

B, DEH, FEW

Cultivation and Operations Plan
For
MIB, LLC



Proposed Medical Cannabis Cultivation Facilities

Prepared for:



Humboldt County Planning Department
3015 H Street
Eureka, CA 95501



Prepared By:
A.G.R. Multi Services, LLC
9153 Briceland Thorne Rd
Garberville, CA 95542

JUNE 2017

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1. PROJECT SUMMARY

1.1 PROJECT OBJECTIVE

MIB, LLC. is proposing to permit existing medical cannabis cultivation activities in accordance with the County of Humboldt *Commercial Medical Marijuana Land Use Ordinance* (CMMLUO). The project requires a Conditional Use Permit (CUP) for a total of ~~10,000~~ sqft of Mixed Light and ~~23,250~~ sq. ft. of outdoor. The project includes the permitting of existing cultivation, including GH# 1: 100'x34', GH#2: 100'x34', GH#3: 120'x34', GH#4: 100'x34', GH#5: 130'x20', and FS#1: 150'x12'. The processing facility located on the parcel is approx. 1800 sqft, and is used for drying, curing, and trimming of medical cannabis. There is a storage shed located on the parcel that is used for storage for all cultivation related products as well as petroleum products. All petroleum and liquid fertilizers are stored in a secure location with secondary containment to prevent any sediment delivery. The applicant aims to become fully compliant with State and Local Cultivation Regulations.

1.2 SITE DESCRIPTION

The project site is located approximately 26 miles north west of Garberville, CA. To reach the site from Eureka take us-101 south for 54 miles to exit 653 to Salmon Creek Road. Turn right onto Salmon Creek Road for .2 miles. Take a slight right turn onto Salmon Creek Road. Turn right onto Salmon Creek Road. Turn left onto Thomas Road for 4.2 miles. Continue for 3.2 miles past the Salmon Creek School. Drive approximately 2 miles to Road D and make a right turn. Drive 1 mile to driveway on the left with a red gate. Approximate drive time from Eureka, CA 1 hour and 42 minutes with 68 miles. The site is in section 34, township 3 south, range 1 east, H.B. & M. And can be seen on the 7.5' quadrangle map. Furthermore, the site is located at Latitude 40.2358 and Longitude, -123.9671. The subject parcel is approximately 45.87 acres in size (per Humboldt county WEBGIS).

1.3. LAND USE

The subject property has a General Plan designation of Dispersed Housing as identified by the Northern Humboldt General Plan (NHGP) and is zoned T: AG (FRWK) Agriculture Exclusive; TPZ. The proposed cultivation area occupies less than two percent (2%) of the total prime soil area. Land uses surrounding the parcel are comprised of residential, timber and agriculture. The surrounding parcels are zoned Agricultural Exclusive (AE), Timber Production Zone (TPZ), Forrest Recreation (FR), and Unclassified (U).

1.4. STATE AND LOCAL COMPLIANCE

1.4.1. STATE OF CALIFORNIA COMMERCIAL CANNABIS ACTIVITY LICENSE

MIB, LLC. will obtain a Commercial Cannabis Activity license from the State of California at time such a license becomes available.

1.4.2. STATE WATER RESOURCES CONTROL BOARD

A total of 1 watercourse crossings exist on this property. Water for domestic uses is provided by a well that is 220' deep. The well is in the well-house that is identified on the maps provided.

1.4.3. NORTH COAST REGIONAL WATER QUALITY CONTROL BOARD

MIB, LLC has enrolled with the North Coast Regional Water Quality Control Board (NCRWQCB) for coverage under Tier 2 of Order No. 2015-0023 *Waiver of Waste Discharge Requirements and General Water Quality Certification for Discharges of Waste Resulting from Cannabis Cultivation and*

Associated Activities or Operations with Similar Environmental Effects in the North Coast Region (WDID Number 1B16910CHUM). A Water Resources Protection Plan was developed for the project by A.G.R. Multi Services, LLC and has been implemented for activities associated with onsite cultivation since August 2016.

1.4.4. HUMBOLDT COUNTY BUILDING DEPARTMENT

All necessary building permits will be obtained from the Humboldt County Building Department for all existing and proposed structures and supporting infrastructure upon approval of the Conditional Use Permit.

1.4.5. CAL FIRE

The subject property is located within a State Responsibility Area (SRA) for fire protection. Several improvements are proposed to meet SRA requirements, including designating a fire turn-around and pull-out area for emergency vehicles, and 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.

1.4.6. CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

There are no Lake or Stream alterations necessary for this parcel. There are no roadways near any waterways or culverts on this parcel.

2. CULTIVATION AND PROCESSING

2.1. PROPAGATION AND INITIAL TRANSPLANT

Juvenile plants are propagated on site from 'mother plants' that demonstrate the desired genetics for the specific cannabis strain. Mother plants remain in the vegetative stage solely for propagation. Cuttings are sampled from the mother plants and are rooted into a growing medium, typically oasis cubes, to produce 'clones.' The clones are placed into the nursery, and once fully rooted they are transplanted directly into one (1) gallon plastic containers. The juvenile plants are irrigated using hand watering methods. After 2-3 weeks, the clones are then transplanted into 25-gallon plastic pots with a soil and perlite medium, and moved into outdoor greenhouse where they continue their 'vegetative' cycle.

2.2. OUTDOOR CULTIVATION PLAN AND SCHEDULE

The mixed light cultivation will occur in (3) 3,400 sf greenhouse, (1) 4800 sf greenhouse, and (1) 2600 sf greenhouse, (1) FS 1800 sf for a combined cultivation area of approximately 20,500 sf of mixed light and 12,750 sf of outdoor. The greenhouses consist of heavy gauge steel tubing, covered with a woven poly translucent opaque tarp. Each greenhouse is ventilated by intake and exhaust fans. The greenhouses utilize a combination of artificial light and light deprivation to produce up to two (2) flowering cycles per year. The monthly Cultivation Schedule in Appendix C details the cultivation activities associated with the mixed light cultivation operation for a typical two cycle year.

2.3. IRRIGATION PLAN AND SCHEDULE

Irrigation and fertigation of plants occurs using top-feed hand watering methods. MIB, LLC. maintains that irrigation and fertigation is more efficiently managed via hand watering, allowing for daily inspection of each plant by the cultivator and tailored irrigation and nutrient application depending on the needs of each individual plant.

2.4. HARVESTING, DRYING, AND TRIMMING

Plants that are ready for harvest have their flowering branches removed and suspended in the drying room which is equipped with ventilation fans and climate control measures. The drying process takes approximately one week.

The dried flowers are then bucked into manageable buds and processed at an on-site processing facility.

2.5. PROCESSING FACILITY

All cannabis processing will occur on site at the 1800 sf processing facility close to the main residence. The facility will incorporate all aspects of processing including drying, curing, and trimming, and will include an ADA restroom for employees. The restroom will include a working flushable toilet as well as a sink with cold and hot running water provided by an on demand electric water heater.

The finished product is stored in the processed materials room before being transported to a licensed distribution facility. The waste product, or "trim," from the processing facility is collected and placed into bins to be weighed, labeled, and sealed. Trim will be transferred to an offsite, licensed manufacturing facility.

2.6. EMPLOYEE PLAN

MIB, LLC. 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.

2.6.1. JOB DESCRIPTIONS AND EMPLOYEE SUMMARY

- *Agent in Charge*: Responsible for business oversight and management of the MIB, LLC. 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 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.
- *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 medical cannabis. This is a full-time, seasonal position.
- *Seasonal Laborer*: Provides cultivation, harvesting, and processing support including trim machine operation and hand-finish trimming. This is a part-time to full-time, seasonal position.

2.6.2. STAFFING REQUIREMENTS

In addition to the *Agent, Lead Cultivator, and Assistant Cultivator positions*, up to two (2) full-time seasonal labor positions are employed. The number of seasonal laborers varies based on the needs of the farm during the cultivation, harvest and processing seasons. During the peak harvest and processing season, there are an estimated total of five (5) employees on site.

2.6.3. EMPLOYEE TRAINING AND SAFETY

On site cultivation, harvesting, and drying 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. Access to the onsite cultivation, drying and processing facilities is limited to authorized and trained staff.

All employees are trained on proper safety procedure 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 cultivation site. 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.

2.6.4. TOILET AND HANDWASHING FACILITIES

The proposed drying and processing building will include one (1) ADA-compliant restroom, including a working flush toilet as well as a sink with hot and cold running water. Anti-bacterial Liquid Soap and paper hand towels will be made available. Employees will work at a distance typically no greater than 250 feet from the restroom facility.

2.6.5. ON SITE HOUSING

The existing single-family residence located on site is occupied by the property owner/Agent in Charge. All other full-time and seasonal employees live off site and commute daily to the cultivation site via carpool & personal forms of transportation. No new residential structures are proposed as a part of this project.

2.7. SECURITY PLAN AND HOURS OF OPERATION

2.7.1. FACILITY SECURITY

The cultivation facilities, including greenhouses and processing building are enclosed in a secure privacy fence. An entry gate is located off Road D, and the perimeter of the facility facing the residence. The entry gates remain locked always and access to the cultivation area is limited exclusively to employees. Restricted access signs are posted conspicuously at the entry gates. The cultivation and processing facility area will have low intensity 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 will be installed at the main access gates and at entrances to the facilities. Facility will include an alarm system.

2.7.2. HOURS OF OPERATION

Activities associated with cultivation in the greenhouses (watering, transplanting, and harvesting) generally occur during daylight hours. All other activities such as processing typically occur no earlier than 6 AM and extend no later than 8 PM.

3. ENVIRONMENT

3.1. WATER SOURCE AND PROJECTED WATER USE

Water for domestic use is provided by a well 220ft deep. The location of the well is located over 300' away from an unnamed class II stream. Water is then pumped and stored in hard storage tanks during the winter months to assure water levels throughout the year.

MIB, LLC. utilizes water management strategies to conserve and reuse onsite water and fertilizers to achieve net zero discharge.

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.

Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
0	0	0	20,000	24,000	30,000	30,000	30,000	26,000	10,000	0	0

3.2. WATER STORAGE

Water storage for irrigation use is provided in the form of water storage tanks. The property has (2) 20,000-gallon water bladders, (6) 300 gallon (2) 5000 gallon (1) 1,000 gallon, (1) 150,000 Rain Catchment Pond. MIB, LLC. has a total of 202,800 gallons of hard water storage.

3.3. SITE DRAINAGE, RUNOFF, AND EROSION CONTROL

MIB, LLC is enrolled with the North Coast Regional Water Quality Control Board (NCRWQCB) for Tier 2 coverage, and a Water Resources Protection Plan (WRPP) has been developed utilizing best management practices (BMP's) in accordance with the NCRWQCB's recommendations. The drainage and erosion control measures described below are referenced from the WRPP in Appendix E.

3.3.1. SITE DRAINAGE AND RUNOFF

Site investigation for the development of the Water Resources Protection Plan (WRPP) showed no evidence of surface runoff associated with the cultivation, nor was there evidence that it had occurred in the past. This area has good vegetation ground cover consisting of native grasses with no evidence of leaching from cultivation related activities.

Fertilizers and pesticides are currently stored in an agricultural storage structure that meets all requirements for secondary containment.

To further prevent runoff to riparian areas, water conservation and containment measures will be implemented including the use of hand irrigation to prevent excessive water use, and the maintenance of a stable, vegetated buffer between the cultivation area and riparian zone.

3.3.2. EROSION CONTROL

The Water Resource Protection Plan (WRPP) includes erosion and sediment control BMP's designed to prevent, contain, and reduce sources of sediment. The WRPP also includes corrective actions to reduce sediment delivery, including: stream crossing culvert maintenance and replacement and access road maintenance. Additionally, the WRPP requires mulch piles and spoils from any grading to be stored in a designated location away from watercourse. See the WRPP section titled *Best Management Practices for Discharges of Waste Resulting from Cannabis Cultivation and Associated Activities* in Appendix E for complete BMP recommendations and specifications.

3.4. WATERSHED AND HABITAT PROTECTION

Adherence to the Water Resource Protection Plan (WRPP) ensures that the watershed and surrounding habitat are protected. The cultivation activities and associated structures are >150 feet 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 and the WRPP. Refer to the WRPP in Appendix E for detailed descriptions of watershed and habitat protection measures.

3.5. MONITORING AND REPORTING

Monitoring will be conducted to confirm the effectiveness of corrected measures listed in the Water Resource Protection Plan (WRPP) 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. A monitoring plan is included in the WRPP with photo points identified on WRPP map.

Onsite monitoring shall occur:

- Before and after any significant alteration or upgrade to a given stream crossing, road segment, or 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" 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 (Order No. 2015-0023 Appendix C) will be submitted upon initial enrollment in the Order (NOI) and then annually by March 31 to the Regional Water Board. The annual report will include data from the monitoring reports.

3.6. ENERGY AND GENERATOR USE

On-grid electricity is provided by PG&E for domestic uses. Use of the on-site generator is limited to power outage events, and follows all guidelines set up by Humboldt County and the State of California. The generator is located away from the property line to ensure the noise level does not exceed 60 decibels at the property line. The generator and diesel fuel is located within a secondary containment trough.

3.7. USE AND STORAGE OF REGULATED PRODUCTS

3.7.1. 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 in a locked storage room, and contained within water tight, locked and labeled containers in accordance with manufactures instruction. Application rates will be tracked and reported with the end of the year monitoring report required in the Water Resources Protection Plan (WRPP). 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. See the WRPP for complete BMP specifications for the use and storage of regulated products.

3.7.2. FERTILIZERS

Nutrients and biological inoculants used for cultivation include:

- Roots Organic-Formula 707 Soil
- Sparetime Bat Guano – (0-7-0)
- Sparetime Bat Guano – (7-3-1)
- Sparetime Mocha Bat Guano – (4-6-1)
- Sparetime Bone Meal (1-12-0)
- Archipelago Phosphorus Bat Guano – (0-7-0)
- Earthworm Castings
- Alaska Fish Emulsion – (6-3-3) & (2-10-10)
- Earth Juice – Grow (2-1-1)
- Earth Juice – Bloom (0-3-1)
- Earth Juice Hi-Brix Molasses
- Max Sea (16-16-16)
- Max Sea (3-20-20)
- Botanicare Cal-Mag Plus

See Appendix B - *Regulated Products Resource List* for product details.

3.7.3. PESTICIDES AND FUNGICIDES

Pesticides and fungicides used for cultivation include:

- Diatomaceous Earth
- Magnesium Sulfate- Mg 9.8% S 12.9%
- Neem Oil
- Green Cleaner

See Appendix B - *Regulated Products Resource List* for product details.

3.7.4. FUELS AND OILS

Fuels and oils stored on site include:

There is a small amount of fuel stored on the parcel for small engine and backup generator use. The fuel is stored in a safe location in the secondary containment storage shed.

3.8. WASTE MANAGEMENT PLAN

3.8.1. SOLID WASTE MANAGEMENT

Trash and recycling containers are located near the processing building in safe enclosed location. Solid waste and recycling is hauled off-site to the nearest transfer station at least once per week.

3.8.2. CULTIVATION WASTE AND SOIL MANAGEMENT

Stalks are burned and composted or chipped for ground cover and compost. Root balls are hauled away as green waste or composted. Spent potting soil is stored in a contained area with environmental measures in place. Spent soil is cover during winter months and then amended in pots before the further use. All packaging from soil amendments and fertilizers will be collected and disposed at an appropriate facility.

3.8.3. WASTEWATER MANAGEMENT

The water management plan aims to achieve an entirely closed-cycle irrigation and nutrient system. Hand watering methods minimize the over-irrigation of plants and subsequent runoff.

There is a working septic system that facilities the parcel. The septic is on file with the county and a copy can be provided by the applicant if needed.

4. PRODUCT MANAGEMENT

4.1. PRODUCT TESTING AND LABELING

Samples are selected from individual harvested cannabis strains and are tested by a licensed third-party lab in accordance with State and local standards. The finished product is labeled with the MIB, LLC. logo, and will include tracking ID's provided by the County of Humboldt and/or Statewide tracking systems once they become available.

4.2. PRODUCT INVENTORY AND TRACKING

Until either a County or Statewide cannabis product or inventory tracking system becomes available, an internally-developed system of inventory and tracking is utilized. The Agent in Charge and Lead Cultivator ensure all medical cannabis from clone to packaged product is tracked, accounted for and inventoried. Records are kept at each phase of the harvest and processing operation for reporting and compliance with State and Local regulations. The information recorded for each harvest includes:

- Cultivation canopy area
- Weight of flowers, by-product, and trim waste after drying and separation
- Weight of buds after trimming
- Product ID numbers and product weight
- Staff identification (at each step)
- Physical location of the plant material always

4.3. TRANSPORTATION AND DISTRIBUTION

Transportation will be handled by a third-party, contracted, licensed transporter/distributor in accordance with State and Local regulations. All merchantable products 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 addresses
- Time of departure
- Time of arrival

The *Agent in Charge* and the *Processing 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 A: Site Plan

MIB, LLC. WATER RESOURCES PROTECTION PLAN APN: 221-021-026

DIRECTIONS TO SITE:

FROM EUREKA, CA
 - SOUTHBOUND ON US-101
 (APPROX. 22.5 MILES)
 - TAKE EAST 953 FOR SALMON CREEK RD.
 - TURN RIGHT ONTO SALMON CREEK RD.
 (APPROX. 2.8 MILES)
 - TURN LEFT ONTO THOMAS RD.
 (APPROX. 9.4 MILES)
 - 5TH DRIVEWAY ON LEFT



VICINITY MAP
NOT TO SCALE

PROJECT INFORMATION:

APPLICANT:
 MIB, LLC
 2415 JUDAH STREET #B
 SAN FRANCISCO, CA 94112

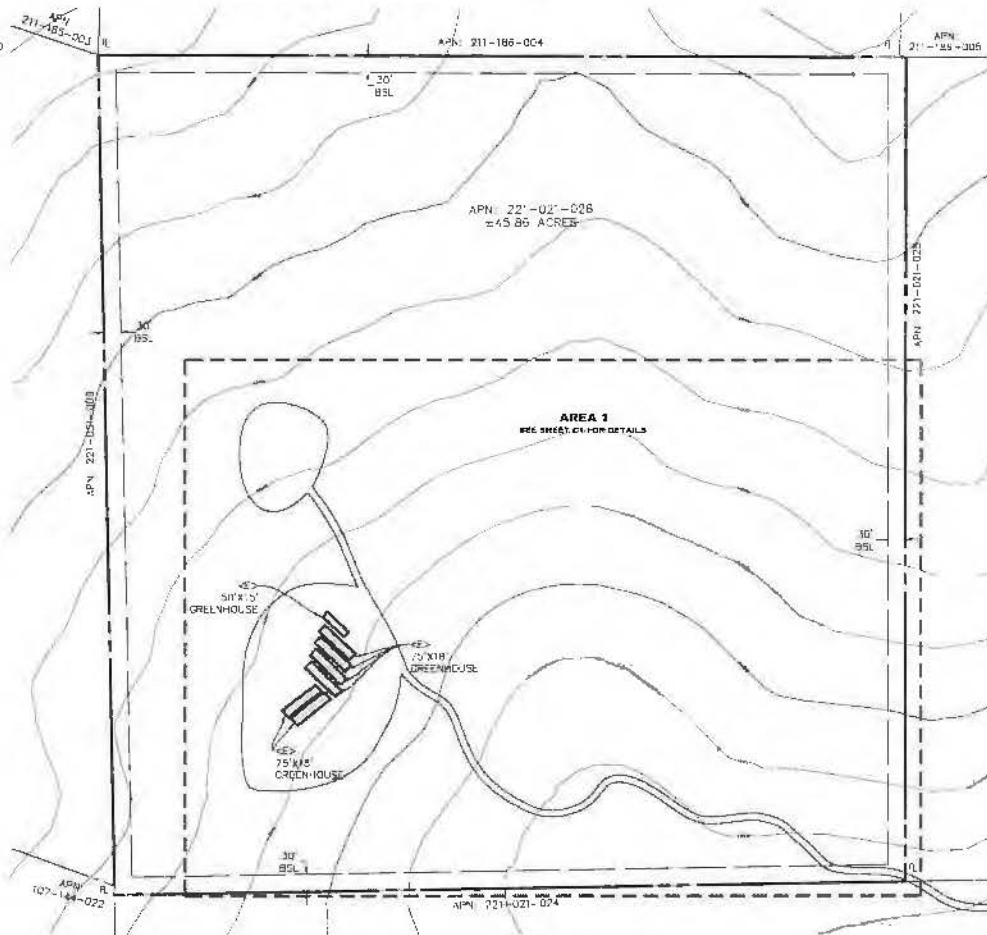
PROPERTY OWNER:
 MARCHELLO KARACID
 2415 JUDAH STREET #B
 SAN FRANCISCO, CA 94112

APPLICANT'S AGENT:
 MANHARD CONSULTING
 611 "L" STREET SUITE A
 EUREKA, CA 95501
 (707) 444-3800

SITE ADDRESS:
 APN 221-021-026
 3816 THOMAS RD
 MIRANDA, CA 95553

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
C0	PLOT PLAN, VICINITY MAP, & PROJECT NOTES
C1	AREA 1 MAP



PLOT PLAN
 11x17 SHEET: 1"=200'
 0 50 100 200



NOTE: LOCATIONS OF PROPERTY BOUNDARY LINES ARE APPROXIMATE.



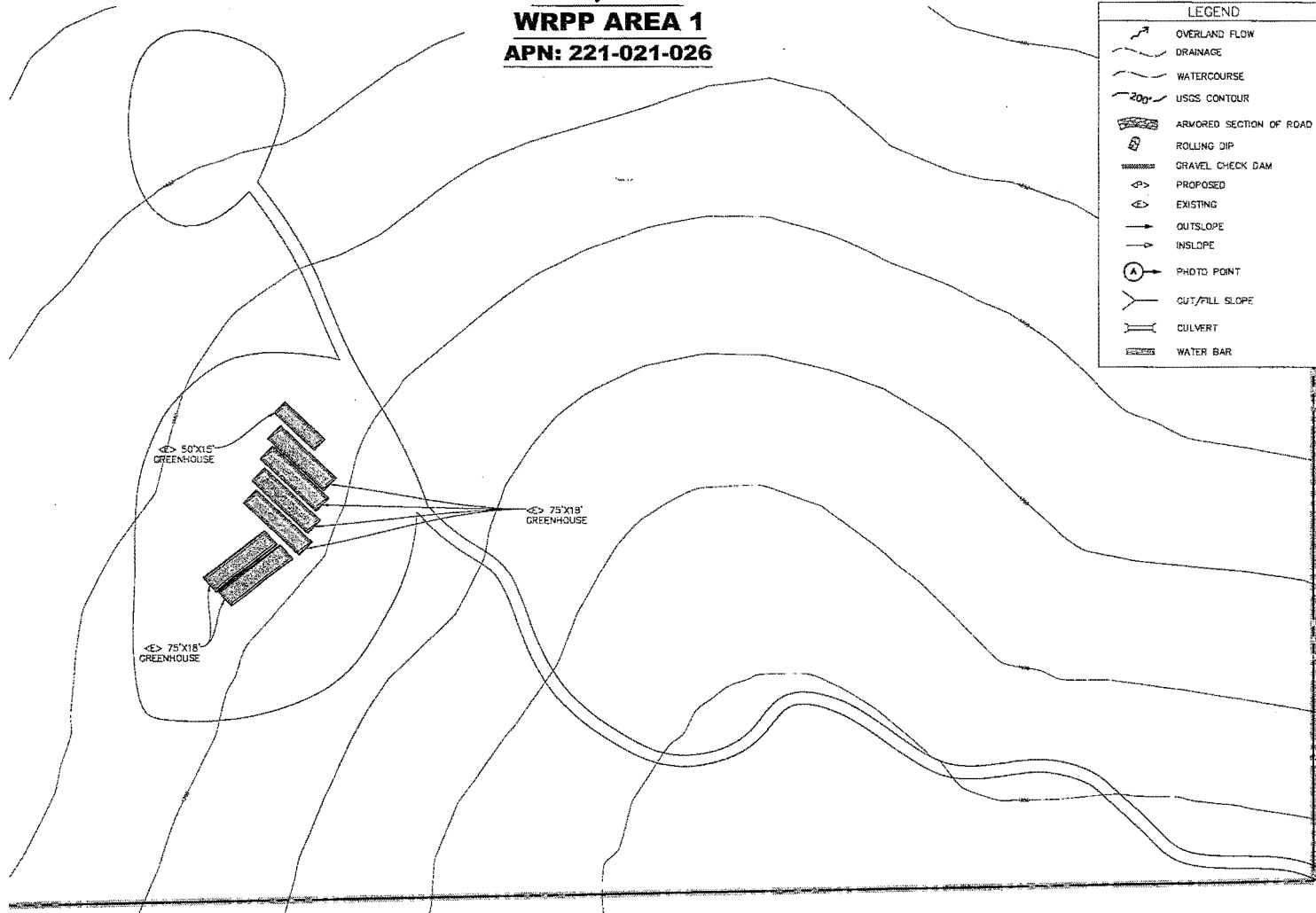
MIB, LLC / APN: 221-021-026
 3816 THOMAS RD, MIRANDA, CA 95553
 WRPP PLOT PLAN, VICINITY MAP AND PROJECT NOTES



SHEET
C0
 MIB FILED
 02/21/2011

MIB, LLC.
WRPP AREA 1
APN: 221-021-026

LEGEND	
	OVERLAND FLOW
	DRAINAGE
	WATERCOURSE
	USGS CONTOUR
	ARMORED SECTION OF ROAD
	ROLLING DIP
	GRAVEL CHECK DAM
	PROPOSED
	EXISTING
	OUTSLOPE
	INSLOPE
	PHOTO POINT
	CUT/FILL SLOPE
	CULVERT
	WATER BAR



NOTE: LOCATIONS OF PROPERTY BOUNDARY LINES ARE APPROXIMATE

AREA 1
 11x17 SHEET: 1"=100'
 0 25 50 100

 NORTH

DATE	
REVISION	
NO.	
DATE	

Manhard CONSULTING
 Civil Engineers, Surveyors, Water Resources Engineers
 3816 THOMAS RD, MIRANDA, CA 94553
 WRPP AREA 1

MIB, LLC. / APN: 221-021-026
 3816 THOMAS RD, MIRANDA, CA 94553
 WRPP AREA 1

SCALE: 1"=100'
 SHEET: 11 OF 17
 SHEET: 11 OF 17
 SHEET: 11 OF 17
 SHEET: 11 OF 17

C1
 MIB, LLC. / APN: 221-021-026
 3816 THOMAS RD, MIRANDA, CA 94553
 WRPP AREA 1

MIB, LLC.
WRPP AREA 1
APN: 221-021-026

LEGEND	
	OVERLAND FLOW
	DRAINAGE
	WATERCOURSE
	USGS CONTOUR
	ARMORED SECTION OF ROAD
	ROLLING DIP
	GRAVEL CHECK DAM
	PROPOSED
	EXISTING
	OUTSLOPE
	INSLOPE
	PHOTO POINT
	CUT/FILL SLOPE
	CULVERT
	WATER BAR

Residence

*(2) 8x20
Corner Storage
Containers*

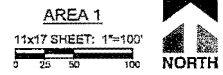
*10x10 Enclosed
Recycling
Container*

50'x15'
GREENHOUSE

75'x18'
GREENHOUSE

75'x18'
GREENHOUSE

NOTE: LOCATIONS OF
 PROPERTY BOUNDARY LINES
 ARE APPROXIMATE



PROJECT	
NO.	
DATE	
BY	
CHECKED	
APPROVED	
Manhard CONSULTING	
MIB, LLC / APN: 221-021-026 3818 THOMAS RD, MIRANDA, CA 95553 WRPP AREA 1	
SHEET	01
MILESTAGE	

Appendix C: Cultivation Schedule

February 1-April 1st: Clone Propagation

All plant used in MIB, LLC cultivation sites will be composed of clones taken from "mother" plants. Mother plants are composed of samples that have been deemed to demonstrate superior genetics for desired outcomes. Cuttings, or clones, are taken from the mother plants at various intervals.

Clones will be cut from mother plants and will be placed within trays to root. After approximately 2-3 weeks, rooted clones will be transferred to 5" by 5" pots within green houses to acclimate.

April 1 – April 15: Transplant Phase

When the plants have achieved desired height and plant growth density for transplant, the plants are immediately planted into 25" pots. Due to the increase in container size and increase in daylight hours, the plants will continue to grow in a vegetative state for 2-4 weeks. The approximate desired height and growth density would be 3'-4'. Upon final transplant, plants will be hand-watered and fertilized. All fertilizers and supplements used are in accordance with Humboldt County and State of California Department of Agriculture compliance. Once the desired height and vegetative growth density has been achieved the Light Deprivation Phase begins.

April 15 – Jun 15: Light Deprivation Phase-Cycle 1

Taking into account factors such as height, growth density and overall health of the plant, determination of the exact date for the light deprivation process begins. Once that date is determined, 100% light resistant, specifically designed tarps will be automatically pulled over the outside of the greenhouses. This process will reduce the daylight hours from approximately fifteen (15) hours of daylight to the desired twelve (12) hours of daylight, twelve (12) hours of darkness desired to induce flowering. During the first two weeks of light deprivation, the plants will enter into a transitional phase. During this transitional phase plants will continue vegetative growth while transitioning into flowering.

It is not uncommon for plants to obtain 25% of their entire height and vegetative growth density during the transitional phase. Once the plants enter in the final bloom or flowering phase, they will begin to expended energy into the production of flowers, therefore, ceasing vegetative growth and begin to flower. The entire flowering process, including the transitional and final bloom phases, will last fifty-five (55) to sixty-five (65) days depending on strain variation and weather conditions.

June 15 – 22: First Harvest and Re-Planting

Once the light deprivation phase has concluded and it has been determined that the plants are at their peak, harvest procedures will be initiated. (See Section 2.4 of the Cultivation and Operations Plan). The soil in the pots will be turned and amended. All amendments used are in accordance with Humboldt County and State of California Department of Agriculture compliance. New clones obtained from the “mother” will be transplanted into the greenhouses.

Due to the length of daylight hours, the plants will continue in a vegetative state for approximately one month. Plants will be planted using the same methodology as with the Transplant Phase.

June 22 – September 15: Light Deprivation-Cycle 2

See Light Deprivation-Cycle 1 for a description of activities during this phase.

September 15 - September 22 – Second Harvest and Re-Planting

See First Harvest and Re-Planting for a description of activities during this phase.

October 1 – February 1st- Repair, Upgrade and Recondition Phase

MIB, LLC will inspect all cold frames and covers for wear and replace as necessary. All watering hoses, etc. will be inspected and repaired or replaced, as appropriate. Refilling of irrigation tanks will commence in accordance with the Small Irrigation Use Registration and Conditions of the Department of Fish and Wildlife (DFW) Lake or Streambed Alteration Agreement (LSAA). Pots will be turned over and composted within the greenhouses to prepare for the upcoming season.

Appendix D: References

Bass, Ronald E., Kenneth M. Bogdan, and Terry Rivasplata. 2013. CEQA Desktop. Point Arena, CA; Solano Book Press. Page 44.

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<<http://www.canorml.org/laws/sb420.html>> Date accessed: July 21, 2014.

County of Humboldt. *Medical Marijuana Land Use Ordinance (MMLUO) – Phase IV, Commercial Cultivation, Processing, Manufacturing and Distribution of Cannabis for Medical Use* (Staff Report to the Board of Supervisors). January 26, 2016. <<https://humboldt.legistar.com/Calendar.aspx>> Date accessed: March 28, 2016.

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<<http://www.boe.ca.gov/news/pdf/173.pdf>>

State of California. Guidelines for the Security and Non-Diversion of Marijuana Grown for Medical Use. August 2008.
http://www.ag.ca.gov/cms_attachments/press/pdfs/n1601_medicalmarijuanaguidelines.pdf

Appendix E: Water Resources Protection Plan (WRPP)

Note: For brevity, only select pertinent sections of the WRPP have been included. The complete plan including all BMP specifications and the Water Board Order is attached.



Amendment to Operations Plan

MIB LLC (Marchello Karagio)

Location: 3809 Thomas Rd. Miranda CA 95553

County: Humboldt

APN: 221-021-026

Address: 2415 Judah Street APT #18 San Francisco, CA 94122

Contact Name: Vanessa Valare

Telephone: 760.613.6520/ 707.986.7815

Email: etahumboldt@gmail.com

Project Description

This application is for a project located on parcel number 221-021-026 belonging solely to Marchello Karagio. Marchello Karagio is the primary cultivator and primary processor at this property. This project will consist of two (2) cannabis gardens.

Garden 1- is 4,350 sq. ft. of outdoor greenhouse.

Garden 2- 10,000 sq. ft. of mixed light greenhouses, and 18,900 sq. ft. of full-term outdoor cultivation, for a total of 28,900 sq. ft.

The total pre-existing cultivation for this parcel is 33,250 sq. ft. All cannabis in gardens grown outdoors and under mixed light in greenhouses. All cannabis is harvested and dried on site. Harvested cannabis is processed on site by applicant.

Remediation Plan

See restocking plan for remediation. Hill has been restored to natural contour, moving less than 20 cubic yards of material. Tree replacement will start this year and continue for three years.

Cultivation Plan

MIB LLC (Marchelio Karagio)

Location: 3809 Thomas Rd. Miranda CA 95553

County: Humboldt

APN: 221-021-026

Address: 2415 Judah Street APT #18 San Francisco, CA 94122

Contact Name: Vanessa Valare

Telephone: 707.923.1180/760.613.6520

Email: etahumboldt@gmail.com

**Cultivation Site**

This project will consist of two cannabis cultivation areas.

Cultivation Area 1- includes one (1) 3,792 square foot outdoor light deprivation greenhouse.

Cultivation area two includes two (2) mixed

Footprint explanation**POU #1- Greenhouse 1**

This is a 3,000 ft² outdoor light deprivation greenhouse. Two cycles of outdoor light deprivation cultivation are grown here. Plants are planted in beds in the ground in greenhouses. There are companion plants, native grasses and indigenous plants that grow in the greenhouse and around the area to also help control any type of run off. There are no signs of wastewater runoff or erosion in this garden. Hay is also spread around the area and on the topsoil. The water line as well as manifolds and fittings are checked almost daily for leak or cracks.

POU #2- Greenhouse 2

This is a 3,000 ft² outdoor light deprivation greenhouse. Two cycles of outdoor light deprivation cultivation are grown here. Plants are planted in beds in the ground in greenhouses. All black out plastic used as many seasons as possible and repaired instead of replaced for as long as possible. There are companion plants, native grasses and indigenous plants that grow in the greenhouse and around the area to also help control any type of run off. There are no signs of wastewater runoff or erosion in this garden. Hay is also spread around the area and on the topsoil. The water line as well as manifolds and fittings are checked almost daily for leak or cracks.

POU #3- Greenhouse 3

This is a 3,000 ft² outdoor light deprivation greenhouse. Two cycles of outdoor light deprivation cultivation are grown here. Plants are planted in beds in the ground in greenhouses. All black out plastic used as many seasons as possible and repaired instead of replaced for as long as possible. There are companion plants, native grasses and indigenous plants that grow in the greenhouse and around the area to also help control any type of run off. There are no signs of wastewater runoff or erosion in this garden. Hay is also spread around the area and on the topsoil. The water line as well as manifolds and fittings are checked almost daily for leak or cracks.

POU #4- Propagation/Vegetative Greenhouse-

This is a 1,000 ft² propagation/vegetative greenhouse. Plants are grown in here while in a vegetative state and moved into the flowering greenhouses as soon as they are big enough.

Immature Plants

Immature plants will be propagated from seed or purchased from a licensed nursery. When needed a section of the processing shed is used for seedling and immature plants, only minor supplemental light is used, 22w regular light bulbs. and POU#4 is used once light is not needed.

Cultivation Cycles

I intend to harvest the greenhouses twice. The first time in July after a Light Deprivation cycle. The second harvest in Sept/Oct with natural finish (no black out cover).

Monthly Cultivation Site Activities

Month	Activities
January	Finish processing of fall harvest, trimming and storage. Plan new year. Mow cover crop. Check greenhouse for issues/fix. Check water lines, tanks and all equipment for repairs or damages. Make plan for repairs.
February	Work on trenches/and holes for plants layer more compost in beds. Treat compost if necessary. Finishing processing last year's crop if still necessary.
March	Get clones from other permitted grow operation. Transplant and move into garage with seedlings. Amend beds, fix fences, service equipment; make plan for independent contractors i.e.; painting, fence building, greenhouse fixing, etc.
April	Amend and start turning beds, prep dirt and supplies for greenhouse plants Add nematodes compost for pest prevention. Mid- April move first round of plants to greenhouses. Weed whacking, mowing, and brush cleanup.
May	Spray with preventive sulfur. Treat with biodynamic preparations for pest

	control and mold control. Greenhouse plants switched into flower using a blackout cover mid-late May. Turn beds, fix/ replace and clean drip emitters, check timers. Double check all water systems for leaks and clogs. Put out sound sensors for rodents.
June	Hay put over each trench for water retention. Use re mesh for supports as well as bamboo stakes which are cleaned with bleach before each use. Bamboo reused for multiple years. Regular feeding schedule of compost teas adhered to. Pests are dealt with as they arise with oils, nematodes and predator mites from compost. Procure next round of plants from licensed nursery.
July	Harvest greenhouse mid-month, replant with new clones from a permitted nursery. Treat plants with preventive measures. Harvested flowers to hang in garage, then to be cured and hand trimmed per processing plan.
August	Finish processing July's harvest. Monitor water supply, check lines and all areas for insect/ animal disturbance.
September	Prepare for Harvest. Clean and prepare lines and drying spaces in garage. Clean all supplies and purchase new items needed. Harvest, cure and trim as outlined above in processing plan.
October	Harvest greenhouses. Process as outlined above. Pull all root-balls, pack hay and cover crop seeds on beds. Pull drip system. Check all equipment and tools for leaks and damages before storing for winter. Store all supplies possible, cleanup site.
November	Winterize water system, greenhouse and sheds. Clean up drying rooms remove all lines and debris. Put away all supplies i.e. fans, dehumidifiers. Continue processing cannabis as outlined above.
December	Start amendments for winter. Prep all water and water storage system for shut down. Clean all garden implements. Put all left over supplies away. Driveway fixing, other farm/garden maintenance.

**Cultivation Plan Addendum for
Parcel #221-021-026 / APP# 11543
MIB 2 LLC**

[The following sections are modifications to the cultivation plan previously submitted for this application.]

3.2. Water Storage

Water storage for irrigation use is provided from (9) 2,500 gallon poly water tanks and (1) 250,000 gallon rain catchment pond. Water storage total for MIB 2 is 272,500 gallons. A well is located onsite primarily for domestic use and serves as a backup irrigation source. The well is 220 ft deep and located over 300' away from a Class II stream.

3.6. Energy and Generator Use

The site uses a 25k MQ Power Whisper generator for electricity, when needed. Usage is on average 128 kWh per day from March to November, depending on the need for and duration of ventilation, and use of farming equipment. The generator is housed in a generator shed for noise attenuation when in use. Plans are being made to install a solar array to reduce generator use in the future.

**Cultivation Plan Addendum for
Parcel #221-021-026 / APP# 11543
MIB 2 LLC**

[The following sections are modifications to the cultivation plan previously submitted for this application.]

I. Water Storage

Water storage for irrigation use is provided from (9) 2,500 gallon poly water tanks and (1) 250,000 gallon rain catchment pond. Water storage total for MIB 2 is 272,500 gallons. The well located onsite is primarily for domestic use.

II. Water Use by Month

Jan	Feb	Mar	Apr	May	June
1,000	1,000	3,000	5,000	12,000	25,000

July	Aug	Sept	Oct	Nov	Dec
45,000	51,000	45,000	10,000	2,000	0

Estimated annual use: 200,000 gallons

III. Energy and Generator Use

Plans are in place to install a 3.8kW solar array as the primary energy source, funded by the DCC renewable energy grant. power cultivation activities. For emergency and backup purposes, a 25k MQ Power Whisper generator is also on site to use when needed. Usage is on average 128 kWh per day from March to November, depending on the need for and duration of ventilation, and use of farming equipment. The generator is housed in a generator shed for noise attenuation when in use. Plans are being made to install a solar array to reduce generator use in the future.