

# **ODOR CONTROL PLAN SUBMITTAL REQUIREMENTS**

Applicants for a Cannabis Use permit must submit an Odor Control Plan, pursuant to CLUO Section 8-2.1408(DD), as part of a complete application submittal. To enable the County to efficiently evaluate the application, it is important that applicants follow the required format described below. The below Odor Control Plan contents are required at a minimum. Applicants may provide additional information (above and beyond the below requirements) as needed. ***Odor Control Plans that do not conform to the prescribed format and minimum content requirements will not be accepted.***

## **What sections do I need to complete?**

- Indoor/Mixed Light AND Outdoor Cannabis Uses: Complete All Sections (1-8)
- Indoor/Mixed Light ONLY: Complete Sections 1-5 and 8
- Outdoor ONLY: Complete Sections 1-3, and 6-8

## **\*\*IMPORTANT- PLEASE NOTE\*\***

- The Odor Control Plan must be certified by a Professional Engineer, Qualified Odor Professional, or Certified Industrial Hygienist. Per CLUO Section 8-2.1403(Y), a Qualified Odor Professional is “an individual or firm accepted by the Director as having expert qualifications in the analysis and control of odor, particularly cannabis odor. Expertise should include knowledge of the science of odors and odor control/abatement, experience with odor control technologies, and experience monitoring, modeling, and/or regulating odor.” A list of Qualified Odor Professionals can be obtained by contacting the Yolo County Planning Division.
- Please pay special attention to the calculations for number of carbon filters per cubic feet for each room and provide the calculations per room (as shown on your facility floor plan) as requested under section 5(b)(iii)(A).

## **ODOR CONTROL PLAN CONTENTS**

1. **COVER PAGE** (Clearly indicate this is an Odor Control Plan for [name of facility], Submitted by [name of applicant/owner])
2. **TABLE OF CONTENTS**
3. **FACILITY INFORMATION**
  - a. Name of facility (LLC and dba)
  - b. Name, phone number, and email of facility owner/licensee
  - c. Name, phone number, and email of facility manager, and any authorized keyholders
  - d. Facility physical address
  - e. Facility mailing address (if different from physical address)
  - f. Facility type (cultivation, nursery, processing, manufacturing, distribution, testing/lab, microbusiness, retail)
  - g. Facility hours of operation (specify for each cannabis use type)
  - h. Description of facility operations (specify for each cannabis use type)
  - i. Emergency contact information (if different from b and c, above)
  - j. County Cannabis Business License number(s)

#### 4. INDOOR/MIXED LIGHT FACILITY ODOR EMISSIONS INFORMATION

**a. Facility floor plan**

This section shall include a facility floor plan, with locations of odor-emitting activity(ies) and emissions specified. Relevant information may include, but is not limited to, the location of doors, windows, ventilation systems, and odor sources.

**b. Specific odor-emitting activity(ies)**

This section shall identify and describe the odor-emitting activities or processes (e.g., harvesting) that take place at the facility, the source(s) (e.g., budding plants) of those odors, the nature and characteristics of emissions (e.g., description of odor- what does it smell like), and reference the location(s) from which they are emitted (e.g., flowering room) on the floor plan.

**c. Phases (timing, length, etc.) of odor-emitting activities**

This section shall describe the phases of the odor-emitting activities that take place at the facility (e.g., harvesting), the seasonal nature of odor-emitting activities (e.g., when the strains you plant will produce noticeable odor and when in the plant growth cycles [what months] odor is expected to occur), with what frequency they take place (e.g., every two weeks on Tuesdays), the times of day that they take place (e.g. each Wednesday from 5AM to 7AM), and how long they last (e.g.,48 hours).

#### 5. INDOOR/MIXED LIGHT ODOR MITIGATION PRACTICES

(Based on industry-specific best control technologies and best management practices)

The allowable threshold for cannabis odors from all cannabis uses is defined as a dilution-to-threshold (D/T) ratio of less than seven parts clean or filtered air to one-part odorous air (7:1) at the property line of the site. For each odor-emitting source/process outlined in Section 5(b) of the Odor Control Plan, specify the administrative and engineering controls the facility implements or will implement to control odors to the allowable standard of <7:1 D/T. Descriptions of 'administrative controls' and 'engineering controls' shall include, but are not limited to, the following sections:

**a. Administrative Controls**

**i. Procedural activities**

This section shall describe activities such as building management responsibilities (e.g., isolating odor-emitting activities from other areas of the buildings through closing doors and windows).

**ii. Staff training procedures**

This section shall describe the organizational responsibility(ies) and the role/title(s) of the staff members who will be trained about odor control; the specific administrative and engineering activities that the training will encompass; and the frequency, duration, and format of the training (e.g., 60 minutes in-person training of X staff, including the importance of closing doors and windows and ensuring exhaust and filtration systems are running as required).

**iii. Recordkeeping systems and forms**

This section shall include a description of the records that will be maintained (e.g., records of purchases of replacement carbon, performed maintenance tracking, documentation and notification of malfunctions, scheduled and performed training sessions, and monitoring of administrative and engineering controls). Any examples of facility recordkeeping forms should be included as appendices to the Odor Control Plan.

**b. Engineering Controls**

**i. Methods, procedures, and engineering controls for reducing/controlling odors**

This section shall include the methods, procedures, and engineering controls for reducing/controlling odors. If necessary to ensure compliance with the standard of <7:1 D/T, indoor and mixed light uses must install and maintain the following: an air exhaust filtration system with odor control that effectively minimizes internal odors from being emitted externally; and air system that creates negative air pressure between the facility's interior and exterior so that odors outside the facility will be less than 7:1 D/T; or other odor control system/methods which effectively minimizes odor to a level compliant with the standard of < 7:1 D/T. The best control technology for cannabis cultivation facilities is carbon filtration. Facilities equipped with alternative engineering controls for odor sources shall provide evidence that engineering controls are sufficient to effectively mitigate odors for all odor sources.

**ii. Certification by a Professional Engineer, Certified Industrial Hygienist, or Qualified Odor Professional**

This section shall include certification by a Professional Engineer, Certified Industrial Hygienist, or Qualified Odor Professional that:

- A) The methods, procedures, and engineering controls proposed to control cannabis odors are consistent with accepted/available industry-specific best control technologies and methods designed to abate odor; and
- B) Will be effective in abating cannabis odors to the required standard of < 7:1 D/T at the property line of the site.

**iii. Components of engineering controls**

This section shall include, but is not limited to, technical system design, a description of technical process(es), and an equipment maintenance plan.

**A) System design**

The system design shall describe in detail the odor control technologies that are installed and operational at the facility (e.g., carbon filtration) and to which odor-emitting activities, sources, and locations they are applied (e.g., bud room exhaust). The description shall include installation, maintenance, calculations of number of carbon filters per cubic feet per room and use documents from the equipment manufacturer. The CFM calculator at the following link may be useful in determining your system design:

<https://www.phreshfilter.com/tools/cfm-calculator>

Otherwise, you may need the assistance of a mechanical engineer but must fully answer each section.

**B) Operational processes**

This section shall describe the activities being undertaken to ensure the odor mitigation system remains functional, the frequency with which such activities are performed, and the role/title(s) of the personnel responsible for such activities (e.g., when trimming activities are conducted, X personnel are responsible for isolating the trim room from non-odorous areas of the facility and for ensuring the exhaust system is operational and routed through odor mitigation systems).

**C) Maintenance plan**

The maintenance plan shall include a description of the maintenance activities that are performed, the frequency with which such activities are performed, and the role/title(s) of the personnel responsible for maintenance activities. The activities shall serve to maintain the odor mitigation systems and optimize performance (e.g., change carbon filter, every 6 months, carried out by the facility manager).

**6. OUTDOOR ODOR EMISSIONS INFORMATION**

**a. Facility Site Plan**

This section shall include a site plan showing all property lines, buildings/structures, and cannabis uses on-site. The site plan shall clearly describe and label outdoor cannabis uses (including hoop houses), including canopy area and square footage of designated outdoor cannabis footprint.

**b. Specific odor-emitting activity(ies)**

This section shall identify and describe the odor-emitting activities or processes (e.g., cultivation) that take place at the facility, the source(s) (e.g., budding plants) of those odors, the nature and characteristics of emissions (e.g., description of odor- what does it smell like), and reference to the location(s) from which they are emitted (e.g., canopy area).

**c. Phases (timing, length, etc.) of odor-emitting activities**

This section shall describe the phases of the odor-emitting activities that take place at the facility (e.g., harvesting), the seasonal nature of odor-emitting activities (e.g., when the strains you plant will produce noticeable odor and when in the plant growth cycles [what months] odor is expected to occur), with what frequency they take place (e.g., every two weeks on Tuesdays), the times of day that they take place (e.g. each Wednesday from 5AM to 7AM), and how long they last (e.g.,48 hours).

**7. OUTDOOR ODOR MITIGATION PRACTICES**

The allowable threshold for cannabis odors from all cannabis uses, including outdoor cultivation and ancillary cannabis uses, is defined as a dilution-to-threshold (D/T) ratio of less than seven parts clean or filtered air to one-part odorous air (7:1) at the property line of the site.

**a. Methods and procedures for reducing/controlling odors**

i. This section shall describe the methods and procedures for reducing/controlling odors for outdoor cannabis uses, and shall demonstrate that the preparer has reviewed industry-specific best control technologies and methods when deciding upon their control method(s). Methods and procedures for reducing/controlling odors may include, but are not limited to:

- A) Different plan strains (citrusy instead of skunky)
- B) Smaller cultivation areas
- C) Relocation of outdoor activities indoors or in a mixed light facility
- D) Use of site design or other technology
- E) Use of vegetative barriers
- F) Use of odor mitigating crops
- G) Other methods proven to be effective and accepted by the County

**b. Certification by a Professional Engineer, Certified Industrial Hygienist, or Qualified Odor Professional**

- i. This section shall include certification by a Professional Engineer, Certified Industrial Hygienist, or Qualified Odor Professional
  - A) The methods and procedures proposed to control outdoor cannabis odors are consistent with the accepted/available industry-specific best control technologies and methods designed to abate odor; and
  - B) Will be effective in abating cannabis odors to the required standard of <7:1 D/T at the property line of the site.

**8. WIND PATTERN EVALUATION**

This section shall include a wind pattern evaluation utilizing wind roses (a circular display of the frequency of wind coming from specific directions over a specified period of time). A minimum of one year of data is recommended to understand the general wind patterns in the area. If one year of data is not available, provide justification for from a Professional Engineer, Certified Industrial Hygienist, or Qualified Odor Professional. The wind pattern evaluation shall identify sensitive land uses (as defined in Yolo County Code Section 8-2.1408(E)) located within 2,000 feet downwind of the proposed cannabis use(s) and potentially affected by nuisance odor for a predominant period of time based on the wind frequency.

Wind roses are a graphical depiction of surface wind conditions. They quickly indicate the dominant wind directions and the direction of the strongest wind speeds. The location of the petals on the graph show the frequency of time wind is blowing from each direction. The length/coloring on the petals show the wind speed. Calm winds (less than some value, i.e., 2 mph) are typically noted in the center as a percentage of time.

Wind roses can be obtained from reputable websites, such as ([https://mesonet.agron.iastate.edu/sites/windrose.phtml?station=SAC&network=CA\\_ASOS](https://mesonet.agron.iastate.edu/sites/windrose.phtml?station=SAC&network=CA_ASOS)) or generated in Excel if wind speed and directional degrees (noting whether it is blowing to/from), are available for a period of time (i.e., hourly readings for each hour of the day for a month). Some considerations when selecting a surface meteorological data station is whether the location is close in proximity to the site and if the surface characteristics (i.e., forest, field, commercial property, residential, water bodies, etc.) are similar. Also selecting a station with quality control practices is important. The above linked website includes surface data for airports which typically produce good quality data.