

Odor Mitigation Plans



SIGNATURE PAGE

Juva Life

25571 Clawitter Road

Hayward, CA 94545

Odor Control Plan

Phone No.

408-355-3604

916-726-1303

Executive Assistant & Marketing: Cliff Nichols

Certified Industrial Hygienist: Sylvia Fontes, CIH

Preparation Date:

March 6, 2020 (revised)

APPROVALS:

A handwritten signature in black ink that reads "Sylvia Fontes, CIH".



Sylvia Fontes, MS, CIH

March 6, 2020

A handwritten signature in black ink that reads "Cliff Nichols".

Cliff Nichols

March 6, 2020

JUVA

Odor Control Plan

Juva Life is a cannabis business opening a new cannabis facility located at 25571 Clawiter Road in Hayward, California. The primary contact for Juva Life's Odor Control Program is:

Cliff Nichols
8 N San Pedro Street
San Jose, California 95110
(408) 355-3604
cliff@JuvaLife.com.

The new business will produce and sell cultivated cannabis and a variety of cannabis infused products. Juva Life's microbusiness facility, to include manufacturing and cultivation hours of operation are 24 hours while the retail facility will sell and deliver cannabis goods between the hours of 6:00 a.m. Pacific Time and 8:00 p.m. Pacific Time. The facility will generate cannabis-related odors throughout the day, but Juva Life is prepared to mitigate and control those odors.

Juva Life cannabis is aware of the State of California and City of Hayward's concerns regarding odors that may emanate from our facility and have integrated plans into our facility design to specifically address odor concerns. As part of Juva Life's plans, the cannabis facility will include a three-part odor control system. The odor control and reduction system will include carbon filters, a negative air pressure exhaust system, and a high-pressure fog system with a scientifically formulated essential oil mixture. Each odor-emitting area will contain a predetermined number of basic air filters as well as carbon filters to circulate and scrub the air throughout the work day.

A Juva Life employee will replace all filters according to the manufacturer's specifications to maintain optimal operating performance. The filters will be integrated into a negative air pressure exhaust system. Exhaust will then pass from each filter into activated carbon filters before entering a sealed ducting system. From the ducting system, air transfers to a carbon filter-lined centralized air bank. Exhaust is then filtered a third time through carbon filtrations screens before finally leaving the facility through a stack system. Juva Life will seal and insulate each odor emitting room to maintain negative pressure.

Carbon Filtration

As part of the plan, Juva Life's cannabis facility will route air through a carbon filtration system, deodorizing the air before it leaves the building. Activated carbon air filters, also known as charcoal impregnated air filters, are widely recognized as an effective method of removing and preventing odor/fume buildup in recirculated air. Charcoal impregnated air filters are highly effective for organic based odors.

Carbon filtering is a method of filtering that uses a bed of activated carbon to remove contaminants and impurities, using chemical adsorption. Each particle/granule of carbon provides a large surface area, allowing contaminants the maximum possible exposure to the active sites within the filter media. One pound (450 g) of activated carbon contains a surface area of approximately 100 acres (40 Hectares). Activated carbon works via a process called adsorption, whereby pollutant molecules in the fluid (in this case, air) to be treated adhere to the



carbon substrate. Active charcoal carbon filters are most effective at removing chlorine, sediment, volatile organic compounds (VOCs), taste and odor from water and air. The odor causing molecules are physically removed from the air permanently, not masked with another odor.

The more porous the activated carbon, the better, as this will increase the amount of surface space available for contaminants to adhere to when air passes through the filter. The cultivation and process areas will operate under negative pressure, forcing the air through the activated carbon filters to achieve maximum effectiveness.

Employees will replace carbon filters per the manufacturer's instructions to ensure optimal performance. Juva Life has contemplated several vendors whose products meet the standards of their odor plan. Filtrete's carbon filters (or an equivalent) will be used for Juva Life's air exchange system.

Noise from HVAC fans

This process may require extra fans to maintain pressure in the system. Juva Life is prepared to take steps to reduce noise levels associated with extra fans. The selected fans are American Coolair, Model CBH54LE1231, size 54. Per the manufacturers specifications, these fans emit sound at 68 decibels (dB) five feet from the fan. The City of Hayward noise ordinance, Hayward Municipal Code, Sec 4-1.03.1 (b) Noise Restriction by decibel for commercial and industrial property noise limits, states that

"Except for commercial and industrial property abutting residential property, no person shall produce or allow to be produced by human voice, machine, device, or any other combination of same, on commercial or industrial property, a noise level at any point outside of the property plane that exceeds seventy (70) dBA. Commercial and industrial property that abuts residential property shall be subject to the residential property noise limits set forth in subsections (a)(1) and (2) above.

The residential ordinance does not apply as this facility is surrounded by industrial sites.

The noise emanating from the fans, at the building, is already below the 70 dBA requirement. Therefore, Juva Life will be in compliance with the noise ordinance for commercial property.

Negative Pressure

In addition to carbon filters, Juva Life will augment the facilities ventilation to create a negative pressure system. In-line scrubbers will be installed to ventilation ducting to help achieve Juva Life's goal. Several vendors such as Novair Air 2000 Scrubber and Aeroclean 2000 Econo 9143 may be used to achieve negative pressure within the building. Juva Life will consult with our chosen vendor to determine the number of air machines necessary to turn over air at an optimal and effective rate. Air scrubbers contain disposable air filters which Juva Life staff will replace according to the manufacturer's specifications.

Juva Life may increase the number of air exchanges in our facility. The average HVAC system in a cannabis business has an average of ten to eighteen air exchanges per hour. Juva Life will add portable UV-C systems of the appropriate size to increase air exchanges by approximately eight air exchanges per hour. Additional air exchanges increase the odor removal system as air



passes through the filters more often before being recirculated. Air exchanges also offer the added benefits of maintaining appropriate levels of humidity.

Insulation

Juva Life's facility is separated into a series of buildings, all of which are properly sealed and insulated. Juva Life will seal and insulate each individual room where odors are produced to limit air intake and maintain negative pressure. Sealed areas include, but are not limited to: packaging, manufacturing, grinding, extraction and post processing rooms. Employees will regularly inspect sealed rooms. In addition, employees will ensure mechanical and ventilation systems are up-to-date and operating properly.

High-pressure Fog

In the greenhouse, air is pulled through an intake vent and across crops. Air then exits through an exhaust vent at one end of the greenhouse. Juva Life will equip the external side of the exhaust vent with a high-pressure nozzle ring. Fog water is mixed with essential oils to produce an odor neutralizer. When fog is released to mix with the exhausting air, billions of micron-sized water droplets encapsulate all airborne molecules. A high-pressure fog system may also be placed inside of the greenhouse, mounted on exhaust fans. Fog systems require high pressure pumps, distribution lines, fog rings and injectors. Juva Life has chosen FogCo to supply its high-pressure fog system and Odor Armor to supply its essential oil blend.

Additional Solutions

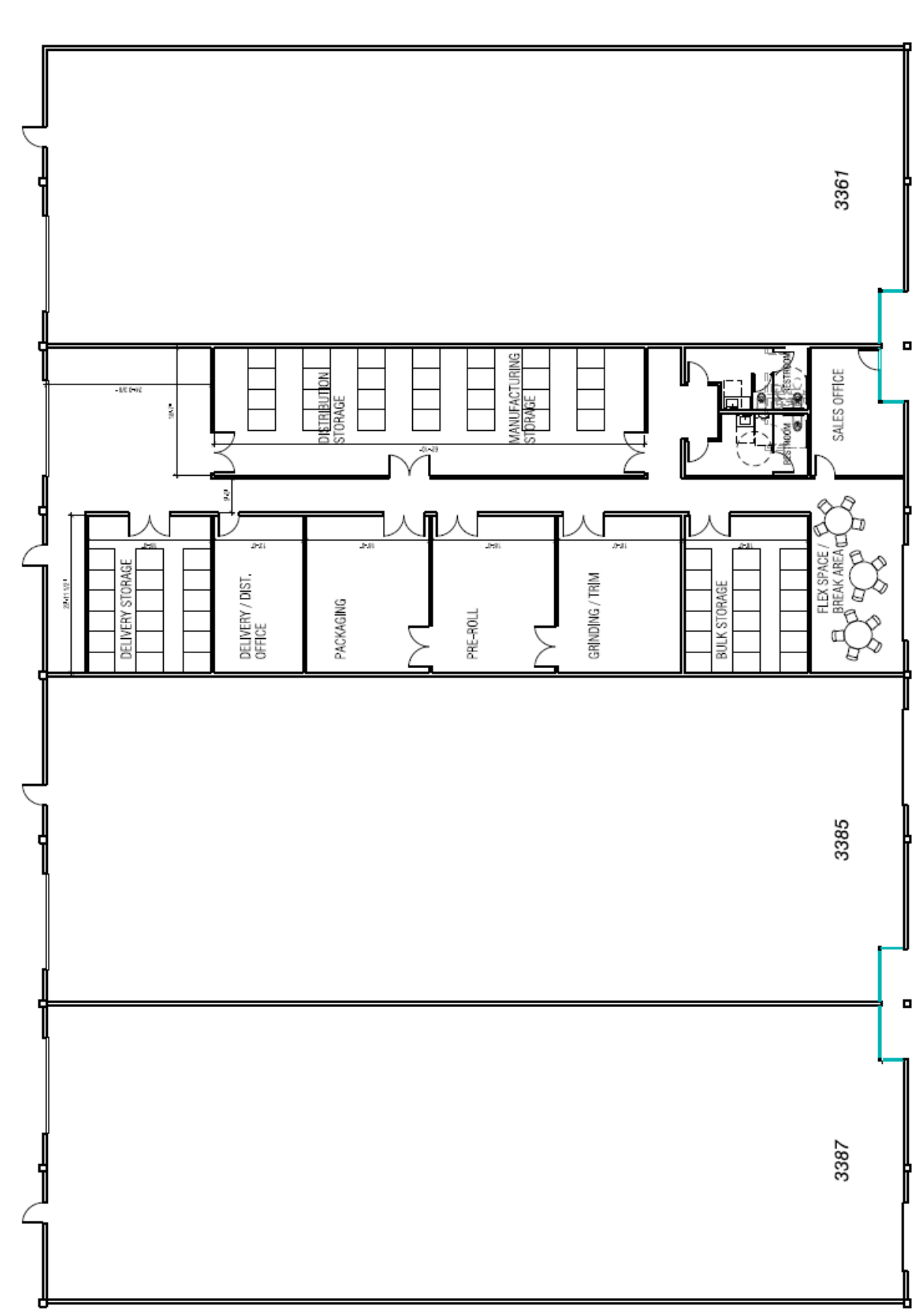
Juva Life may also place Ecosorb CNB 100 throughout the cannabis facility. The new formula does not require water for distribution. Juva Life may use hydroxyls to neutralize odors as a backup plan.

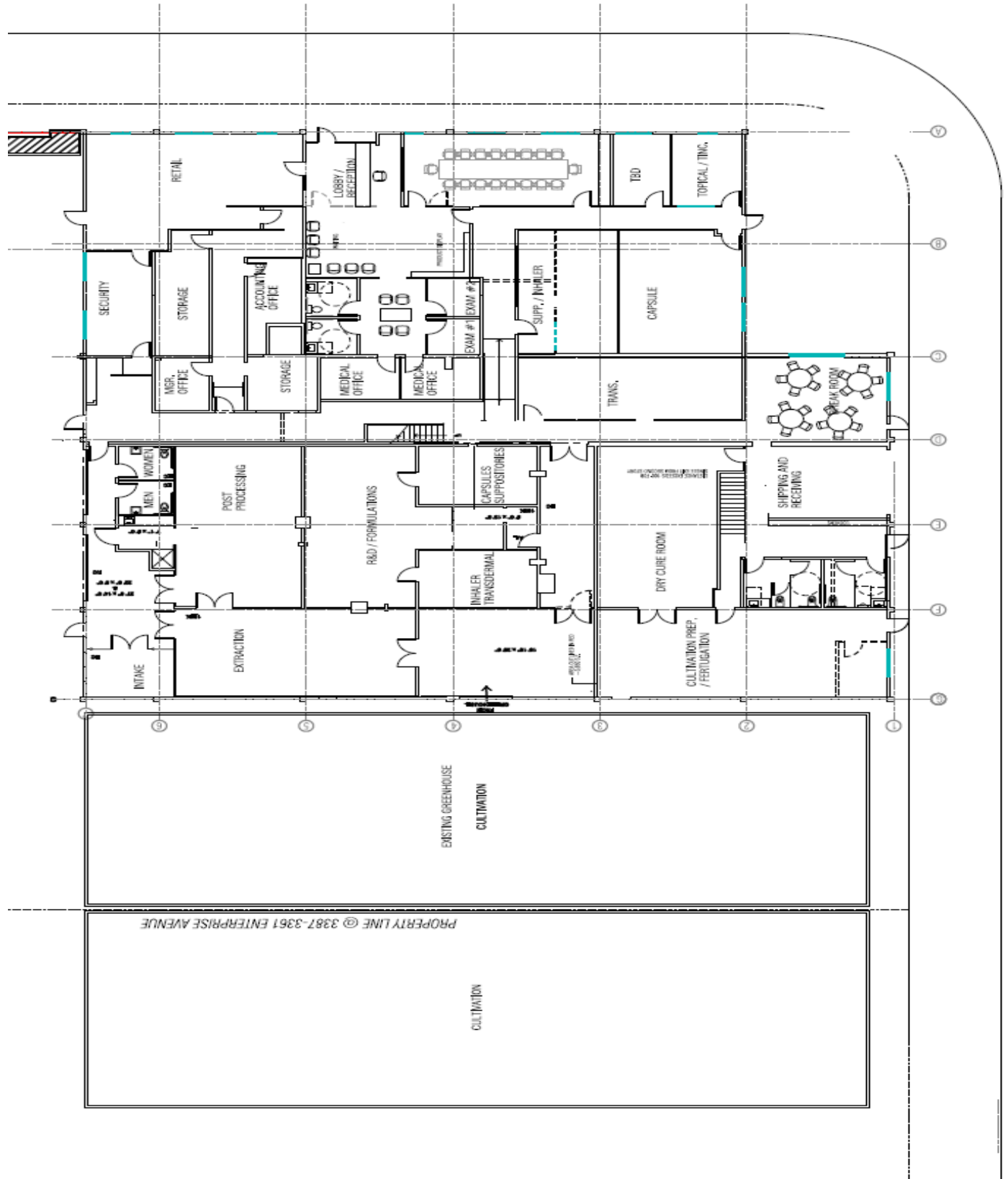
Juva Life believes these measures coupled with proactive maintenance will sufficiently eliminate odors that may emanate from the cannabis facility. In the unlikely event that these steps are not enough to mitigate odors, Juva Life is prepared to take additional action based on community and state recommendations.

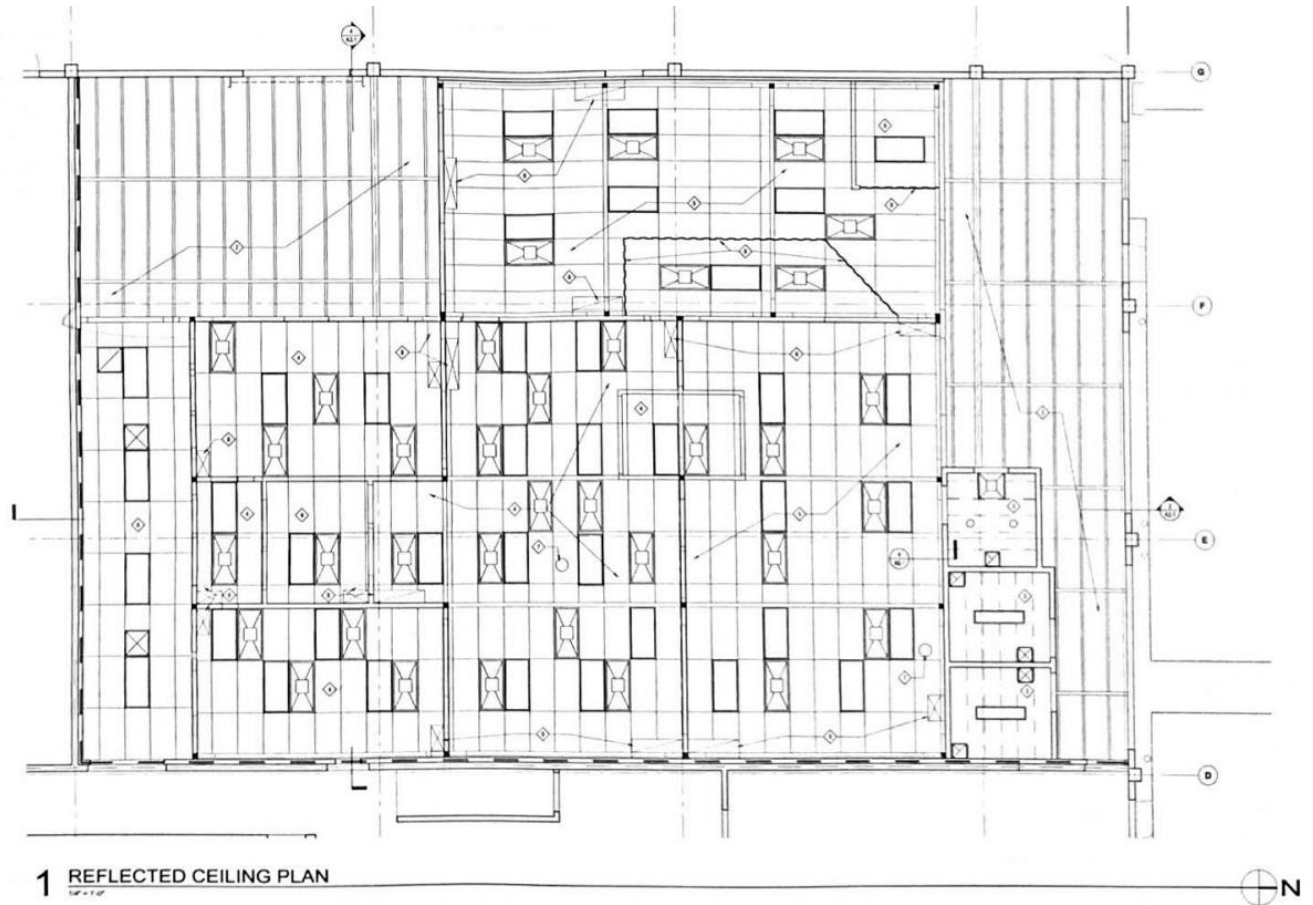
Government Documentation

In accordance with the state of California, Juva Life will provide its records upon request. Records will include but will not be limited to the original Odor Control Plan, any changes/updates to the Odor Control Plan, maintenance, malfunctions, installations, and community complaints. If any renovations or modifications are made to the cannabis facility that may modify the control of odor, Juva Life will submit an updated Odor Management Plan within 30 days of the modifications/renovation to the city of Hayward.

Facility Layout







REFLECTED CEILING PLAN KEY NOTES

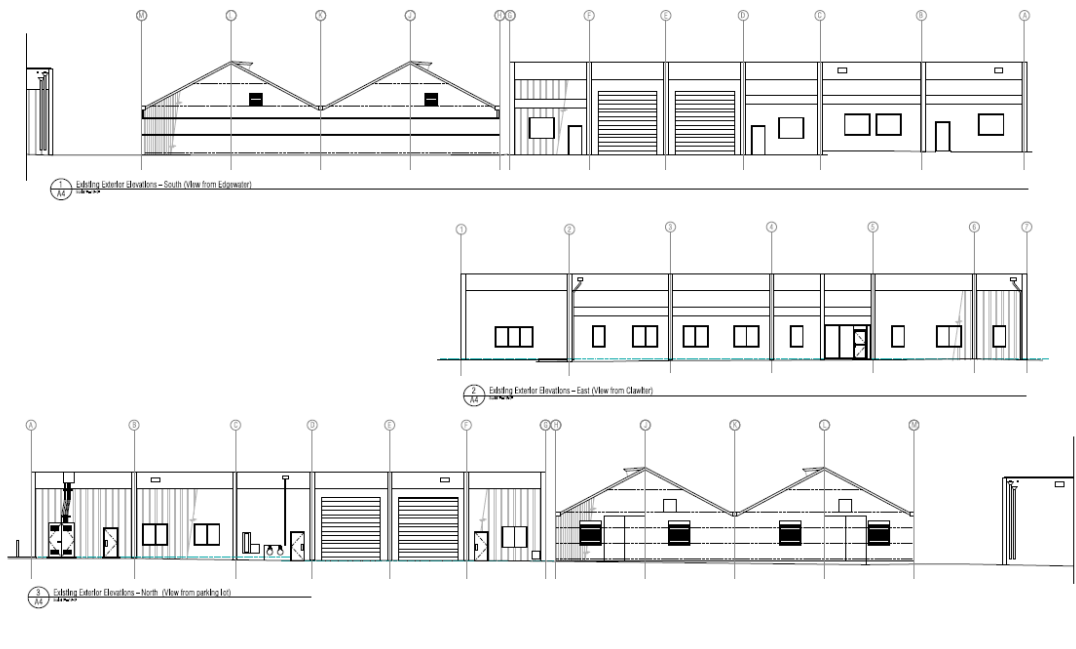
1. NO WORK THIS AREA
2. OPEN TO STRUCT ABOVE. SEE ELEC & MECH DRWG FOR FEATURES
3. (N) JOISTED GYP BD CLO @ 4'-0" AFF
4. (N) CLEANRM CLO SYSTEM @ 4'-0" AFF - SEE FLOWSTAR CLEANRM DRWG
5. (N) CLEANRM CLO SYSTEM @ 11'-0" AFF - SEE FLOWSTAR CLEANRM DRWG
6. (N) SUSPENDED LAY IN ACQUIS CLO @ 4'-0" AFF
7. (N) EXHAUST DUCT CONNECTION FOR HOOD - SEE MECHANICAL
8. (N) RETURN AIR CHASE - SEE FLOWSTAR CLEANRM & MECH DRWG
9. (N) VINYL SLAT CURTAIN TRACK ATTACHED TO CLEANRM CLO SYSTEM

REFLECTED CEILING PLAN NOTES

1. LIGHTS AND DIFFUSERS IN THE REFLECTED CEILING PLAN ARE SHOWN FOR LOCATION AND COORDINATION. SEE MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR QUANTITIES.
2. SEE SHEET A01 FOR CEILING DETAILS.
3. (N) 6" BATT INSULATION AT UNDERSIDE OF ROOF THROUGHOUT PROJECT AREA TO REMAIN. REPLACE INSULATION MISSING BATT'S DUE TO CONSTRUCTION ACTIVITIES.

REFLECTED CEILING PLAN LEGEND

- | | |
|--|-------------------------------------|
| | 2' x 4' FLUORESCENT LIGHT FIXTURE |
| | 2' x 2' FLUORESCENT FIXTURE |
| | RETURN DIFFUSER |
| | SUPPLY DIFFUSER |
| | SURFACE MOUNTED FLUORESCENT FIXTURE |
| | DOWNLIGHT |
| | 2' x 4' MFP-15 TRN |
| | FULL HEIGHT NON-RATED WALL |
| | FULL HEIGHT RATED WALL |
| | CEILING JOIST MARK @ 16' OC |



REFLECTED CEILING PLAN KEY NOTES

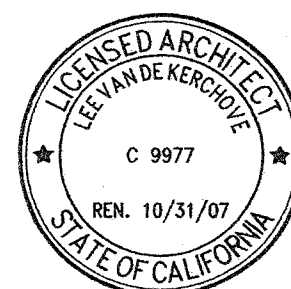
- 1 NO WORK THIS AREA
- 2 OPEN TO STRUCT ABOVE - SEE ELEC & MECH DWGS FOR FIXTURES
- 3 (N) JOISTED GYP BD CLG @ +9'-0" AFF
- 4 (N) CLEANRM CLG SYSTEM @ +9'-0" AFF - SEE FLOWSTAR CLEANRM DWGS
- 5 (N) CLEANRM CLG SYSTEM @ +15'-0" AFF - SEE FLOWSTAR CLEANRM DWGS
- 6 (N) SUSPENDED LAY-IN ACOUS CLG @ +9'-0" AFF
- 7 (N) EXHAUST DUCT CONNECTION FOR HOOD - SEE MECH DWGS
- 8 (N) RETURN AIR CHASE - SEE FLOWSTAR CLEANRM & MECH DWGS
- 9 (N) VINYL SLAT CURTAIN TRACK ATTACHED TO CLEANRM CLG SYSTEM
- 10 -
- 11 -

REFLECTED CEILING PLAN NOTES

- 1. LIGHTS AND DIFFUSERS IN THE REFLECTED CEILING PLAN ARE SHOWN FOR LOCATION AND COORDINATION. SEE MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR QUANTITIES.
- 2. SEE SHEET A6.1 FOR CEILING DETAILS.
- 3. (E) R-11 BATT INSULATION AT UNDERSIDE OF ROOF THROUGHOUT PROJECT AREA TO REMAIN - REPLACE/REPAIR ANY MISSING BATTS DUE TO CONSTRUCTION ACTIVITIES

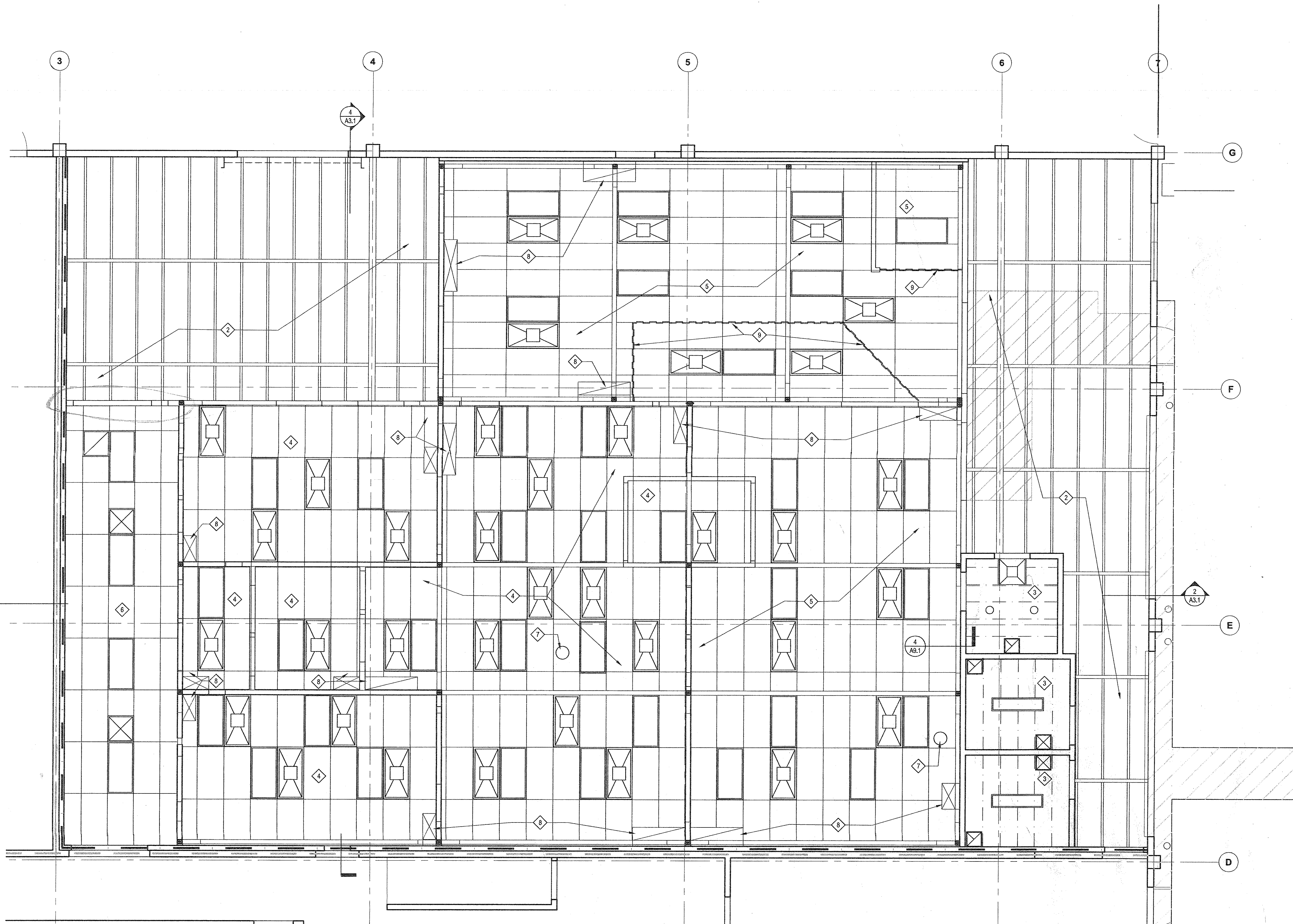
REFLECTED CEILING PLAN LEGEND

- 2' X 4' FLUORESCENT LIGHT FIXTURE
- 2' X 2' FLUORESCENT FIXTURE
- RETURN DIFFUSER
- SUPPLY DIFFUSER
- SURFACE MOUNTED FLUORESCENT FIXTURE
- DOWNLIGHT
- 2' X 4' HEPA FILTER
- FULL HEIGHT NON-RATED WALL
- FULL HEIGHT RATED WALL
- CEILING JOIST ABOVE @ 16" OC



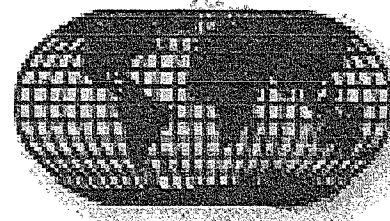
NOTES/REVISIONS

- 0 07.13.07 ISSUED FOR PERMIT
- 1 08.10.07 PLAN CHECK RESPONSE



1 REFLECTED CEILING PLAN
1/4" = 1'-0"

PROJECT
Planet Biotechnology, Inc.
25571 Clawlter Road, Hayward, CA 94545



CLINICAL
MANUFACTURING SUITE

REFLECTED CEILING PLAN

DATE 08/29/07 JOB NO. 0705
SCALE AS SHOWN DRAWN BY CS
SHEET NO.

A6.1