

ATTACHMENT 1B

Cultivation and Operations Plan



OPERATIONS PLAN

MAHALA CREEK LLC APPS# 13169 APN:524-114-007

COMPILED BY:



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CONSULTANTS**

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Apps #13169

Cultivation and Operations Overview

Special Permit CUP16-1020

APN: 524-114-007

Project Description: The applicant is seeking approval of a Conditional Use Permit for existing light deprivation cannabis cultivation up to 43,560 square feet, as well as ancillary processing activities and support infrastructure/facilities. Date stamped air photo/maps are provided to show cultivated areas in existence prior to January 1, 2016 encompassing an area totaling over 43,560 square feet.

The applicant acknowledges that the commercial cannabis activity approval being sought under the aforementioned special permit application, pursuant to CMMLUO, is subject to compliance with all other applicable Humboldt County zoning and land use regulations, as well as other applicable provisions of the Humboldt County Code and applicable state laws. A determination of compliance will require multi-agency review of activities/development described in the aforementioned permit application and in some cases, site inspections. If development and/or activities on the subject parcel are determined, for some reason, to be out of compliance with any applicable State or County code, regulation or policy, a compliance agreement can be formulated between the applicant and relevant agency or agencies, which includes a compliance timeline whereby operations may continue under a "Provisional Clearance or Permit" and corrective action is initiated to achieve compliance under agreed upon terms.

Parcel Information: The subject parcel (524-114-007) is approximately 160 acres, zoned TPZ with framework designation T. It is approximately 10 miles ESE of the town of Willow Creek. It is accessed off of Friday Ridge Rd to USFS 6NO6 RD in eastern Humboldt County. The applicant owns the neighboring parcel as well (524-114-005, it has a CMMLUO permit #13164) there is a parcel which splits the ownership that is owned by 6Rivers National Forest.

Topography/Landscape: The parcel resides in a private inholding surrounded by 6Rivers National Forest timber preserve on all sides (A 600 ft. waiver will be requested within this application packet). The subject parcel sits atop an elongated North Eastern facing ridge that ranges from approximately 2000 down to 800 feet in elevation. The south slope gradually declines eastwards to the South Fork Trinity River and the north facing slope descends steeply into Mahala Creek drainage, a tributary of the South Fork of the Trinity River. The majority of the parcel is covered with thick conifer forest with the exception of three small graded clearings, where residential infrastructure has been built and the cultivation sites are located.

Roads/Stream Crossings/Easements: The easement (6Rivers NF) dirt driveway enters the parcel from the top of the ridge where it intersects with Forest Service Route 6NO6, it switch backs through South Eastern Corner of the parcel where the road begins losing elevation steeply leading to the neighboring parcels, one of which is owned by the applicant. There are no water crossings on the parcel due the placement of the road at the top of the elongated ridge. Interior

road conditions will be assessed in the development of a site -specific Water Resources Protection Plan (WRPP) by Timberland Resource Consultants by the end of the year 2017. Where necessary, the WRPP prescribes corrective measures to upgrade specific road condition deficiencies identified and sets a time frame in which to complete work. Work prescribed within a WRPP does not preclude the need to comply with other state and county road requirements applicable to the aforementioned permit application.

Utilities: One Multiquip 20 kw generator is used for electrical power at the greenhouses when needed. A Kubota 15kw generator is stored at the second flat where the cabin and detached bathhouse with a conventional septic system is located (permit # 36680). A permitted well has been drilled on site (apps # 11-12-1271).

Building/Structures/Facilities: A small cabin 720 ft.² with a detached bathhouse was built on site in 2014. These improvements have been approved by the Humboldt County Planning department (Apps # 34382, 36680). Please see the attached permit documentation submitted with this application packet. There are two small generator sheds installed, the first is found at the top graded flat where the light deprivation greenhouses are located the second shed is located near the cabin and bathhouse site.

Surface Water Features: Three Class II/III watercourses flow north to Mahala Creek and one Class II/III flows east towards the South Fork of the Trinity River.

Water Sources Serving Property: Water serving this parcel is supplied from a permitted well (Apps# 36680) located in the SW corner of the property up on top of the ridge.

Water Storage: There is currently 12,500 gallons of water storage on site. The bank of five 2,500 gal poly tanks is located near the well.

Cultivation Areas: The existing cultivation includes a graded flat with **7,125 ft² foot print** of light deprivation greenhouses and two graded flats, the first with **23,220 ft²** and the second with a total of **13,215ft²** full term out door for a total of 1 acre of existing medical cannabis crop on the parcel.

Proposed cultivation areas and surrounding ground surfaces will be evaluated in the development of a site-specific Water Resources Protection Plan (WRPP) prepared by Timberland Resource Consultants. If deemed necessary, the WRPP will prescribe corrective measures to address conditions which may adversely impact water resources and it will establish a timeline in which to achieve compliance with RWQCB Order No.2015-0023. Corrective measures prescribed in the WRPP do not preclude the need for Cultivation Areas or other manmade features to be brought into compliance with all applicable state and local grading, excavation and erosion/sediment control requirements.

Peak water demand: Is calculated using 1.4 gallons of water/ft² of cultivation area per month to maintain plants during the warmest summer months. This cultivation project averages between 30,000 to 60,000 gallons per month. The "Monthly Water Use" table below shows **estimated water use** being **proposed** throughout the grow season. Water usage will continue to be

monitored and recorded by use of in-line totalizing flow meters in accordance with applicable regulations.

Monthly Water Use Table:

There is no agricultural water use during the months of November-March

	<i>Cultivation A-1 (7,125ft²)</i>	<i>Cultivation A-2 (23,220 ft²)</i>	<i>Cultivation A-3 (13,215 ft²)</i>	<i>Plant Stage</i>	<i>Total Gallons</i>
April	<i>5,000</i>	<i>16,000</i>	<i>10,000</i>	<i>nursery</i>	<i>31,000</i>
May	<i>5,500</i>	<i>22,000</i>	<i>13,000</i>	<i>YOUNG</i>	<i>40,500</i>
June	<i>8,000</i>	<i>28,000</i>	<i>15,000</i>	<i>VEG</i>	<i>51,000</i>
July	<i>9,975</i>	<i>32,508</i>	<i>18,500</i>	<i>VEG</i>	<i>60,983</i>
August	<i>9,975</i>	<i>32,508</i>	<i>18,500</i>	<i>VEG/harvest</i>	<i>60,983</i>
September	<i>9,975</i>	<i>32,508</i>	<i>18,500</i>	<i>VEG/FLWR</i>	<i>60,983</i>
October	<i>7,000</i>	<i>25,000</i>	<i>15,000</i>	<i>FLWR/harvest</i>	<i>47,000</i>
Total in gallons	<i>55,425</i>	<i>188,524</i>	<i>108,500</i>		<i>352,449</i>

Irrigation Methods: Irrigation is accomplished by use of drip irrigation as well as hand watering once weekly. The drip lines installed have been set on a timer the water delivery throughout the beds is monitored on a daily basis (flow meters and float valves are installed at the water bank) ensuring responsible water use. Mulch is carefully placed as a top dressing to optimize soil water retention.

Irrigation Runoff: The use of carefully administered hand watering minimizes the chance of any overwatering or residual discharge of irrigation solutions outside of the “targeted” root zone. In the unlikely event that residual discharge did occur, it would contact permeable soil on a nearly level ground surface surrounding the cultivation area and be rapidly absorbed at the point of contact; runoff of any irrigation solutions away from the point of ground contact is unlikely. Cultivation activities are limited to the immediate cultivation area and conducted so materials are kept confined. The ground surface within and around the cultivation area is formed and managed to prevent any movement of entrained constituents such as fine sediment, fertilizer or other organic particles beyond the cultivation area.

Watershed Protection: The Cultivation Areas on the subject parcel meet applicable setback requirements to watercourses, riparian zones or wetlands (see site plan). Natural vegetative buffers surrounding the cultivation area remain undisturbed; transport of any cultivation byproducts beyond the limits of the cultivation areas is unlikely. Watershed protection will be ensured by adherence to measures prescribed in the Water Resources Protection Plan being developed specifically for this parcel by Timberland Resource Consultants under Regional Water Quality Control Board WDR Order # R1-2015-0023 enrollment requirements. Included with this submittal is a signed copy of Appendix A, “Enrollment Notice of Intent”.

Once enrolled under R1-2015-0023, participants are required to engage in ongoing monitoring, reporting and maintenance including periodic site inspections and reviews of operational practices to ensure regulatory requirements related to the following listed items are being met:

<i>Site maintenance, erosion control, and drainage features</i>	<i>Stream crossing maintenance</i>
<i>Riparian and wetland protection and management</i>	<i>Spoils management</i>
<i>Water storage and use</i>	<i>Irrigation runoff</i>
<i>Fertilizers and soil amendments</i>	<i>Pesticides and herbicides</i>
<i>Petroleum products and other chemicals</i>	<i>Cultivation-related wastes</i>
<i>Refuse and human waste</i>	

Additionally, participants ensure that management measures and controls are effectively protecting water resources, and that any newly developing problems representing a water quality concern are identified and corrected quickly.

Fertilizers, Pesticides, and other Regulated products:

List and describe machinery and equipment used for cultivation and associated activities.

one 15 kw generator, and one 20 kw generator, fans, dehumidifier

Describe equipment service and maintenance; including where it is done (oil change, cleaning, etc.)

Equipment service/maintenance is done by qualified service providers in Willow Creek.

List and describe petroleum products and automotive fluids used onsite.

Conventional 5 gallon gas cans

List and describe compressed gases, cleaners, solvents and sanitizers; indicate amounts normally stored and how/where they are stored. n/a

Fertilizers, Pesticides, other Regulated products: The fertilizers/amendments listed below are used at the start of the grow season; only quantities needed are purchased and brought to the site. Annual reporting of fertilizer/amendment use is required under RWQCB Order No. R1-2015-0023 and the data is provided on page 4, Appendix C (RWQCB Order No. R1-2015-0023). Mixing of the products listed below takes place only within a small area near cultivation sites and the products are kept protected from accidental spillage or disturbance from wildlife while mixing takes place.

- Dr. Earth – All Purpose Fertilizer 5-5-5*
- Finnish Bone Meal*
- Worm castings*
- Bat Guano*
- Fish Emmulsion*

Plant Therapy spray for foliar treatments if needed for pests

If soil amending is required following initial start-up, additional products from the list above will be obtained as needed for specific application. If there is left-over nutrients they are stored in the barn near cultivation site two.

The applicant acknowledges that the storage and/or use of certain materials in specified volumes and/or weights will be subject to regulation through Humboldt County Division of Environmental Health CUPA and may require: submittal of inventories for those materials, documentation of emergency and training procedures, maintenance of hazardous waste disposal records, obtaining an EPA generator ID number and be subject to site inspections.

Cultivation related wastes are sorted such that compostable materials are recycled or composted onsite (compost pile is located on the top landing see site plan). Solid waste that is unsuitable for composting, is stored along with domestic garbage in conventional lid trash containers inside the barn on the flat near the residence (refer to site plan) and hauled to an approved transfer station/disposal facility as needed.

Human Waste: The subject parcel is developed with a residence served by a conventional septic system (apps# 36680). Cultivation activities are only carried out by resident occupants and the restroom in the residence is easily accessed when needed.

Cultivation on the subject parcel is limited to two rounds of light deprivation cannabis crop. It is proposed that the re-location area will contain three 30x72 green houses. And the lower landing (located below the house) will continue to house the 25 x100 green house.

Monthly Activities Two rounds of light deprivation as well as full term outdoor

March/April: Begin garden site preparation and water line inspection, POD verify irrigation system efficiency etc. Water storage is approaching capacity before forbearance period begins.

April/May: Begin preparation of raised beds, condition soil, clones have been purchased and are transferred to beds at the beginning of May. Forbearance period begins May 15.

May: Mid-month begin flowering, bottom branch removal and trellising. Take clones for second crop.

June: First round of crop is flowering and being tended to regularly to ensure optimal health and growth rate. Second round of clones are placed into beds. Organic nutrient feeding as needed, start tie/netting as needed, ongoing maintenance.

July: Mid-month harvest begins first round of cannabis crop. The second round has just started is in vegetative state. Tarps are used to block out natural light for extended daylight hours in the summer months. The applicant is proposing to build a dry barn on the top graded flat near the new re-location area. Currently plants are dried in the garage at the residence.

August - September: Second round of crop is in full flower, fans are used to keep air flow in the greenhouses. Continue garden/site maintenance, start dry room preparations

October/November: Initiate hand harvesting, drying and processing. Garden sites are cleaned up and prepared for winter. Water forbearance period ends.

Processing: Plants are harvested at peak ripeness and immediately transferred to the garage where they are hung to dry. Natural air flow may be supplemented with household fans and dehumidifiers to aid the drying process. All processing of harvested product will take place on the parcel where it was grown and be shall completed by residents. Processing operations are conducted such that all surfaces, equipment and utensils which come into contact with harvested product are maintained in a clean, sanitary condition at all times using only recognized non-toxic cleaners.

Security: Access to the site is restricted by use of locking metal gates at two separate road locations. The subject parcel is located in a remote location.

ADDENDUM TO CULTIVATION & OPERATIONS PLAN

APPLICANT: WILLOW CREEK VENTURES LLC
APPS. # 13169/APN 524-114-007



Introduction:

The permit application has been transferred from Mahala Creek LLC to Willow Creek Ventures LLC on January 6, 2021. The amount of square footage being applied for is 20,000 Square Feet of Outdoor cultivation in addition to 1,902 square feet of ancillary propagation. This has been modified from a previous request of 43,560 square feet, and is within the pre-existing cultivation of 22,305 square feet.

Cultivation Areas:

Applicant is proposing three areas for cultivation on the property - North, Middle, and South. The North area proposal is for 6,160 square feet of cultivation, consisting of 4 separate greenhouses. The Middle area proposal is for 9,840 square feet of cultivation, consisting of 6 separate greenhouses, and the South area proposal is for 4,000 square feet of cultivation, consisting of 2 separate greenhouses.

The proposed greenhouses will consist of pvc plastic tubing and/or galvanized steel covered with poly translucent tarps. The proposed greenhouses are environmentally superior as they protect against fire (including ash and soot) as well as heavy rains (which can prevent molding). The Willow Creek area experienced severe fire conditions over the last three years, as well as an extremely heavy October rain in 2021.

Ancillary Propagation Areas:

Ancillary propagation will occur in the North area, consisting of two proposed propagation greenhouses which total 1,902 feet. Propagation will occur in late March through May, depending on weather conditions. Propagation will use artificial lighting via 2500-Watt Solar Power via mobile trailers as referenced herein above (along with black-out covers).

Lighting/Dark Sky Standards:

Artificial lighting will only be used during ancillary propagation. Any potential light pollution will be mitigated by the use of black-out covers to prevent light escape (30 minutes prior to sunset and 30 minutes post-sunrise). Light deprivation will be used for the "flowering" cycle with the use of black-out covers and no artificial light, using the natural sun cycle. The use of black-out covers will ensure that light does not disturb wildlife or neighboring parcels, and comply with the International Dark Sky Standards.

Power Source(s)/Noise Reduction:

The source of electrical power will be 2500-Watt Solar Power via mobile trailers with an emergency backup battery generator, as well as small on-site diesel generators less than 50 db (measured at 50 feet). Fuel will be stored in compliance with state and local regulations. Air flow/ventilation will be provided via 500 CFM Silver Solar Powered Gable Mount solar fans.

Drying/Off-Site Harvesting:

Drying will be done on-site via the existing drying barns in the Middle part of the property. One drying barn is 20 x 37 and the other is 25 x 50. Trimming, will be done off-site at a licensed processing facility(such as Altum Mind Company in Eureka, CA.). This will simplify operations and allow us to focus on cultivating the best quality product possible without having to coordinate and hire seasonal trimmers.

Water Tanks/Fire Suppression:

There are currently (5) 2,500 Gallon water tanks on-site. Applicant is proposing an additional (3) 2,500 Gallon water tanks as well as (2) 500 gallon water tanks (for nutrients/amendments). 5,000 gallons will remain full at all times and dedicated to fire suppression.

Modifications to Fertilizers, Pesticides, and other Regulated products:

Additions to the previously submitted Cultivation and Operations Plan include potential use of the following fertilizers/pesticides/amendments (safeguarded in the same way as previously referenced):

- Maxsea All Purpose (16-16-16)
- Maxsea Bloom (3-20-20)
- Cal Mag Plus
- Earth Juice Hi-Brix Mollasses
- Earth Juice Bloom
- Earth Juice Grow
- Earth Juice Xatalyst

Crop: Cannabis (Covered)
 Canopy area: 20,000 ft²
 Nursery area: 2,000 ft²

Irrigation efficiency (Drip): 80%
 Well yield [a] [gal/min]: 10

	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	Season
1. Reference ET_o (in/mo) [b]	3.1	4.8	6.5	7.8	9.0	7.8	5.7	3.7	1.8	54.3
2. Crop Coefficient, K_c										
- Propagation		0.30	0.30	0.40						
- Vegetation				0.50	0.60	0.60	1.00	0.90	0.80	
- Flowering										
3. Consumption ET_c (in/mo)										
- Propagation		1.44	1.95	3.12						
- Vegetation				3.90	5.40	4.68	5.70	3.33	1.44	
- Flowering										
4. Irrigated Area (ft²)										
- Propagation		1,900	1,900	1,000						
- Vegetation				10,000	20,000	10,000	20,000	10,000	3,000	
- Flowering										
<i>total</i>				10,000	20,000	20,000	20,000	10,000	3,000	
5. Monthly Use (gallons)										
- Propagation		2,132	2,887	2,431						
- Vegetation				30,388	84,150	36,465	-	-	3,366	
- Flowering						60,775	88,825	25,946		
6. Total Use (gallons)										
Total Use (acre-ft)		2,132	2,887	32,819	84,150	97,240	88,825	25,946	3,366	337,364
Daily Water Use (gallons)		0.01	0.01	0.10	0.26	0.30	0.27	0.08	0.01	1.03
Average Pumping Time (h/d)		71	93	1,094	2,715	3,241	2,961	865	112	
		0.1	0.2	1.8	4.5	5.4	4.9	1.4	0.2	

[a] Well Completion Report, No. e0215783, measured 05/21/2014
 [b] CIMIS ET_o data, Eastern Humboldt County - Zone 13

