transfer station.

5.15. Wastewater Management

Combination of hand watering and drip irrigation methods minimize the over-irrigation of plants and subsequent runoff. Moreover, the greenhouse floors are gravel/dirt and will absorb any excess runoff.

5.16. Storm-water Management Plan

Roads will be armored appropriately.

Rainwater from the roofs will be captured and stored in plastic tanks reducing runoff

Native soil will be utilized and cover cropped to reduce sediment delivery.

5.17. Relocation Environmental Superiority Narrative

The project proposes relocation of cannabis cultivation to an environmentally superior location. The relocation will allow restoration of approximately 0.5 acres of an existing flat and reduction of 0.17 on-site road.

The relocation also increases the setback of the cultivation area from approximately 380' from the eastern property line abutting national forest land to approximately 870'. The relocation will increase the cultivation area setback from an adjoining drainage from 330' to over 660'.

6. Product Management

6.1. Product Testing and Labeling

Sampling and labeling is handled by the third party distributor off-site.

6.2. Product Inventory and Tracking

Site will be enrolled with the state METRC track and trace system and utilizes it to manage inventory and tracking.

6.3. Transportation and Distribution

Transportation will be handled by a third-party, contracted, licensed transporter/distributor in accordance with State and Local regulations. All merchantable product will be distributed through licensed medical cannabis dispensaries. Prior to moving packages from the on-site holding facility to another physical location, a transport manifest will be created by the distributor/transporter and will include:

- Product ID numbers and product weight
- Route to be travelled

- Origin and destination address
- Time of departure
- Time of arrival

The Agent in Charge and the Cultivation Manager are responsible for performing a physical inventory of all packages being transported, and ensuring that the physical inventory coincides with the transport manifest.