

ATTACHMENT 1B

Cultivation & Operations Plan

Cannabis Cultivation Facilities

Cultivation and Operations Manual
For
Krystal Kings

Cannabis Cultivation Facilities
APN No. 221-011-021-000

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:

Krystal Kings
8200 Salmon Creek Road
Miranda, CA 95553

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1. Project Summary

1.1. Project Objective

Krystal Kings is proposing to permit Commercial Cannabis Cultivation Activities in Accordance with the County Of Humboldt Commercial Medical Marijuana Land Use Ordinance (CMMLUO). The project is seeking a Conditional Use Permit for commercial cannabis cultivation of 18,300 square feet of existing mixed-light cultivation and a 1,000 square foot accessory nursery and 830 SF nursery and propagation space within an existing 3 story 40'x50' barn.

No on-site trimming is proposed, the processing activity will be limited to hanging, drying and bucking dried cannabis off the stalk into totes for sale to a distributor or transport to a licensed processor. Drying will occur in the remainder of the existing 40'x50' barn.

Site has not been cultivated since 2014.

Cultivation will occur in greenhouses in amended raised soil beds utilizing water from a spring box Point of Diversion on an unnamed tributary of Salmon Creek. There are currently 15,000 gallons of water storage in four (4) hard plastic tanks. An additional 190,000 gallons of water storage in the form of 5,000 gallon tanks is proposed. A gutter rain catchment system will also be developed to capture rain-water off the barn to reduce reliance on the diversion.

Power will be provided by a 35KW Whisperwatt Generator placed into a roofed enclosure with secondary containment. The generator and fuel containment structure is already developed. Historically the site was operated with an indoor cultivation component during the winter months with the use of a 120 KW generator. A 75 KW generator was used to power a large scale nursery in the barn during summer months. These practices will be discontinued to reduce the intensity of generator use

2. Land Use

2.1. Site Description

The Project is located in the Salmon Creek watershed near Miranda, CA (APN 221-011-021-000) just north of the intersection of Salmon Creek Road and an unnamed road. The subject parcel is zoned AE/TPZ and is approximately 85.68 total acres in size (per the County of Humboldt's WebGIS). The property consists of open flats with wooded areas interspersed, and a stream following the western property boundary. The cultivation area is buffered by a forested area.

2.2. State of California Commercial Cannabis Activity License

Krystal Kings will operate under a California Cultivation license.

2.3. State Water Resources Control Board

Water comes from a Point of Diversion on an unnamed tributary of Salmon Creek. There are currently 15,000 gallons of water storage in four (4) hard plastic tanks. The property will be enrolled under the Water Board's Cannabis Cultivation general order and a cannabis SIUR is in process (Application H510517).

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) is required for this project, stream crossings, are marked on the site plan. Operator has submitted for the LSAA.

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 from cuttings from "mother" plants maintained in the existing barn. Cuttings are taken from mother plants and placed into trays to root under low intensity lights. A total of 830 SF of the barn is used for maintenance of genetics (mothers) and for propagation of clones.

Once the cuttings are rooted, they are transplanted into 4" pots within the proposed 20'x50' nursery greenhouse to reach the appropriate size to plant in the raised beds of the flowering greenhouses.

3.2. Mixed-Light Cultivation Plan and Schedule

The cultivation will occur in raised beds within greenhouses. There are five existing (two 40'x135' and three 20'x120' greenhouses that will be partially demolished to meet drainage setbacks. The 40'x125' structures will be cut back into 40'x125' structures. The 20'x120' greenhouses will have 35' removed to meet setback and will remain as 20'x95' structures.

Cultivation will occur in the following modified existing greenhouses: two (2) 40'x125' and three (3) 20'x95' coldframe greenhouse. Additional 20'x55' and 20'x60' greenhouses will be added for a total flowering canopy of 18,300 SF

Nursery activities occur in a 20'x50' greenhouse and 830 SF of interior propagation space within the barn.

See schedule of operations below.

Proposed **Mixed Light** Cultivation Schedule

Cultivation Operations Schedule		
Month	Cultivation Activities	Processing Activities
January	No activity	No activity
February	No activity	No activity
March	Nursery operations begin	No activity
April	Transplant juveniles to greenhouses	No activity
May	Watering/maintain plants	No activity
June	Transplant juveniles to greenhouses	No activity
July	Harvest and replant Watering/maintain plants	Drying
August	Watering/maintain plants	Bucking down plants, drying
September	Watering/maintain plants/begin harvest	Bucking down plants, drying
October	Harvest	Bucking down plants, drying
November	Harvest Field Maintenance/Cover crop	Bucking down plants, drying
December	Field Maintenance/Cover crop	No activity

3.3. Irrigation Plan and Schedule

Irrigation and fertigation of plants occurs using drip irrigation (flowering greenhouse) and hand watering (nursery) methods at agronomic rates which conserves water by not allowing excess water runoff. Plants are watered until established and then dry farming techniques are used to reduce water use.

Water is also used for supplemental foliar spraying of pesticides and drip watering of inoculants such as compost tea, 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, a storage barn indicated on the site plan. Once taken to the drying building then hung and suspended in the drying facility. The drying facility will be 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 plants are bucked off the stalks and put into totes for transport to an offsite licensed processor or distributor. Waste plant material is composted onsite just outside the cultivation area.

3.5. Processing Facility

Drying will occur at the storage barn. No other processing (trimming) will occur onsite.

3.6. Employee Plan

Krystal Kings 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 Krystal Kings. 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

Staffing is limited to two (2) full-time employees and four (4) seasonal laborers for a total of six (6) total persons onsite during peak operations.

Month	Cultivation	Harvest/Planting/ Processing
January	-	0
February	-	0
March	2	0
April	2	4
May	2	4
June	2	4
July	2	0
August	2	4
September	2	4
October	2	4
November	2	0
December	2	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.

3.10. Drinking Water Source

Bottled water will be provided if necessary and properly disposed of.

3.11. On Site Housing

No on-site housing is provided for employees.

3.12. On Site Parking

See plot plan for parking locations.

4. Security Plan and Hours of Operation

4.1. Facility Security

An entry gate is located at the entrance. The entry gate remains locked at all times and access to the cultivation area is limited exclusively to employees. All lighting will be designed and located so that direct rays are confined to the property. Security cameras and an alarm system are to be installed.

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 comes from a Point of Diversion on an unnamed tributary of Salmon Creek. There are currently 15,000 gallons of water storage in four (4) hard plastic tanks on the property.

Krystal Kings 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.

TABLE 4.1 ESTIMATED ANNUAL IRRIGATION WATER USAGE											
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
---	---	2,500	12,500	20,000	30,000	35,000	35,000	35,000	20,000	10,000	---

The use of the diversion for irrigation purposes will be off-set by rain catchment from the roof of the 40'x50' square foot barn. Even during the 2020-2021 water year, approximately 41.86 inches of rainfall accumulated over August 2020 through September 1st of 2021.

$41.86" \times 1 \text{ foot} / 12 \text{ inches} \times 40' \times 50' \times 7.48 \text{ gallons} / \text{cubic foot} = 52,185 \text{ gallons}$ of rain catchment to reduce reliance on the surface water diversion.

5.2. Water Storage

There are currently 15,000 gallons of water storage for irrigation in four (4) hard plastic tanks in sizes of 5000 and 2500 gallons. An additional thirty eight (38) 5,000 gallon tanks will be provided for a total of 205,000 gallons of irrigation water storage. An existing 2,500 gallon tank is used for fire protection.

5.3. Site Drainage, Runoff, and Erosion Control

Krystal Kings 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 cultivation site is mostly flat and has a forested buffer surrounding the property to mitigate runoff.

Buffers and setbacks from neighboring drainages are met.

5.5. Erosion Control

Krystal Kings 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

Power will be provided by a 35KVA Whisperwatt Generator. The generator will be placed into an enclosure with secondary containment.

5.9. Light Pollution Control Plan

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:

- Grow More 20-20-20, bloom, hardener

Pesticides and fungicides used for cultivation include:

- Plant Therapy (10 gallons)
- Beuvera bassiana (beneficial fungus)
- QST Subtilis (beneficial bacteria)

Fuels, oils other regulated substances stored on site include:

- Ethanol - up to 5 Gallons
- Isopropyl / Ethyl Alcohol – up to 5 Gallons
- Diesel Generator Fuel - up to ?? Gallons

5.12. Waste Management Plan

Animal-proof trash and recycling containers are located near the greenhouses. 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 stored in a designated contained area and reused or disposed of 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.

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

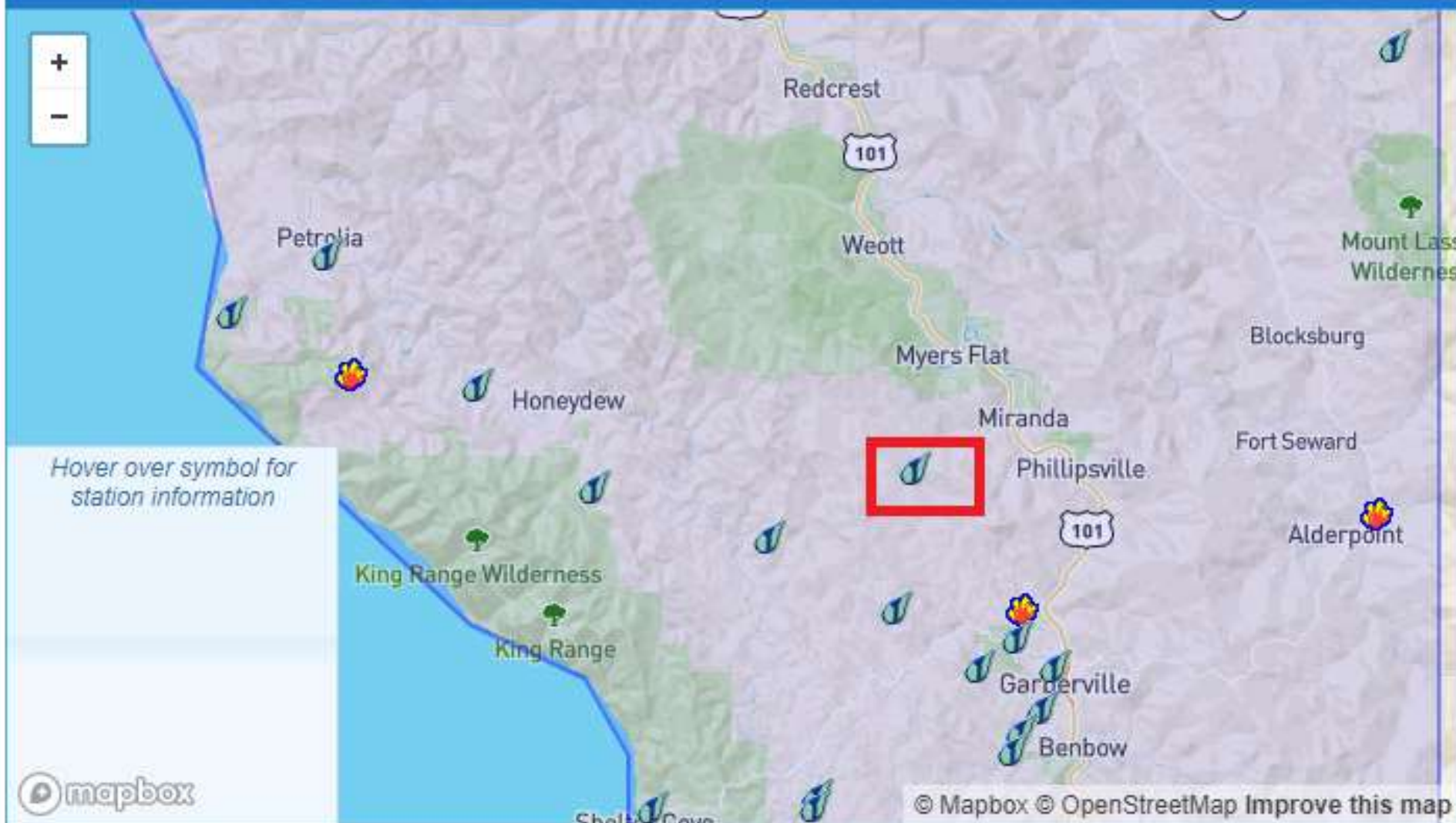
The Agent in Charge and the Cultivation Manager are responsible for performing a physical inventory of all packages being transported, and ensuring that the physical inventory coincides with the transport manifest.

Appendix: Local Rain Gage Data



agacis.rcc-acis.org/?fips=06023

AgACIS for Humboldt County



© Mapbox © OpenStreetMap Improve this map

Click station symbol to select

Show more stations

Help

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Station Information

Station name:	MIRANDA 4.1 SW
State:	CA
County:	(FIPS 06023)
Climate Division:	(CA01)
Station ids:	US1CAHM0014 (GHCN)CAHM0014 (CoCoRaHS)
Latitude:	40.2093 degrees
Longitude:	-123.8941 degrees
Elevation:	539 feet
Available date ranges:	Precipitation 2008-12-13 - 2022-01-19 Snowfall 2008-12-13 - 2022-01-19 Snow Depth 2008-12-16 - 2021-02-10

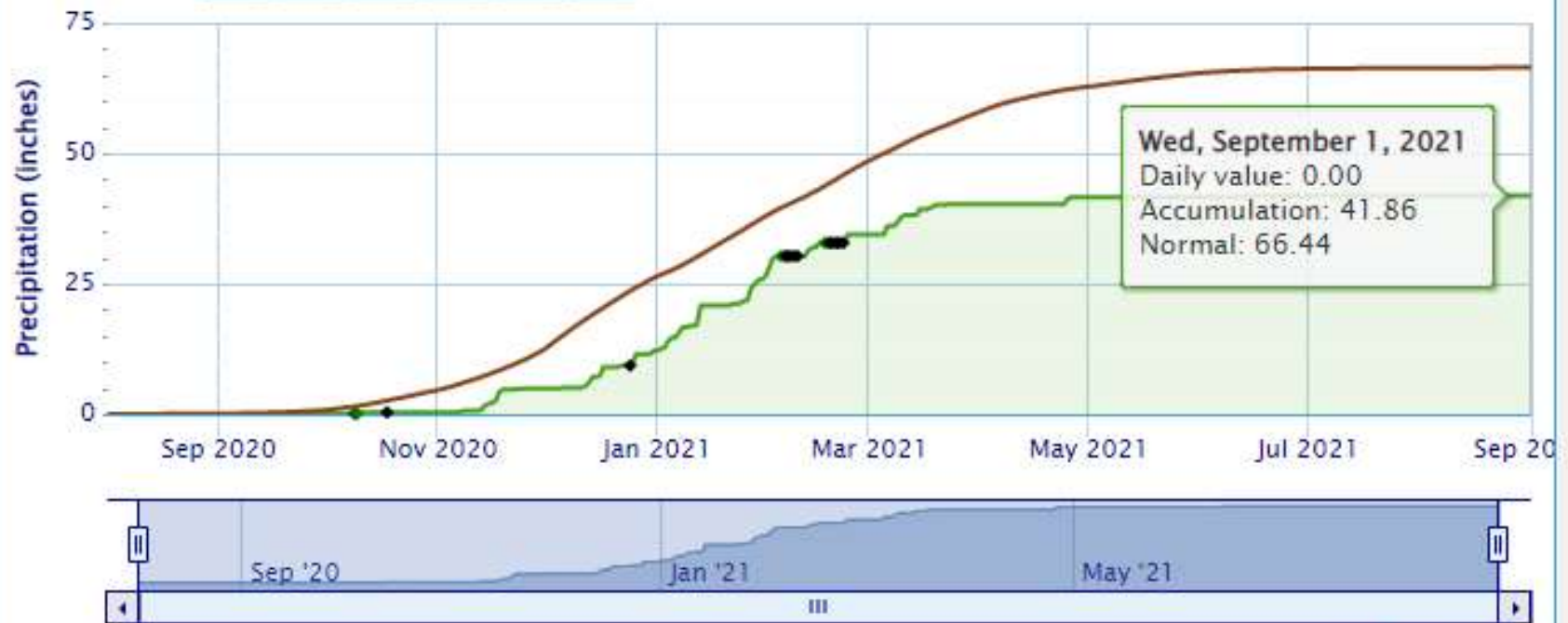
AgACIS for Humboldt County

AgACIS

Accumulated Precipitation - MIRANDA 4.1 SW, CA (CoCoRaHS)

Use navigation tools above and below chart to change displayed range; green/black diamonds represent subsequent/missing values

Zoom **1m** 3m 6m YTD 1y **All** From 2020-08-01 To 2021-09-01



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Note regarding subsequent/missing values