

ECD HOLDINGS, INC  
APN: 511-141-015  
CULTIVATION AND OPERATIONS MANUAL  
HUMBOLDT COUNTY, CA

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COMMERCIAL CANNABIS  
CULTIVATION FACILITIES

PREPARED FOR:



March 2023

**Commercial Cannabis Cultivation Facilities**

APN: 511-141-015

Lead Agency:

***Humboldt County Planning Department***

3015 H Street  
Eureka, CA 95501

Prepared By:



1117 Samoa Blvd.  
Arcata, CA 95521  
(707) 798-6438

In Consultation with:

**ECD Holdings, Inc**  
2260 Hooven Rd.  
McKinleyville, Ca 95519

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## 1. PROJECT SUMMARY

### 1.1. PROJECT OBJECTIVE

ECD Holdings, Inc is proposing to permit commercial cannabis cultivation activities in accordance with the County of Humboldt's (County) *Commercial Cannabis Land Use Ordinance* (CCLUO), aka "Ordinance 2.0" on APN 511-141-015 in McKinleyville, California. The project requires a Conditional Use Permit for the expansion of 33,560 sq. ft. of new mixed light cannabis cultivation for a total of 43,560 sq. ft. in the McKinleyville Community Planning Area (CPA). The proposal includes the reorganization of the existing 10,000 sq. ft. of mixed light cultivation. An on-site nursery is proposed which will only be used for on-site facilities. The project includes the permitting of proposed facilities appurtenant to cultivation, including the proposed greenhouses for cultivation and nursery and a proposed 60'x80' metal building for drying and curing cannabis.

The existing site conditions include a residence, an approved Special Permit (PLN-10568-SP) for 4,400 sq. ft. of indoor cultivation, and an approved Zoning Clearance Certificate (PLN-10566-ZCC) for 10,000 sq. ft. of mixed light cultivation. The existing metal shop is permitted as a commercial facility and will be used for drying, storage, trimming, and packaging. The metal shop has an existing approved on-site wastewater treatment system that will provide restroom and hand washing facilities.

The site is served by PG&E. Water for the new cultivation is provided by a combination of reclaimed water from dehumidification and air conditioning units, rainwater collection, and an existing groundwater well. The spring diversion will cease to be used for cannabis cultivation and will be solely used for domestic purposes associated with the existing residence.

### 1.2. SITE DESCRIPTION

The project site is located on APN 511-141-015 near the community of McKinleyville (40.9685, -124.0853) in the Luffenholtz Creek-Frontal Pacific Ocean (HUC-12 #180101020503). The subject property has historically been used for residential, agricultural, and existing cannabis cultivation. The property is developed with a residence. Slopes on the property range from 5% to 25%; all project development would occur on areas of less than 15% slope. The project site occupies an area of approximately 15.95-acres, outside the Coastal Zone and within a State Responsibility Area (SRA) for fire protection. Approximately 627,264 sq. ft. (+/- 14.4 acres) of Prime Agricultural Soils exist on the property, per Humboldt County Web GIS. The existing and proposed cannabis cultivation activities total approximately 63,000 sq. ft. (1.44 acres) and would occur on the Prime Agricultural Soils.

### 1.3. LAND USE

The property is zoned Agriculture General (AG-B-5(10))-AP and has a general plan land use designation of Rural Residential (RA5-20). Land uses surrounding the parcel are comprised of 10- to 100-acre parcels with residential, agriculture, and timber uses.

### 1.4. STATE AND LOCAL COMPLIANCE

#### 1.4.1. DEPARTMENT OF CANNABIS CONTROL – CALCANNABIS

ECD Holdings, Inc has obtained a Commercial Cannabis Activity license from the State of California for existing cannabis activities and will obtain new licenses for the proposed expansion once local approval has been received.

#### 1.4.2. STATE WATER RESOURCES CONTROL BOARD – WATER RIGHTS

Project water is to be sourced from rainwater catchment, recaptured/recycled water sourced from dehumidifier and air-conditioning units, and an existing groundwater well. The proposed project does

not require water rights or permitting from the State Water Resources Control Board (SWRCB). No diversionary water source is proposed for this project.

There is an existing SIUR for surface water diversion (SIUR# H500465) that meets regulatory compliance through the State Water Resources Control Board, however, on approval of this project, the surface water diversion will cease for cannabis cultivation.

**1.4.3. STATE WATER RESOURCES CONTROL BOARD AND NORTH COAST REGIONAL WATER QUALITY CONTROL BOARD – WATER QUALITY**

The applicant has enrolled for coverage as Tier 1, Low Risk (WDID:1-12CC400519) under the SWRCB General Order WQ 2019-0001-DWQ *General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Dischargers of Waste Associated with Cannabis Cultivation Activities Order*). The purpose of the SWRCB Order is to implement the requirements for waste discharges associated with cannabis cultivation as described in SWRCB’s *Cannabis Cultivation Policy – Principles and Guidelines for Cannabis Cultivation* (“Policy”). Prior to the commencement of cultivation operations, a Site Management Plan will be developed for the property to describe how the discharger is complying with the applicable Best Practicable Treatment or Control (BPTC) Measures listed in Attachment A of the Order/Policy.

The Tier 1, Low Risk discharger status reflects current operations that disturb less than one acre. The applicant’s proposal will keep all cultivation activities out of riparian setbacks to maintain Low Risk status with SWRCB.

**1.4.4. HUMBOLDT COUNTY BUILDING DEPARTMENT**

Upon project approval, all necessary building permits will be obtained from the Humboldt County Building Department for all existing/proposed structures and supporting infrastructure.

**1.4.5. CAL FIRE**

The subject property is located within a State Responsibility Area (SRA) for fire protection. Proposed improvements include management of trees and vegetation around existing structures to maintain the required 100-foot defensible space. All structures on the property meet the 30-foot SRA setback requirement from property lines. The project proposes a designated fire turn-around and pull-out area for emergency vehicles and one (1) 2,500-gallon water tank dedicated to SRA emergency response. If needed, risers set to SRA specifications will be installed for firefighting purposes.

**1.4.6. CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE**

A Lake and Streambed Alteration Agreement has been executed (Notification # 1600-2016-0442-R1) for one point of diversion from an unnamed tributary to Duke Creek. Water is only diverted as part of the SIUR for the approved and existing 10,000 sq. ft. of cultivation. No water diversion is proposed for the expansion of this application.

**1.4.7. 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 a 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 a 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.

## 2. CULTIVATION AND PROCESSING

### 2.1. PROPAGATION AND INITIAL TRANSPLANT

The applicants propose to propagate juvenile plants on-site from seeds and mother plants within the proposed nursery. The 43.5'x100' (4,350 sq. ft.) nursery will only be used for on-site function that allows ECD to develop the strongest genetics and a variety of strains to account for changes in market demand and streamline clone transfer through the track and trace program. The existing commercial facility may incorporate some aspects of the nursery process during peak seasons to allow for cleaner and climate-controlled areas for the mother plants and cuttings. Mother plants will remain in the vegetative stage solely for propagation. Cuttings will be sampled from the mother plants and rooted into a growing medium (e.g., oasis cubes) to produce clones. The clones will then be transferred to the vegetative nursery area, and after 2-3 weeks will be transplanted into one-gallon pots, or similar. The juvenile plants will be irrigated using hand watering methods, and after three weeks they will be transferred and transplanted into their final location where they will continue their vegetative cycle and eventually flower.

### 2.2. MIXED LIGHT CULTIVATION PLAN

The project proposes 33,560 sq. ft. of new mixed light cultivation canopy. Mixed light cultivation is proposed to reorganize the existing 10,000 sq. ft. of mixed light with the proposed 33,560 sq. ft. of mixed light to occur in one (1) 155.5'x280' gutter-connected greenhouse that is an ideal structure for year-round cultivation. The existing cultivation and operations on-site will remain to be operated until the proposed gutter-connected greenhouse has been issued a final permit from the Humboldt County Building Department. Areas that are proposed to be constructed in the locations of the existing cultivation will be built after the consolidation of canopy area has occurred. Greenhouses are proposed to be ventilated by intake and exhaust fans and will use temperature-controlled sensors and de-humidification systems to optimize the climate for cannabis cultivation. Cultivation will occur in hydroponic tables that allow for an irrigation plan that is designed to conserve and reuse as much water as possible. Juvenile plants will be transplanted from the nursery and planted in a reusable medium. The hydroponic tables allow a specific amount of water used for the needs and stages of the life of the plant. All unused water will be recaptured and reused minimizing the risk for overwatering that can cause run-off. The proposed growing style is beneficial not only for reducing water use but will help reduce the risk of pests or disease by allowing more control of the dry down of the growing medium. Greenhouses with the use of artificial lighting will include a combination of high-pressure sodium metal halide, LED, and Incandescent lights. Mixed light greenhouses will be equipped with blackout systems. Blackout systems shield greenhouses to prevent the escape of light and are designed to prevent visibility from neighboring properties between sunset and sunrise. Artificial light(s) used to enhance plant growth will be set on timers that activate ½-hour before sunset, daily. Prior to sunset each day, black out tarps will be automatically or manually pulled over the mixed light greenhouses and nursery to prevent all light from escaping. The blackout tarps are constructed out of 2-ply 10-millimeter plastic with internal threading for shear strength.

Exterior lighting will be compatible with the existing setting. All exterior lighting to illuminate the entrances to existing structures will incorporate low intensity lighting with a small number of motion activated security lights. Lighting will be designed and located to direct downwards and within the property boundaries. Mixed light cultivation will utilize PG&E and have a generator for back-up purposes only during on-grid outages.

### **2.3. IRRIGATION PLAN AND SCHEDULE**

Irrigation and fertigation of plants will occur using drip irrigation. New technology systems similar to Aroya will be implemented. These systems monitor volumetric water content to optimize the best greenhouse water management practices. Daily inspection of each plant allows the cultivator to tailor irrigation and nutrient application based on the needs of each individual plant. The monthly Cultivation Schedule in Appendix B details the irrigation activities associated with all cultivation.

### **2.4. PROCESSING (HARVESTING, DRYING AND TRIMMING)**

Plants that are ready for harvest will have their flowering branches removed and placed in the proposed 60'x80' drying structure (Appendix A), where they will be suspended and left to dry for approximately one to three weeks. The dried flowers will be bucked into manageable buds and transported to an off-site processing facility until the proposed processing facility is constructed.

Cannabis processing currently occurs off-site at a licensed facility in the City of Arcata. The existing facility has an ADA restroom for employees. The restroom includes a working flush toilet as well as a sink with cold and hot running water.

### **2.5. EMPLOYEE PLAN**

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

#### **2.5.1. JOB DESCRIPTIONS AND EMPLOYEE SUMMARY**

- *Agent in Charge*: Responsible for business oversight and management. 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.
- *Lead Cultivator*: Oversight and management of the day-to-day cultivation of commercial 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.
- *Assistant Cultivator / Processing Manager*: Provides support to the *Lead Cultivator* in their day-to-day duties and takes the lead role during times when the *Lead Cultivator* may be off site. Once processing activities commence, the *Assistant Cultivator* duties switch to oversight and management of processing the dried commercial cannabis. This is a full-time, seasonal position.
- *Seasonal Laborer*: Provides cultivation, harvesting, and drying support and processing of cannabis. This is a part-time to full-time, seasonal position.

#### **2.5.2. STAFFING REQUIREMENTS**

In addition to the *Agent in Charge*, *Lead Cultivator*, and four (4) *Cultivation Technicians*, up to eight (8) part-time seasonal labor position may be employed for the cultivation activities that include planting and harvesting. The number of seasonal laborers varies based on the needs of the farm during the cultivation and harvest. During peak operational periods, the operation may require up to fourteen (14) employees.

#### **2.5.3. EMPLOYEE TRAINING AND SAFETY**

On-site cultivation, harvesting and drying will be performed by employees trained on each aspect of the procedure, including cultivation/harvesting techniques, use of pruning tools, and proper



application/storage of pesticides and fertilizers. As per Pesticide compliance, training must occur before a new employee begins to work in the field.. All cultivation staff will be provided with proper hand, eye, body and respiratory Personal Protective Equipment (PPE). Access to the on-site cultivation and drying facilities will be limited to authorized and trained staff. All employees will be trained on proper safety procedures including fire safety, use of PPE, proper hand washing guidelines, and emergency protocol. 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 will be kept on site and accessible to employees.

#### **2.5.4. TOILET AND HANDWASHING FACILITIES**

The existing commercial facility has a restroom with ADA accommodations. A portable toilet will be brought on-site if needed during peak operation season to accommodate for the increased demand. Cultivation employees will have access to anti-bacterial liquid soap and paper hand towels. Work will occur at a distance no greater than 400 feet from the restroom facility.

#### **2.5.5. ON SITE HOUSING**

There is a residential structure on the project site. The owner of the parcel lives at the residence. The residence is not proposed as part of cultivation operations and will not be associated with the proposed project.

#### **2.5.6. PARKING PLAN**

Parking is proposed to be located near the cultivation area and the processing facility (Appendix A). An existing ADA parking space is located near the commercial facility.

### **2.6. SECURITY PLAN AND HOURS OF OPERATION**

#### **2.6.1. FACILITY SECURITY**

The property is accessed through an entry gate that will remain locked at all times. Cultivation facilities (greenhouses, storage sheds, drying facility) will only be accessible through the locked gate. Access to the area is limited to employees and approved personnel including agency staff, consultants, and distributors.

#### **2.6.2. HOURS OF OPERATION**

Activities associated with cultivation in the greenhouses (watering, transplanting, and harvesting) generally occur during daylight hours. All other activities such as harvesting and drying typically occur no earlier than 8 AM and extend no later than 8 PM. Overnight or Off Shift work may be on a limited basis due to unknown variables that can occur during a cultivation cycle.

## **3. ENVIRONMENT**

### **3.1. WATER DEMAND, STORAGE, AND SOURCE**

The existing mixed light has an annual irrigation use of 120,000 gallons of water. The existing cultivation is authorized to use an existing, onsite surface water diversion. With the approval of the proposed expansion, the surface water diversion would cease for cannabis use.

#### **3.1.1. WATER DEMAND**

The proposed expansion would increase total cultivation water use to 610,000 gallons (*Table 1*), for an increase of 490,000 gallons of additional water use. The annual irrigation demand is approximately 610,000 gallons (14 gallons/sf). *Table 1* outlines the estimated irrigation water usage for cultivation

during a typical year. McKinleyville’s cool and humid climate allows for less than average water uses compared to drier climates. Variables specific to cultivated cannabis strains may have a slight effect on water use.

*Table 1: Estimated Monthly and Total Annual Irrigation Water Usage*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Irrigation Use (1,000 gallons)	35	35	40	40	60	60	75	75	60	60	35	35	610

### 3.1.2. WATER STORAGE

Existing onsite irrigation water storage infrastructure is comprised of a permitted 90,000-gallon metal tank and four (4) 5,000-gallon tanks, for a total storage capacity of 110,000 gallons.

### 3.1.3. WATER SOURCE

To establish a redundant and robust system, the proposed irrigation water source is a combination of reclaimed water from the dehumidification and air conditioning (A/C) units, rainwater collection, and an existing groundwater well<sup>1</sup>.

#### 3.1.3.1. Reclaimed Water

The dehumidifier units and A/C units will serve a dual purpose of climate control and capturing condensed water. Condensed water will be plumbed to the irrigation water storage tanks to be reclaimed and reused for irrigation.

The applicant proposes to use eight (8) 5000W Anden 710 high-efficiency dehumidifier units and four (4) A/C units for indoor cultivation and eight (8) 5000W Anden 710 high-efficiency dehumidifier units for mixed light cultivation. All dehumidifier and A/C units would be operated year-round.

Each dehumidifier has a maximum reported recapture rate of approximately 710 pints (88.75 gallons) per day<sup>2</sup>. Each A/C unit has the potential to capture up to 12.5 gallons of water per day. For conservativeness, a capture efficiency of 60% is assumed. Thus, the dehumidifiers and A/C units have the potential to reclaim approximately 321,930 gallons of water annually to reuse for irrigation.

#### 3.1.3.2. Rainwater Collection

The potential rainwater collection volume was estimated based on the rainwater catchment surface area (existing and proposed buildings) and historic rainfall data. Historic rainfall data was sourced from PRISM Climate Group (PRISM Climate Data, 2021)<sup>3</sup>, which provides site-specific average annual rainfall data based on topography and historic precipitation values from 1985 through 2021. Using annual rainfall from 2000-2021, the average rainfall for the project area is 49.5 inches. The lowest rainfall year was 2013 and totaled 24.2 inches.

Roof areas on which rainwater catchment is proposed to be implemented are summarized in *Table 2*. It is assumed that 50% of the proposed greenhouse surface area would be effective catchment area and the existing buildings would provide the remaining catchment area. The low annual rainfall

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<sup>1</sup> Hydrogeology Evaluation – ECD Holdings, Inc. February 2023

<sup>2</sup> [anden-a710v1-dehumidifier-specification-sheet-6563.pdf \(widen.net\)](#) (Appendix E)

<sup>3</sup> [http://www.prism.oregonstate.edu/documents/PRISM\\_datasets.pdf](http://www.prism.oregonstate.edu/documents/PRISM_datasets.pdf) (Appendix D)

represents the lowest rainfall year in the PRISM record in the vicinity of the site, representing the driest year.

The average monthly rainfall distribution was obtained from PRISM and used to distribute the annual rainfall for an average year and a dry year. The rainfall distribution along with the potential rainwater catchment and estimated actual rainwater catchment are illustrated in Figure 1 and Figure 2. It is assumed that the actual rainwater catchment efficiency is 85% of the potential rainwater harvest volume. Using an efficiency of 85%, the total annual rainwater catchment during an average year and a dry year are 720,503 gallons and 352,249 gallons, respectively.

*Table 2: Estimated Rainwater Catchment Area and Volumes during Average and Low Rainfall Years.*

Catchment Surface	Roof Area (sf)	Catchment Area (sf)	Average Annual Rainfall (in)	Low Rainfall Year (in)	Potential Rainwater Harvest Volume Average Year (gallons)	Potential Rainwater Harvest Volume Low Year (gallons)
<P>155.5'x280' Greenhouse	43,560	21,770	49.5	24.2	671,760	328,420
<E> 2,400 sf Building	2,400	2,400	49.5	24.2	74,060	36,210
<E> 50'x66' Building	3,300	3,300	49.5	24.2	101,830	49,780
<b>Total</b>		<b>27,470</b>			<b>847,650</b>	<b>414,410</b>
Note: 1-inch of rainfall over 27,470 sf produces 17,124 gallons. 85% of this is 14,555 gallons.						

### 3.1.3.3. Well Water

Well water would be used to offset reclaimed water and rainwater collection during the summer months when rainfall is low. The monthly water balance, using actual rainfall collection (Figure 1 and Figure 2), is summarized in *Table 4* and *Table 5*, for an average and dry year, respectively. Approximately 127,300 gallons and 171,800 gallons of well water would be needed to offset rainwater during an average and dry year, respectively, representing less than 30% of the overall irrigation demand annually (*Table 3*). The maximum daily pumping rate, to keep the tank storage full, is less than 3.1 gallons per minute (gpm) over an 8-hour pumping period, during daylight hours, as the pump is powered by solar.

*Table 3: Irrigation demand (in percent) by water source.*

Source	Average Year	Dry Year
Recapture	53%	53%
Rainwater	26%	19%
Well Water	21%	28%

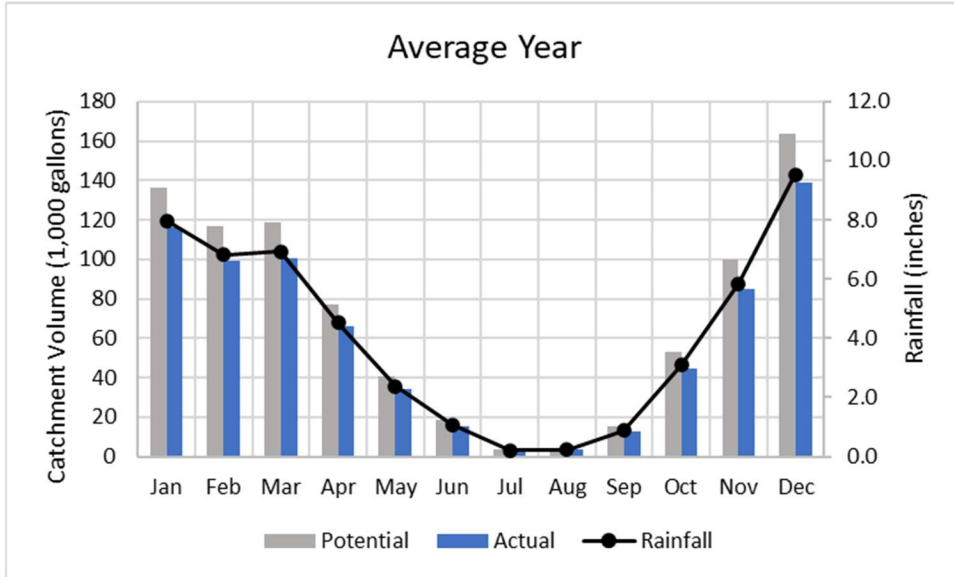


Figure 1. Rainfall distribution and rainwater catchment volume for an average year.

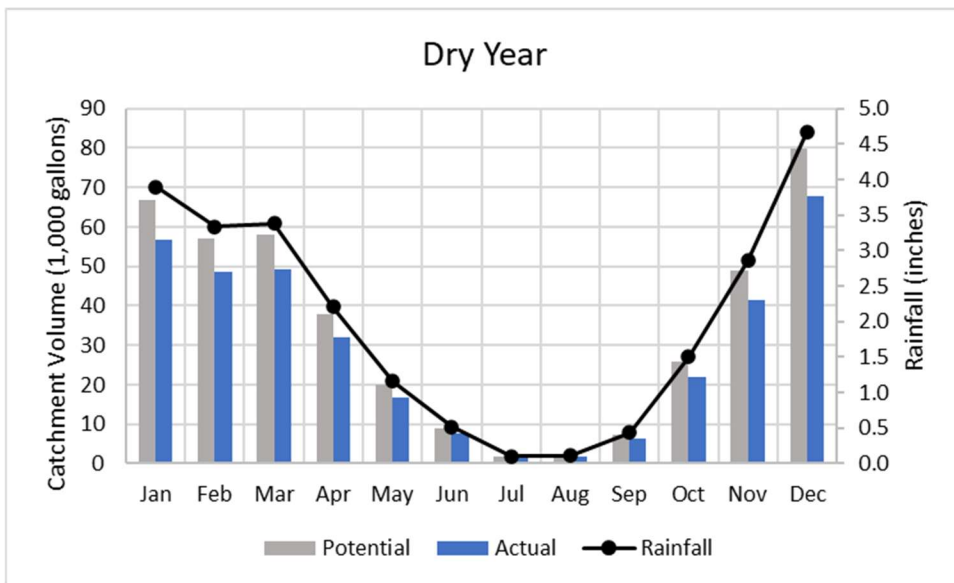


Figure 2. Rainfall distribution and rainwater catchment volume for a dry year.

*Table 4: Monthly water use and storage during an average year (1,000 gallons).*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Water in storage at beginning of month	110	110	110	110	110	110	110	110	110	110	110	110	110	N/A
Water demand for irrigation	-35	-35	-40	-40	-60	-60	-75	-75	-60	-60	-35	-35	-35	-610
Reclaimed water	27.3	24.7	27.3	26.5	27.3	26.5	27.3	27.3	26.5	27.3	26.5	27.3	27.3	321.9
Water needed to fill tank by end of month	7.7	10.3	12.7	13.5	32.7	33.5	47.7	47.7	33.5	32.7	8.5	7.7	7.7	N/A
Rainfall to storage	7.7	10.3	12.7	13.5	32.7	15.6	3.1	3.4	13.0	32.7	8.5	7.7	7.7	160.7
Storage at end of month (reclaimed water plus rainwater collection)	110	110	110	110	110	92	65	66	89	110	110	110	110	N/A
Well water to fill tank	0	0	0	0	0	18	45	44	21	0	0	0	0	127.3
Daily well pumping rate (gpm) – 8-hr daylight period	0	0	0	0	0	1.2	3.0	3.0	1.4	0	0	0	0	N/A

*Table 5: Monthly water use and storage during an dry year (1,000 gallons).*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Total
Water in storage at beginning of month	110	110	110	110	110	110	110	110	110	110	110	110	110	N/A
Water demand for irrigation	-35	-35	-40	-40	-60	-60	-75	-75	-60	-60	-35	-35	-35	-610
Reclaimed water	27.3	24.7	27.3	26.5	27.3	26.5	27.3	27.3	26.5	27.3	26.5	27.3	27.3	321.9
Water needed to fill tank by end of month	7.7	10.3	12.7	13.5	32.7	33.5	47.7	47.7	33.5	32.7	8.5	7.7	7.7	N/A
Rainfall to storage	7.7	10.3	12.7	13.5	16.9	7.6	1.5	1.7	6.3	21.9	8.5	7.7	7.7	116.3
Storage at end of month (reclaimed water plus rainwater collection)	110	110	110	110	94	84	64	64	83	99	110	110	110	N/A
Well water to fill tank	0	0	0	0	16	26	46	46	27	11	0	0	0	171.8
Daily well pumping rate (gpm) – 8-hr daylight period					1.1	1.8	3.1	3.1	1.9	0.7				N/A

#### 3.1.4. SITE DRAINAGE, RUNOFF, AND EROSION CONTROL

The applicant has enrolled with the State Water Resources Control Board (SWRCB) for coverage under the General Order. Upon approval, a Site Management Plan (SMP) for the proposed expansion will be developed; the SMP will detail erosion control and sediment capture measures, as well as road maintenance and runoff activities.

### **3.1.5. STORMWATER MANAGEMENT PLAN**

The proposed 155.5'x280' mixed-light greenhouse, the proposed 4,800-sq. ft. drying building, and the 43.5'x100' nursery will increase onsite impermeable surfaces. This 57,000 sq. ft. of impermeable surface comprises approximately 9% percent of the 627,264-sq. ft. (14.4-acre) parcel. Drainage and stormwater runoff will be addressed in the Erosion and Sediment Control Plan, which will be submitted to the Humboldt County Planning and Building Department with the Grading Permit application. Stormwater management for the remainder of the property will follow the Humboldt County Low Impact Development Stormwater Manual and will also be addressed in the Site Management Plan (SMP), which will also include recommendations for road network maintenance. In addition, proposed development is located greater than 100-feet from any watercourses, providing a sufficient buffer to prevent potential sediment or nutrient delivery.

### **3.1.6. EROSION CONTROL**

The SMP and the Grading Permit will include erosion and sediment control best practicable treatment controls (BPTCs) designed to prevent, contain, and reduce sources of sediment. Additionally, the SMP will include site-specific corrective actions to ensure property maintenance and erosion control.

## **3.2. WATERSHED AND HABITAT PROTECTION**

All proposed cultivation activities will be set back at least 100-ft from any wetlands, drainages and watercourses on site, greater than the 50-ft setback required by the County's Streamside Management Ordinance. These setbacks should provide a suitable buffer between the cultivation operation and habitat. Adherence to the Site Management Plan will ensure that erosion control and sediment capture BPTC measures are in place to prohibit water quality degradation of the nearby river. Any grading and earthwork activities will be conducted by a licensed contractor in accordance with approved grading permits.

Additionally, the applicant will follow all recommendations in the Biological Resources Assessment, which has been prepared for the property by Naiad Biological Consulting (2021).

## **3.3. INVASIVE VEGETATIVE SPECIES CONTROL PLAN**

Once proposed cultivation activities commence, the cultivation area will be monitored for invasive species. If invasive species are located, hand tools (shovels, weed wrenches, trowels, or hand saws) may be used to remove them. The exact rate and method of invasive species removal will be determined based on the species identified. The areas of disturbance shall be surveyed and maintained twice each year, at a minimum, as part of the invasive species control plan.

The following is a partial list of websites to be used for proper identification and treatment:

1. <https://calflora.org/>
2. <https://plants.usda.gov/java/>
3. <https://www.cal-ipc.org/>
4. <https://www.cal-ipc.org/solutions/>
5. <http://www.rareplants.cnps.org/>
6. <https://www.wildlife.ca.gov/Conservation/Plants#22064102-california-native-plant-information>
7. <http://ucjeps.berkeley.edu/>
8. [http://wetland-plants.usace.army.mil/nwpl\\_static/v33/home/home.html](http://wetland-plants.usace.army.mil/nwpl_static/v33/home/home.html)
9. <https://www.fws.gov/invasives/partnerships.html>

### **3.4. MATERIALS MANAGEMENT PLAN**

Cultivation, harvesting, and drying shall be performed by employees trained on each aspect of the procedure, including cultivation and harvesting techniques, the use of pruning tools, and proper application/storage of pesticides/ and fertilizers. All cultivation and processing staff will be provided with proper hand, eye, body, and respiratory Personal Protective Equipment (PPE). Access to the onsite cultivation, drying and processing facilities will be limited to authorized and trained staff. Mixing of fertilizers in small storage tanks is solely conducted in a designated area (to be determined) where the mix will not enter surface waters. For young plants, the mix is applied via watering wand and mature plants are fertigated at agronomic rates by drip emitters or hand watering methods. Spent soil is amended and reused as needed. The application of any agricultural chemical products will be conducted according to the manufacturer's recommendation.

Employees will be trained on usage and handling procedures of associated equipment and cleaning procedures. Chemicals and hazardous materials will be only used with equipment as recommended by manufacturers. Cleaning will occur regularly with instructions based on the manufacturer's recommendations. All cleaning materials will be put away and stored properly within secondary containment when not in use and hazardous containers will be properly disposed of. Additionally, if there are any spills on site, a spill kit with sorbent pads will be accessible.

On-site inventory is kept for all chemicals. Chemicals will be used and stored based on manufacturer's recommendations and requirements. Any materials required for use of chemicals will be provided to employees. The material safety data sheets (MSDS) will be kept on site and accessible to employees.

All hazardous waste will be stored within secondary containment. Additionally, a log will be kept in order to account for the volume of hazardous waste. Fertilizers and pesticides will be stored in a separate location from petroleum products. The aforementioned products will be located within secondary containment in a storage shed. No rodenticides will be used on site. At the end of the season, any unused liquid products will be stored in secondary containment and will be applied the following year. Before unused products are stored at the end of the season, an employee will take inventory of the volumes and products. Additionally, all waste will be properly disposed of off-site and at the correct facility. All trash, empty product containers, and recycling will be hauled off-site bi-weekly to the nearest licensed waste management facility.

Appropriate BPTC measures will be utilized when storing, handling, mixing, applying, and disposing of all fertilizers, pesticides, herbicides, rodenticides, or any other hazardous materials. Each year an inventory will be conducted prior to the beginning of the grow season and necessary products will be delivered to the site as needed.

### **3.5. SOILS MANAGEMENT PLAN**

The applicant is proposing to plant all cultivation on tables and use a soilless growing medium within the greenhouse structures. The growing medium will be removed from the site and sent to the correct disposal station. If stored on site during the wet season, any growing medium spoils piles will be located in a flat area outside of riparian setbacks and winterized, likely with a tarp underneath the pile and straw wattles located around the pile to prevent leachate from entering surface waters. Potential spent soils will be properly disposed of off-site at an appropriate facility.

### **3.6. HAZARDOUS WASTE STATEMENT**

There are no hazardous materials mapped onsite. The site has been historically utilized for a residential property and agriculture. A search of the EnviroSTOR database shows no GeoTracker Cleanup Programs on-site. The greenhouse may potentially use liquid CO<sub>2</sub> to increase plant growth. Liquid CO<sub>2</sub> is non-flammable. All health and safety regulations will be followed.

### **3.7. ENERGY PLAN**

Power will be sourced from the existing PG&E drop. A generator will remain onsite for backup and emergency use.

### **3.8. WASTE MANAGEMENT**

#### **3.8.1. CULTIVATION**

Organic cultivation-related waste, including root balls, branches, and leaves will be hauled off site to a green waste management facility as needed. All cultivation waste weight will be recorded and logged for compliance purposes. Trash and recycling from cannabis operations, including empty soil or fertilizer bags, liquid fertilizer bottles, cultivation supplies, etc., will be taken to the nearest waste management facility as needed.

#### **3.8.2. SEWAGE DISPOSAL PLAN**

The applicant has an existing ADA bathroom in the commercial building. A portable toilet will be brought on-site during peak operation season to accommodate for the increased demand.

## **4. PRODUCT MANAGEMENT**

### **4.1. PRODUCT TESTING AND LABELING**

Samples will be selected from individual harvested cannabis strains and tested by a licensed third-party lab in accordance with State and local standards. The finished product is labeled and will include tracking ID's provided by the California Cannabis Track-and-Trace (CCTT) METRC system.

### **4.2. PRODUCT INVENTORY AND TRACKING**

The applicants will follow all regulations and requirements set by the CCTT-METRC system. After approval of state licenses related to the proposed cultivation, the applicants will request credentials and order unique identifiers (UIDs) which will be assigned to each immature lot, flowering plant, and distinct cannabis product.

### **4.3. TRANSPORTATION AND DISTRIBUTION**

Transportation will be handled by a licensed transporter/distributor in accordance with State and Local regulations. All merchantable products will be distributed through licensed commercial cannabis dispensaries. The CCTT-METRC system will be used for all transactions with distributors or transporters.



**APPENDIX B: CULTIVATION ACTIVITIES SCHEDULE**

Item	Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Drainage, Runoff, and Erosion Control	Winterization (storage of pots/greenhouse covers)												
	Temporary Erosion Control BMP's (straw, seeding, fiber rolls, etc.)												
	Road maintenance												
	Cover soil beds												
Irrigation Activities	Irrigation of juvenile plants/clones												
	Irrigation of flowering plants												
Mixed Light Cultivation and Harvest Schedule	Mixed Light / Light Dep Cycle 1												
	Mixed Light / Light Dep Cycle 2												
	Mixed Light / Light Dep Cycle 3												
	Mixed Light / Light Dep Cycle 4												
	Mixed Light / Light Dep Cycle 5												
	Harvest activities												
	Light deprivation: Greenhouses are covered with blackout covers												
Drying and Processing	Drying Activities												
	Trimming Activities												

## APPENDIX C: REFERENCES

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## APPENDIX D: PRISM DATA

### PRISM Time Series Data

Location: Lat: 40.9687 Lon: -124.0853 Elev: 266ft

Climate variable: ppt

Spatial resolution: 4km

Period: 2000 - 2020

Dataset: AN81m

PRISM day definition: 24 hours ending at 1200 UTC on the day shown

Grid Cell Interpolation: On

Time series generated: 2022-Feb-10

Details: [http://www.prism.oregonstate.edu/documents/PRISM\\_datasets.pdf](http://www.prism.oregonstate.edu/documents/PRISM_datasets.pdf)

### Annual Rainfall since 2000

Date	ppt (inches)
2000	44.93
2001	42.57
2002	49.17
2003	56.99
2004	45.46
2005	57.01
2006	59.93
2007	46.51
2008	42.53
2009	35.78
2010	67.65
2011	46.03
2012	64.64
<b>2013</b>	<b>24.16</b>
2014	53.63
2015	43.96
2016	62.78
2017	62.41
2018	44.05
2019	56.45
2020	36.54


Average	49.7
Minimum	24.2

### Monthly Rainfall in 2013

Details:  
[http://www.prism.oregonstate.edu/documents/PRISM\\_datasets.pdf](http://www.prism.oregonstate.edu/documents/PRISM_datasets.pdf)

Date	ppt (inches)
2013-01	3.46
2013-02	2.1
2013-03	3.67
2013-04	2.94
2013-05	2.41
2013-06	1.03
2013-07	0.01
2013-08	0.09
2013-09	5.55
2013-10	0
2013-11	1.99
2013-12	1.11

## APPENDIX E: DEHUMIDIFIER SPECIFICATIONS



### High-Capacity, Grow-Optimized Dehumidifier with VLGR Technology

Model A710V1 | Specification Sheet

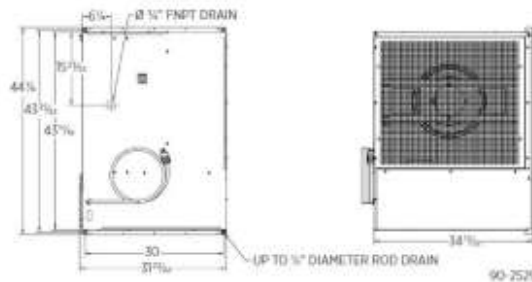
SPECIFICATIONS	
Capacity <sup>1)</sup> PPD AT 80%/60%RH	710
Energy factor <sup>2)</sup>	3.0 L/kWh 6.35 pints/kWh
Voltage, Phase, Frequency	208-240VAC, 1 Phase, 60 Hz
Current draw (amps) <sup>1)</sup>	19.6
Power (watts) <sup>1)</sup>	4,706
Btu/h <sup>1)</sup>	16,168
Power cord type and length	5JT, L6-30P, 10ft 
Hardwire	Field-configurable
Breaker size	30 amp
Wire size	10 Gauge Copper
CFM	0.0" w.c 1760    0.2" w.c 1677 0.4" w.c 1593    0.6" w.c 1510
Dimensions:	W: 44 1/8" H: 34 1/2" L: 31 1/2"
Weight	360 lbs.
Operating range Temp/RH	60/40 to 85/80

<sup>1)</sup>Rated capacity and energy factor test done and current draw measured at 80°F/60% RH inlet air at 0.0 ESP, 240 VAC.  
<sup>2)</sup>Total cooling load @ 80°F/60% RH and 240 VAC.

FEATURES	
Control	Onboard digital with diagnostics
Air supply orientation	Horizontal
Filter	29.5"x31.5"x1.75" MERV 11 (Part #5852)
Refrigerant	R410A
Coil type	Copper tube, Aluminum fin with I-coat
Drain connection*	3/4" FNPT
P-Trap required	Yes (Included)
Leveling feet	Sold separately (Model #5789)
Hanging brackets	Built-in
Duct Kit	Sold separately (Part # 5859)
Warranty	5 Years on all parts including refrigeration system

\*Requires drain trap

INCLUDED ITEMS	
Control	Model A77
Drain fittings	3/4" MNPT x 3/4" BARB, 3/4" MNPT x 3/4" Female pipe, 3/4" x 3/4" x 3/4" T-Fitting, 3/4" P-Trap
Thermostat wire	30' 20 gauge 4-wire



### APPLICATION

The Anden Model A710V1 Dehumidifier is the perfect solution for the precise management of humidity required in an indoor growing environment. It features VLGR Technology, which modulates the refrigeration system based on the load, allowing you to maximize VPD and provide greater control during late flower conditions.

### INCLUDED CONTROL



#### MODEL A77

Dedicated monitoring and control of each dehumidifier at canopy height.

MODEL A77 SPECIFICATIONS	
<b>Electrical</b>	
Input voltage and current	Voltage: 35VDC (supplied by dehumidifier control board)
Output	Communication (RS-485)
<b>Control</b>	
Control range	35%-80% RH
Accuracy	+/- 5% RH
Differential	3% RH
Low limit	40°F dew point
High limit	99°F dry bulb

