



# City of Grover Beach Building Division

## Fire & Life Safety Requirements

### CANNABIS MANUFACTURING, LABORATORY, AND CULTIVATION FACILITIES

**154 South Eighth Street - Grover Beach, CA 93433 – Phone (805) 473-4520 - [www.groverbeach.org](http://www.groverbeach.org)**

This handout outlines fire and life safety requirements for cannabis manufacturing, laboratory, and cultivation facilities. Other than discretionary or voluntary compliance as allowed within these regulations, applicants for Commercial Cannabis Permits will be required to comply with these regulations. For questions regarding these regulations, please contact the Five Cities Fire Authority at 805-473-5490.

#### **AUTHORITY**

Codes and standards regulating cannabis facilities currently adopted by the City of Grover Beach include, but are not limited to:

- California Building Code
- California Electrical Code
- California Mechanical Code
- California Occupational Health and Safety Regulations
- California Plumbing Code
- California Energy Code
- California Existing Building Code
- California Green Building Standards Code
- California Fire Code
- California Health and Safety Code
- National Fire Protection Association Standards
- City of Grover Beach Municipal Code

#### **USE OF CERTIFIED INDUSTRIAL HYGIENIST OR LICENSED PROFESSIONAL ENGINEER**

- For manufacturing and laboratory businesses, the use of either a Certified Industrial Hygienist (CIH) certified by the American Board of Industrial Hygiene or a Licensed Professional Engineer (PE) licensed through the State of California Department of Consumer Affairs (Mechanical or Electrical) is required as defined in this document.
- The Licensed Professional Engineer or Certified Industrial Hygienist of record will be required to be physically present for an annual business inspection.

#### **MANUFACTURING OPERATION REQUIREMENTS**

Applicants submitting an application for Manufacturing Operations shall meet the following requirements:

- The (CIH) or PE shall provide a detailed report for the specific facility. The CIH/PE shall provide their “wet stamp” approval on the detailed report. The CIH/PE shall identify hazards, engineering and administrative controls necessary to control hazards, specifications for ventilation controls for extracting cannabinoids from cannabis plant products with flammable solvents and under pressure using CO<sub>2</sub> and liquefied petroleum gas (LPG) flammable solvents. The scope of the stamped report shall include:
  - Process and operations.
  - Extraction and manufacturing equipment.
  - Hazards of processes and operations.
  - List the types and quantities of anticipated hazardous materials by hazard class.
  - Engineering and administrative controls to mitigate hazards.
  - Ventilation controls.
  - Potential employee exposure to chemical substances and plan to maintain compliance with Cal OSHA limits.

- Personal Protective Equipment (PPE).
  - Training plan/documentation related to PPE.
  - Odor control or odor management plan.
  - Warning sign types and locations.
  - Need for atmospheric monitoring equipment, type and location.
  - Calculations and basis for engineering controls.
  - List of specific recommendations to implement controls.
  - Clearly posted signage prohibiting employees from performing any manufacturing processes if under the influence of alcohol, cannabis, illegal drugs or other prescription medicines.
- The CIH/PE retained to provide the report shall be required to perform an on-site inspection of the facility to verify compliance with the requirements identified in the report prior to approval to begin operations and final occupancy.
  - Any “Research and Development” or “Trials” involving processes, equipment and solvents that differ from those identified in the approved CIH/PE report of record requires notification of the Five Cities Fire Authority prior to the commencement of such activity. Any approved change shall trigger a revised CIH/PE review and report to reflect all modifications to process and equipment.
  - A hazardous materials management plan shall be completed that includes:
    - List of specific recommendations to implement controls.
    - Identification of hazard classes.
    - Quantities.
    - Location of materials.
    - Determination of storage plan.
    - Plans showing materials locations in facility.
    - All containment specifications for all gases.
    - Occupancy classification; if mixed occupancies provide required separation.
  - In cases where the concentrations of flammable vapors and gases may be in excess of 25% of the lower flammability limit, the facility design shall be in compliance with requirements to mitigate the potential for explosion or fire.
  - Only closed-loop type extraction equipment shall be permitted.
  - Extraction equipment either employing a flammable liquid or compressed (liquefied gas) shall be conducted in an industry standard closed-loop system. The system shall be commercially manufactured, safe for its intended use, bear a permanently affixed and visible serial number, and built to codes and/or practices of generally accepted best engineering practices consistent with:
    - The American Society of Mechanical Engineers (ASME).
    - American National Standards Institute (ANSI).
    - Underwriters Laboratories (UL).
    - The American Society for Testing and Materials (ASTM).
- The certification document shall contain the signature and stamp of a professional engineer and the serial number of the extraction unit being certified.
- Only extraction equipment that includes an owner’s operation manual with specific instructions regarding proper use of the equipment and safety provisions identified shall be used.
  - Standard operating procedures (SOP’s) for all major equipment operations shall be provided, including:
    - Start Up
    - Shut Down
    - Setup
    - Emergency situations
  - Refrigerated storage or processing of flammable liquids including oil-laden with flammable liquids shall only use refrigerators/freezers rated to store flammable liquids. At a minimum, “lab safe” or “flammable safe” products shall be utilized.

- Equipment exhaust from vacuum pumps, ovens or any other equipment that may contain solvent vapors or products of combustion created when cannabis products are heated or processed shall be conveyed by an appropriate exhaust system to the outside of the building. Note: general dilution ventilation is not acceptable.
- Any compressed gases used in the manufacturing process shall not be stored in containers that exceed 150 pound tanks in size and shall be industry conforming. Reference storage requirements.
- Ethanol used in the manufacturing process shall not be stored in containers that exceed 55-gallon drum size. Reference storage requirements on Page 6.
- Equipment exhaust discharge shall be at least ten feet from any fresh air intakes.
- Equipment exhaust discharge shall be at least 25 feet from property lines.
- Extraction Room:
  - If flammable liquids are utilized, extraction shall be performed within properly fire rated enclosed room based on the appropriate occupancy classification.
  - Shall have smooth cleanable surfaces, with cleanable painted surfaces and a sealed floor
  - Signage shall be posted to limit ignition sources and prohibit any open flames.
- Spent plant material shall either be composted or mixed with compost, shredded paper or similar products to render it unrecognizable. The ground material shall be blended with a non-cannabis material so that the resulting mixture is at least 50% non-cannabis product by volume.
- Storage and transport of intermediate or finished cannabis extraction shall be in sealed containers that will provide protection against physical, chemical and microbial contamination. Containers shall be designed to be secure against the entry of microorganisms.
- Facilities used for extraction or processing of cannabis materials shall follow proper and industry laboratory practices.
- **Additional Requirements for Level II / Type 7 Manufacturing:**

An extraction booth (specialized or walk in type hood) may be placed in a dedicated room for extraction or an integrated extraction room/booth may be installed. The room shall be designed to accommodate the use of liquefied compressed gases (LPG) such as butane, propane, iso-butane, mixtures of those gases, or other flammable solvents. Either option shall meet all applicable codes and requirements.

  - **Extraction Booth within a Room** – shall be constructed to meet all codes and requirements. The extraction booth shall be located within a room dedicated to the extraction process.
    - There shall be no other equipment within the electrically classified area of the room (i.e. refrigerators, cooking appliances, electrical panels, computers, cell phones, etc.) that is not associated with the extraction process.
    - There shall be no penetrations into the room that are not essential for the extraction process (i.e. gas lines, HVAC systems, plumbing, etc.).
    - Room doors shall open outwards and shall be either equipped with a panic bar or a non locking closure.
    - Unclassified electrical receptacles and equipment shall be kept out of the controlled areas.
    - Equipment lines that penetrate a wall to the extraction booth shall go through a sleeve (purposed fitting) and be fire caulked.
    - Shall include an area within the extraction booth for off-gassing spent plant material containing absorbed gasses.
    - Shall have separate exhaust and ventilation systems with visual and audible alarm.
    - Shall have a fixed LEL sensor located between 10 and 12 inches from the floor adjacent to the extraction booth exit door or sash.
    - Shall have an alarm system that includes horn or audible signal and strobe or visible light. If mounted in the extraction booth, it shall meet all requirements and codes.
    - Lighting shall either be outside of the classified area behind glazing or meet all codes and requirements.

- Lighting shall provide 75 to 110 foot candles of illumination within the hood or booth area/room.
- Make-up air shall be actively provided within the extraction room where the booth or hood is located at plus or minus 5% of the exhausted air rate.
- Exhaust fan motor and assembly shall be explosion proof and have an Air Movement and Control Association (AMCA) approved Spark Resistant Construction (SRC), Type A or B.
- The hood or booth and room shall have a fire-suppression system in which at least one of the sprinkler heads is placed within the exhaust hood or booth or duct.
- The approved fire suppression system may either be wet or a dry system.
- Interlock: The switch that controls the hood or booth's light, shall also control the ventilation so that whenever the hood or booth's lights are turned on, the make-up air and exhaust ventilation are active.
- Once commissioned, the fixed LEL sensor shall be continually on except when being serviced.
- If the gas detection senses an air borne concentration of flammable or explosive gasses or vapors at 25% or greater of the LEL, then the mechanical ventilation systems shall be locked on.
- Failure of the gas detection system shall result in the continuance or activation of the mechanical ventilation system.
- All electrical components within the hood or booth shall be interlocked with the gas detection system, and meet all requirements and codes. Activation of the gas detection system shall disable electrical outlets.
- A grounding system shall be installed so that all equipment may be grounded and/or bonded.
- **Special Purpose Extraction Room** - The room shall be constructed to meet all requirements of an extraction booth. Extraction rooms are required to be located in a room dedicated solely to the extraction process.
  - There shall be no other equipment within the electrically classified area of the room (i.e. refrigerators, cooking appliances, electrical panels, computers, cell phones, etc.) that is not associated with the extraction process.
  - There shall be no penetrations into the room that are not essential for the extraction process (i.e. gas lines, HVAC systems, plumbing, etc.).
  - Rooms are to be of continuous, noncombustible, and smooth construction, and room finish should be cleanable.
  - Acoustic-type drop ceilings are not compatible with LPG extraction exhaust systems and will not be permitted.
  - Hand sinks and eye wash stations (if required by other Codes) can be located in the room.
  - Doors to the extraction room (or anteroom if applicable) shall swing in the direction of egress, be self-closing/latching, and be provided with panic hardware or other non-locking closure.
  - The room shall be constructed to the required occupancy classification fire rating and have a minimum one (1) hour fire rating.

**The room shall provide for:**

- Sufficient ventilation to keep the expected concentration of gasses within the room below 25% of the Lower Explosive Limit (LEL).
- Ventilation for spent plant material off-gassing.
- Ventilation for off-gassing extract after recovery.
- The maximum amount of flammable compressed gas within the room shall be less than the CFC-IBC allowable limit.
- Spent plant matter shall be placed in an appropriate container to off-gas so that the headspace above the container contains less than 10% of the LEL before removal from the room.

- Make up air shall enter into the room opposite the exhaust register. The exhaust register should be sized to cover at least 75% of the area of the extraction equipment, and be of an indirect-fired design.
- The bottom of the exhaust register shall be no more than 2" from the floor.
- A transition area to an intrinsically safe operational area.
- The boundaries of the intrinsically safe operational area shall be specified.
- Unclassified electrical receptacles and equipment shall be kept out of the controlled areas.
- Equipment lines that penetrate the wall shall go through a sleeve and be fire caulked.
- Shall be an area for off-gassing, spent plant material containing absorbed gasses.
- Shall have a fixed LEL sensor located between 10 and 12 inches from the floor adjacent to the exit door.
- Shall have an alarm system that includes horn or audible signal and strobe or visible light. If mounted in the extraction room, the alarm system shall meet all regulations and codes.
- Lighting shall either be outside of the classified area behind glazing or meet all regulations and codes.
- Lighting shall provide 75 to 110 foot candles of illumination within the extraction room.
- Make-up air shall be actively provided at plus or minus 5% of the exhausted air rate in opposition to the exhaust register.
- Exhaust fan motor and assembly shall be explosion proof and have an Air Movement and Control Association (AMCA) approved Spark Resistant Construction (SRC), Type A or B.
- The room shall have a fire-suppression system in which at least one of the sprinkler heads is placed within the exhaust duct.
- The approved fire suppression system may either be wet or a dry system.
- Interlock: The switch that controls the room light, shall also control the ventilation so that whenever the room lights are turned on, the make-up air and exhaust ventilation are active.
- Once commissioned, the fixed LEL sensor shall be continually on except when being serviced.
- If the gas detection senses an air borne concentration of flammable or explosive gasses or vapors at 25% or greater of the LEL, then the mechanical ventilation systems shall be locked on.
- Failure of the gas detection system shall result in activation of the mechanical ventilation system.
- All electrical components within the extraction room shall be interlocked with the gas detection system. Activation of the gas detection system shall disable electrical outlets.
- A grounding system shall be installed so that all equipment may be grounded and/or bonded.
- Prior to the operation of the extraction equipment, the certified CIH/PE or engineer of record shall inspect the site of the extraction equipment and certify that it has been installed and in compliance with technical reports and building analysis. The engineer or approved professional shall provide a report of findings and observations of the site inspection to the Fire Chief or designee prior to the approval of the extraction process. The report shall include the serial number of the equipment used in the process and confirm that it is the same equipment identified in the technical report.
- **In Case of Fire:**
  - HVAC for make-up air shall be turned off, but exhaust shall be kept on.
  - Smoke evacuation system to be provided as applicable.
- **Change in LEL Status** - If LEL monitor senses concentration greater than 25% of LEL, then:
  - Horn is activated.
  - Strobe is activated.

- HVAC unit for make-up air and exhaust fan are either already on and kept on or turned on.
- The following are locked on:
  - HVAC for makeup air.
  - Exhaust fan.
- **Storage of Gas Cylinders:**
  - Cylinders of LPG shall be stored in a locking cage or appropriately ventilated room outside of the manufacturing facility.
  - Public access to the filling location shall be restricted (i.e. fenced area or other security).
  - No LPG storage within 25 feet of property line.
  - If trans-filling operations are taking place in the storage area, all trans-filling requirements shall be satisfied.
  - Bollards may be necessary for protection from vehicular traffic.
- **Bulk Storage** – Bulk storage of Carbon Dioxide (CO<sub>2</sub>) subject to fire department approval.
- **Trans-filling**
  - Public access to the filling location must be restricted (i.e. fenced area or other security).
  - Filling the solvent service tanks is regulated as LPG liquid transfer under NFPA 58 and shall be conducted outdoors.
  - Filling location shall be located 15 feet from combustion engine use; i.e. vehicle parking.
  - The location may be located against a noncombustible building wall without openings. If stored near a building without non-combustible walls, the storage area shall be 10 feet or greater in distance from said building.
  - All local ignition sources within 25 feet shall be shut off or excluded before trans-filling.
  - In areas designated for trans-filling operations, a 25-foot boundary shall be clearly identified. If a fixed 25-foot boundary is not feasible, the temporary use of traffic cones to delineate the 25-foot boundary is acceptable to secure the safety zone.

### **INFUSED PRODUCT FACILITY REQUIREMENTS**

Applicants submitting an application for an Infused Product Facility shall meet the following requirements:

- A CIH or PE shall provide a detailed report for the specific facility. The CIH/PE shall provide their “wet stamp” approval on the detailed report. The CIH/PE shall identify hazards, engineering and administrative controls necessary to control hazards, specifications for ventilation controls for infusing cannabinoid derived from cannabis plant products into foods, beverages, salves, inhalants, and tinctures to be ingested or applied topically. The scope of the stamped report shall include:
  - Process and operations.
  - Infusion operations and associated equipment.
  - Hazards of process and operations.
  - List the types and quantities of anticipated hazardous materials by hazard class.
  - Engineering and administrative controls to mitigate hazards.
  - Ventilation controls.
  - Potential employee exposure to chemical substances and plan to maintain compliance with Cal OSHA limits.
  - Personal Protective Equipment (PPE).
  - Training plan/documentation related to PPE.
  - Odor control or odor management plan.
  - Warning sign types and locations.
  - Identify required occupancy classification for the type of hazards involved.
  - Clearly posted signage prohibiting employees from performing any manufacturing processes if under the influence of alcohol, cannabis, illegal drugs or other prescription medicines.
  - Need for atmospheric monitoring equipment, type and location.
  - Sanitation requirements for processing into foods, beverages, salves, inhalants, and tinctures shall include:

- Location of hand wash sinks.
- How dishes will be washed, including requirements that all food handling and health care related fixtures, devices and equipment discharge through indirect waste lines into a floor sink.
- Contact surfaces shall be smooth, free of breaks, open seams, cracks, chips, pits and similar imperfections; free from sharp internal angles, corners, and crevices. Finishes are to have smooth welds and joints.
- Equipment containing bearings and gears shall be designed, constructed and maintained to ensure that food and health requirements are satisfied.
- All rooms shall have sufficient ventilation to keep them free from excessive heat, steam, condensation, vapors, odors, smoke and fumes.
- Table or counter mounted equipment shall be installed to facilitate the cleaning of the equipment and adjacent areas be being sealed to the surface or elevated by at least four inches.
- Three compartment sinks shall be required for washing, rinsing, and sanitizing equipment and utensils.
- Hand sinks shall be conveniently located for employees.
- Hand sinks shall only be used for hand washing (maximum water temperature of 110 degrees is to be maintained through an appropriate mixing valve).
- Sinks used for food or medicine preparation or for washing equipment shall not be used for hand washing.
- At least one utility or mop sink shall be provided.
- Garbage and refuse shall be stored in a manner to be inaccessible to insects and rodents.
- Floors shall be smooth, durable, nonabsorbent, light colored and maintained in good repair.
- The juncture between the floor and wall shall be closed and sealed.
- Walls and ceilings shall be smooth and easily cleanable.
  - Calculations and basis for engineering controls.
  - List of specific recommendations to implement controls.
- The CIH/PE retained to provide the report shall be required to perform an on-site inspection of the facility to verify compliance with the requirements identified in the report prior to approval to begin operations.
- A hazardous materials management plan shall be completed that includes:
  - Identification of hazard classes.
  - Quantities.
  - Location of materials.
  - Determination of storage plan.
  - Sketch of materials locations in facility.
- Concentrations of grease, smoke, heat steam or products of combustion created when ~~medical~~ cannabis products are processed into foods, beverages, salves, inhalants and tinctures shall be contained by code required hood systems.

### **TESTING LABORATORY FACILITY REQUIREMENTS**

Applicants submitting an application for a Testing Laboratory Facility shall meet the following requirements:

- A CIH or PE shall provide a detailed report for the specific facility. The CIH/PE shall provide their “wet stamp” approval on the detailed report. The CIH/PE shall identify hazards, engineering and administrative controls necessary to control hazards, specifications for ventilation controls for performing the work of a testing laboratory. The scope of the stamped report shall include:
  - Process and operations
  - Hazards of process and operations
  - List the types and quantities of anticipated hazardous materials by hazard class

- Engineering and administrative controls to mitigate hazards
- Ventilation controls
- Potential employee exposure to chemical substances and plan to maintain compliance with Cal OSHA limits
- Personal Protective Equipment (PPE)
- Training plan/documentation related to PPE
- Warning sign types and locations
- Need for atmospheric monitoring equipment, type and location
- Calculations and basis for engineering controls
- Clearly posted signage prohibiting employees from performing any testing processes if under the influence of alcohol, cannabis, illegal drugs or other medicines
- List of specific recommendations to implement controls
- Identify required occupancy classification for the type of hazards involved
- The CIH/PE retained to provide the report shall be required to perform an on-site inspection of the facility to verify compliance with the requirements identified in the report prior to approval to begin operations.
- A hazardous materials management plan shall be completed that includes:
  - Identification of hazard classes
  - Quantities
  - Location of materials
  - Determination of storage plan
  - Sketch of materials locations in facility
- A chemical hygiene program shall be created and then implemented for the facility.
- Refrigerated storage or processing of flammable liquids including oil-laden with flammable liquids shall only use refrigerators/freezers rated to store flammable liquids. At a minimum, “lab safe” or “flammable safe” products shall be utilized.
- Equipment exhaust from analytical equipment, vacuum pumps, ovens or other equipment that may contain solvent vapors or products of combustion shall be conveyed by an appropriate exhaust system to the outside of the building. General dilution ventilation is not acceptable.
- Testing laboratory areas with equipment that uses gases, equipment detectors employing combustion or high-performance liquid chromatography (HPLC) mobile phase fluids containing acetonitrile shall have general ventilation that provides a minimum of 15 air changes per hour in addition to any necessary point source ventilation to control airborne contaminants.

### **CULTIVATION OPERATION REQUIREMENTS**

Applicants submitting an application for Cultivation Operations shall provide proof of compliance with the following requirements:

- Provide cultivation requirements including site and cultivation plans as described in state regulations for cultivation.
- Partition material between grow spaces shall be made of an approved fire resistant material and rating.
- Carbon Dioxide (CO<sub>2</sub>) enrichment systems shall be listed and labeled, properly installed and functioning with a concentration level of no more than 1500 ppm (parts per million)
- Any compressed gasses used in the enrichment process shall not be stored in containers that exceed a 150-pound tank size and shall be industry conforming.
- Compressed gas tanks shall be seismically restrained with cable or chain.
- Backflow prevention on hose bibs and faucets shall be required.
- All cultivation facilities shall be organized in orderly rows with aisles of at least three feet in width, and at least eight feet between aisle and next aisle or the aisle and a wall. Facility shall maintain clear access to all exits.
- Electrical:
  - Luminaries shall be approved for application.
  - Luminaries shall be properly installed/restrained.
  - All 120 volt outlets shall be GFI protected.



- No cords shall be installed through holes, sleeves, ceilings, or where otherwise prohibited.
- “No Storage” areas shall be outlined on floor in front of electrical panels.
- Clearly posted signage prohibiting employees from performing any manufacturing processes if under the influence of alcohol, cannabis, illegal drugs or other prescription medicines.