Picture Rocks Fire District Fire Code 2006 International Fire Code with Local Amendments

On March 15, 2007, the Picture Rocks Fire District Board of Directors held a public hearing at which the 2006 Edition of the International Fire Code with Local Amendments was passed by unanimous vote.

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For the purpose of regulating and governing the safeguarding of life and property from fire and explosion hazards arising from the storage, handling and use of hazardous substances, materials and devices, and from conditions hazardous to life or property in the occupancy of buildings and premises in the boundaries of the Picture Rocks Fire District; providing for the issuance of permits and collection of fees therefore; and each and all of the regulations, provisions, penalties, conditions and terms of said fire code, the Picture Rocks Fire District hereby adopts the code known as the "INTERNATIONAL FIRE CODE, 2006 EDITION," as published by THE INTERNATIONAL CODE COUNCIL, INC., including amendments as noted. Copies of this fire code are now on file in the Administration Office of the Picture Rocks Fire District 12121 W. Picture Rocks Rd. Tucson, AZ 85743 and shall be available to all interested parties during normal business hours. The provision of the fire code shall be controlling within the boundaries of the Picture Rocks Fire District as those boundaries may be modified from time to time.

Picture Rocks Fire District
AMENDMENTS TO THE INTERNATIONAL FIRE CODE 2006 EDITION

The following provision of the International Fire Code, 2006 Edition, as published by the International Code Council, Inc., is hereby amended as follows:

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#### **CHAPTER 1 ADMINISTRATION**

#### 101.1 Title.

These regulations shall be known as the Fire Code of the Picture Rocks Fire District thereinafter referred to as "this code" or the fire code.

#### 101.2.1 Appendices.

Provisions in the appendices shall not apply unless specifically adopted; therefore,

The following appendices are adopted as part of this code:

Appendix-B Fire-Flow Requirements for Buildings

Appendix-C Fire Hydrant Locations and Distribution

Appendix-D Fire Apparatus Access Roads

Appendix-E Hazard Categories (AS REFERENCE INFORMATION)

Appendix-F Hazard Ranking

Appendix-G Cryogenic Fluids – Weight and Volume Equivalents (AS REFERENCE INFORMATION)

#### 102.10 Other laws.

The provisions of this code shall not be deemed to nullify any provisions of previous fire codes, local, state, or federal law.

#### 102.11 Application of references.

References to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section, or provision of this code.

#### 105.4.1 Submittals.

Construction documents shall be submitted in one or more sets and in such form and detail as required by the fire code official. The construction documents shall be prepared by a registered design professional. The design of fire protection systems shall be included in the building construction document submittal.

#### 105.4.2.1 Automatic fire sprinkler system design.

The following are considered to be professional registrant design activities to be included with the construction documents: Consider the range of hazards of the project; prepare a hazard analysis identifying the hazard classification of intended occupancy, including any special hazards; determine the applicable codes, standards, and appropriate engineering practices; Ascertain the availability and adequacy of the water supply for the project; Determine the appropriate design density and area of operation for each hazard area.

#### 105.4.2.2 Fire alarm and other code regulated alarm system design.

The following are considered to be professional registrant design activities to be included with the construction documents: Determine the system type; Determine the applicable codes, standards, and appropriate engineering practices; Determine device types and locations; Prepare generalized riser diagram; Coordinate and interface with other systems; Develop system specifications.

#### 105.4.3.1 Fire protection system layout or shop construction document submittals.

Automatic fire sprinkler system and fire alarm system layout or shop construction documents shall be by persons with a minimum certification of a level III National Institute for the Certification of Engineering

Technologies (NICET) and shall be reviewed for compliance with design by the registrant responsible for the system design.

#### 105.4.5 Corrected documents.

Construction and installation shall be in accordance with the approved construction documents. Where field conditions necessitate any substantial change from the approved construction documents, the fire code official shall have the authority to require the corrected construction documents submitted for approval. The fire code official shall determine the level of changes for the specific project. Minor changes can be hand drawn on a copy of the original approved construction documents. Major changes shall be re-drafted. A minimum of three sets of corrected construction documents shall be submitted prior to Certificate of Occupancy issuance.

### 105.6.23 Hot work operations.

An operational permit is required for hot work including, but not limited to:

- 1. Public exhibitions and demonstrations where hot work is conducted.
- 2. Use of portable hot work equipment inside a structure. Exception: Work that is conducted under a construction permit.
- 3. Fixed-site how work equipment such as welding booths.
- 4. Hot work conducted within a wildfire risk area.
- 5. Application of roof coverings with the use of an open-flame device.
- 6. When approved, the fire code official shall issue a permit to carry out a Hot Work Program. This program allows approved personnel to regulate their facility's hot work operations. The approved personnel shall be trained in the fire safety aspects denoted in this chapter and shall be responsible for issuing permits requiring compliance with the requirements found in Chapter 26.

These permits shall be issued only to their employees or hot work operation under their supervision.

#### 105.6.30 Open burning.

An operational permit is required for the kindling or maintaining of an open fire, an open burn, a recreational fire in a wildfire risk area, a burn using a forced air curtain destructor, a public assembly fire, or a fire on any public street, alley, road, or other public or private ground. Instructions and stipulations of the permit shall be adhered to. Exception: Recreation fires not in a wildfire risk area.

### 105.3.31 Open flames and torches.

An operational permit is required to remove paint with a torch; or to use a torch or open-flame device in a wildfire risk area.

#### 105.7.14 Gates across fire apparatus access roads.

A construction permit is required to install or modify gates across fire apparatus access roads.

#### 105.7.15 Automatic fire-extinguishing system supervision monitoring equipment.

A construction permit is required for installation of or modification to automatic fire-extinguishing system supervision monitoring equipment when such equipment is not included in a fire alarm and detection system permit. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

#### 106.2.1 Inspection requests.

It shall be the duty of the holder of the permit or their duly authorized agent to notify the fire code official when work is ready for inspection. It shall be the duty of the permit holder to provide access to and means for inspections of such work that are required by this code.

### 106.2.2 Approval required.

Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the fire code official. The fire code official, upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or notify the permit holder or his or her agent wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the fire code official.

#### 106.3 Concealed work.

It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Whenever any installation subject to inspection prior to use is covered or concealed without having first been inspected, the fire code official shall have the authority to require that such work be exposed for inspection. Neither the fire code official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

#### 106.5 On-site construction documents.

One set of code official approved construction documents shall be on the job site for each inspection. Failure to have approved construction documents on site shall result in canceling the inspection and is subject to assessment of a fee in accordance with the adopted fee schedule.

#### 108.4 Administrative appeal.

Whenever a violation of this code has been found and the applicant wishes to appeal the decision of the staff because of code Interpretation, or unreasonable hardship, an appeal may be filed to the fire chief and fire marshal or an authorized representative, as follows:

- 1. An appeal shall be filed in writing to the Picture Rocks Fire District Community Services Division.
- 2. The Fire Chief and Fire Marshal, or an authorized representative will hear the appeal within 10 working days of the receipt of the appeal.
- 3. The Fire Chief and Fire Marshal, or an authorized representative, may use a hearing committee consisting of such staff as is deemed appropriate to provide advice on a particular appeal.
- 4. Adequate information shall be provided by the applicant on the petition of appeal to fully describe the condition(s) in question.
- 5. The applicant may, but is not required to, meet with the Fire Chief and Fire Marshal, or a designated representative, to discuss the appeal.
- 6. If the appeal is denied, the applicant shall comply with the requirement(s) of the fire code or file an appeal to the board of appeals as provided in Section 108.1 of this code.

#### 109.3 Violation penalties.

Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, repair or do work in violation of the approved construction documents or directive of the fire code official, or of a permit or certificate used under provisions of this

code, shall be guilty of a civil infraction. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

### 111.4 Failure to comply.

Any person who shall continue any work after having been served a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable.

#### 112.1 Fees.

A permit shall not be issued until the fees have been paid, nor shall an amendment to a permit be released until the additional fee, if any, has been paid. Operational services shall not be completed until the fees, if any, have been paid.

#### 112.2 Schedule of permit and operation services fees.

A fee for each permit shall be paid as required, in accordance with the adopted fee schedule.

### 112.3 Work commencing before permit issuance.

Any person who commences work, activity, or operation regulated by this code before obtaining the necessary permits shall be subject to 500 percent of the usual permit fee, which shall be in addition to the required permit fees. The payment of such fee shall not exempt an applicant from compliance with all other provisions of this code and/or other ordinances and requirements nor from any penalties prescribed by law. All work shall cease until the required permits are obtained.

#### 112.4 Fee refunds.

The fire code official is authorized to establish a refund policy.

### **CHAPTER 2 DEFINITIONS**

#### 201.4 Terms not defined.

Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies. Unabridged Merriam Webster's Collegiate Dictionary, 11<sup>th</sup> Edition, shall be considered as providing ordinarily accepted meanings.

#### 202 New definitions.

Directed care service. Care of residents, including personal care services, who are incapable of recognizing danger, summoning assistance, expressing need or making basic care decisions.

Personal care service. Assistance with activities of daily living that can be performed by persons without professional skills or professional training and includes the coordination or provision of intermittent nursing services and the administration of medications and treatments.

Residential care/assisted living home. A building or part thereof housing a maximum of 10 persons, excluding staff, on a 24-hour basis, who because of age, mental disability, or other reasons, live in a supervised residential environment which provides supervisory, personal, or directed services. This classification shall include, but not be limited to, the following: residential board and care facilities, assisted living homes, halfway houses, group homes, congregate care facilities, social rehabilitation facilities, alcohol and drug abuse centers and convalescent facilities.

Shopping center. A group of multiple occupancies planned and designed for the site on which it is built, functioning as a unit, which off-street parking, landscaped areas, and pedestrian malls or plazas provided of ingress and egress and single or multiple lots under single or multiple ownership.

Supervisory care service. General supervision, including daily awareness of resident functioning and continuing needs.

Wildfire risk area. Land which is covered with grass, grain, brush, or forest, whether privately owned, which is so situated or is of such inaccessible location that a fire origination upon it would present an abnormally difficult job of suppression or would result in a great or unusual damage through fire or such areas designated by the fire code official.

#### 202 Revised definitions.

Group I-1. This occupancy shall include buildings, structures, or parts thereof housing more than 10 persons, on a 24-hour basis, who because of age, mental disability, or other reasons, live in a residential environment that provides supervisory care services. The occupants are capable of responding to an emergency situation without physical assistance from staff. This group shall include, but not be limited to, the following:

- 1. Residential board and care facilities
- 2. Assisted living centers
- 3. Halfway houses
- 4. Group homes
- 5. Congregate care facilities
- 6. Social rehabilitation facilities

- 7. Alcohol and drug abuse centers
- 8. Convalescent facilities

A facility such as the above with ten or fewer persons shall be classified as a Group R-4 Condition 1 or shall comply with the International Residential Code in accordance with Section 101.2 where the building is in compliance with Section 419 of the International Building Code.

Group I-2. This occupancy shall include buildings and structures used for medical, surgical, psychiatric, nursing or custodial care on a 24-hour basis of more than fiver persons who are not capable of self-preservation. This group shall include, but not be limited to, the following:

- 1. Hospitals
- 2. Nursing homes (both intermediate care facilities and skilled nursing facilities)
- 3. Mental hospitals
- 4. Detoxification facilities

A facility such as the above with five or fewer persons shall be classified as Group R-3 or shall comply with the International Residential Code.

A child care facility which provides care on a 24-hour basis to more than five children 2 ½ years of age or less shall be classified as Group I-2.

This occupancy shall also include buildings and structures used for assisted living homes providing supervisory, personal or directed care on a 24-hour basis of more than 10 persons who are not capable of self-preservation by responding to an emergency situation without physical assistance from staff.

A facility such as the above with ten or fewer persons shall be classified as R-4 Condition 2.

Group R-4. This occupancy shall include buildings arranged for occupancy as residential care/assisted living homes including no more than 10 occupants, excluding staff. Group R-4 occupancies shall meet the requirements for construction as defined in the International Building Code for Group R-3 and section 419 or shall comply with the International Residential Code where the building is in compliance with Section 419 of the International Building Code.

Group R-4 Condition 1. This occupancy condition shall include facilities licensed to provide supervisory care services, in which occupants are capable of self-preservation by responding to an emergency situation without physical assistance from staff. Condition 1 facilities house more than 10 persons shall be classified as Group I-2.

Group R-4 Condition 2. This occupancy condition shall include facilities licensed to provide personal or directed care services, in which occupants are incapable of self-preservation by responding to an emergency without physical assistance from staff. Condition 2 facilities housing more than 10 persons shall be classified as Group I-2.

#### CHAPTER 3 GENERAL PRECAUTIONS AGAINST FIRE

#### 302.1 Definitions.

Forced air curtain destructor. A forced air pit incinerator for the purpose of disposal of waste vegetative debris.

Public assembly fire. An open, outdoor fire used for ceremonial purposes at a gathering of persons for purposes such as civic, social, or religious functions, or for recreation.

### 307.2 Permit required.

A permit shall be obtained from the fire code official in accordance with Section 105.6 prior to kindling a fire for recognized silvicultural or range of wildlife management practices, prevention or control of disease or pests, an open burn, a recreational fire in a wildfire risk area, a burn using a forced air curtain destructor, and a public assembly fire. Application for such approval shall only be presented by and permits issued to the owner of the land upon which the fire is to be kindled.

#### 307.4.1 Public assembly fire.

A public assembly fire shall not be conducted within 40 feet of a structure or combustible material. Conditions which could cause a fire to spread within 40 feet of a structure shall be eliminated prior to ignition. Public Assembly Fires may not exceed a total pile size fuel area of 4 feet in diameter and 3 feet in height and shall be only comprised of natural logged wood. The burning of dead or cut landscape vegetation, building construction lumber, waste material, or rubbish is prohibited.

#### 307.4.3 Forced air curtain destructor fire.

A forced air curtain destructor fire shall not be conducted within 500 feet of any dwelling. Conditions which could cause a fire to spread within 50 feet of a structure shall be eliminated prior to ignition.

#### 307.5 Attendance.

Open burning, forced air curtain destructor fires, public assembly fires, or recreational fires shall be constantly attended until the fire is extinguished. A minimum of one portable fire extinguisher complying with Section 906 with a minimum 4-A rating or other approved on-site fire extinguishing equipment, such as dirt, sand, water barrel, garden hose or water truck, shall be available for immediate utilization. Public assembly fires shall have a physical barrier located with a minimum of 15 foot radius around the edge of the fire and unauthorized persons shall not be allowed to approach the fire. A forced air curtain destructor fire shall have a physical barrier located at a minimum of 15 foot radius around the edge of the fire and unauthorized persons shall not be allowed to approach the fire. The fire shall not be allowed to smolder.

#### 308.3.1 Open-flame cooking devices.

Charcoal burners, flame-producing devices, barbecues, and grills shall not be operated on combustible balconies or within 10 feet (3048 mm) of combustible construction.

#### Exceptions:

- 1. One- and two- family dwellings
- 2. Where buildings, balconies and decks are protected by an automatic sprinkler system
- 3. LP-gas cooking devices having LP gas container with a water capacity not greater than 2.5 pounds [nominal 1 pound LP-gas capacity].

#### 308.5 Open-flame devices.

Torches and other devices, machines or processes liable to start or cause a fie shall not be operated or used in or upon wildfire risk areas, except by a permit in accordance with Section 105.6 secured from the Fire Code Official.

Exception: Use within inhabited premises or designated campsites which are a minimum of 30 feet from grass-, grain-. Brush-, or forest-covered areas.

#### 308.5.1 Signals and markers.

Flame-employing devices, such as lanterns or kerosene road flares, shall not be operated or used as a signal or marker in or upon wildfire risk areas.

Exception: The proper use of fuses at the scenes of emergencies or as required by standard railroad operating procedures.

#### 311.2.1 Security

Exterior openings and interior openings accessible to other tenants or unauthorized persons shall be boarded, locked, blocked or otherwise protected to prevent entry by unauthorized individuals. The Fire Code Official is authorized to placard, post signs, erect barrier tape, or take similar measurers as necessary to secure public safety.

#### 311.5 Placards

Any vacant or abandoned buildings or structures determined to be unsafe pursuant to Section 110 of this code relating to structural or interior hazards shall be marked as required by Sections 311.5.1 through 311.5.5.

#### 311.5.2 Placard size and color.

Placards shall be 24 inches by 24 inches (610 mm by 610 mm) minimum in size with a red background, white reflective stripes and a white reflective border. The stripes and border shall have a 2-inch (51 mm) minimum stroke.

### CHAPTER 4 EMERGENCY PLANNING AND PREPAREDNESS

#### 404.5.1 Distribution.

The fire safety and evacuation plans shall be distributed to the tenants and building service employees by the owner of owner's agent. Tenants shall distribute to their employees' applicable parts of the fire safety plan affecting the employees' actions in the event of a fire or other emergency.

#### **CHAPTER 5 FIRE SERVICE FEATURES**

#### 503.1 Where required.

Fire apparatus access roads shall be provided and maintained in accordance with Sections 503.1.1 through 503.1.3 and Appendix D.

#### 503.2 Specifications.

Fire apparatus access roads shall be installed and arranged in accordance with Sections 503.2.1 through 503.2.7 and Appendix D.

### 503.7 Traffic control signaling devices.

Fire apparatus access roads, which have new electronic traffic control signaling devices installed, shall include preemptive control equipment compatible with the fire department's existing system.

#### 504.1 Required access.

Exterior doors and openings required by this code or the International Building Code shall be maintained readily accessible for emergency access by the fire department. Locks and latches shall have exterior hardware permitting emergency operation by the fire department. Where access doors are used in pairs, and approved flush bolds are used, the door leaf having the flush bold shall have no surface-mounted hardware. An approved access walkway leading from fire apparatus access roads to exterior openings shall be provided when required by the fire code official.

#### 505.1 Address numbers.

New and existing buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. Address numbers shall be in accordance with Pima County address display requirements. Dwelling units with driveways exceeding 150 feet shall post an address at each driveway entrance and be visible from both directions of travel along the fire apparatus access road. Where multiple addresses are required at a single driveway, they shall be mounted on a single post, and additional signs shall be posted at locations where driveways divide.

#### 505.3 Graphic directories.

Approved illuminated graphic all weather directories shall be provided at main driveway entrances for every multiple dwelling development, mobile home park, or when required by the code official.

#### 508.1 Required water supply.

An approved water supply capable of supplying the required fire flow for fire protection shall be provided to premises upon which facilities, buildings or portions of buildings are hereafter constructed or moved into or within the jurisdiction. Where property is subdivided with or without the creation of public or private streets for the expressed purpose of providing said subdivided parcels for sale or otherwise permitting separate and/or individual development to occur, an approved water supply capable of supplying the projected fire flow for fire protection shall be provided and extended to serve directly any and all subdivided properties. The projected fire flow will be based on the greatest potential demand posed by any type of occupancy allowed by zoning laws on the projected property.

#### 508.3 Fire flow.

Fire flow requirements for buildings or portions of buildings and facilities shall be determined by an approved method and in accordance with Appendix B.

### 508.5 Fire hydrant systems.

Fire hydrant systems shall comply with Sections 508.5.1 through 508.5.7 and Appendix C. Fire flow determination shall be in accordance with Appendix B.

#### 508.5.1 Where required.

Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 300 feet from a hydrant on a fire apparatus 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. Hydrants shall be installed at the entrances from main arterial fire apparatus access roads to all planned area developments. Where water mains are extended replaced, or relocated, hydrants shall be installed in accordance with the distance requirements in this section.

#### **Exceptions:**

- 1. For group R-3 and Group U occupancies, the distance requirement shall by 400 feet. Hydrants shall be installed at the entrance from main arterial fire apparatus access roads to all planned area developments.
- 2. Where water mains are extended, replaced, or relocated, fire hydrants shall be installed in accordance with the distance requirements of this section. Hydrant distance requirements may e modified by the Fire Code Official when all structures are protected with automatic fire sprinkler systems.

#### 508.5.4 Obstructions.

Posts, fences, vehicles, growth, trash, storage and other materials or objects shall not be placed or kept near fire hydrants, fire department inlet connections or fire protection system control valves in a manner that would prevent such equipment or fire hydrants from being immediately discernible. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants. Vehicles shall not be placed, parked, or kept within 15 feet of fire protection equipment or fire hydrants.

#### 508.5.4.1 Obstruction at the time of an emergency.

At the time of an emergency, the fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants.

### 508.5.7 Reflective pavement makers.

All fire hydrants shall be identified by the installation of approved blue reflective pavement markers.

#### 508.5.8 Out of service hydrants.

Out of service hydrants shall be clearly marked or tagged as out of service. While the water lines are undergoing bacteriological cleansing and testing, the hydrants shall be marked as out of service. Out of service marking and tags shall remain until the hydrant has been inspected and approved by the Water Utility and is in service. The Water Utility will notify the Fire Marshal when the hydrants are in service and available for fire flow testing.

#### 510.2 Equipment Access.

Approved access shall be provided and maintained for all fire protection equipment to permit immediate safe operation and maintenance of such equipment. Materials or objects shall not be placed or kept in such a manner that would prevent such equipment from being readily accessible.

#### 511 Construction document cabinet.

#### 511.1 Where required.

A construction document cabinet shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction.

#### 511.2 Contents.

The construction document cabinet shall contain a copy of the approved construction documents, including any as-build documents, indicating the typical floor plan and detailing the building core, means of egress, fire protection systems, fire-fighting equipment and fire department access.

#### 511.3 Cabinet construction.

The construction document cabinet shall be a Knox cabinet or other durable, lockable cabinet as approved by the Fire Code Official. The cabinet shall be sized to hold the content as indicated in section 511.2. Large buildings may require additional cabinets.

#### 511.4 Location.

The construction document cabinet shall be located adjacent to the automatic sprinkler system riser or in the fire command center where provided.

### CHAPTER 6 BUILDING SERVICES AND SYSTEMS

605.11 Electrical service shutoff access.

Where electrical service shut off controls are located inside a building, a door providing direct access from the exterior to the room containing such shut off controls shall be provided where required by the code official.

### 608.6.3 Supervision.

Ventilation systems required by Section 608.6.1 and 608.6.2 shall be supervised by an approved central, proprietary, or remote station service or shall initiate an audible and visual signal at a constantly attended on-site location.

#### **CHAPTER 9 FIRE PROTECTION SYSTEMS**

#### 903.2 Where required.

As required approved automatic sprinkler systems in new buildings and structures shall be provided throughout all Group A, B, E, F, H, , M, R, and S occupancies for every facility, building or portion of a building hereafter constructed within or moved into the jurisdiction. Approved automatic sprinkler systems shall be provided throughout all one- and two-family dwellings and townhouses used as model homes with sales or construction offices, and one- and two-family dwellings or townhouses which are hereafter constructed within or moved in the jurisdiction.

#### Exception:

Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided those spaces or areas are equipped throughout with an automatic fire alarm system and are separated from the remainder of the building by fire barriers consisting of not less than 1-hour fire-resistance-rated walls and 2-hour fire-resistance-rated floor/ceiling assemblies.

#### 903.2.14 R-4 occupancies.

An automatic sprinkler system shall be provided throughout all Group R-4 occupancies. Condition 2 facilities shall include sprinklers in attics and concealed spaces and shall include supervision and monitoring in accordance with section 903.4.

#### 903.3.5 Water supplies.

Water supplies for automatic sprinkler systems shall comply with this section and the standards referenced in Section 903.3.1. The potable water supply shall be protected against backflow in accordance with the requirements of this section and the International Plumbing Code. Automatic sprinkler system water supply data for hydraulic calculations shall be based on a curve that is 90 percent of the available water supply curve as determined by flow test information.

#### 903.3.8 Automatic sprinkler system riser location.

The automatic sprinkler system riser shall be installed within a building. An exterior door leading directly into the room containing the fire sprinkler riser and shutoff controls shall be provided.

#### 903.4 Sprinkler system supervision and alarms.

All valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressures, and water-flow switches on all sprinkler systems shall be electrically supervised by a listed fire alarm control unit. A manual fire alarm box shall be provided. Actuation of the water-flow switch or manual alarm box shall cause an alarm signal.

### Exceptions:

1. Control valves on automatic sprinkler systems protecting one- and two-family dwellings.

#### 903.4.1 Monitoring.

Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an approved central station, remote supervising station or proprietary supervising station as defined in

NFPA 72 or, when approved by the Fire Code Official, shall sound an audible signal at a constantly attended location.

#### 903.4.2 Alarms.

Approved audible devices shall be connected to every automatic sprinkler system. Such sprinkler alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system or by the manual fire alarm box. Alarm devices shall be provided on the exterior of the building in an approved location. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system.

### 903.6.2 Non-sprinklered building fire area increase.

For all occupancies and one- and two-family dwellings, an approved automatic sprinkler system shall be provided throughout the entire fire area, existing and new, when the square footage of the new fire area is greater than 25% of the total square footage created by adding the new fire area to the existing fire area, and the available fire flow is not equal to the fire flow required in accordance with Appendix B.

### 903.6.3 Non-sprinklered building change of occupancy group.

Approved automatic sprinkler systems shall be provided throughout the fire area of existing non-sprinklered occupancies when there is a change of occupancy to a group A, E, F, G, I, R-1, R-2, R-4, or S-1 occupancy.

#### 907.2.24 Multi-tenant commercial building.

A manual fire alarm system shall be installed throughout the entire building intended for multiple commercial tenant spaces exceeding 18,000 gross square feet.

#### Exception:

Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system and the alarm notification appliances will activate upon sprinkler water flow.

#### 907.10.3 Annunciation panel.

An annunciation panel shall be installed in accordance with Sections 907.10.3.1 through 907.10.3.3.

#### 907.10.3.1 Location.

An annunciation panel shall be located not more than 5 feet (1524 mm) from the primary fire department access door. Additional annunciation panels shall be located not more than 5 feet (1524 mm) from a secondary fire department access door or a sapproved by the Fire Code Official.

### 907.10.3.2 Height.

The height of the annunciation panel shall be a minimum of 42 inches (1067 mm) and a maximum of 48 inches (1372 mm) measured vertically, from the floor level to the bottom of the panel.

#### 907.10.3.3 Function.

Annunciation panels shall indicate all alarm, supervisory, and trouble signals.

#### 913.4 Valve supervision.

Where provided, the fire pump suction, discharge and bypass valves, and the isolation valves on the backflow prevention device or assembly shall be supervised in accordance with Section 903.4.

### CHAPTER 10 MEANS OF EGRESS

1028.2 Reliability.

Required exit accesses, exits or exit discharges shall be continuously maintained free from obstructions or impediments to full instant use in the case of fire or other emergency when the areas served by such exits are occupied. Security devices affecting means of egress shall be subject to approval of the fire code official. Where panic and fire exit hardware is installed, panic or fire exit hardware shall be the only locking device on the door.

### CHAPTER 14 FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION

1410.3 Address and access road signs.

All structures under construction shall be clearly identified with an approved address and building number. During construction, approved signs shall be located to direct emergency responders into and through the construction site. Temporary street signs shall be installed at each street intersection when construction of new roadways allows passage of vehicles. Signs shall be of an approved size, weather resistant, and be maintained until replaced by permanent signs.

### **CHAPTER 32 CRYOGENIC FLUIDS**

3204.3.1.1 Location.

Stationary containers shall be located in accordance with Section 3203.6. Containers of cryogenic fluids shall not be located within diked areas containing other hazardous materials. Storage of flammable cryogenic fluids in stationary containers outside of buildings is prohibited within the boundaries of the Picture Rocks Fire District.

### CHAPTER 33 EXPLOSIVES AND FIREWORKS

3301.2.3 Permit restrictions.

The storage of explosives, explosive materials, and blasting agents is prohibited within the boundaries of the Picture Rocks Fire District. The Fire Code Official is authorized to limit the quantity of explosives, explosive materials, or fireworks permitted for use at a given location. No person, possessing a permit for use of explosives at any place, shall keep or store an amount greater than authorized in such permit. Only the kind of explosive specified in such a permit shall be used.

### CHAPTER 34 FLAMMABLE AND COMBUSTIBLE LIQUIDS

3404.2.9.5.1 Locations where above-ground tanks are prohibited.

Storage of Class I and II liquids in above-ground tanks outside of buildings, exceeding 2,000 gallons or 4,000 gallons in aggregate volume is prohibited within the boundaries of the Picture Rocks Fire District.

3406.2.4.4 Locations where above-ground tanks are prohibited.

Storage of Class I and II liquids in above-ground tanks outside of buildings, exceeding 2,000 gallons or 4,000 gallons in aggregate volume is prohibited within the boundaries of the Picture Rocks Fire District.

#### CHAPTER 38 LIQUIFIED PETROLEUM GASES

3803.2.1.7 Use for food preparation.

Listed and approved LP-Gas commercial food service appliances shall be permitted to be used inside restaurants and in attended commercial food catering operations provided that no commercial food service appliances shall have more than two 10 oz non-refillable butane has containers having a maximum water capacity of 1.08 lb. per container connected directly to the appliance at any time and the containers shall not have manifold. The appliance fuel container(s) shall be an integral part of the listed, approved commercial food service device and shall be connected without the use of a rubber hose. Butane containers shall be listed. Storage without the use of a rubber hose. Butane containers shall be listed. Storage in restaurants and at food service locations of 10 oz butane non-refillable containers shall be limited to no more than 24 containers.

3804.2 Maximum capacity within established limits.

Within the boundaries of the Picture Rocks Fire District the aggregate capacity of any one installation shall not exceed a water capacity of 2,000 gallons (7570 L).

### Exception:

1. In particular installations, this capacity limit shall be determined by the Fire Code Official, after pf special features such as topographical conditions, nature of occupancy, and proximity to buildings, capacity of proposed containers, degrees of fire protection to be provided and capabilities of the local fire department.

### APPENDIX B FIRE FLOW REQUIREMENTS FOR BUILDINGS

B105.2 Buildings other than one- and two-family dwellings.

The minimum fire flow and flow duration for buildings other than one- and two-family dwellings shall be as specified in Table B105.1.

#### Exception:

1. A reduction in required fire flow of up to 75 percent, as approved, is allowed within the building is provided with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 of the International Fire Code. The resulting fire flow shall not be less than 1,500 gallons per minute (5678 l/min) for the prescribed duration as specified in Table B105.1.

#### Table B105.1 footnotes.

- a. Types of construction are based on the International Building Code.
- b. Measured at 20 psi.

#### APPENDIX D FIRE APPARATUS ACCESS ROADS

D103.1 Fire apparatus access road width with a hydrant.

Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet.

#### Exception:

1. Minimum width less than 26 feet as approved by the Fire Code Official.

Table D103.4 Requirements for dead-end fire apparatus access roads.

Length

(feet)

Width

(feet) TURNAROUNDS REQUIRED

0-150 20 None required

151-600 20 "Hammerhead", "Y" or cul-de-sac in accordance with Figures D103.1 at terminal end

601-1200 26 "Hammerhead", "Y" or cul-de-sac in accordance with Figures D103.1 at terminal midway.

Figures D103.1 at terminal end and midway

Over 1200 Special approval required.

D103.5 Fire apparatus access road gates.

Gates securing fire apparatus access roads shall comply with all of the following criteria:

- 1. The minimum gate width shall be 20 feet.
- 2. Gates shall be of the swinging or sliding type.
- 3. Construction of gates shall be of materials that allow manual operation by one person.
- 4. Gate components shall be maintained in an operative condition at all times and replaced or repaired when defective.
- 5. Electrically operated gates:
  - a. Shall be equipped with a means of opening the gate by fire department personnel for emergency access. Emergency opening devices shall be approved by the code official.
  - b. Shall be in the fully opened position in no more than 30 seconds.
  - c. Shall have a manual override system. Manual override operations shall be located on the entrance side of gate, or when power has failed, the gate(s) shall open and stay open until power is restored for normal operations.
  - d. Shall have an approved Fire Department keyed override switch.
  - e. Shall have installed approved preemptive control opening equipment compatible with the fire department's existing system.
- 6. Manual opening gates:
  - a. Shall not be loved with a padlock or chain and padlock unless an approved fire department key box or an approved fire department padlock is installed.
  - b. Keys shall be provided for installation in to the approved fire department key box. Keys shall be maintained current.
- 7. Locking device specifications shall be submitted for approval by the code official.
- 8. A construction permit in accordance with Subsection 105.7.14 is required to install or modify gates across fire apparatus access roads.

D103.5.1 Existing fire apparatus access road gates.

Existing gates securing fire apparatus access roads shall comply with D103.5.

D103.6 Signs.

Where required by the Fire Code Official, fire apparatus access roads shall be marked with permanent complying with Figure D103.6. Signs shall have a minimum dimension of 12 inches wide by 18 inches high and have a white reflective background and an international NO PARKING symbol with a black P, six inches high. Underneath the NO PARKING symbol, in one-and-five-eights inch high and on quarter inch stroke, in red lettering it shall read: FIRE ACCESS TOW-AWAY. Signs shall be posted on one or both sides of the fire apparatus road as required by Section D103.6.1 or D103.6.2. Signs shall be installed at points not more than 100 feet apart along the length of the required fire apparatus access road. Signs shall be visible from the direction of traffic. The bottom of every such sign shall be located not less than 7 feet or more than 10 feet above the ground surface level and eh leading edge shall be a minimum of 2 feet from the drive lane or edge of curb. Construction, installation, and maintenance of the signs shall be done at no expense to the District. Materials and locations of each sign shall be indicated in the development plans or construction documents submitted to the Fire Code Official. Signs shall be posted on one or both sides of the fire apparatus road, as required by Section D103.6.1 or D103.6.2. Alternative signs may be allowed with sufficient documentation and prior approval. Only fire apparatus access roadways required under the authority of this section or as approved by the Fire Code Official may be posted may be posted or identified with the approve sign. Unauthorized signs shall be removed.

Figure D103.6 FIRE ACCESS TOW-AWAY

#### D103.7 Driveways.

Driveways exceeding 150 feet in length providing access to dwelling units shall provide a minimum unobstructed width of 14 feet and a minimum unobstructed height of 13 feet 6 inches. Driveways in excess of 150 feet in length shall be provided with turnarounds. Driveways in excess of 200 feet in length and less than 20 feet in width shall be provided with turnouts in addition to turnarounds. A driveway shall not serve in excess of five dwelling units. Driveways that connect with a road or roads at more than one point may be considered as having a turnaround. Driveway turnouts shall be an all-weather road surface at least 10 feet wide and 30 feet long. Driveway turnouts shall be located as required by the fire code official.

D104.2 Buildings, facilities, and shipping centers exceeding 62,000 square feet in gross building fire area.

Buildings, or facilities, and shopping centers having a gross building fire area of more than 62,000 square feet shall be provided with two separate and approved fire apparatus access roads.

#### D104.4 Width.

Fire apparatus access roads shall have a minimum unobstructed width of 28 feet in the immediate vicinity of any building or portion of building. Fire apparatus access roads not exceeding 32 feet wide shall be posted on both sides of the road as a fire lane. Fire apparatus access roads exceeding 32 feet wide shall be posted on one side of the road as a fire lane. Posting shall include signage as indicated in Section

D103.6 and curbs or pavement painted red with the words "No Parking – Fire Lane" stenciled every 50 feet.

F105.2 Width.

Fire apparatus access roads shall have a minimum unobstructed width of 28 feet in the immediate vicinity of any building or portion of building more than 30 feet in height.

D106.1 Projects having more than 100 dwelling units.

Multiple-family residential projects having more than 100 dwelling units shall be equipped throughout with two separate and approved fire apparatus access roads.

#### **BUILDING OCCUPANCY CLASSIFICATIONS**

Building occupancy classifications refer to categorizing structures based on their usage and are primarily used for building and fire code enforcement. They are usually defined by model building codes, and vary, somewhat, among them. Often, many of them are subdivided. The following is based on the International Building Code, the most commonly used building code in the United States:

### Assembly (Group A)

Places used for people gathering for entertainment, worship, and eating or drinking.

Examples: Churches, restaurants (with 30 or more possible occupants), theaters, and stadiums

Group A is divided into five sub groups:

- A-1 Buildings intended for the production and viewing performing arts or motion pictures (theaters, concert halls).
- A-2 Buildings intended for food and/or drink consumption (restaurants).
- A-3 Buildings intended for worship, recreation or amusement and other assembly uses not otherwise classified.
- A-4 Buildings intended for viewing of indoor sporting and activities with spectator seating (arenas).
- A-5 Buildings intended for participation in or viewing outdoor activities (stadiums).

#### Business (Group B)

Places where *services* are provided (not to be confused with mercantile, below).

Examples: banks, insurance agencies, government buildings (including police and fire stations), and doctor's offices

#### Educational (Group E)

Schools and day care centers up to the 12<sup>th</sup> grade.

#### Factory (Group F)

Places where goods are manufactured or repaired (unless considered "High-Hazard" (below)).

Examples: factories and dry cleaners

#### High-Hazard (Group H)

Places involving production or storage of very flammable or toxic materials. Includes places handling explosives and/or highly toxic materials (such as fireworks, hydrogen peroxide, and cyanide).

#### Institutional (Group I)

Places where people physically unable to leave without assistance.

Examples: hospitals, nursing homes, and prisons.

In some jurisdictions, Group I may be used to designate Industrial.

Mercantile (Group M)

Places where goods are displayed and sold.

Examples: grocery stores, department stores, and gas stations

Residential (Group R)

Places providing accommodations for overnight stay (excluding Institutional).

Examples: houses, apartment buildings, hotels, and motels

Storage (Group S)

Places where items are stored (unless considered "High-Hazard").

Examples: warehouses and parking garages

Utility and Miscellaneous (Group U)

Others.

Examples: water towers, barns, towers

Many buildings may have multiple occupancies. These are referred to as "mixed occupancies" and the different parts will be required to meet the codes for those specific areas. An example of this is a shopping mall with underground parking. The shopping area itself is Group M (mercantile), while the parking area would qualify as Group S (Storage).

In places where more than one occupancy may apply the stricter code is usually enforced. An example of this is a restaurant with seating under 50 which is not addressed in the code as either mercantile or business (this is a technical issue but could be viewed as either or neither). Code enforcement officials will usually enforce the strictest side of the code.