

**SPARKS  
FIRE DEPARTMENT  
POLICY**

**CONSTRUCTION, DESIGN & INSTALLATION  
OF  
FIRE PROTECTION & LIFE SAFETY SYSTEMS  
UNDER THE  
2012 INTERNATIONAL FIRE CODE**

Revised: April 2015

# SPARKS FIRE PREVENTION BUREAU POLICY

## Construction, Design and Installation Of Fire Protection and Life-Safety Systems Under the 2012 International Fire and Building Codes

### *FOREWARD*

The information presented in this policy will serve to help with the design, installation, and maintenance of fire protection and life-safety systems. As modern fire technology changes, this policy will be reviewed and periodically updated. Copies of this policy may be obtained at the Sparks Fire Department, Fire Prevention Bureau or on the Sparks Fire Department Web Site, [www.SparksFire.com](http://www.SparksFire.com).

**Scope:**

The Sparks Fire Department Policy provides requirements for the construction, design and installation of fire protection and life-safety systems.

**Authority:**

This policy is established under the authority of the 2012 International Fire Code (IFC), Section 104.1 entitled, General Authority and Responsibilities and the Sparks Municipal Code (SMC), Section 14.05.010. The 2012 IFC was amended and adopted by the City of Sparks Ordinance No. 2660 with an effective date of September 10, 2013. This policy governs the requirements for the construction, design & installation of fire protection and life safety systems, along with additional relevant fire prevention and protection procedures particular to the Sparks Fire Department operations.

**Purpose:**

The purpose of this policy is to provide supplemental language for a reasonable degree of safety through prevention, early warning, control and extinguishment of fires. It provides supplemental regulations to those who use, construct or install such fire prevention, protection, life safety-systems, and new and existing construction. This policy also provides supplemental regulations on any issue that may affect fire and life-safety inspections and emergency response. This policy also clarifies the application of provisions in the International Fire Code and Sparks Municipal Code Title 14 – Fire Prevention and Protection.

**Order of Precedence:**

The provisions of these policies are not intended to replace standards, statutes, codes or ordinances, but are provided for guidance and supplemental regulations specific to Sparks, Nevada. Where this policy is silent, any relevant standard, statute, code or ordinance provision shall apply. Whenever there are conflicting statements in various codes or standards, the more stringent shall apply unless written permission is granted in advance for an equivalent safety provision.

**Liability:**

The City of Sparks cannot be held liable for loss or damage arising from the testing of any fire protection system as required by the IFC, this policy, and other nationally recognized standards. This shall include all activities necessary to

prepare for such tests, conduct such tests, end such tests, and withdraw from the premises after such tests.

**Authority Having Jurisdiction:**

The Sparks Fire Department Fire Chief and appointed Fire Code Officials are the authority having jurisdiction in the application of this policy and other related fire codes and standards.

**Definitions and Abbreviations:**

Definitions and abbreviations of terms will be found in the applicable standard, statute, code or ordinance unless otherwise provided herein.

ANSI	American National Standards Institute
CCS	Central Control Station
ESFR	Early Suppression Fast Response
F	Fahrenheit
FACP	Fire Alarm Control Panel
FDC	Fire Department Connection
FM	Factory Mutual
GPM	Gallons per Minute
High-Rise	A building that has floors used for human occupancy located more than 55 feet above or below the lowest level of fire department vehicle access.
HVAC	Heating, Ventilation and Air Conditioning
IBC	International Building Code
IFC	International Fire Code
UMC	Uniform Mechanical Code
UPC	Uniform Plumbing Code
NAC	Nevada Administrative Code
NEC	National Electrical Code
NFC	National Fire Codes published by NFPA
NRS	Nevada Revised Statutes
PSI	Pounds per Square Inch
SCBA	Self-Contained Breathing Apparatus
SFR	Single-Family Residence
SMC	Sparks Municipal Code
UL	Underwriters' Laboratories, Inc.

# TABLE OF CONTENTS

## FORWARD

Scope.....	3
Authority.....	3
Purpose.....	3
Order of Precedence.....	3
Liability.....	3
Authority Having Jurisdiction.....	4
Definitions and Abbreviations.....	4
Table of Contents.....	5
Chapter 1: Administration.....	6
Chapter 5: Fire Service Features.....	7
Chapter 9: Fire Protection Systems.....	11
Chapter 50: Hazardous Materials.....	13
Appendix 1 – Site Development Guide for Hillside and Traditional Neighborhoods.....	14
Attachment A-1 – Two-Lane Median Roadway.....	19
Attachment A-2 – Emergency Pull-Out.....	20
Appendix 2 – Residential Fire Sprinkler Riser Detail.....	21
Appendix 3 – Grading Operations.....	22
Appendix 4 - Emergency Access Gates and Barriers.....	23
Appendix 5 - Marijuana Establishments or Businesses.....	27
Appendix 6 - Guideline for Construction Permitting for Marijuana Establishments/Businesses Located In Commercial Buildings.....	34
Appendix 7 - Carbon Dioxide (CO2) Gas Enrichment Systems.....	37
Appendix 8 - Plant Extraction Systems.....	44

# CHAPTER 1 ADMINISTRATION

## IFC – PM105 PERMITS

### IFC – PM105.7: Required construction permits.

- **Inspection responsibilities.** It is the responsibility of the contractor that obtains a construction permit to call the Fire Prevention Bureau for any necessary inspections and receive confirmation of date & time of inspection. All permits shall remain at the address where the permit was issued. Inspections must take place before the permit expires. If a permit expires and the contractor has not called for an inspection, the contractor is responsible for renewing the permit and then calling the fire department for an inspection. A 48-hour notice during the work week is required for all inspection requests. Same- day and overtime inspections can be conducted at an additional cost upon availability of the fire inspector.

## CHAPTER 5 FIRE SERVICE FEATURES

### IFC – PM503: FIRE APPARATUS ACCESS ROADS

#### IFC – PM503.1.1: Buildings and Facilities.

- **Exception:** The fire code official is authorized to increase the dimension of 150 feet where:
  1. The building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.
  2. Fire apparatus access roads cannot be installed because of location on property, topography, waterways, nonnegotiable grades or other similar conditions, and an approved alternative means of fire protection is provided.
  3. There are not more than two Group R-3 or Group U occupancies.

Large area buildings may require a fire apparatus access road on all four sides. An access road is required within 150 feet of all portions of the grade level floor of each building [see Figure 503.1.1 (1)].

A long narrow building may require fire department access roads on two sides only; if all portions of the grade level floor are within 150 feet of the access road [see Figure 503.1.1 (2)].

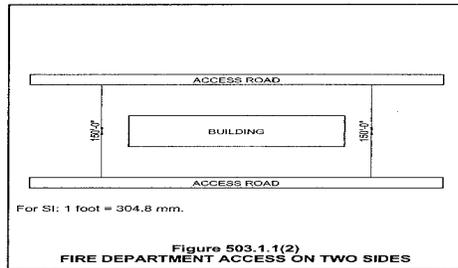
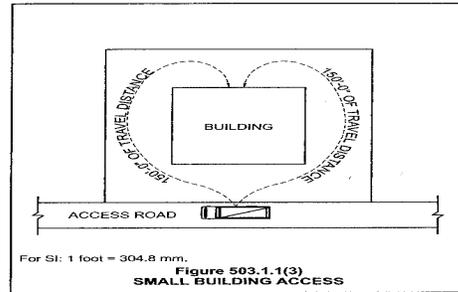
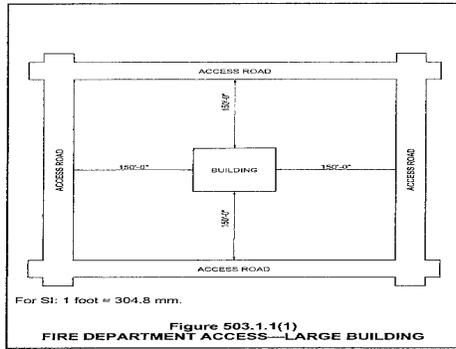
Small buildings may require an access road on one side only, if the access road is within 150 feet of all portions of the grade level floor [see Figure 503.1.1 (3)].

- *Exception 1 states that the 150 foot distance may be increased, with the approval of the fire code official, when the building is equipped throughout with an automatic sprinkler system. The code does not give the fire code official guidance on how much over 150 feet is reasonable. The fire code official must make the determination based on the response capabilities of his or her emergency response units and the anticipated magnitude of the incident.*

- *The “alternative means” in Exception 2 may include standpipes, automatic sprinklers, remote fire department connections or additional fire hydrants.*
- *The Group R-3 facilities noted in Exception 3 include all detached one-and-two-family dwellings and multiple (three or more) single-family dwellings (townhouses) more than three stories in height and all institutional facilities that accommodate five or less people for less than 24 hours per day. Group U occupancies are utility and miscellaneous accessory buildings or structures.*

#### **IFC – PM503.1.2: Additional Access.**

- The fire code official is authorized to require more than one fire apparatus access road based on the potential for impairment of a single road by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access.
  - Additional access roads may be required by the fire code official based on his or her knowledge of traffic, local weather conditions, terrain or anticipated magnitude of a potential incident.
- **Cluster Home Development.** All houses built beyond a 150-foot hose lay from the fire apparatus located on the main street will be required to install a residential fire sprinkler system to the approval of the fire code official.
  - *Cluster home developments create a significant challenge to firefighting operations as a result of narrower streets, private driveways, homes built closer together, and lack of sufficient access for fire apparatus. Houses built off of private driveways that do not meet fire access standards in the International Fire Code are subject to greater fire damage due to longer set-up time for firefighters, thus allowing the fire to possibly spread beyond a point where lives and property can be saved.*



**IFC – PM503.2.4: Turning Radius.**

- The required turning radius for Sparks Fire Department fire apparatus access roads shall be designed with a 46.5' radius to allow for sufficient clearance.

**IFC – PM503.5.1: Secured gates and barricades.**

- Secondary access gates shall be designed to meet the specifications of the Sparks Engineering Services/Development department and meet the approval of the Fire Chief. If secondary access gates are provided across fire department access ways, they will be provided with a Knox® box or Knox® lock for key access by the fire department. Additional emergency access gate information can be obtained in Appendix 4 – Emergency Access Gates.

## CHAPTER 9 FIRE PROTECTION SYSTEMS

### IFC – PM901: GENERAL



#### IFC – PM901.10.1: False alarm due to Service Company

- An emergency fire department response due to failure of the fire alarm or fire sprinkler/suppression company personnel to notify the Sparks Fire Department via a central station fire alarm company when servicing/testing such system(s) may be subject to a service charge for each occurrence.

#### IFC – PM901.10.2: False alarm due to owner/occupant

- An emergency fire department response caused by lack of system maintenance, building employees or other personnel causing alarms due to the nature of their work, and failure by the building operator to make proper notification to the Sparks Fire Department via a central station fire alarm company may be subject to a service charge for each occurrence.

#### IFC – PM903.3.1.3: Residential Fire Systems.

- **NFPA 13D Fire Sprinkler System.** Design of the NFPA 13D fire sprinkler system shall meet the minimum requirements of the Sparks Fire Department. (See Appendix 2 for detail).

#### IFC – PM903.3.7: Fire department connections.

- The location of fire department connections shall be approved by the fire code official. Fire department connections will require indicating signs for the address(s) that the appliance serves for all FDC's that are not located on a stand-alone single-tenant building. FDC's shall be located in the front of the building whenever possible or to the approval of the fire code official. Remote fire department connections may be required to accommodate emergency operations. A locking cap of a type approved by the fire code official shall be installed on all new fire department connections, and whenever an existing cap is found missing or broken.

### **IFC – PM903.4.3: Floor Control Valves.**

- **Multiple Story Structures.** All multiple story buildings, with the exception of R-1 occupancies that exit directly to the outside, that require automatic fire sprinklers shall have a separate control valve waterflow indicator and drain valve assembly.

### **IFC – PM907: FIRE ALARM AND DETECTION SYSTEMS**

#### **IFC – PM907.1: General**

- When a new or retrofitted fire alarm system is required, a Fire Alarm Annunciator will be required at the main entrance, inside of the building. The Fire Alarm Annunciator will report by zone or appliance, and depending on the system itself, the location of the alarm. If a remote annunciator is installed, it will also report by zone or appliance and location of the alarm. A floor plan will be posted at the Fire Alarm Control Panel. A Knox® Key box shall be installed at the front entrance.

#### **IFC – PM907.8: Inspection, Testing and Maintenance.**

- **Pre-Testing of Fire Alarm Systems.** Prior to requesting a fire department inspection and/or a certificate of occupancy, the installer shall completely test all portions of the fire alarm system. If the fire alarm system is not completely ready for inspection upon the Inspectors response to a scheduled inspection, a service fee for the inspection will be assessed and a new inspection will be scheduled, which will also contain a service fee.

## CHAPTER 50 HAZARDOUS MATERIALS – GENERAL PROVISIONS

IFC – PM5003: GENERAL REQUIREMENTS

IFC – PM5003.1.1: Maximum Allowable Quantity per Control Area.

- **Repair Garages.** Repair garages without motor fuel-dispensing facilities that comply with the maximum allowable quantities of hazardous materials listed in Table 5003.1.1 (1) of the IFC shall be classified as S-1 occupancies. Repair garages that exceed the maximum allowable quantities of hazardous materials listed in Table 5003.1.1 shall be classified as an H-3 occupancy.

FPB Policy Manual  
APPENDIX 1  
IFC – APM503.1

SITE DEVELOPMENT FOR HILLSIDES AND TRADITIONAL  
NEIGHBORHOODS

*FOREWORD*

The information presented in this policy will serve to help with the design, installation, and maintenance of site development fire and life-safety measures. As modern fire technology changes, this policy will be reviewed and periodically updated. Additional copies of this policy may be obtained at the Sparks Fire Department, Fire Prevention Bureau or on the City of Sparks Web site, [www.sparksfire.com](http://www.sparksfire.com)

## **Purpose**

The purpose of this policy is to provide a reasonable degree of safety for site development through fire and life-safety measures. It provides supplemental regulations to those who develop, use, and maintain emergency access in Hillside Development and Traditional Neighborhoods. It also provides customers of the Sparks Fire Department insight to the intent behind requirements as they pertain to site development.

## **Scope**

The Sparks Fire Department Policy is intended for the customers of the Sparks Fire Department as well as any other citizen that may benefit from the information contained within, as it pertains to access issues in site development.

## **Authority**

This policy is established under the authority of the 2012 International Fire Code, Section 104 entitled General Authority and Responsibilities and the Sparks Municipal Code, Section 14.05.0010. The 2012 IFC was adopted and amended by the City of Sparks Ordinance No. 2660 with an effective date of September 10, 2013.

## **Order of Precedence**

The provisions of this policy is not intended to replace standards, statutes, codes or ordinances, but is provided for guidance and supplemental regulations specific to Sparks, Nevada. Where this policy is silent, any relevant standard, statute, code or ordinance provision shall apply. Whenever there are conflicting statements in various codes or standards, the more stringent shall apply unless written permission is granted in advance for an equivalent safety provision.

## **Authority Having Jurisdiction**

The Sparks Fire Department Fire Chief and fire code officials are the authority having jurisdiction in the application of this policy and other related fire codes and standards.

## **Definitions**

**Hillside Development:** Areas within the City which have special and unique characteristics (i.e., excessive slopes, unique vegetation, geologic conditions, etc.) which in turn, require modified regulations from that of the remainder of the city.

**Traditional Neighborhood Development:** A specific type of development permitted within the city. Its design promotes pedestrian orientation through narrower streets and higher density of buildings and residents within the development.

# GUIDELINES

## Section 1 – Fire Department Access within Hillside Development

1. **IFC – 503.1.2: Additional Access.** All roads without a second means of access will require a letter of justification from the developer, with approval of the Fire Chief.

All Cull-de-sacs within Hillside Development will have a 50 foot radius/100 foot diameter bulb.

- ❖ Cull-de-sacs are similar to dead-ends in that there is one-way in and one-way out. With dead-ends, apparatus will back-up 150 feet or if provided with a turnaround, back to the turnaround then drive out. With Cull-de-sacs, the “turnaround” is the bulb located at the end of the road.
  - ❖ Cull-de-sacs more than 500 feet in length present unique inherent hazards, specifically with those Cull-de-sacs located within the Hillside areas. One-way in, one-way out roads can be potentially deadly when a wildfire is approaching. It is imperative that fire department apparatus and personnel are able to vacate the area as quickly and efficiently as possible. The 100-foot bulb diameter is determined to provide adequate pavement to effectively turn around any apparatus in a single continuous motion. Bulb diameters less than 100 feet require a minimum 3-point turn in order to completely turn apparatus around.
  - ❖ Cull-de-sacs more than 500 feet in length, in addition to the larger bulb, may require intermediate turnarounds as needed. For extremely long Cull-de-sacs, intermediate turnarounds are typically spaced every 700 feet. Intermediate turnarounds allow apparatus to stage without blocking access on the roadway. Additionally, the intermediate turnarounds provide areas where apparatus are able to turn around in an emergency without having to drive to the end of the Cull-de-sac.
  - ❖ Divided roads with landscape medians will have emergency access points at least 22 feet wide located every 750 feet. The emergency access point design will be approved by the City Engineer and Fire Chief. See Attachment A-1 & A-2 for detail.
  - ❖ Emergency access points will give emergency vehicles a means to cross to the other side of the divided road during an emergency response, without having to travel great distances.
2. **IFC – 503.2.4: Landscape Median.** Entry into any road with a landscaped median must meet the requirements of the Sparks Fire Department and Sparks Engineering Department. Such must be designed to accommodate a left turning radius of 80 feet and a right turning radius of 92.6 feet.

3. **IFC – 503.2.7: Grade.** The grade of the fire apparatus access road shall be within the limits established by the fire code official based on the fire department's apparatus. The absolute maximum street grade allowed is 12%. The maximum run for the 12% street grade is two hundred fifty (250) feet.
4. **IFC – 503.2.8: Angles of approach and departure.** Private driveways and any other road with a steep incline will meet the requirements of the Sparks Fire Department and City Engineering Department. Ladder trucks are built very long, and thus may not be able to approach a steep incline without severely damaging the rear end of the vehicle. As such, the algebraic difference between the driveway grade and the street grade cannot exceed 10% for the first sixty (60) feet of the driveway.

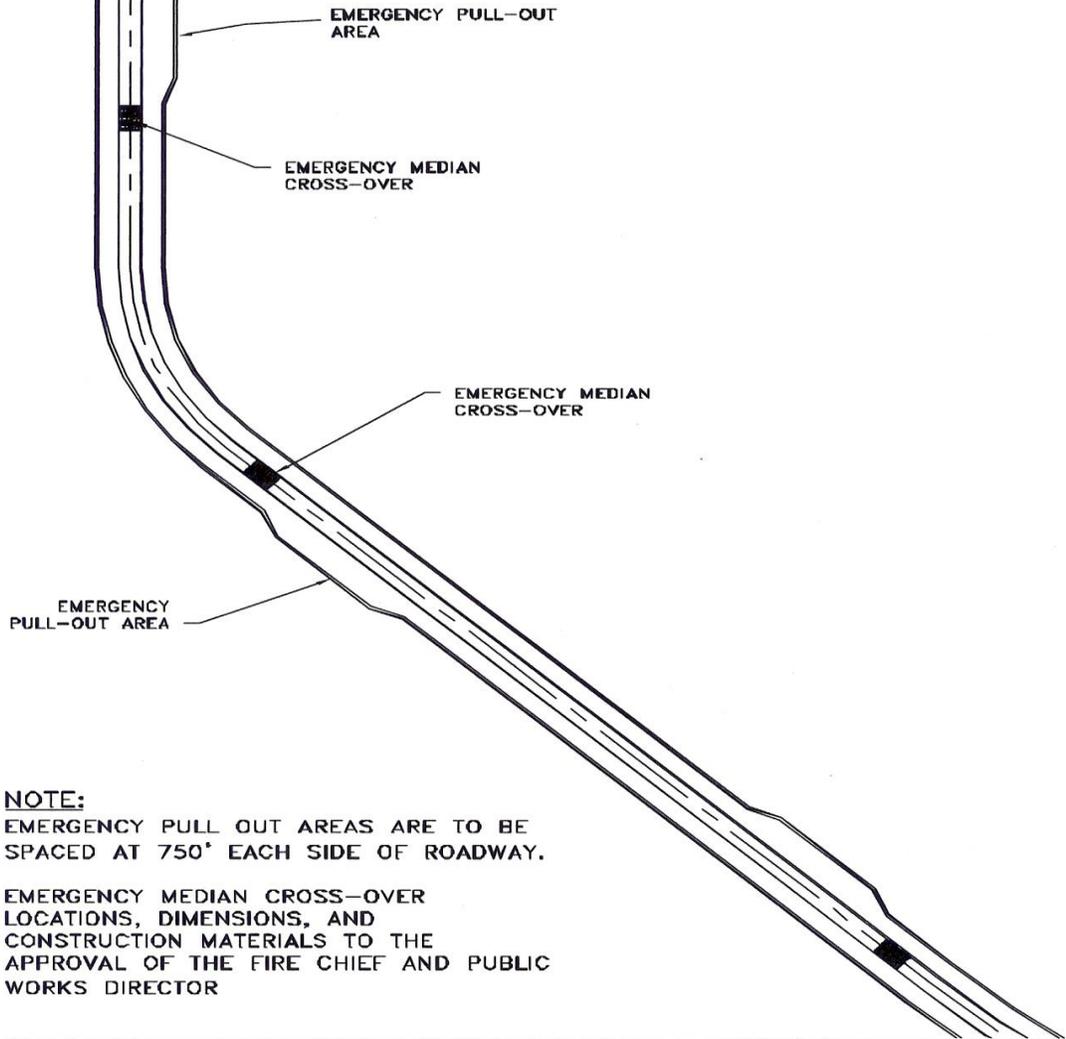
Driveways intended for fire apparatus shall be provided when any portion of an exterior wall of the first story of a building is located more than one hundred and fifty (150) feet from a fire apparatus access road. Driveways shall provide a minimum unobstructed width of twelve (12) feet and minimum unobstructed height of fourteen (14) feet. Driveways in excess of one hundred fifty (150) feet in length shall be provided with turnarounds. Driveways in excess of two hundred (200) feet in length and less than twenty (20) feet in width shall be provided with turnouts in addition to turnarounds.

## **Section 2 – Fire Department Access within Traditional Neighborhood Development**

1. **IFC – 503: Alleys.** Alleys will not be approved to be used as the primary means of access in any location.
  - ❖ The design features of a typical TND alley do not allow adequate access for our apparatus.
2. **IFC – 503.4: Parking.** No parking is permitted within 30 feet of the intersection of streets of 37 feet in width of pavement or less. Such areas will be designated as fire lanes with no parking. These zones are required to be shown on the development plans.
  - ❖ The primary function of a TND is to promote pedestrian access versus vehicular access. In order to achieve this desired function, streets within TND's are typically narrower than generally found throughout the rest of the city. Narrower streets present maneuverability issues - specifically, the turning radius needed for our apparatus. In an attempt to ensure that the apparatus are able to make a turn, specific street intersections are required to be clear and free of vehicle parking.
3. **IFC – 503.4: Obstructions.** No above ground obstructions, such as fire hydrants, street lights, trees or traffic signs, etc., are permitted within 15 feet of an intersection of streets of 37 feet in width of pavement or less. These are known as 15 foot clearance triangles.

- ❖ In conjunction with 503.4 Parking, the narrower streets within TND's require alternatives to the road widths in order to achieve the ability to effectively make turns at the corners. Removing any obstacles that may be located at specific street corners permits apparatus to "mount" a curb in order to make a turn.

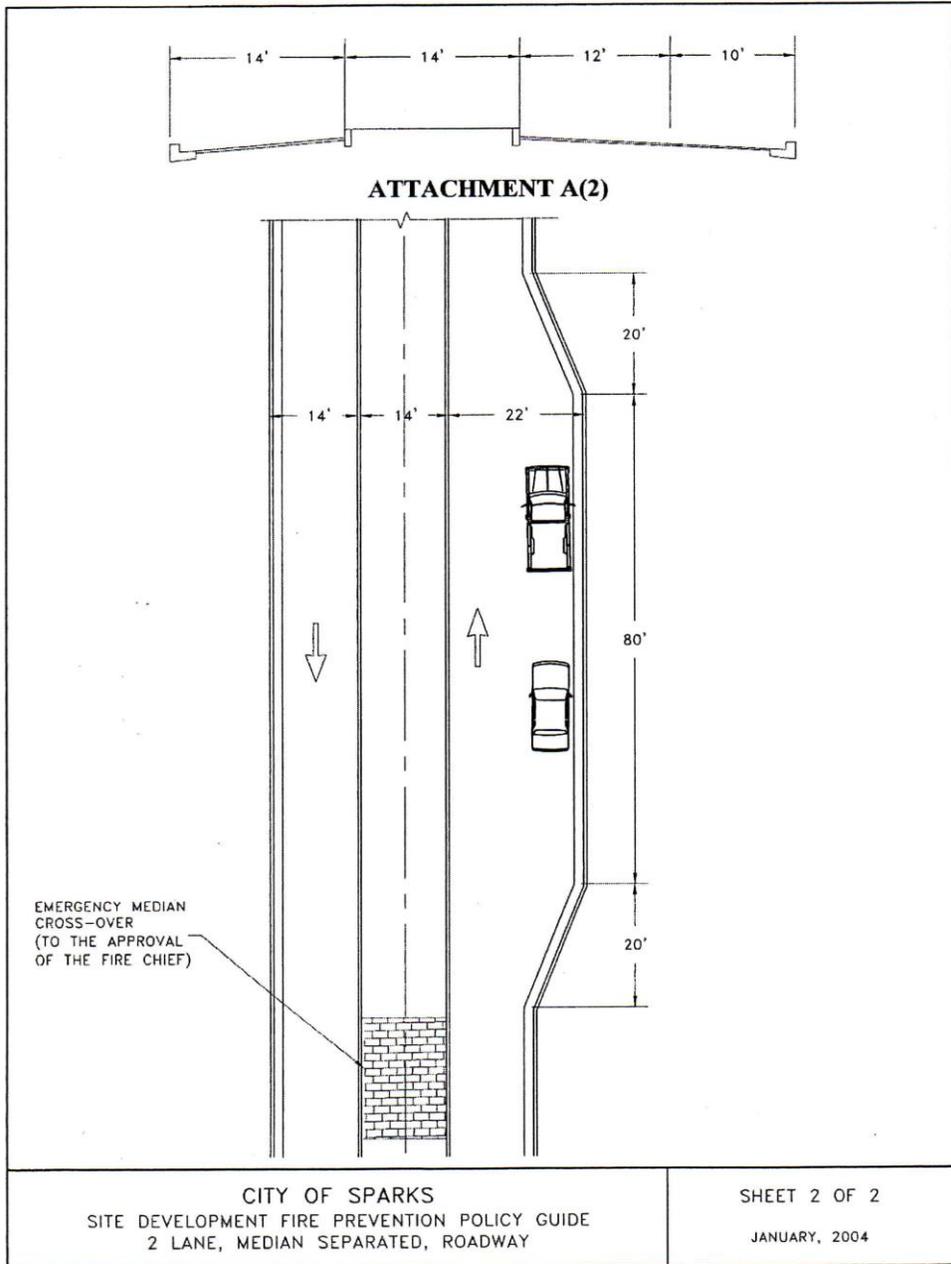
**ATTACHMENT A (1)**



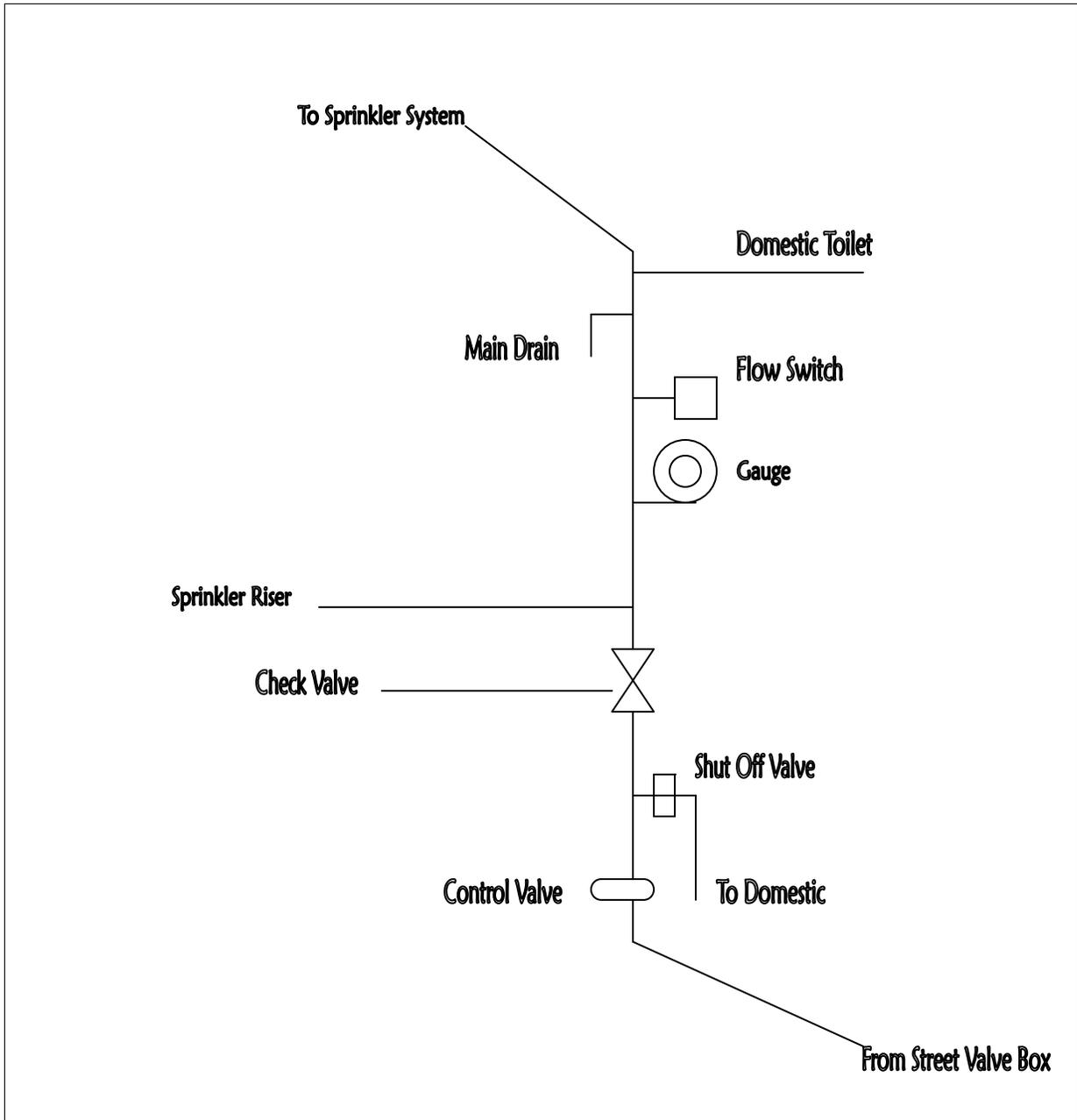
**NOTE:**  
EMERGENCY PULL OUT AREAS ARE TO BE SPACED AT 750' EACH SIDE OF ROADWAY.  
EMERGENCY MEDIAN CROSS-OVER LOCATIONS, DIMENSIONS, AND CONSTRUCTION MATERIALS TO THE APPROVAL OF THE FIRE CHIEF AND PUBLIC WORKS DIRECTOR

**CITY OF SPARKS  
SITE DEVELOPMENT FIRE PREVENTION POLICY GUIDE  
2 LANE, MEDIAN SEPARATED, ROADWAY**

**SHEET 1 OF 2  
JANUARY, 2004**



FPB Policy Manual  
Appendix 2  
Sparks Fire Department  
NFPA 13D  
Residential Fire Sprinkler Riser Detail



**FPB Policy Manual  
Appendix 3**

**SPARKS FIRE DEPARTMENT**

**Fire Prevention & Protection Guideline  
For  
Grading Operations**

This Guideline prescribes minimum safeguards for grading operations to provide reasonable safety to life and property from fire during such operations. This Guideline applies to all grading operations within the City of Sparks and is governed by the Sparks Municipal Code, Title 14 Fire Prevention and Protection; International Fire Code; National Fire Protection Association Pamphlet 241; and Occupational Safety & Health Administration CFR 29, part 1926.

1. The Grading permit holder shall be responsible for the development of a fire prevention plan at the job site throughout all phases of the grading work. The fire prevention plan shall be approved by the fire department prior to commencing grading operations and posted in the main job shack for employee review. Information for fire prevention plans can be obtained through OSHA CFR 29, part 1926 ([www.osha.gov](http://www.osha.gov)) and NFPA Pamphlet 241, chapter 7.
2. All employees' operating heavy machinery in the Wildland/Interface area shall be educated in the preferred means of reporting emergencies, such as radio or telephones. Where a radio communication system also serves as the employee alarm system, all emergency messages shall have priority over all non-emergency messages.
3. As warranted by the project, the Grading permit holder shall provide a water truck in the general vicinity of all grading work where the possibility of an ignition source is present. Water truck operators shall be trained in the proper procedures for pre & post-wetting of grading work. If a water truck is unavailable for any reason, grading work shall cease.
4. Smoking shall be prohibited at or in the vicinity of grading operations which constitute a fire hazard as designated by the fire department.
5. All heavy equipment shall have a Forest Service approved spark arrester on the exhaust.

# FPB Policy Manual

## Appendix 4

### EMERGENCY ACCESS GATES AND BARRIERS (IFC Section 503.5)

#### SECTION 1 - SCOPE

Where a new gate or barrier is installed on a fire access roadway, it shall be approved by the Fire Chief and meet the minimum requirements of the FPB Policy Manual, Appendix 4. Private driveways on lightly traveled streets as determined by the Fire Chief serving one single-family residence may be exempt from the scope of this document.

#### SECTION 2 -DEFINITIONS

For the purpose of APPENDIX 4, certain terms are defined as follows:

**GATES AND BARRIERS** - shall mean a gate, crossbar, door or other obstructive device which is utilized for the purpose of restricting, controlling or obstructing entry or exit by motor vehicles or pedestrians to or from a private roadway and which is not manned on a twenty-four hour, seven-day per week basis by a person capable of providing immediate access to a police or fire safety vehicle or person;

**PRIVATE STREET OR ROADWAY** - shall mean any roadway (not dedicated as public right-of-way) that is owned and maintained by abutting property owners, or association of property owners that is utilized for the purpose of providing vehicular or pedestrian access to a subdivision, apartment complex, condominiums or other residential development or wild land, excluding off-street parking areas, driveways, and driveways to off-street parking areas.

**PRIVATE DRIVEWAY** – shall mean a private driveway for vehicular travel that provides access from an off-street parking area to a public or private drive.

#### SECTION 3 - PERMIT

Prior to the installation of any gate or other device that will obstruct the access of emergency vehicles or emergency personnel, to commercial, residential areas, or open space/wildland areas, plans and specifications shall be submitted to the Sparks Building Department for permit review and approval.

#### SECTION 4 - SUBMITTALS

A minimum of 3 complete sets of information shall be submitted to the Sparks Building Department.

- 4.1 A **site plan** of the property and site detail of each fence and gate location, drawn to scale (1"=10', 1"=20', or 1"=40').
- 4.2 **Product specifications** shall be provided that include:
  - a. Method of operation
  - b. UL listing numbers of equipment used and;
  - c. Manufactures specification sheets for electrical gate controller.

- 4.3 **Maintenance.** Emergency access gates and barriers shall be maintained and may include:
- a. batteries required for operation of the system during power failure;
  - b. Lubrication of moving parts and hinges per manufacturer's specifications,
  - c. Any subsequent attention required to maintain the original list of frequencies for emergency operation of the gate in the controller.
- 4.4 **Plan review and inspection fees** will be assessed at the Building Department as approved by the Fire Chief.
- 4.5 **Click2Enter Programming.** Click2Enter gate control units are required to be reviewed by the Sparks Fire Department, via the Sparks Building Department Permit process, prior to installation on any gate. A permit application must be filled out and submitted to the Sparks Building Department with a site plan and specifications regarding the Click2Enter gate control system. Click2Enter gate control devices shall be programmed by the Sparks Fire Department after the permit plans have been reviewed and approved. Once installed, contact the Sparks Fire Department at 353-2266 to schedule the programming and final permit inspection.

## SECTION 5 - MINIMUM REQUIREMENTS

### 5.1 Vehicle Gates

#### 5.1.1 Access

- a. All gates shall be UL 325 compliant and all wiring shall be in permanent weather-proof conduit.
- b. Gates shall not be installed within a required turning radius of a fire access roadway.
- c. Access for single direction traffic shall be unobstructed 16 feet wide and 14 feet high.
- d. Access for bi-directional traffic shall be unobstructed 20 feet wide and 14 feet high.
- e. Swinging gates for single direction traffic shall swing in the direction of vehicle travel.
- f. Swinging gates for bi-directional traffic shall swing into the property being entered.
- g. Locations of gates shall be as approved by the Fire Chief on a case-by-case basis.
- h. All gates shall be accessible from the driving lane nearest the edge of the street by turning radii of at least 80' inside and 93' outside.
- i. Private driveways serving one single-family residence on moderate and heavily traveled streets shall:
  1. Meet the setback requirements of this appendix. If existing conditions prevent gate installation with 40' of clearance to the face of the gate, a letter documenting an acceptable alternative that would facilitate emergency ingress without endangering emergency response personnel and apparatus will be required for review and approved by the Fire Chief;
  2. Meet the operational requirements of electrically operated gates.

#### 5.1.2 Operation of Gates

- a. All gates shall be electrically operated for entry and exit by an approved fire department method:
  1. Radio operated controller (Click2Enter© or other approved equipment.)  
**Exception:** Radio controlled exit may be waived by installation of a "free exit" loop.
- b. Wiring for electrical gates shall be provided by AC current, underground installation.

- c. Electrically operated gates shall fail to the open position when the power is off. They shall remain open until power is restored.
- 2. A key override switch is required for all electrically operated gates (Knox®).

**5.1.2.1 Manual gates or barriers** may be approved on a case-by-case basis for nighttime security of business property or access to wild lands.

- a. They shall be constructed in a manner that reflects good construction practices acceptable to the Fire Chief.
- b. They shall be accessible by means of an approved fire department padlock (Knox®) or by the installation of an approved key box (Knox®).
- c. Approved manual gates or barriers across emergency access roadways shall be provided with an 18-gauge metal sign in the center of an on both sides of the gate that shall read, "FIRE LANE - NO PARKING". Letters shall be red on a white background and be a minimum of 3" high with a 1/2" stroke.
- d. Gates to close off a fire lane behind strip malls/stores in order to minimize dumping and vandalism shall be approved with (Knox®) padlock access.

**5.1.3 Prohibitions**

- a. No gate shall be installed where access requires the use of a proximity reader or card, unless a "turn-out" is provided for its use.
- b. Direction-limiting devices, such as fixed tire spikes, are prohibited.
- c. The total number of vehicle access control devices or systems, through which emergency vehicles must pass to reach any address shall not exceed one.
- d. No commercial property owner shall install fences and gates where more than one gate must be opened in order to reach within 150 feet of the rear portion of any building.

**5.2 Pedestrian Gates**

All vehicle gates obstructing pedestrian access to a public way (street) shall have an approved pedestrian gate installed within 10 feet of the vehicle gate.

- a. Gates shall be handicap accessible and comply with exit door requirements of the International Building Code.
  - b. An approved key box (Knox®) shall be installed at least 48" above grade on the outside of the gate. It shall be provided with a key to open the pedestrian gate.
  - c. No pedestrian gate shall be located in the median between two vehicle gates.
- Exception:** Private driveways serving one single-family residence are exempt from this requirement.

**SECTION 6 - INSTALLATION APPROVAL**

The fire authority having jurisdiction shall inspect all gates for proper installation and operation prior to activation or use.

**SECTION 7 - ADDITIONAL REQUIREMENTS**

Because of delays caused by vehicle access control devices or systems, additional fire protection requirements may be applied based on other access limitations, such as narrow or winding streets or dead-end streets without an approved turnaround available for fire apparatus.

Other than the obstruction and the reduced width controlled within this standard, no other requirement of the fire authority having jurisdiction shall be adversely affected by the placement of any vehicle access control device or system in any required fire apparatus access road.

Fire department approval does not waive any requirement by other authorities having jurisdiction.

## **SECTION 8 – ELECTRIFIED SECURITY FENCING**

**8.1** A Knox® Key Box is required at the gate electrical control box with a key or device to shut off the electrical power to the electrified fencing.

**8.2** Large warning signs shall be placed on all gates entering into the site.

## **SECTION 9 – RETROACTIVE REQUIREMENTS**

All existing public, owner or tenant use vehicle entrance gates into commercial or residential areas, considered to be emergency access for emergency vehicles by the Fire Chief, that do not have a Click2Enter© gate control system, will be required to upgrade to the new requirements within two years after approval of this Appendix (2006).

### **References:**

#### **1. Knox® Company**

Information and order forms are available at [www.Knoxbox.com](http://www.Knoxbox.com).

Information for Click2Enter Gate Control Systems is available at <http://www.click2enter.net>

**FPB Policy Manual  
APPENDIX 5**

**MARIJUANA ESTABLISHMENTS OR BUSINESSES**

Effective Date: March 31, 2015

**Purpose:**

This document is designed to provide a policy for most common conditions and situations. In any given occupancy, all Fire Code requirements will be enforced, as adopted and required. The Fire Inspector will address these during a premises inspection.

**Scope:**

This policy shall apply to all Medical Marijuana Establishments (MMEs) and/or associated businesses as licensed by the City of Sparks. This will include, but is not limited to, independent laboratories, medical marijuana dispensaries, and facilities for the production of edible marijuana products or marijuana-infused products, as defined in NRS 453A, located in the City of Sparks. These establishments or businesses involve unique operations which create significant life safety and fire hazards. As such, all establishments or businesses engaging in these activities shall be required to obtain all applicable annual operational permits, as listed in this document, and the International Fire Code (IFC).

For the purposes of this document, the following shall apply:

- An MME shall refer to NRS 453A.116 for the definition of “Medical marijuana establishment”.
- Production facility shall refer NRS 453A.105 for the definition of “Facility for the production of edible marijuana products or marijuana-infused products”.
- Lab shall refer NRS 453A.107 for the definition of “Independent testing laboratory”.
- Dispensary shall refer to NRS 453A.115 for the definition of “Medical marijuana dispensary”.
- Marijuana-infused products shall refer to NRS 453A.112 for the definition of “Marijuana-infused products”.
- Production shall refer to NRS 453A.130 and 453.131 for the definition of “Production”.
- Paraphernalia shall refer to NRS 453A.125 for the definition of “paraphernalia”.

New MMEs, facilities or businesses shall be required to apply for new construction, tenant improvement, change of occupancy permits, and a new business license. These permits may include access control systems, electrical modifications, special process equipment, additions or deletions of walls within a building, modifications to mechanical systems (exhaust hood systems, exhausting systems), etc. Please see the Sparks Fire Department *Guideline for Construction Permitting for Marijuana Establishments/Businesses Located in Commercial Buildings* for further information during the construction permitting process.

### **Definitions:**

For the purposes of this Policy, all marijuana terms in this document shall be as those defined in NRS 453 and 453A. This document may change as changes are made to NRS 453, to accommodate the requirements under the NRS.

### **Permits:**

Operational permits will be issued during the new business license inspection and anytime there is a change in a process, equipment, or machinery that requires an operational permit.

The following operations are required operational permits for MME within the City of Sparks:

- Annual LPG Use and Storage Permit – required for 1 pound or more of propane or butane (i.e. extraction operations)
- Annual CO2 Enrichment System Permit – including natural gas generators and for any system containing more than 100lbs of CO2 (2 50lb containers)
- Annual Compressed Gas Use and Storage Permit
- Annual Fumigation /Thermal Insecticide Fogging
- Annual Flammable and Combustible Liquids Use and Storage Permit
- Annual Specific Process Equipment Permit

### **Specific requirements**

#### **1. Fire suppression/alarm systems**

- An automatic fire suppression system may be required for cultivation and production facilities, regardless of square footage, based on fire official's determination of the operational hazards. This system shall be submitted for permit through the Sparks Building Department Permit Services, and approved by the Sparks Fire Department.
- A fire alarm system is required for all cultivation and production facilities for monitoring of the automatic fire suppression system in accordance with the IFC. This system shall be submitted for permit through the

Sparks Building Department Permit Services, and approved by the Sparks Fire Department.

## **2. Exits and security**

- Required minimum exit access per the International Building Code (IBC) shall be provided.
- Enhanced building security measures shall by no means impede access or egress for the facilities occupants or firefighters in the event of an emergency.
- Fire Department Key Access (Knox Box) shall be provided and located at the main entrance to the facility. Knox Boxes shall be sized to accommodate access items and initial paperwork, as requested by the Sparks Fire Department. Should electronic access be provided, gates shall have Click-to-Enter access with a Knox Key Switch. If a building/facility electronic access card/FOB is used, one a card or FOB shall be provided in the Knox Box for emergency access. The Knox Box shall be sized to accommodate appropriate required contents. A permit shall be obtained from the Sparks Building Department Permit Services for all electronic access gates. At no time shall electronic or non-electronic access impede emergency response or operations.
- Locking hardware on doors (interior or exterior) shall be in accordance with applicable codes. At no time shall access/egress doors be blocked or rendered inoperable. Single point entry doors, as required by NRS, shall be in accordance with the IBC and IFC.
- Clear egress aisles shall be maintained throughout grow rooms in accordance with applicable codes.
- Upon activation of the fire alarm system, all locking doors within the facility shall release, as required by the IFC. If a “man-trap” security set-up is used, it shall be in accordance with the requirements of Chapter 10 of the IFC.

## **3. Classification**

- All MME dispensaries strictly used for the sale of marijuana or products containing marijuana shall be classified as a “B” occupancy under the IFC.
- All MME dispensaries that sell marijuana or products containing marijuana and associated paraphernalia shall be classified as an M occupancy.
- All MME cultivation or production facilities shall be classified as a F-1 occupancy. This will include any facilities operated as a “greenhouse”.
- All production (extraction) facilities shall be classified as an F-1 or H occupancy, as required under the IFC.

## **4. Fire Extinguishers**

- Portable fire extinguishers shall be provided within the facility, near exits, per the IFC.

- Travel distance to extinguishers shall not exceed 75 feet of travel.
- Minimum extinguisher size permitted is 2A10BC.

## **5. Graphic Map**

- An 8 1/2 x 11 map displaying a general floor plan of the MME facility shall be provided near the main entrance in a clear protective cover for the facility, where the floor plan of the building is complex or may be confusing to first responders in the event of an emergency. An additional map shall be provided to the Sparks Fire Department for their records and response.

## **6. Interior Components/Finishes**

- Hanging plastic films shall not be used to create walls, ceilings or rooms. Where plastic films are applied to the walls or ceiling as an interior finish material, the installation shall comply with the requirements of Chapter 8 of the IFC. A construction permit may be required for installation.
- All interior finishes shall comply with the requirements of the IFC. Verification of compliance shall be provided.
- Rooms constructed or otherwise moved into a building or facility shall comply with the requirements of the Sparks Building and Fire Codes. This includes PODS or similar independent containers. The fire sprinkler, alarm and all associated mechanical devices shall be required to be installed in the rooms and/or containers.

## **7. Electrical**

- Extension cords, power strips, multi-outlet assemblies, etc., are prohibited from being used as permanent wiring.
- All electrical modifications require review and approval. Permanent wiring (new circuits, etc.) shall require an electrical permit from the Sparks Building Department. Electrical panel load schedules (from engineered electrical permit drawings) shall be posted at each panel.
- Emergency generators shall only be operated after obtaining permits from the Sparks Fire Department.
- Exit and emergency lighting shall be provided and maintained. At no time shall the exit signs be removed, covered, or rendered inoperable.
- All equipment shall be listed and installed in accordance with manufacturer's instructions.

## **8. Hazardous Materials/Conditions/Processes**

- All hazardous materials shall be properly stored, used and labeled per the IFC.
- All compressed gas use and/or storage shall be in accordance with the most current edition of *NFPA 55 Compressed Gases and Cryogenic Fluids Code*, and the IFC.

- Fumigation processes and pesticides applications shall not be performed without proper permits and advance notification to the Sparks Fire Department.
- Pesticides, Fungicides, Herbicides and Fertilizers shall be properly stored and used in strict accordance with manufactures recommendations, specifically, and approved for use inside of closed buildings on consumable products.
- Extraction processes shall not be conducted until all rooms, solvents, and equipment have been reviewed/approved by the Sparks Fire Department. All equipment shall be reviewed, stamped and be provided with a letter of review by a licensed Industrial Hygienist/Engineer per section 104.7.2 of the IFC.
- All hazardous material use shall be reviewed for the need for fume hoods, exhaust ducting, detection, etc. Ducting shall be in accordance with the Uniform Mechanical Code, NFPA, and IFC.
- All production areas shall be provided with detection appropriate for the chemical used in the process.
- All grow/cultivation facilities shall be provided with CO2 sensors, /CO detection, and other mechanical appurtenances as deemed necessary. This will include all proprietary applications. Allowed ppm shall not exceed 2,000. An interlock shall be provided for activation of exhausting systems.
- Hazardous exhaust hoods shall be required where LEL are greater than 25%.

## **9. Equipment**

- All equipment used in an MME shall be submitted to Sparks Building and Fire Departments for review and approval prior to use.
- All equipment shall be listed for its intended use and shall be reviewed and approved by Sparks Building and Fire Departments. The equipment shall be reviewed as stand-alone equipment and, once installed, be reviewed for application and installation within the facility. The equipment shall have all required mechanical, electrical, fire, etc. systems, as required, installed and approved prior to operation of the equipment.
- All processes shall be detailed and include all equipment, piping, process chemicals, storage amounts, specific process, etc. This includes the initial extraction process and also refinement and/or winterization/extraction.
- All special process equipment shall be permitted by the Sparks Fire Department with a serial number and the location where that the equipment is approved for use. This permit and serial number shall be generated by the Sparks Fire Department at the time of review. All documentation from the review shall be kept at the facility with the permitted equipment.

## **Site Inspection**

Upon approval of permit from the Sparks Fire Department, an inspection of the site shall be performed. Compliance with **ALL** Fire Code requirements shall be maintained at all times. Permits shall be kept on site and posted. The permit is valid only for the owner, site address, and time frame listed on the permit. Any changes to these items shall initiate new permit and new inspection.

A permit may be revoked for the following reasons:

1. Any of the conditions or limitations set forth in the permit has been violated.
2. Compliance with written orders has not been achieved.
3. False statements or misrepresentation of information are provided in any application.
4. The permit is issued in error or in violation of any City ordinance or regulation.

## **Notice**

Any and all occupancies discovered operating MME or businesses (included but not limited to marijuana infused product operations, marijuana cultivation, testing labs, and marijuana sales occupancies) not in compliance with all requirements of the Sparks Fire Department and the requirements listed in these guidelines, may result in the issuance of a "Stop Work Order" under Chapter 1 of the IFC and a summons issued to all offending parties.

**SPARKS FIRE DEPARTMENT**

**MARIJUANA ESTABLISHMENTS OR BUSINESSES PERMIT APPLICATION**

Business Name: \_\_\_\_\_  
Permit Site Address: \_\_\_\_\_  
Billing Address: \_\_\_\_\_  
Business Phone: \_\_\_\_\_  
Owner Name: \_\_\_\_\_  
Owner Address: \_\_\_\_\_  
Owner Phone: \_\_\_\_\_  
Owner E-Mail: \_\_\_\_\_

Type of establishment or business (check all that apply)

- Retail Marijuana Store                       Medical Marijuana Center
- Retail Marijuana Cultivation               Medical Marijuana Optional Premise Cultivation
- Retail Marijuana Product Manuf.         Medical Marijuana Infused Product
- Retail Marijuana Testing Facility

Type of processes performed onsite (check all that apply):

- Plant extraction                               CO2 enrichment system
- Compressed gas storage/use               Fumigation/Thermal Insecticide Fogging
- Flammable liquid storage/use           LPG storage/use
- Pesticide Inventory Statement

I HAVE READ AND UNDERSTAND THE SPARKS FIRE DEPARTMENT POLICY REGARDING MARIJUANA ESTABLISHMENTS OR BUSINESSES. I FURTHER UNDERSTAND THAT A SITE INSPECTION WILL BE CONDUCTED BY SPARKS FIRE PREVENTION PERSONNEL AND THAT PERMITS MAY BE REVOKED WITHOUT REFUND IF ANY FIRE/BUILDING CODE VIOLATIONS ARE DISCOVERED.

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**FPB Policy Manual**  
**APPENDIX 6**

**GUIDELINE FOR CONSTRUCTION PERMITTING FOR MARIJUANA  
ESTABLISHMENTS/BUSINESSES LOCATED IN COMMERCIAL BUILDINGS**

Effective Date: March 31, 2015

The intent of this guideline is to aid in the construction permitting process including *Change of Use/Occupancy* for marijuana establishments or businesses (i.e., infused product manufacturing, cultivation, sales, or testing labs) within commercial buildings or tenant spaces regarding what should be submitted for Fire Prevention Division review. Because every building differs, this guideline is not intended to identify each code requirement applicable, therefore the applicant must follow all appropriate Codes as adopted by the City of Sparks for the process or construction under review. Other Fire Department annual operational permits maybe required.

The following items are related to construction permitting including changes of use and/or occupancy of a commercial building for use as marijuana establishment or business after a City of Sparks Zoning Use Permit has been obtained.

The Fire Prevention Division reviews construction permit submittals concurrently with Sparks Building Department for compliance with the currently adopted International Fire Code and other nationally recognized Codes and References. Submittals for construction permits and changes of use/occupancy are submitted to the Sparks Building Department. The following information, specific to marijuana centers, plant cultivation facilities, testing labs, and marijuana infused product manufacturing / kitchens should be submitted in addition to Building Department requirements when applying for an applicable construction permit:

- 1) Identify any proposed blocked windows or doors and how blocking will be accomplished. For growing operations, any new wall partitions or ceilings need to be permitted for construction. Any use of plastic or Mylar to enclose rooms or cover the walls or ceilings must be installed in accordance with Building & Fire Code requirements. If plastic material is proposed, include manufacturer cut sheets showing the flame spread ratings and details of how the product will be installed in compliance with applicable Codes. If plastic is not proposed, indicate in a letter or on construction drawings that plastic materials will not be used to line walls/ceiling or create room enclosures. (Note that hanging plastic from ceilings or suspended overhead structures to create wall dividers is not in compliance with code provisions for a wall partition or interior finish).

- 2) There are several common triggers when a fire sprinkler system is required for plant cultivation operations. These include an F-1 occupancy fire area exceeding 12,000 sq. ft. A Building Code analysis should be submitted with any construction permit or change of use/occupancy which is typically conducted by a licensed Architect or Engineer. This analysis identifies if the building will require a fire sprinkler system.
- 3) An installation/operational permit is required for CO2 Enrichment Systems. Please see *Sparks Fire Department CO2 Gas Enrichment Policy* for details of permit requirements.
- 4) Sparks Fire Code prohibits the use of extension cords or power strips as permanent wiring to equipment, lighting, fans, etc. The electrical loads and wiring for grow lighting, fans, etc. will need to be reviewed and permitted for use. An electrical submittal will need to be included to justify that electrical loads are sized adequately. Also note for field installation of lighting, all electrical wiring (including wiring from ballasts to grow lamps) is required to be supported in accordance with National Electrical Code.
- 5) The type of proposed locking hardware on all exit doors must be submitted for review.
- 6) If plant oil extractions will be performed, provide complete details of the proposed extraction process, equipment, mechanical exhaust system, and room construction in a permit submittal. All exhaust system installations and room construction requires Building Department mechanical & construction permit. Unless *listed* extraction equipment is used (i.e. UL or equivalent), Sparks Fire Prevention will require an engineering report from a licensed Engineer justifying that the particular equipment being used is adequately constructed to process a hazardous material.
  - a) The use of butane or other similar flammable gases in open systems (i.e. where the agent is directly released to the atmosphere) is prohibited. Closed systems are approved by permit only after review to confirm that the system is in compliance with Sparks Fire Prevention Code requirements. Closed systems must include a low level (typically floor level) mechanical exhaust system (minimum 1 CFM sq. ft. of floor area) or a hazardous exhaust hood designed to capture any possible vapor release. A local hydrocarbon detector shall be used at all times the extraction equipment is in operation. Exhaust system shall be rated intrinsically safe. Where closed systems use refrigeration recovery machines, the unit must be rated for use with hydrocarbon refrigerants. Where butane is stored/used on site, an annual operational hazardous material permit is required.
  - b) CO2 supercritical extractions relief venting must be piped to the exterior. Local CO2 level monitoring/alarm must be provided in the

area of operation; also in any CO2 storage rooms. Provide details of the equipment and the amount of CO2 used/stored on site.

- c) Alcohol or other flammable/combustible liquid extractions where the liquid is boiled, distilled, or evaporated shall be in compliance with Sparks Fire Prevention Code and the most current edition of NFPA 30. The solvent used in the process (typically alcohol) must be identified by the applicant. The operation must be conducted under a hazardous exhaust hood that is rated for exhausting flammable vapors; electrical equipment used (including hot plates) shall be rated for use in flammable vapor atmospheres. Heating flammable liquids over an open flame is prohibited. Details of the proposed equipment must be submitted for approval. Note that a heating element that is not rated for flammable atmospheres may be approved where documentation from the manufacturer or an approved testing laboratory shows that it is rated for heating flammable liquids.
- 7) For existing permitted occupancies, any modification to extraction processes, the building layout (i.e. walls, ceilings, or other similar construction), electrical system, etc. shall only be conducted under review and permit. Coordinate with Sparks Building Department requirements for construction.

**FPB Policy Manual**  
**APPENDIX 7**

**CARBON DIOXIDE (CO<sub>2</sub>) GAS ENRICHMENT SYSTEMS**

Effective Date: March 31, 2015

**Purpose:**

This policy is meant to provide basic information based on currently available information regarding the use of carbon dioxide gas enrichment systems for most common conditions and situations. In any given occupancy, many other Fire Code requirements may be enforced. These will be addressed by the Fire Inspector during a premises inspection.

**Scope:**

This policy covers the safety requirements as they pertain to the use and storage of carbon dioxide (CO<sub>2</sub>) gas enrichment systems within the City of Sparks for any system storing and using more than 100 pounds of carbon dioxide **or** any system storing **or** using any amount of CO<sub>2</sub> below grade, including a basement **or** crawl space or any natural gas CO<sub>2</sub> generators.

**Permits:**

An annual operational permit will be issued by the Sparks Fire Department's Fire Prevention Division for a carbon dioxide (CO<sub>2</sub>) enrichment system as defined in the scope.

A separate annual compressed gas storage/use permit will be required for 650 cu/ft or more of an "other health hazard." (1 pound of CO<sub>2</sub> = 8.74 cu/ft)

All permits shall be kept on site for inspection. The following information must be provided for the permit:

- Installation/maintenance contractor's business name and address, phone number, fax number
- Contact name and phone number
- Property/business owner name, phone number, fax number, and address
- Site address
- Type of carbon dioxide in use (compressed gas, super cooled liquid or natural gas burner).

- Total cubic feet and equivalent pounds or gallons of gas or super cooled liquid on site; include inside and outside use and/or storage.
- Diagram of site location indicating gas or super cooled liquid use/storage area
- Location of all alarms and shut offs

To obtain the required annual permit(s), the business owner or company representative must complete and sign the Carbon Dioxide (CO<sub>2</sub>) Gas Enrichment System Permit application form and provide the documentation required. All carbon dioxide (CO<sub>2</sub>) gas enrichment system plans must be reviewed by Sparks Fire Department Fire Prevention Division. Upon approval, applicable Fire Department permits shall be issued and systems shall be inspected and approved prior to the issuance of the operational permit.

### **Site Inspection:**

Upon approval of the Carbon Dioxide System permit, a Fire Department Fire Prevention Inspector will conduct a field inspection of the site. Compliance with all Fire Code requirements shall be maintained at all times. Permit shall be posted on site. Permit is valid for business/property owner, time frame, and site address indicated on the permit. Permit will be revoked if:

- 1) Any of the conditions or limitations set forth in the permit has been violated.
- 2) Compliance with written order has not been achieved.
- 3) False statements or misrepresentation of information provided in the permit application are found.
- 4) The permit is issued in error, in violation of City ordinance or the Sparks Fire Code.

## **Basic Carbon Dioxide (CO<sub>2</sub>) Gas Enrichment System Requirements**

### **A. Carbon Dioxide (CO<sub>2</sub>) Gas Enrichment Systems Using On Site Supply Tanks and/or Cylinders**

#### **Specifics and Conditions**

1. Compressed gas containers, cylinders and tanks shall be designed, fabricated, tested, marked with the specifications of manufacture and maintained in accordance with the regulations of DOTn 49 CFR, Parts 100-185 or the ASME Boiler and Pressure Vessel Code, Section VIII.
2. Piping, including tubing, valves, fittings and pressure regulators, shall be designed and installed in accordance with approved standards. Piping, tubing, pressure regulators, valves and other apparatus shall be kept gas tight to prevent leakage. Valves utilized on compressed gas systems shall be suitable for the use intended and shall be

accessible. Valve handles or operators for required shutoff valves shall not be removed or otherwise altered to prevent access.

3. Venting of gases shall be directed to an approved location outside the building. Venting shall comply with the Uniform Mechanical Code as adopted by the Sparks Building Department.
4. Location (inside or outside the building) of containers, cylinders and tanks shall be at an approved location. Compressed gas containers, cylinders and tanks shall be secured in an approved manner to prevent falling caused by contact or vibration. Containers, cylinders and tanks stored outside shall be secured and safeguarded against unauthorized entry and protected from physical damage when exposed to vehicle traffic. Outside stationary tanks will require an engineered foundation.
5. Filling and transferring of gases between containers, cylinders and tanks shall be performed by qualified personnel using equipment and operating procedures in accordance with CGA P-1. Inside storage containers, cylinders or tanks must be filled from a connection made on the outside of the building or safely exchanged using an approved method.
6. Compressed gas system controls shall be designed to prevent materials from entering or leaving process or reaction systems at other than the intended time, rate or path. Automatic controls shall be designed to be fail safe. All systems must have valves that positively close in the event of a loss of electrical power to the building.
7. Emergency alarm systems shall be provided as follows:
  - Equipment (meters or gauges or sensors) shall be provided to indicate CO<sub>2</sub> levels in each grow cultivation area/room and interior CO<sub>2</sub> storage locations.
  - Interior storage room meters shall be calibrated and interconnected to a gas supply valve (that positively closes) located at the storage container(s) to limit CO<sub>2</sub> levels to a maximum of 2000 ppm. CO<sub>2</sub> store rooms will require an amber strobe and audible horn inside and outside the room at each entrance when the sensor exceeds 2000 ppm in that room. The notification devices shall be rated a minimum of 100cd for a visible effect and 75 dBA for an audible effect. A CO<sub>2</sub> sensor with an integral audible visual will be allowed inside the storage room in lieu of a dedicated notification device. Signage

will be required adjacent to these horn strobes. There must be signage within 4 inches beneath all amber strobes that state: (outside the room): **DO NOT ENTER WHEN LIGHT IS FLASHING – CARBON DIOXIDE LEAK DETECTED**” and (inside the room) **“FLASHING LIGHT MEANS CARBON DIOXIDE LEAK DETECTED – EVACUATE ROOM.”**

- Grow cultivation area/room meters shall be calibrated and inter-connected to a gas supply valve (that positively closes) for each grow room to limit CO2 levels to a maximum of 2000 ppm. Each grow area/room will require an amber strobe and audible horn inside the room when the sensor exceeds 2000 ppm in that room. The notification devices shall be rated a minimum of 100cd for a visible effect and 75 dBA for an audible effect. A CO2 sensor with an integral audible visual will be allowed inside the grow room in lieu of a dedicated notification device. There must be signage within 4 inches beneath all amber strobes that state: (inside the room) **“FLASHING LIGHT MEANS CARBON DIOXIDE LEAK DETECTED – EVACUATE ROOM.”**
  - All systems must have valves that positively close in the event of a loss of electrical power to the CO2 sensors.
  - A minimum of one (1) portable CO2 meter shall be in use during business hours.
8. Signage shall be provided on the exterior door of each grow cultivation room/area utilizing CO2 and in each room storing CO2 stating:



NFPA 704 Simple Asphyxiate placards shall also be provided at the exterior main entrance and at rooms where CO2 is used or stored.

9. Inspection and testing of equipment. All sensors, alarms and storage containers must be inspected and tested annually or as prescribed by the manufacturer. A written record of all required inspection and testing shall be maintained on the premises for a period of three years. Testing of emergency

devices or systems required by this policy shall be conducted by persons trained and qualified in these systems.

10. Training. All employees shall receive annual training in hazard identification, physical properties and emergency procedures. Training records shall be available to inspectors upon request.

**B. CARBON DIOXIDE (CO<sub>2</sub>) GAS ENRICHMENT SYSTEMS USING A NATURAL GAS BURNER**

**SPECIFICS AND CONDITIONS:**

1. Natural gas burners that are utilized to generate CO<sub>2</sub> shall be approved by the Sparks Building and Fire Departments. Mechanical drawings, specifications and analysis as follows: typical isometrics of gas piping, BTU rating of gas units, method of combustion and ventilation air supply and manufacturers specifications for all equipment.
2. Emergency alarm systems shall be provided as follows:
  - Equipment (meters or gauges or sensors) shall be provided to indicate CO<sub>2</sub> levels in each grow cultivation area/room.
  - Grow cultivation area/room meters shall be calibrated and interconnected to each natural gas burner stopping the generation of CO<sub>2</sub> in each grow room to limit CO<sub>2</sub> levels to a maximum of 2000 ppm. Grow cultivation area/rooms will require an amber strobe and audible horn inside and outside the room at each entrance when the sensor exceeds 2000 ppm in that room. The notification devices shall be rated a minimum of 100cd for a visible effect and 75 dBA for an audible effect. A CO<sub>2</sub> sensor with an integral audible visual will be allowed inside the storage room in lieu of a dedicated notification device. Signage will be required adjacent to these horn strobes. There must be signage within 4 inches beneath all amber strobes that states: (outside the room) **“DO NOT ENTER WHEN LIGHT IS FLASHING – CARBON DIOXIDE LEAK DETECTED”** and (inside the room) **“FLASHING LIGHT MEANS CARBON DIOXIDE LEAK DETECTED – EVACUATE ROOM.”**
  - All CO<sub>2</sub> burner systems must shut down in the event of a loss of electrical power to the CO<sub>2</sub> sensors.
  - A minimum of one (1) CO<sub>2</sub> meter shall be in use during business hours.

3. Signage shall be provided on the exterior door of each grow cultivation room/area utilizing CO2:



NFPA704 Simple Asphyxiate placards shall also be provided at the exterior main entrance and at rooms where CO2 is used or generated.

4. Inspection and testing of equipment. All sensors, alarms and CO2 burners must be inspected and tested annually or as prescribed by the manufacturer. A written record of all required inspection and testing shall be maintained on the premises for a period of three years. Testing of emergency devices or systems required by this policy shall be conducted by persons trained and qualified in these systems.
5. Training. All employees shall receive annual training in hazard identification, physical properties and emergency procedures. Training records shall be available to inspectors upon request.

**SPARKS FIRE DEPARTMENT**

**CARBON DIOXIDE SYSTEM PERMIT APPLICATION**

Business Name: \_\_\_\_\_

Permit Site Address: \_\_\_\_\_

Contact's Name: \_\_\_\_\_

Contact's Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-Mail: \_\_\_\_\_

Installation Contractor: \_\_\_\_\_

Cylinder(s) Size: \_\_\_\_\_ Generator(s) Size: \_\_\_\_\_

No. of Cylinders inside \_\_\_\_\_ Outside: \_\_\_\_\_ No. of Generators: \_\_\_\_\_

Intended use: \_\_\_\_\_

Maximum allowable working pressure: \_\_\_\_\_

Provide a **Plot Diagram (Sketch of Site)** showing the layout of the property and building, including property lines, building floor layout, roads, and vehicle access points.

I UNDERSTAND THAT SPARKS FIRE DEPARTMENT WILL CONDUCT A SITE INSPECTION, AND IF THE INSTALLATION DOES NOT COMPLY WITH THE SPARKS FIRE AND BUILDING CODES, THE PERMIT MAY BE REVOKED.

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**FPB Policy Manual  
APPENDIX 8**

**PLANT EXTRACTION SYSTEMS**

Effective Date: March 31, 2015

**Purpose:**

This policy is meant to provide basic information based on currently available information regarding Marijuana/other plant extraction processes for most common conditions and situations. In any given occupancy, many other Fire Code requirements may be enforced. These will be addressed by the Fire Inspector during a premises inspection.

**Scope:**

This policy covers the safety requirements as they pertain to the use of plant extraction systems within the City of Sparks. These include: Systems designed to extract plant material using flammable gases, flammable liquids, carbon dioxide, alcohol and/or any other method of plant oil extraction.

Exemption: Extraction processes using cold water only.

**Other Requirements:**

Any Sparks Building Department construction permits that are required for the extraction process (i.e. exhaust hoods, electrical upgrades, etc) must be obtained, the associated work completed and inspected prior to the issuance of the Marijuana Extraction Operational Permit. See Sparks Fire Department *Guideline for Construction Permitting for Marijuana Establishments* or Businesses for specific requirements related to Sparks Fire Department review of extraction process(s) and equipment.

All marijuana occupancies in the City of Sparks are required to obtain a Marijuana Establishment or Business operational permit from the Sparks Fire Department. Where hazardous material storage amounts exceed Sparks Fire Code permissible amounts, a hazardous material operational permit is required.

## **Permits**

An annual operational permit shall be obtained from the Sparks Fire Department, Fire Prevention Division for any extraction process not exempted in the scope. All annual operational permits shall be kept on site for inspection. To obtain a permit, the following information must be provided:

- Property/business owner name, phone number, fax number, and address
- Site address
- Contact name and phone number
- Installation/Maintenance contractor's business name and address, phone number, fax number
- List the type of process proposed
- List the type of machine used in the process
- Technical specification on any machine or safety equipment proposed for use (extraction devices and hood systems).
- List total cubic feet or equivalent pounds or gallons of gas or liquid on site; include inside and outside use and/or storage.
- Diagram of site location indicating gas or liquid use/storage area
- Specify any local hydrocarbon, CO<sub>2</sub> or other hazardous material detector provided

To obtain the required permit(s), the business owner or company representative must complete and sign the Extraction System Permit application form and provide the other documentation required. Separate permits will be required for use and storage of flammable gases, LPG, or flammable liquids. A compressed gas permit will be required for CO<sub>2</sub> use and storage in amounts over 100 pounds. All extraction process except as exempted in paragraph 1 will need to be plan reviewed by the Sparks Fire and Building Departments.

## **Site Inspection**

Upon approval of the extraction system and associated equipment, a permit will be issued, and a Sparks Fire Department Fire Prevention Inspector will conduct a field inspection of the site. Compliance with all Fire Code requirements shall be maintained at all times. Permit shall be posted on site. Permit is valid for business/property owner, time frame, and site address indicated on the permit. Permit will be revoked if:

1. Any of the conditions or limitations set forth in the permit has been violated.
2. Compliance with written order has not been achieved.
3. False statements or misrepresentations of information provided in the permit application are found.
4. The permit is issued in error, in violation of City ordinance or the Fire Code.

## Specifics and Conditions

**1) Inspection and testing of equipment.** All sensors, alarms and storage containers must be inspected and tested annually or as prescribed by the manufacturer. A written record of all required inspection and testing shall be maintained on the premises for a period of three years. Testing of emergency devices or systems required by this policy shall be conducted by persons trained and qualified in these systems.

### **2) LPG (Butane/Propane) related extractions:**

- a) A butane extraction process, where gas is released directly to the atmosphere, is strictly prohibited.
- b) Butane extraction processes are prohibited in basements unless an approved hazardous exhaust system is provided.
- c) Hazardous exhaust systems shall be in operation at all times during the extraction process. Where interlocks are not provided for fan operation to ensure operation, signage must be posted at the switch **“EXHAUST MUST BE IN OPERATION DURING EXTRACTION PROCESS.”**
- d) Local hydrocarbon detector/alarm shall be in operation at all times during the extraction process.
- e) Extraction equipment shall not be operated near open flame or spark producing appliances.

### **3) Flammable liquid related extractions (distillation/boil off)**

- a) Flammable liquid extraction processes are prohibited in basements unless an approved hazardous exhaust system and the basement is sprinklered.
- b) Hazardous exhaust systems shall be in operation at all times during the extraction process unless the extraction equipment is UL listed as a Solvent Recovery Unit. Where interlocks are not provided for fan operation to ensure operation, signage must be posted at the switch – **“EXHAUST MUST BE IN OPERATION DURING EXTRACTION PROCESS.”**
- c) Extraction equipment shall not be operated near open flame or spark producing appliances.
- d) Open boil off extractions shall only utilize equipment rated for explosive atmospheres (i.e. hot plates).
- e) Equipment shall be operated and installed strictly in accordance with manufacturer instructions.

### **4) Supercritical carbon dioxide extractions**

- a) Local carbon dioxide detector/alarm shall be in operation at all times during the extraction process.
- b) CO<sub>2</sub> extraction equipment must not vent indoors. Any process relief piping must be piped to the outdoors.

**5) Training.** All employees shall receive annual training in hazard identification, physical properties and emergency procedures. Training records shall be available to inspectors upon request.

**SPARKS FIRE DEPARTMENT**

**EXTRACTION PROCESS PERMIT APPLICATION**

Business Name: \_\_\_\_\_

Business Mailing Address: \_\_\_\_\_

Permit Site Address: \_\_\_\_\_

Contact's Name: \_\_\_\_\_

Contact's Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-Mail: \_\_\_\_\_

Type of Extraction Process: (LPG) (Flammable Liquid) (CO2) (Other) *circle all that apply*

Hazardous Material(s) Used in Extraction: \_\_\_\_\_

\_\_\_\_\_ (MSDS Required)

Number of Extraction Units in Operation: \_\_\_\_\_

Manufacturer & Model # of Extraction Equipment: \_\_\_\_\_

\_\_\_\_\_

**Note:** If not UL Listed, then a Peer Report is required by a Qualified Engineer.

Total amount of Hazardous Materials Stored Onsite: \_\_\_\_\_

I UNDERSTAND THAT SPARKS FIRE DEPARTMENT WILL CONDUCT A SITE INSPECTION, AND IF THE INSTALLATION DOES NOT COMPLY WITH THE SPARKS FIRE AND BUILDING CODES, THE PERMIT MAY BE REVOKED.

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_