

City of Santa Rosa

June 1/2022

**Planning & Economic
Development Department**

ODOR MITIGATION PLAN

ROSELAND ENTERPRISES, LLC

..... A CANNABIS CULTIVATION FACILITY

460 TIMOTHY ROAD

SANTA ROSA, CA 95407

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FACILITY INFORMATION

Name of facility:

Roseland Enterprises, LLC

Name, phone number, and email of facility owner:

Name: Sam Mac

Phone: (415) 517-9548

Email: sambmac@yahoo.com

Name, phone number, and email of facility operator or licensee, and any authorized designees:

Same as above.

Facility physical address:

460 Timothy Road

Santa Rosa, CA 95407

Facility mailing address (if different than physical address):

Same as above.

Facility type:

Cannabis Cultivation Facility

Facility hours of operation:

24 hours per day, 7 days per week.

Description of facility operations:

Roseland Enterprises, LLC is a cannabis cultivation facility that will produce product and process to seal-packaged odor proof quantities for the distributor, which shall reduce the possibility of odor-emitting activities. In the event that a cannabis product package is opened accidentally, the commercial cannabis cultivation facility will have an adequate odor mitigation design and equipment selections to prevent any odor from escaping the premises or causing a nuisance to the adjacent buildings and/or the neighborhood.

Locations within the proposed commercial cannabis indoor cultivation facility where potential cannabis odor-emissions could be present are the following:

- All Grow Rooms & Adjacent Corridors
- Dry, Trim & Packaging Rooms & Adjacent Corridors

These rooms shall have a carbon air filter/scrubber in constant operation within these zones. Due to the minor, yet, possible chance of cannabis odor drafting into adjacent zones, such as the Break Room or Offices, the mechanical design of the HVAC for the proposed tenant improvements shall include negative air pressure in all zones within the commercial cannabis indoor cultivation operation for redundancy with the odor mitigation equipment. All exhaust air shall be filtered prior to being exhausted to atmosphere and shall terminate no less than 10 feet from the adjacent buildings and/or property lines. Since the Distribution warehouse is an open space, the entire warehouse will be treated for odor mitigation as well.

Emergency contact information:

Name: Sam Mac

Phone: (415) 517-9548

Email: sambmac@yahoo.com

Business license application number(s) and/or business file number(s) (if applicable):

Air permit and permit number (if applicable)

SUMMARY OF ODOR MITIGATION REQUIREMENTS

City of Santa Rosa

Ordinance ORD-2017-025

20-46.050 General Operational Requirements

Page 24, Section H Odor Control

H. Cannabis Businesses shall incorporate and maintain adequate odor control measures such that the odors of Cannabis cannot be detected from outside of the structure in which the Business operates. Applications for Cannabis Businesses shall include an odor mitigation plan certified by a licensed professional engineer that includes the following:

1. Operational processes and maintenance plan, including activities undertaken to ensure the odor mitigation system remains functional;
2. Staff training procedures; and
3. Engineering controls, which may include carbon filtration or other methods of air cleansing, and evidence that such controls are sufficient to effectively mitigate odors from all odor sources. All odor mitigation systems and plans submitted pursuant to this subsection shall be consistent with accepted and best available industry - specific technologies designed to effectively mitigate cannabis odors.

OVERVIEW OF TERPENES & CANNABIS COMPOUNDS

Terpenes (pronounced tur-peens) are produced during the marijuana growing process. These terpenes are what are responsible for the strong and pungent odor associated with growing cannabis, dried cannabis, stored cannabis and smoked cannabis. In fact, the heated or vaporized smoke of cannabis contains up to 50% terpenes. Terpenes are actually found in many of the things we enjoy every day such as the aromas and flavors of beers, perfumes, fruits, and candy. Though they are not the same terpenes as those found in cannabis, they are part of the same class of organic compounds. It is due to these terpenes that many cannabis growing operations require odor filters on any air exhausted from their building to avoid drawing the ire of local residences or businesses.

Filtration of these terpenes can be best achieved with activated carbon odor filters. Activated carbon is a well-known material with a high degree of micro porosity giving it excellent adsorption properties due to its very large surface area. In fact, just one gram of activated carbon has a surface area in excess of 5,300 square feet, or a one-foot wide strip that stretches for over a mile.

Odor-Emitting Zones & Activity(ies)

The following are the locations of odor-emitting activities and the emission source(s):

1. **Cultivation Areas** – Cannabis is grown in this area and due to this, significant odors will be present. This area is considered an odor-emitting zone and engineered for odor mitigation via negative pressure with carbon filtration and backdraft dampers in relation to the adjacent rooms or zones.
2. **Dry Room** – This area will have hung drying cannabis that will produce significant odor. This area is considered an odor-emitting zone and engineered for odor mitigation via negative pressure with carbon filtration and backdraft dampers in relation to the adjacent rooms or zones.
3. **Trim & Packaging** – Cannabis products are processed, properly weighed and recorded and packaged for preparation of distribution within this area. Cannabis odors will be present in this zone as the cannabis being processed releases terpenes. Packaging will require the finished cannabis product to be placed into sealed odor proof containers. This zone is engineered for odor mitigation via negative pressure with carbon filtration and backdraft dampers in relation to the adjacent rooms or zones.
4. **Manufacturing** – Cannabis will be processed and post processed in this area. During this process, cannabis odors will be present and will release terpenes, therefore this area is considered an odor-emitting zone. This area will be engineered for odor mitigation via negative pressure with carbon filtration and backdraft dampers in relation to the adjacent rooms or zones.
5. **Break Room** – No cannabis products shall be present within this area. Employees may have some residual cannabis plant resins that cause some odors on their garments. Due to this, this zone is engineered for odor mitigation via negative pressure with carbon filtration and backdraft dampers in relation to the adjacent rooms or zones.
6. **Security Room** – This area contains neither cannabis products nor employees causing cannabis odor emissions. Due to the lobby area sharing the adjacent corridors, this zone will be engineered for negative pressure in relation to the adjacent zone.

Duration of Odor-Emitting Activities

All of the above stated zones within this Cannabis Cultivation Facility are occupied daily as there is continuous supply and demand of finished cannabis products. The odor mitigation ventilation system shall be in operation at all times to eliminate the risk of cannabis odors escaping the facility.

ODOR MITIGATION PRACTICES

ADMINISTRATION CONTROLS

Procedural Activities

All zones within the above stated zones contain cannabis odors at any given time. It shall be a consideration in the policies and procedures to isolate the odor-emitting activities by closing doors between zones. The facility will be engineered for odor mitigation via negative air pressure with carbon filtration and backdraft dampers so that adjacent rooms will not cross contaminate nor emit odorous air into non-odorous zones.

Staff Training Procedures

All personnel shall be properly trained by the Operations Manager about odor control and standard operating procedures within the facility. Management shall inform the personnel about the odor mitigation equipment, how it properly functions and its intended purpose, how to routinely maintain the equipment, and protocols for replacement of the consumable products/equipment (i.e. carbon filters).

Every new employee shall read the facility standard operating procedures (SOP) and execute the employee handbook agreement. In addition to reading the documentation, there shall be a 60 minute in-person training with all staff members to explain the importance of the facility compliance with the local and state regulations, procedures of closing doors between odor-emitting zones, and procedures for equipment maintenance and routine replacements. Annual training sessions shall take place to ensure all personnel have the latest odor mitigation equipment maintenance procedures.

All compliance issues or complaint shall be directly to the Operations Manager only.

Recordkeeping Systems and Forms

Records shall be kept by the Operations Manager that reflects the purchase history of all equipment in the facility. The record shall be required to be kept updated with the replacement carbon filter purchases and date of installation. The recordkeeping system shall maintain production personnel's routine maintenance checks and any issues discovered that deem equipment to be defective or malfunctioning.

Once a new employee has read the standard operating procedures (SOP) and facility's employee handbook, the date shall be recorded in the database for scheduling annual training sessions.

ENGINEERING CONTROLS

Overview

The best control technology for cannabis cultivation facilities is carbon filtration with air pressure designed for negative in comparison to adjacent zones. In addition to the carbon filtration, there shall be pre-filters installed on the intake air supply in effort to extend the life of the carbon and to increase surface contact time for best odor adsorption. Backdraft dampers are installed on the intake and exhaust duct to be set to the normally closed position to reduce the risk of odorous air drafting backwards through the ducts in the event of facility power outage. The climate within the facility shall be maintained for precise relative humidity control in efforts to extend the life of the carbon filters. Moist activated carbon filters cause increased static pressure, reduce airflow, and air channeling of odorous air escaping without sufficient contact with the carbon.

A. For Existing facilities with engineering controls for all odor sources on the date of rule adoption:

1. Provide evidence that engineering controls for all odor sources were installed and operational on the date of rule adoption.
2. Engineering controls are sufficient to effectively mitigate odors for all odor sources. Include evidence that Engineering Controls meet at least one of the following:
 - a. *Are consistent with accepted and available industry-specific best control technologies designed to effectively mitigate odors for all odor sources.*
 - b. *Have been reviewed and certified by a Professional Engineer or a Certified Industrial Hygienist as sufficient to effectively mitigate odors for all odor sources.*
 - c. *Have been approved by the Department as sufficient to effectively mitigate odors for all odor sources.*

COMPONENTS OF ENGINEERING CONTROLS

System Design

The proposed negative pressure ventilation system in all odor-emitting areas is designated on the above floor plan to provide the minimum occupancy ventilation requirements of .15 CFM per square foot (per OSHA/Title 24). In these areas, marked as ODOR, an activated carbon filter will be applied to all exhaust ventilation systems to comply with the odor mitigation requirements. Filtered intake air will be passively brought into the rooms and supplied with a backdraft damper when exhaust system is powered off.

The system will include exhaust fans rated for increased static pressure due to activated carbon filters, hazardous duty exhaust fans if needed for solvents, carbon filter banks, cylinder carbon filters, polyester pre-filters, MERV 13/14 pre-filters, backdraft dampers, variable frequency drives (VFD) to control fan speed, and differential pressure transducers to maintain air pressure in adjacent zones.

As stated above, the facility shall maintain negative air pressure. In the event of an emergency (i.e. high CO2 levels), the exhaust system shall engage a high fan speed setting and exchange the air completely until manually reset.

Operational Processes

Personnel shall be trained and informed about the odor mitigation equipment, how it properly functions, and its intended purpose in the facility. Personnel will be required to know what all components do and how to explore all settings on the central facility controller.

Daily protocol is to inspect the odor mitigation equipment to ensure it is functioning properly and to inform the Operations Manager of any potential issues. All doors shall remain closed at all times to reduce the risk of cross contamination and to maintain negative air pressure and prevent the drafting of odors between zones.

Maintenance Plan

Personnel shall be trained and informed how the odor mitigation equipment is engineered, how it's intended to function, how to routinely maintain the equipment for prevention, and the protocols for replacement of the consumable equipment (i.e. pre-filters, carbon filters).

Once equipment has been installed, the personnel shall record the date and activity in the database to properly schedule routine preventative maintenance programs. Assuming the relative humidity is maintained, the pre-filters shall be replaced at least twice per year and carbon filters replaced annually. Replacing these filters may be replaced more frequently at the discretion of the Operations Manager.

Implementation Timeline

The timeline should begin upon receipt of approval from the Department, and should include a comprehensive timeline for the design, review process, installation, and operation of the various odor mitigation practices outlined in Section 4 of the Odor Control Plan. In general, a timeline should consist of, but is not limited to, the following:

- i. Approval of OCP by the Department
- ii. Approval of OCP by other City agencies
- iii. Purchase and installation of engineering controls
- iv. Inspections and approval by City agencies

Complaint Tracking System

In the event that the facility receives a complaint about odor, the following protocol shall be taken:

- i. Personnel to inform the Operations Manager to record into database.
- ii. Operations Manager informs the Facility Manager or Owner
- iii. Personnel initially investigates the problem by checking odor mitigation equipment and ensure it is functioning properly. If malfunctioning, replace the equipment immediately.
- iv. Personnel checks the differential pressure transducers to ensure facility is maintaining negative air pressure in all zones.
- v. Personnel checks lifespan on the carbon filter banks and/or cylinder carbon filters. Replace filters if the lifespan has expired.
- vi. Operations Manager checks the trend log on the climate control system for high relative humidity issues that may have caused carbon filters to fail. Replace filters if the relative humidity sustained high levels and odor nuisance continues.
- vii. Increasing the regularity of maintenance on preventative maintenance schedule.
- viii. Inform neighbors and/or affected party that issue has been resolved and scheduled to not occur in the future. Provide a direct contact phone number and email to the Operations Manager in the event of future complaints.

APPENDICES

- a. Recordkeeping forms from Section 4.a.iii.
- b. Odor complaint and response tracking form from Section 4.

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