

# Development Guidelines



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To: Interested Parties

Re: Fire Department Development Guidelines – March 2011

The Cheney Fire Department has provided this guide to assist developers with information pertaining to fire & life safety regulations under jurisdiction of the Cheney Fire Department for projects within the City of Cheney. This basic guide outlines the minimum fire protection requirements of the Fire Department. It is not the intent of this guide to specify exact requirements for any given development, subdivision or use permit, but rather to acquaint architects, designers, builders and engineers with the general fire and life safety requirements that must be considered.

All projects, proposals and plans are required to be initiated with the City of Cheney Community Development Department, who will in turn forward such proposals to the Fire Department for their review. Each proposal will be provided with specific comments, as required by code, and routed back to the Building Department for distribution.

The following are the most common code references used by the Fire Department:

- International Fire Code (2009 Edition, including appendices)
- National Fire Codes (NFPA)– (References)

Please take some time to familiarize yourself with the information contained within. It is our sincere desire to assist you in the planning and construction of your project. Please contact us if you have any questions or need further clarification.

Thank you for doing business with the City of Cheney.

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## **FIRE SAFETY REQUIREMENTS**

### **Key Box (Knox Box)**

The Cheney Fire Department uses the Knox Rapid Entry System exclusively. The 3200 series key box is recommended for all commercial occupancies. A Knox order form can be obtained from the Cheney Fire Department, located at 611 Fourth Street, in Cheney. You will receive instructions with the order form. The key box shall be mounted a minimum of five feet, and a maximum of six feet above adjacent grade, and installed per the manufacturers specifications.

Know Box locations shall be indicated on the plans.

### **Portable Fire Extinguishers**

Fire extinguishers are required in all commercial and multi-family occupancies. The International Fire Code (IFC), Section 906, outlines the requirements for portable fire extinguishers according to occupancy type. Most business occupancies require a 2A10B:C dry chemical extinguisher. Extinguishers should be located so that the maximum travel distance is no more than 75 feet. All extinguishers should be mounted and clearly visible, and the top of the extinguisher should not be lower than three feet, and no higher than five feet A.F.F.

All fire extinguisher locations shall be indicated on plans.

### **Addressing**

If the building address is located less than eleven foot eleven inches above finish grade, then the address characters shall be a minimum of six inches in height with a minimum three inch stroke in contrast to building colors.

If address is located twelve feet or more above finish grade, then the address characters shall be a minimum of twelve inches in height with a minimum four inch stroke in contrast to building colors.

Address characters shall be visible from street or road fronting the property and if required, on all fire department approaches.

### **Combustible/ Flammable Material**

All decorations and decorative material must be flame retardant. Contact the Fire Department for specific requirements.

## **ACCESS REQUIREMENTS**

### **Access Roads**

The following definitions are applicable to this section:

**ALTERNATIVE SURFACE ACCESS ROADS** are fire apparatus access roads for fire department use, that are required for fire department access, and that are constructed with approved materials, other than pavement.

**AUXILIARY ACCESS OPENINGS** are gated vehicle entrance and exit locations other than a property's primary or main entrance.

**FIRE APPARATUS ACCESS GATES** are automatic or manually operated gates or devices provided for fire apparatus access into or from a property, including auxiliary access openings.

**FIRE APPARATUS ACCESS ROADS** are roads shared by emergency and private vehicles to allow access throughout a property and includes alternative surface access roads and interior fire apparatus access roads.

### **Fire Apparatus Access Roads**

Plans for fire apparatus access roads, including interior and alternative surface apparatus access roads, shall be submitted to the Fire Department for review and approval prior to construction. See Section 503 of the IFC for fire apparatus access road requirements.

### **Timing of Installation**

When fire apparatus access roads and water supplies for fire protection are required, such protection shall be installed, made serviceable and maintained prior to bringing combustible materials onto the site and during the time of construction.

### **Dimensions**

Fire apparatus access roads shall have an unobstructed width of not less than 20 feet and a vertical clearance of not less than 13 feet 6 inches.

### **Bridges**

When a bridge is used as part of a required fire apparatus access road, it shall be constructed and maintained in accordance with nationally recognized standards. The bridge shall be designed to support a minimum imposed live load of 66,000 pounds with a maximum axle load of 24,000 pounds.

## **Turning Radius**

Fire apparatus access roads shall have a minimum 45-foot center line radius (35 foot inside radius, 55 foot outside radius) on curves.

## **Fire Apparatus Access Gates.**

Plans shall be submitted to the Fire Department for approval prior to the installation or modification of fire apparatus access gates. This includes both automatic and manual access gates.

## **Inspection of fire apparatus access roads.**

Fire apparatus access roads shall be subject to field inspection and may be subject to testing using fire apparatus. The owner is responsible for any repairs necessary due to the inadequate design of the access road.

## **Inspection of Gates.**

Fire apparatus access gates and any gates used for fire department personnel access shall be subject to field inspection and may be tested using fire apparatus.

**Temporary Fire Apparatus Access Roads.** Temporary fire apparatus access roads, such as those used for fire department access during construction, must comply with Section 503 of the IFC.

## **Required Access**

Fire apparatus access is required within 150 feet of all points on the exterior of the building.

## **Width**

Temporary fire apparatus access roads shall be a minimum of 20 feet in width.

## **Surface**

At a minimum, the surface of temporary fire apparatus access roads shall be as follows:

1. Minimum 6 inches of native soil compacted to 95% of standard proctor density (ASTM D698), and
2. Minimum 4 inches of aggregate base compacted to 100% of standard proctor density (ASTM D698).

The surface of temporary fire apparatus access roads may differ from the above requirements if it is shown that the surface provided is sufficient to support an imposed live load of 66,000 pounds with a maximum axle load of 24,000 pounds.

### **Drainage**

Water drainage shall be directed away from or piped under the fire apparatus access road. Ponding is not permitted to a depth of more than 3 inches.

### **Turnarounds**

All dead end fire apparatus access roads in excess of 150' must be provided with turnaround provisions. Cul-de-sac, hammerhead, or "Y" type turnarounds are acceptable. See IFC Appendix D for further information and examples.

### **Fire Lane Signs**

Fire lanes will be established by the Fire Department at the time of plan review. Signs are to be located a maximum of 50' apart, or as required by the Fire Chief. See IFC Appendix D for further information.

### **Access Gates**

#### **Egress**

Fire apparatus access gates shall be designed and installed such that they do not obstruct the egress or departure of emergency vehicles.

#### **Maintenance**

All fire apparatus access gates shall be maintained operable at all times (including the removal of snow), and shall be inspected at least annually. Copies of the annual inspection report shall be maintained and be accessible for Fire Department review.

#### **Inoperable Gates**

Fire apparatus access gates shall be chained open or removed at the owner's expense if not maintained in an operable condition.

#### **Illegal Gates**

Fire apparatus access gates installed without a permit shall be chained open or removed at the owner's or installing contractor's expense until a permit and final approval have been obtained from the fire department.

## **Opening Width**

When fully opened, a minimum 20-foot clear width shall be provided for both the entrance and exit gates. The Fire Chief shall require additional width opening when a 45-foot fire apparatus turning radius cannot be met.

## **Emergency Key Switch**

Each fire apparatus access gate shall be equipped with an approved key switch on both sides of the gate. Key switches installed on the property side of the gate shall be adjacent to the property gate. When separate entry and exit gates are provided, the emergency key switch shall open the entrance and exit gates.

## **Opening Time**

Activated fire apparatus access gates shall open at a minimum rate of one foot per second.

## **Key Switch Identification**

An approved sign reading "F.D. ACCESS" shall be installed within 12 inches of the emergency key switch.

## **Height**

The key switch shall be mounted no higher than 5 ½ feet (66 inches) above grade.

## **Visibility**

The key switch shall be illuminated so as to be immediately visible to fire personnel from the emergency apparatus.

## **Obstruction and Impairment**

Posts, fences, vehicles, growth, trash storage, snow and other materials shall not be placed or kept near key switches in a manner that would prevent the key switches from being immediately discernible.

## **Bypass of systems**

When activated, the emergency key switch shall bypass all occupant and loop switch systems.

## **Setbacks**

Entry gates shall be set back from the nearest curb line of any public street to provide a minimum 40 feet of storage for entering vehicles to stack without interfering with through traffic. Provisions for turning around vehicles must be provided when entry is denied.



## **WATER SUPPLY REQUIREMENTS**

An approved water supply capable of supplying the required fire flow for fire protection shall be provided to all premises upon which facilities, buildings, or portions of buildings are hereafter constructed or moved into or within the jurisdiction. Where a portion of the facility or building hereafter constructed or moved into within the jurisdiction is more than 400 feet from a hydrant on a fire access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the fire code official (IFC Section 507).

### **Fire Flow Requirements**

Fire flow requirements shall be set forth in the IFC, Appendix B. The minimum required fire flow for buildings equipped with an approved automatic fire sprinkler system may be reduced by 50%, but in no cases will be less than 1500 gallons per minute (gpm).

### **Water Lines**

Water lines will be installed according to the City of Cheney Water Department standards.

### **Hydrants**

Hydrants will be installed prior to any combustible materials arriving on the job site. The maximum spacing between hydrants will be 500'. See table C105.1 of the IFC for specific information.

Hydrants will be painted hi-visibility yellow.

A minimum three feet clearance will be maintained around the hydrant. No posts, fences, or other obstructions are allowed.

Hydrants shall be placed where they will not be obstructed by parked vehicles.

The large (4½") port shall be facing towards the fire lane.

The bottom of the 4½" port shall be installed between 18 and 24 inches above finished grade.

All new hydrants shall be pressure tested at 200 psi for two hours prior to being placed in service.

All new hydrants shall be flushed per NFPA standards prior to being placed in service.

Storz fittings are required on all new hydrants.

## Underground Fire Lines

All plans must show the following information:

- Size of piping.
- Type of piping.
- Depth of piping.
- Proper pipe configuration of:
  - i. Thrust blocks.
  - ii. Direction changes.

Verify Double Backflow Assembly.

- Correct direction.
- Monitored tamper switches installed on control valves on double backflow assembly.
- Remote Fire Department Connection (FDC), (If Installed)
  - a. Remote Fire Department Connection shall be located within twenty five feet of and on same side of road as a fire hydrant.
  - b. Remote Fire Department Connection shall be located a minimum of forty feet from building.
  - c. If remote Fire Department Connection services only one building, then paint supply piping red and stencil the address with four inch white characters.
  - d. If Fire Department Connection serves more than one building, then provide a 12-inch by 18-inch RED background sign with the addresses the Fire Department Connection serves in three inch reflective WHITE characters.
  - e. Verify three foot diameter clearance around FDC.
  - f. Fire Department Connection shall be installed between 18 and 48 inches above finish grade and the 2.5 inch ports shall face fire lane.
  - g. Verify that the 2.5 inch approved caps or plugs are installed.
  - h. Verify that swing check valve (as required) is installed as close to Fire Department Connection as possible and is installed in correct direction.
- Wall Mounted Fire Department Connection
  - a. Any wall-mounted FDC's shall be located a minimum of 15' from any openings (doors, windows, etc.) in the building.
  - b. FDC's shall not be located underneath combustible overhangs.

**Note: Fire line shall be visible during hydrostatic testing. Center loading of the pipe is acceptable; however, all joints, valves, thrust blocks, and fittings shall be visible. DO NOT cover fire line until inspection is approved.** The fire department inspection of fire line consists of the fire line supply piping from the inside / outside of the building(s) to the point of connection to the supply water main at street or to water main loop.

Also, if a remote fire department connect is installed, then an inspection of the fire line supply piping from the building to the remote fire department connection is required. Piping shall be visible as stated above

A completed copy of NFPA 13 inspection report for underground piping is required at time of inspection.

## **FIRE SUPPRESSION SYSTEMS**

### **Fire Sprinkler Systems**

Automatic Fire Sprinklers are required for the following occupancies:

- Group A Occupancies (See IFC Section 903 for specific requirements).
- Group E Occupancies (all E occupancies over 20,000 sq.ft., or where any portion of the building is below the level of exit discharge).
- Group F Occupancies (see IFC Section 903 for specific requirements).
- Group H Occupancies
- Group I Occupancies
- Group M Occupancies (See IFC Section 903 for specific requirements).
- Group R Occupancies (with exception of One and Two Family Residences).
- Group S Occupancies (See IFC Section 903 for specific requirements).

Please refer to the IFC, Section 903, for specific information regarding fire sprinkler requirements.

### **Plan Review Requirements**

The following items shall be incorporated into the submittals. All engineered plans require a NICET III or P.E. stamp. A REVIEW WILL NOT BE CONDUCTED WITHOUT THIS GUIDE BEING SUBMITTED WITH THE DRAWINGS.

#### **GENERAL INFORMATION ABOUT THE PROJECT**

1. Indicate this is a new system/an existing system
2. Indicate the design Standard, such as NFPA 13, 13R or 13D or others.
3. Square footage of the project
4. Construction type of the building
5. Occupancy hazard classification
6. Special occupancy, such as flammable/combustible liquids, aircraft hanger, oxidizers, etc.)
7. Storage height exceeding 12 feet
8. Commodity classification if this is a storage occupancy
9. Cut sheet(s) for all sprinkler heads used

#### **GENERAL PLANS INFORMATION**

1. Name of owner or occupant
2. Name, address and license number(s) of contractor
3. Location, including correct street address
4. Date of plans (Note: Each revision should be dated)
5. Point of compass
6. Full height cross section
7. Ceiling construction, structure member information

8. Location of partitions
9. Location of fire walls
10. Occupancy class/usage of each area or room
11. Location and size of concealed spaces, closets, attics and bathrooms
12. Small enclosures in which NO sprinklers are to be installed
13. The scale on all plans including reference key
14. A legend list with descriptions. (Use of NFPA 170 symbols is recommended.)

#### WATER SUPPLY INFORMATION

1. Water flow test location and date (less than six months)
2. Static pressure, residual pressure and flow in GPM
3. Flow test conducted by contact or information supplied by
4. Size of main
5. System elevation relative to flow test hydrant

##### Private Fire Service Mains

6. Size, length, weights and location of main
7. Pipe and fitting material
8. Point of connection to city main
9. Size, type and location of valves
10. Size, type and location of valves indicators
11. Size, type and location of backflow prevention devices
12. Size, type and location of regulators
13. Size, type and location of meters
14. Size, type and location of valves pits
15. Size and location of all thrust blocks

##### Fire Pump

16. Type of fire pump
17. Indicate capacity
18. Pump data provided

##### Water Tank

19. Material of water tank
20. Capacity verification (duration, required flow and total capacity)

#### SPRINKLER SYSTEM DESIGN

1. Indicate the type of the system
2. System design by schedule
3. Number of sprinklers on each riser per floor if design by schedule
4. System design hydraulically
5. Hydraulic data nameplate if design hydraulically
6. Total area protected by each system on each floor

7. Sprinkler spacing applied in the system
8. Detail of size, location and arrangement of all auxiliary drain connections
9. Where equipment is to be installed as an addition to an existing system, enough detail of the existing system indicated to make all conditions clear
10. Size, location, thread type and piping arrangement of fire department connection
11. Size, location and arrangement of inspectors test connection
12. Location of main drain connection

Dry pipe, pre-action, or deluge system

13. Total number of sprinklers on each dry pipe, pre-action, combined dry pipe, pre-action, or deluge system
14. Approximate capacity of each dry pipe system
15. Pitch pipe to drain for dry pipe, pre-action, or deluge system
16. Size and capacity for air compressor where provided

#### SPRINKLER SYSTEM COMPONENTS

1. Product data is included
2. Make, type, model, nominal K-factor of sprinklers, and sprinkler ID number
3. Temperature rating and location of high-temperature sprinklers
4. Pipe type and schedule of wall thickness
5. Nominal pipe size and cutting lengths of pipe
6. Location and size of riser nipples
7. Type of fittings and joints
8. Type and location of hangers, sleeves, braces and method of securing sprinkler
9. Size and location of standpipes and hose connection detail
10. Pressure-reducing valves detail
11. Manufacturer, size, type of backflow prevention device
12. The placement, location and contents of the spare sprinkler head cabinet

#### HYDRAULIC CALCULATION/SPECIFICATION

1. Design area
2. Room design method
3. Minimum water application density
4. Coverage area per sprinkler
5. C value of pipe
6. Most demanding area is calculated
7. Number of sprinklers in design area
8. Total water requirement as calculated, including allowance for hose stream and in-rack sprinkler
9. Hydraulic reference points shown on the plan that correspond with comparable reference points on the hydraulic calculation sheets
10. Pipe sizes and lengths shown on the plan that correspond with comparable reference points on the hydraulic calculation sheets
11. Total quantity of water and pressure required noted at a common reference point for each system

12. Relative elevations of sprinklers, junction points, and reference points
13. Pressure loss for backflow prevention device, meter and/or other devices included in hydraulic calculations

#### ALARM

1. Type and location of alarm bells
2. Fire alarm system connection
3. Type and location of water flow switches
4. Type and location of tamper switches

All sprinkler piping must be pressure tested to a minimum of 200 psi for two hours.

Where a tenant improvement addition or modification is made to an existing fire sprinkler system affecting more than 20 fire sprinklers, the new portion shall be isolated and hydrostatically tested at 200 psi for 2 hours or 50 psi in excess of system working pressure whichever is greater. Modifications that cannot be isolated shall not require hydrostatic testing in excess of system working pressure.

Tenant Improvement modifications affecting 20 or fewer fire sprinklers shall not require hydrostatic testing in excess of system working pressure.

A completed copy of NFPA 13 aboveground piping form is required at time of inspection.

## KITCHEN HOOD SYSTEMS

Automatic hood extinguishing systems are required wherever cooking with grease-laden vapors occurs.

Inspection shall be scheduled by the kitchen hood suppression system contractor.

A full functional test is required by the Cheney Fire Department using compressed air.

Test links will be cut, and manual pull station activated.

Requirements for plan submittals for Hood Systems include:

- a. Hood size
- b. Location of manual pull station
- c. Signage for manual pull station
- d. Location, size, and type extinguishing agent
- e. Type and size of firing cartridge
- f. Proper pipe size and type
- g. Proper pipe support
- h. Proper nozzle type
- i. Proper nozzle height
- j. Number of allowed fittings for system
- k. Link installation placement, type, and temperature
- l. Verify nozzle locations
- m. Protection of all system nozzles
- n. Fusible link temperatures
- o. Manual pull station location(s)
- p. Sequence of operation
- q. Deactivation of 'make up air' on activation of system. (Exhaust air shall remain working)
- s. Placement of Class 'K' fire extinguisher. Class 'K' fire extinguisher shall be tagged, mounted, and located within thirty feet of cooking equipment
- t. Kitchen hood should extend a minimum of six inches beyond the edge of the cooking appliances
- u. Location and type of all cooking appliances (including fuel type)

\*Note\* Fire alarm system initiating module for kitchen hood fire extinguishing systems shall be a listed and approved CLASS A fire alarm system module. No exceptions.



## **Spray Booths**

Spray booths are required when the application of flammable or combustible paint, varnish, lacquer, stain, or other flammable or combustible liquid is applied as a spray by compressed air, airless or hydraulic atomization, steam, electrostatic or other methods or means in a continuous or intermittent process.

See IFC Chapter 15 for further information.

Spray booths and spray rooms shall be protected by an automatic fire extinguishing system.

General requirements for spray booths and rooms are as follows:

- Materials used to construct spray booths shall be substantially constructed of steel not less than 18 gauge in thickness or other approved noncombustible materials
- A clear space of three feet shall be maintained on all sides of the spray booth
- Floors shall be of noncombustible material or shall be covered with a noncombustible, non-sparking material to facilitate safe cleaning and removal of residue
- When spray booths are illuminated, fixed lighting units which transmit light into the spray booth through heat-treated or hammered wire glass shall be used. Glass panels shall be arranged to minimize breakage so that normal accumulation of residue on the glass panel will not be raised to a dangerous level by heat generated by the source of illumination
- Exit doors from pre-manufactured spray booths shall be no less than 2'6" wide and 6'8" tall
- The aggregate area of a spray booth shall not exceed the lesser of 10 percent of the floor area of a floor of a building or the basic area allowed for a Group H, Division 2 occupancy without area increases, as specified by the International Building Code. The area of any individual spray booth in a building shall not exceed the lesser of the aggregate size limit or 1500 sq.ft.
- Spray booths and spray rooms shall be protected by an approved automatic fire extinguishing system. The system shall be extended to protect exhaust plenums, exhaust ducts, and both sides of the dry filters when such filters are used. Final inspection and approval by the Cheney Fire Department is required

## **FIRE ALARM SYSTEMS**

Please refer to the IFC, Section 907, and NFPA 72 for specific requirements for fire alarm systems.

The following is required information for all fire alarm system plan submittals:

### **GENERAL INFORMATION ABOUT THE PROJECT**

1. One copy of approved site plan
2. Indicate if this is a new system/an existing system
3. Indicate the design standards
4. Square footage of the project
5. Construction type of the building
6. Occupancy/Usage
7. Special occupancy, such as flammable/combustible liquids, aircraft hanger, oxidizers, etc)

### **GENERAL PLANS INFORMATION**

1. Name of owner or occupant
2. Name, address and license number(s) of contractor
3. Location, including correct street address
4. Date of plans (Note: Each revision should be dated)
5. Point of compass
6. Location of partitions
7. Location of fire walls
8. Occupancy class/usage of each area or room
9. Drawing scale on all plans including reference key
10. A legend list with descriptions.
11. Conductor and conduit schedules
12. Conductor identification
13. Sequence of operation
14. Standby power, line resistance, and voltage drop calculations
15. Cut sheets for all equipment used on the system
16. Devices data, such as manufacturer, make and model

### **FLOOR PLAN**

1. Dimensions on floor plan
2. Match lines, if applicable
3. Locations of walls and doors
4. All partitions extending to within 18 inches of the ceiling
5. Location of all fire alarm components
6. Location of power connections
7. Location of control interfaces
8. Location of risers
9. Location of junction boxes
10. Highlight ceiling heights exceeding 10 feet
11. Highlight ceiling geometries other than flat
12. Type of devices and appliances

## **RISER AND WIRING DIAGRAMS**

1. Building cross section
2. Number of risers
3. Type and number of circuits in each riser
4. Type and number of fire alarm components on each floor
5. Riser junction box detail
6. Identification and location of all control equipment
7. Identification and location of all external power supplies
8. Identification and location of all annunciators
9. Identification and location of all digital alarm communicator transmitters
10. All field wiring terminals and terminal identification
11. All circuits connected to field wiring terminals with circuit identification
12. All field connections to supervising station signaling equipment, releasing equipment, and fire safety control interfaces
13. Typical wiring diagrams for all components

In addition to the requirements listed above, the following requirements apply to HVAC systems:

Duct detectors are required for HVAC units that exceed 2000 cfm or units that share an area that exceed 2000 cfm collectively (see Section 907 of the IFC). When duct detectors are required they shall provide the following functions:

1. Unit shuts down on activation of the duct detector.
2. On activation of the duct detector a supervisory signal shall be sent to the fire alarm control panel.
3. If a ceiling is installed, then provide a LED or at ceiling level that lights up when duct detector is activated. It is recommended to install a TEST LED.

Upon final inspection of any fire alarm system, a completed copy of an NFPA 72 test form is required.

## **LIFE SAFETY REQUIREMENTS**

### **Emergency Lighting**

Emergency lighting shall be required for illumination of emergency egress when the occupant load exceeds 49 persons. Illuminated means of egress shall be not less than 1 foot candle at walking surface level.

### **Occupant Load**

It is the responsibility of the architect to calculate occupant loads. However, the Fire Chief or Building Official may determine the occupant load.

### **Exiting**

All exiting shall comply with the International Building Code. Panic hardware shall be required on all exit doors serving 50 or more persons. All exits will be provided with all-weather surface walkway from the building to a public way, and shall meet the following requirements:

- 44" minimum width
- 44" corridor width
- 90" minimum overhead clearance

### **Exit Signs**

All exit signs shall comply with the International Building Code.

Exit signs shall be internally or externally illuminated. Externally illuminated signs shall have an intensity of not less than 5 foot-candles from either side of two lamps. Internally illuminated signs shall have the same intensity. Exit signs shall be illuminated for a minimum of 90 minutes in the event of power loss.

## **HAZARDOUS MATERIALS**

All storage of hazardous materials shall be in accordance with the IFC Chapters 27 through 45. A hazardous material plan shall be prepared and provided to the Fire Department and Building Department prior to occupancy if the facility contains the following minimum amounts of a hazardous material:

- 55 gallons
- 500 pounds
- 250 cubic feet

A special key box is required for all occupancies, along with current Material Safety Data Sheets for all stored products, a floor plan detailing where they are stored, and keys for all portions of the building.

Smaller amounts of hazardous materials, such as flammable or combustible liquids shall be stored in a UL Listed flammable materials storage cabinet. This cabinet shall be labeled “DANGER, FLAMMABLE LIQUIDS, NO SMOKING OR OPEN FLAMES” in letters not less than 4” in height contrasting with the background.

On the following pages, you will find sample forms required by the Cheney Fire Department in the event a facility stores hazardous materials in excess of the quantities listed above.

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# CHENEY FIRE DEPARTMENT

## HAZARDOUS MATERIALS MANAGEMENT PLAN

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### Short Form

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#### SUBMITTAL REQUIREMENTS

The reporting of hazardous materials applies to any amount stored, dispensed, used or handled at new or existing businesses or facilities within the City of Cheney. Anyone applying to the Fire Department to store, dispense, use or handle hazardous materials must submit a hazardous materials information package. The hazardous materials package must be prepared by the permit applicant and submitted to the Fire Department for review and approval thirty days prior to bringing hazardous materials on site; or when applying for a building or tenant improvement permit from Community Development (if hazardous materials will be on site).

**Note:** Any hazardous materials that exceed the exempt amounts below, in any one category or as listed in the 2006 International Fire Code, Tables 105.6.8, 105.6.10, 105.6.16 & 105.6.20, shall be required to apply for a Fire Department permit and complete an extensive HMMP. Use this form only when the following criterion is met.

**HMMP Short Form - (Minimal Storage Site)** A facility shall qualify as a minimal storage site if the quantity of each hazardous material stored in one or more facilities in an aggregate quantity is 500 pounds or less for solids, 55 gallons or less for liquids, or 200 cubic feet or less at NTP for compressed gases and does not exceed the threshold planning quantity as listed in 40 C.F.R., Part 355, Sections 302 & 304. The applicant for a facility, which qualifies as a minimal storage site, is allowed to file the short form HMMP. Such plans shall include the following components:

1. General facility information,
2. A simple line drawing of the facility showing the location of storage facilities and indicating the hazard class or classes and physical state of the hazardous materials being stored,
3. Information describing that the hazardous materials will be stored and handled in a safe manner and will be appropriately contained, separated and monitored, and
4. Assurance that security precautions have been taken, employees have been appropriately trained to handle the hazardous materials and react to emergency situations, adequate labeling and warning signs are posted, adequate emergency equipment is maintained, and the disposal of hazardous materials will be in an appropriate manner.

## **MATERIAL SAFETY DATA SHEETS (MSDS)**

Material safety data sheets are excellent resources. Much of the information requested relating to the hazardous materials inventory may be obtained from the MSDS. MSDS' are required to be provided by the chemical supplier or manufacturer, and are required to be readily available at the business or facility.

**Submit one set of Material Safety Data Sheets in alphabetical order with the haz-mat package.**

## **CONSULTANTS**

If needed, consultants should be able to evaluate the MSDS and determine the hazard category(s) for the hazardous materials stored, used or processed. See "Chemists-Analytical" or "Consulting" in the yellow pages of the telephone directory.

## **IMPACT**

It is important that all questions and information requested on all forms is accurately documented. If a specific question or subject is not applicable, document "N/A". Incomplete or inaccurate information will be returned to the responsible party, which may result in a delay in paperwork processing or inspection compliance.

## **FORMS**

1. Complete the attached General Information form and sign the declaration.
2. Complete the attached hazardous materials inventory form. Instructions for completing the form are on sheet 3.

## UNDERGROUND/ABOVEGROUND STORAGE TANKS

All Flammable and Combustible Liquid tank installations shall comply with Chapter 34 of the International Fire Code as well as the following:

Flammable Liquid Dispensers and Associated Devices:

- a. All state, county and local permits shall be obtained prior to installation.
- b. All electrical installations shall comply with the International Fire Code and the National Electrical Code for hazardous locations.
- c. All dispensing devices shall be UL listed. The dispensers shall be located on a raised island, 6 inches minimum in height above the adjacent grade and shall not be closer than 10 feet from any building. Dispensers shall be at least 20 feet from any source of ignition.
- d. An emergency pump shut off switch shall be located within 75 feet of any portion of the pump island. The switch shall be labeled "Emergency Pump Shutoff" and shall be clearly visible in any direction for 75 feet.
- e. Signs shall be posted on the islands in sufficient quantity and size to be clearly visible within 50 feet of the dispensers. The signs shall state "No Smoking, Stop Motor". Signs shall also be provided stating "Gasoline and/or Diesel shall not be dispensed into unapproved containers".

Flammable and Combustible Liquid Storage Tanks / Installation:

- a. Storage of flammable or combustible liquids in above ground tanks is prohibited in all areas of the city, except those zoning districts where the use is permitted, subject to approval of a conditional use permit.
- b. Above ground tanks shall be installed according to Chapter 34 of the International Fire Code. Plans for installation shall be reviewed under a separate permit. All tanks shall be listed by UL for the product to be contained.
- c. Above ground tanks shall be protected from impact through the installation of bollards.
- d. All unprotected above ground storage tanks for flammable liquids shall be protected by an automatic water spray system designed and installed in accordance with NFPA 15. The system shall be actuated by a manual pull station(s) and heat detectors spaced proportionally around the tank within the containment area.  
*"Unprotected" shall be defined as any tank having a fire resistance rating of less than 2 hours.*
- e. A monitoring method capable of detecting hazardous material leakage from the primary containment into the secondary containment shall be provided.
- f. New tank installations shall be tested to a minimum of 3 psi and a maximum of 5 psi for 30 minutes. Product piping shall be tested at 75 psi for 30 minutes and shall not be connected to the tank prior to testing. No tanks or piping shall be concealed prior to Fire Department approval. The installer shall provide the test gauges, calibrated in ½ psi increments



## **Flammable & Combustible Liquid Tanks**

Tank Removal: The removal and disposition of storage tanks containing flammable and liquids/vapors shall be subject to the following:

- a. Containers shall be purged of all flammable liquids/vapors by the use of dry ice, at a minimum of 2 pounds per 100 gallons tank capacity (or other approved equivalent).
- b. The contractor shall provide on-site monitoring equipment and a qualified operator for verification of purging.
- c. A 20BC minimum rated fire extinguisher shall be located within 50 feet travel distance of the tank(s).
- d. "No Smoking or Open Flame" signs shall be posted in sufficient quantity and size around work area to be clearly visible for a minimum of 30 feet.
- e. All excavation work shall comply with federal, state and local regulations.
- f. All contaminated product, residue and tanks shall be disposed of in a manner approved by the State of Washington.
- g. The Cheney Fire Department shall be notified a minimum of 48 hours in advance of all tank removals.

## **Liquefied Petroleum Gases**

The storage, use, handling, transportation, installation and maintenance of equipment pertaining to LP gas shall be in accordance with International Fire Code, Chapter 38 and subject to approval of the Fire Chief.

## **LPG Tank Exchange Program**

LPG tank exchange locations must conform to the IFC, Chapter 38, and NFPA 58.

## **LPG Tank Installations**

Any installation of a LPG tank with capacity in excess of five gallons requires a permit from the Cheney Fire Department.

## **STORAGE OF COMBUSTIBLE MATERIALS**

### **Storage**

All storage shall be 12 feet or less. Any storage higher than 12 feet will be considered High-Pile Combustible Storage (definition below) and may require additional fixed fire protection measures such as fire sprinklers, smoke and heat vents, curtain boards, a fire detection system, etc. These requirements are found in the International Fire Code, Chapter 23.

### **High-Piled Combustible Storage**

Is defined as combustible materials in combustible packing in closely packed piles, on pallets, in racks, or on shelves where the top of the storage is greater than 12 feet in height. High-pile combustible storage also includes certain high-hazard commodities, such as rubber tires, Group-A plastics, flammable liquids, idle pallets and similar commodities where the top of the storage is greater than 6 feet in height.





