STOREY COUNTY FIRE PROTECTION DISTRICT AMENDMENTS TO THE 2018 INTERNATIONAL FIRE CODE

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Storey County Fire Protection District

145 S C Street

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Preface

This document comprises proposed amendments to the 2018 Edition of the International Fire Code as published by the International Code Council, Inc, amended by Storey County Fire Protection District. This document is hereafter referenced as the Storey County Fire Amendments and is prepared to be adopted by reference by the local AHJ.

The purpose of the document is to provide a consistent area-wide application to the enforcement of the fire and life safety code sections noted in the International Fire Code, while still acknowledging necessary modifications to the nationally recognized fire and life safety document based upon the local needs of the community.

Notes: Deleted language in the base code has been ~~stricken through.~~

Added language to the code section has been underlined.

Descriptive notes to the code have been *italicized*.

Omitted text from a code section remains unchanged.

The following participating personnel have reviewed the attached document referenced as the Storey County Fire Code Amendments and agree with the amendments to the 2018 International Fire Code as stated therein. It is noted that the code amendments in this document are hereby approved, adopted, and codified by the local AHJ and supersede any previous amendments

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STOREY COUNTY FIRE PROTECTION DITRICT

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101.1 Title

101.1 Title. These regulations shall be known as the *Fire Code* of the Storey County Fire Protection District, hereinafter referred to as "this code."

102.3 Change of use of occupancy

102.3 Change of use or occupancy. A change of occupancy shall not be made unless the use or occupancy is made to comply with the requirements of this code and the *International Existing Building Code*. Change of ownership of the building shall require the building to come up to current code standards, per NAC 477.917 as adopted by the Nevada State Fire Marshal.

102.7 Referenced codes and standards

102.7 Referenced codes and standards. The codes and standards referenced in this code shall be ~~those~~ the most current that are listed in Chapter 80, and such codes and standards shall be considered to be part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Section 102.7.1 and 102.7.2.

105.1.1 Permits required

105.1.1 Permits required. A property owner or owner's authorized agent who intends to conduct an operation or business, or install or modify systems and equipment that are regulated by this code, or to cause any such work to be performed, shall first make application to the *fire code official*. Permits required by this code shall be obtained from the Storey County Fire Protection District. Fire District construction permits will be required and issued for Fire Sprinkler Systems, Detection/Notification Systems, Final Grading, and Civil Work based on project valuation.

105.6.52 Emergency responder radio coverage system

105.6.52 Emergency responder radio coverage system. An operational permit is required for the operation and maintenance of an emergency radio coverage system and related equipment, as specified in Section 510.

105.7.26 Fire fighter air replenishment systems

105.7.26 Fire Fighter Air Replenishment Systems. A construction permit is required for the installation of or modification to a Fire Fighter Air Replenishment System. The construction permit application shall include documentation of an acceptance and testing plan as specified in Section L103.2.

106.6 Collaborative coalition for wide-rise fire response

106.6 Collaborative coalition for wide-rise fire response. To establish collaboration between private businesses and the Storey County Fire Protection District that enables the purchase of emergency equipment and enhances the ability to safely and effectively provide emergency services to said business with targeted risks.

106.6.1 Membership fee assessment

106.6.1 Membership fee assessment. The *fire code official*, upon reviewing submitted plans, shall determine the amount of the cooperative membership fee according to Table 106.6.1(a).

TABLE 106.6.1(a)

TABLE 106.6.1(a)

SQUARE FOOTAGE CATEGORIES

SQUARE FOOTAGE	MEMBERSHIP FEE	CASH EQUIVALENT
Under 30,000	$0.00	N/A
30,000 to 199,999	$6,000.00	3 Hose Packs
200,000 to 499,999	$14,000.00	7 Hose Packs
500,000 to 749,999	$20,000.00	10 Hose Packs
750,000 and up	$24,000.00	12 Hose Packs

109 BOARD OF APPEALS

Section 109 is removed in its entirety.

110.4 Violation penalties

110.4 Violation penalties. Unless a greater penalty is provided by Nevada Law, ~~P~~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 the provisions of this code, shall be guilty of a misdemeanor, ~~[SPECIFY OFFENSE], punishable by a fine of not more than [AMOUNT] dollars or by imprisonment not exceeding [NUMBER OF DAYS], or both such fine and imprisonment~~. Each day ~~that a violation continues after due notice has been served shall be deemed~~ on which a violation occurs is a separate offense.

112.4 Failure to comply

112.4 Failure to comply. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, is guilty of a misdemeanor.

202 GENERAL DEFINITIONS

[BG] HIGH-RISE BUILDING. A building with an occupied floor located more than ~~75~~ 55 feet (~~22806~~ 16 764 mm) above the lowest level of fire department vehicle access.

[BG] OCCUPANCY CLASSIFICATION Institutional Group I-1. Institutional Group I-1 occupancy shall include buildings, structures, or portions thereof for more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised environment and receive custodial care. All portions of a care facility which houses patients or residents which is classified by the State Board of Health as "Category 2," (defined as not being able to provide self-preservation) and which has an occupant load of more than 10 residents, is classified as an "I-1" occupancy classification. Buildings of Group I-1 shall be classified as one of the occupancy conditions listed below. This group shall include, but not be limited to, the following:

[BG] Occupational Classification Group I-4, day care facilities. Institutional Group I-4 shall include buildings and structures occupied by more than ~~five~~ six persons of any age who receive custodial care for less than 24 hours by persons other than parents or guardians, relatives by blood, marriage, or adoption, and in a place other than the home of the person cared for. This group shall include, but not be limited to, the following:

[BG] ~~Five~~ Six or fewer occupants receiving care. A facility having ~~five~~ six or fewer persons receiving custodial care shall be classified as part of the primary occupancy.

[BG] ~~Five~~ Six or fewer occupants receiving care in a dwelling unit. A facility such as the above within a dwelling unit and having ~~five~~ six or fewer persons receiving custodial care shall be classified as a Group R-3 occupancy or shall comply with the *International Residential Code*.

[BG] Occupancy Classification Residential Group R-1. Residential Group R-1 occupancies containing *sleeping units* where the occupants are primarily transient in nature, including:

"Brothels" is added to the list of Residential Group R-1 occupancies.

[BG] OCCUPANCY CLASSIFICATION Residential Group R-3. Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

Care facilities that provide accommodations for ~~five~~ six or fewer persons receiving care

[BG] Moderate-hazard storage, Group S-1.

"Dry boat storage (indoor)" is removed from the list of Storage Group S-1 occupancies.

[BG] Low-hazard storage, Group S-2.

"Dry boat storage (indoor)" is added to the list of Storage Group S-2 occupancies.

[BG] TEMPORARY. A time less than 180 Days.

[BG] UNWANTED ALARM. Any alarm that occurs that is not the result of a potentially hazardous condition.

[BG] WIDE-RISE BUILDING. Any single-story building that exceeds 30,000 square feet, or multi-story building exceeding 50,000 square feet.

305.1 Clearance from ignition sources

305.1 Clearance from ignition sources. Clearance between ignition sources, such as luminaries, heaters, flame-producing devices and combustible materials, shall be no less than 10 feet and shall be maintained in an *approved* manner.

307.4.3 Portable outdoor fireplaces

307.4.3 Portable outdoor fireplaces. Portable outdoor fireplaces shall be UL listed and used in accordance with manufacturer's instructions and shall not be operated within 15 feet (3048 mm) of a structure or combustible material.

~~**Exception:** Portable outdoor fireplaces used in one- and two-family dwellings.~~

308.1.6.3 Sky lanterns

308.1.6.3 Sky lanterns. ~~A person shall not release or cause to be released an untethered sky lantern.~~ Sky lanterns are prohibited.

319.4.1 Fire protection for cooking equipment

319.4.1 Fire protection for cooking equipment. Cooking equipment shall be protected by automatic fire extinguishing systems in accordance with ~~Section~~ Sections 607.2 and 904.12.

320 NATURAL GAS METER PROTECTION

320.1 General. A protective cover shall be provided over natural gas meter assemblies serving buildings, or portions thereof, located at an elevation of 5,800 feet (1767.48 m) or higher. The protective cover shall be designed to be equal to or greater than the Building Design Load (as determined by the Building Department having jurisdiction). The cover shall be approved by the natural gas supplier, shall be installed over the meter assembly, and securely supported to the ground or diagonally to the building wall. When supported to the ground, the footing of the supports shall extend a minimum of 6-inches (152.4 mm) below finished grade. Pre-cast concrete piers may be used in lieu of poured footings, provided they are placed on stable soil.

321 LITHUM BATTERY STORAGE

321.1 General. The storage of lithium-ion and lithium metal batteries shall comply with Section 321.

Exceptions:

1. Batteries installed in the equipment, devices, or vehicles they are designed to power.
2. Batteries packed for use with the equipment, devices, or vehicles they are designed to power.
3. Batteries in original retail packaging that are rated at 300 watt-hours or less for lithium-ion batteries or contain 25 grams or less of lithium metal for lithium metal batteries.
4. Temporary storage of batteries or battery components during the battery manufacturing process prior to completion of final quality control checks.

321.2 Permits. Permits shall be required for an accumulation of more than 15 cubic feet (0.42 m^3) of lithium-ion and lithium metal batteries, other than batteries listed in the exceptions to Section 321.1.

321.3 Fire safety plan. A fire safety plan shall be provided in accordance with Section 403.11.6. In addition, the fire safety plan shall include emergency response actions to be taken upon detection of a fire or possible fire involving lithium-ion or lithium metal battery storage.

321.4 Storage requirements. Lithium-ion and lithium metal batteries shall be stored in accordance with Section 321.4.1, 321.4.2, or 321.4.3, as applicable.

321.4.1 Limited indoor storage in containers. Not more than 15 cubic feet (0.42 m) of lithium-ion or lithium metal batteries shall be permitted to be stored in containers in accordance with all of the following:

1. Containers shall be open-top and constructed of noncombustible materials or shall be approved for battery collection.
2. Individual containers and groups of containers shall not exceed a capacity of 7.5 cubic feet (0.21 m).
3. A second container or group of containers shall be separated by not less than 3 feet (914 mm) of open space, or 10 feet (3048 mm) of space that contains combustible materials.
4. Containers shall be located not less than 5 feet (1524 mm) from exits or exit access doors.

321.4.2 Indoor storage areas. Indoor storage areas for lithium-ion and lithium metal batteries, other than those complying with Section 321.4.1, shall comply with Sections 321.4.2.1 through 321.4.2.6.

321.4.2.1 Technical opinion and report. A technical opinion and report complying with Section 104.7.2 shall be prepared to evaluate the fire and explosion risks associated with the indoor storage area and to make recommendations for fire and explosion protection. The report shall be submitted to the *fire code official* and shall require the fire code official's approval prior to issuance of a permit. In addition to the requirements of Section 104.7.2, the technical opinion and report shall specifically evaluate the following:

1. The potential for deflagration of flammable gases released during a thermal runaway event.

2. The basis of design for an automatic sprinkler system or other approved fire suppression system. Such design basis shall reference relevant full-scale fire testing or another approved method of demonstrating sufficiency of the recommended design.

321.4.2.2 Construction requirements. Where indoor storage areas for lithium-ion and lithium metal batteries are located in a building with other uses, battery storage areas shall be separated from the remainder of the building by 2-hour rated *fire barriers* or *horizontal assemblies*. *Fire barriers* shall be constructed in accordance with Section 707 of the *International Building Code*, and *horizontal assemblies* shall be constructed in accordance with Section 711 of the *International Building Code*.

Exceptions:

1. Where battery storage is contained in one or more approved prefabricated portable structures providing a complete 2-hour fire resistance rated enclosure, fire barriers and horizontal assemblies are not required.
2. Where battery storage is limited to new batteries in packaging that has been demonstrated to and approved by the fire code official as sufficient to isolate a fire in packaging to the package interior, fire barriers and horizontal assemblies are not required.

321.4.2.3 Fire protection systems. Indoor storage areas for lithium-ion and lithium metal batteries shall be protected by an automatic sprinkler system complying with Section 903.3.1.1 or an approved alternative fire suppression system. The system design shall be based on recommendations in the approved technical opinion and report required by Section 321.4.2.1.

321.4.2.4 Fire alarm systems. Indoor storage areas for lithium-ion and lithium metal batteries shall be provided with an approved automatic fire detection and alarm system complying with Section 907. The fire detection system shall use air-aspirating smoke detection, radiant energy-sensing fire detection, or both.

321.4.2.5 Explosion control. Where the approved technical opinion and report required by Section 321.4.2.1 recommends explosion control, explosion control complying with Section 911 shall be provided.

321.4.2.6 Reduced requirements for storage of partially charged batteries. Indoor storage areas for lithium-ion and lithium metal batteries with a demonstrated state of charge not exceeding 30 percent shall not be required to comply with Sections 321.4.2.1, 321.4.2.2, or 321.4.2.5, provided that procedures for limiting and verifying that the state of charge will not exceed 30 percent have been approved.

321.4.3 Outdoor Storage. Outdoor storage of lithium-ion or lithium metal batteries shall comply with Sections 321.4.3.1 through 321.4.3.3.

321.4.3.1 Distance from storage to exposures. Outdoor storage of lithium-ion or lithium metal batteries, including storage beneath weather protection in accordance with Section 414.6.1 of the *International Building Code*, shall comply with one of the following.

1. Battery storage shall be located not less than 20 feet (6096 mm) from any building, lot line, public street, public alley, *public way* or *means of egress*.
2. Battery storage shall be located not less than 3 feet (914mm) from any building, lot line, public street, public alley, *public way* or *means of egress*, where the battery storage is separated by a 2-hour fire-resistance rated assembly without openings or penetrations and extending 5 feet (1524 mm) above and to the sides of the battery storage area.
3. Battery storage shall be located not less than 3 feet (914 mm) from any building, lot line, public street, public alley, *public way* or *means of egress*, where batteries are contained in *approved* prefabricated portable structures providing a complete 2-hour fire-resistance rated enclosure.

321.4.3.2 Storage area size limits and separation. Outdoor storage areas for lithium-ion or lithium metal batteries, including storage beneath weather protection in accordance with Section 414.6.1 of the *International Building Code*, shall not exceed 900 sq. ft (83.6 m). The height of battery storage in such areas shall not exceed 10 feet (3048 mm). Multiple battery storage areas shall be separated from each other by not less than 10 feet (3048 mm) of open space.

321.4.3.3 Fire detection. Outdoor storage areas for lithium-ion or lithium metal batteries, regardless of whether such areas are open, under weather protection or in a prefabricated portable structure, shall be provided with an approved automatic fire detection and alarm system complying with Section 907. The fire detection system shall use radiant energy-sensing fire detection.

401.1 Scope

401.1 Scope. Reporting of emergencies, coordination with emergency response forces, emergency plans and procedures for managing or responding to emergencies shall comply with the provisions of this section.

~~Exception: Firms that have approved on premises fire fighting organizations that are in compliance with approved procedures for fire reporting.~~

403.11.6 Buildings with lithium-ion or lithium metal battery storage

403.11.6 Buildings with lithium-ion or lithium metal battery storage. An approved fire safety plan in accordance with Section 404 shall be prepared and maintained for buildings with lithium-ion or lithium metal battery storage.

503.2.4 Turning radius

503.2.4 Turning radius. The required turning radius of a fire apparatus access road shall be determined by the *fire code official*. The outside radius of a fire apparatus access road shall be a minimum of forty-five (45) feet. The inside radius of any turn shall not be less than thirty (30) feet.

503.2.9 Driveways

503.2.9 Driveways. Driveways intended for fire apparatus access shall be provided when any portion of an exterior wall of the first story of a building is located more than one hundred fifty (150) feet from a fire apparatus access road. Driveways shall provide a minimum unobstructed width of twelve (12) feet and a minimum unobstructed height of thirteen feet six inches (13' 6".) 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.

503.2.10 Turnouts

503.2.10 Turnouts. Turnouts shall be an all-weather road surface at least ten (10) feet wide and thirty (30) feet long. Driveway turnouts shall be located as required by the *fire code official*.

505.1 Address Identification

505.1 Address identification. New and existing buildings shall be provided with approved all-weather address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetic letters. Numbers shall not be spelled out. Each character shall be not less than ~~4 inches (102 mm) high with a minimum stroke width of 1/2 inch (12.7 mm)~~ a nominal height of 6-inches with a minimum ½-inch stroke for residential occupancies, six (6) inches in height with a minimum of three-quarters (¾) inch stroke for commercial structures not exceeding 30,000 square feet, and 12-inches with a one and one-half (1 ½) inch stroke for commercial structures exceeding 30,000 square feet. All suites shall be identified with either a letter or number four (4) inches in height with a minimum of one-half (½) inch stroke. Numbers and/or letters shall be of a contrasting color and be readily visible from the street. Where required by the *fire code official*, address identification shall be provided in additional *approved* locations to facilitate emergency response.

Where access is by means of a private road and the building cannot be viewed from the *public way*, a monument, pole or other sign or means shall be used to identify the structure. Address identification shall be maintained.

507.2.3 Inspection, testing and maintenance

507.2.3 Inspection, testing and maintenance. Private fire service mains and water tanks shall be periodically inspected, tested and maintained in accordance with NFPA 25 at the following intervals.

1. Private fire hydrants of all types: inspect annually and after each operation; flow test and maintenance annually.
2. Fire service main piping: Inspection of exposed pipe annually; flow test every five years.
3. Fire service main piping strainers: Inspection and maintenance after each use.

Records of inspections, testing, and maintenance shall be maintained.

507.3 Fire flow

507.3 Fire flow. Fire flow requirements for buildings or portions of building and facilities shall be determined by an *approved* method.

Subject to the approval of the *fire code official*, if the required fire flow is not available for adequate fire protection, an automatic fire sprinkler system shall be installed throughout the building or buildings. The sprinkler system must meet the requirements of the appropriate NFPA standard. The provisions of this paragraph do not apply if a fire sprinkler system is otherwise required by this chapter or the adopted codes.

507.5.1.2 Fire hydrant standards

507.5.1.2 Fire hydrant standards. All new or replacement fire hydrants shall be in accordance with Tables 507.5.1.2(a) and 507.5.1.2(b).

TABLE 507.5.1.2(a)

TABLE 507.5.1.2(a)
FIRE HYDRANT MAKE AND MODEL

MAKE	MODEL
Mueller	A423 – Super Centurion 250
Waterous	Pacer WB-67-250 with Storz Connection
AVK	27N-Nostalgic (2780)

TABLE 507.5.1.2(b)

TABLE 507.5.1.2(b)
FIRE HYDRANT SPECIFICATIONS

FEATURE	SPECIFICATION
Opening	Left hand turn
Threads	National Hose Thread (NST)
Ports	5-inch Steamer with Ztorz cap and two 2 ½ inch ports
Nut	1 ½ inch diameter
Color	Municipal system: Red Fire pump system: White top

507.5.5 Clear space around hydrants

507.5.5 Clear space around hydrants. A 3-foot (914 mm) clear space shall be maintained around the circumference of fire hydrants, except as otherwise required or *approved*. In addition, a minimum clear space of seven and one-half feet (2286 mm) shall be maintained to both sides and directly in front of the front pumper connection.

507.5.7 Distance from curb, height, and location

507.5.7 Distance from curb, height, and location. Fire hydrants are to be located within 5 feet (1524 mm) from the face of the curb with the steamer port centered not less than 18 inches (457 mm) and not more than 36 inches (914m) above the grade or ground, whichever is higher. Hydrants should be placed on the right-hand side of roads and intersections whenever possible or as *approved* by the *fire code official*.

507.5.8 Signage

507.5.8 Signage. Fire hydrants shall be installed with an "OUT OF SERVICE" ring around the steamer port. The ring shall remain in place until successful flow, numbering, and GPS mapping has been completed and removal of the ring has been authorized by the *fire code official*.

507.5.9 Solid surface area

507.5.9 Solid surface area. Fire hydrants installed in a location with no sidewalks shall have a 4-foot by 4-foot (1219 mm by 1219 mm) solid surface area constructed of concrete, pavement, solid base, or other *approved* material, in front of the hydrant and must be free from obstructions, drop-offs in grade or holes in or around the immediate area. This should extend from the front of the hydrant to the curb and does not need to completely surround the hydrant. Where topographic features interfere with the clearance, a retaining wall shall be provided. DO NOT pour concrete up to the pipe. All fire hydrants shall be provided annular space around the hydrant pipe and filled with drain gravel.

507.5.10 Markers

507.5.10 Markers. Approved fire hydrant snow markers shall be provided where it is determined by the *fire code official* to be an area of significant snow fall.

508.1 General

508.1 General. Where required by other sections of this code and in all buildings classified as *high-rise buildings* by the *International Building Code* or *wide-rise buildings* as defined in Section 202, a *fire command center* for fire department operations shall be provided and shall comply with Sections 508.1.1 through 508.1.6. Commercial structures less than 5,000 square feet will not require any type of command room. Buildings that are a single structure, between 5,000 square feet and 30,000 square feet will require a command room which can be located within the structure in a location approved by the *fire code official*. For buildings larger than 30,000 square feet the *fire command center* shall be located in a detached building outside the collapse zone (1.5 times the height of the building).

508.1.2 Separation

508.1.2 Separation. The *fire command center* shall be separated from the remainder of the building by not less than a ~~1~~2-hour *fire barrier* constructed in accordance with Section 707 of the *International Building Code* or *horizontal assembly* constructed in accordance with Section 711 of the *International Building Code*, or both.

508.1.3 Size

508.1.3 Size. The *fire command center* shall be ~~not less than 0.015 percent of the total building area of the facility served or 200 square feet (19 m²) in area, whichever is greater, with a minimum dimension of 0.7 times the square root of the room area or 10 feet (3048 mm), whichever is greater~~ a minimum of 96 square feet with a minimum dimension of 8 feet.

508.1.6 Required features

508.1.6 Required features. The *fire command center* shall comply with NFPA 72 and shall contain the following features:

4. The emergency voice/alarm communication system control unit.
5. The fire department communications system.
6. Fire detection and alarm system annunciator.
7. Annunciator unit visually indicating the location of the elevators and whether they are operational.
8. Status indicators and controls for air distribution systems.
9. The fire fighter's control panel required by Section 909.16 for smoke control systems installed in the building.
10. Controls for unlocking *interior exit stairway* doors simultaneously.
11. Sprinkler valve and water-flow detector display panels.
12. Emergency and standby power status indicators.
13. ~~A telephone for fire department use with controlled access to the public telephone system.~~
14. Fire pump status indicators.
15. Schematic building plans indicating the typical floor plan and detailing the building core, *means of egress*, *fire protection systems*, fire-fighter air-replenishment systems, fire-fighting equipment and fire department access, and the location of *fire walls*, *fire barriers*, *fire partitions*, *smoke barriers* and smoke partitions.
16. An *approved* Building Information Card that includes, but is not limited to, all off the following:
    16.1. General building information that includes: property name, address, the number of floors in the building above and below grade, use and occupancy classification (for mixed uses, identify the different types of occupancies on each floor) and the estimated building population during the day, night and weekend;

16.2. Building emergency contact information that includes: a list of the building's emergency contacts including but not limited to building manager, building engineer and their respective work phone number, cell phone number and e-mail address;

16.3. Building construction information that includes: the type of building construction including but not limited to floors, walls, columns and roof assembly;

16.4. *Exit access stairway* and *exit stairway* information that includes: number of *exit access stairways* and *exit stairways* in building; each *exit access stairway* and *exit stairway* designation and floors served; location where each *exit access stairway* and *exit stairway* discharges, *interior exit stairways* that are pressurized; *exit stairways* provided with emergency lighting; each *exit stairway* that allows reentry; *exit stairways* providing roof access; elevator information that includes: number of elevator banks, elevator bank designation, elevator car numbers and respective floors that they serve; location of elevator machine rooms, control rooms and control spaces; location of sky lobby; and location of freight elevator banks;

16.5. Building services and system information that includes: location of mechanical rooms, location of building management system, location and capacity of all fuel oil tanks, location of emergency generator and location of natural gas service;

16.6. *Fire protection system* information that includes: location of standpipes, location of fire pump room, location of fire department connections, floors protected by automatic sprinklers and location of different types of *automatic sprinkler systems* installed including but not limited to dry, wet and pre-action;

16.7. Hazardous material information that includes: location and quantity of hazardous material.

17. Work table.

18. Generator supervision devices, manual start and transfer features.

19. Public address system, where specifically required by other sections of this code.

20. Elevator fire recall switch in accordance with ASME A17.1/CSA B44.

21. Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.

22. Facility Fire Pre-Plan (2'x3' laminated map) showing: Ingress Routes, Egress Routes, Fire Lanes, Power Shunt Trip location, Main Fire Alarm Control Panel location, Gas Shunt (must be within 20 feet of fire control room) location, Electrical Main Panel, All Sub-panel locations, Fire Hydrant locations, Knox Box location, Fire Department Connection location, Post Indicator Valve location (as required) and Outside Screw and Yolk (as required).

23. Disconnect. The main switch for disconnecting the utility power and any alternate power sources shall be in the fire command center. Switches shall be covered to prevent accidental activation. Switches shall interrupt the public utility power feeds and any alternate power sources before entering the building. After the switch is operated, no live electrical panels, conductors, or feeds within the premises shall remain energized excluding emergency electrical circuits.

24. Main Fire Alarm Control Panel shall be a combination smoke/fire with a writable surface.

25. Knox Box installed at an *approved* location and 5 feet above finished floor.

26. .

27. In occupancies greater than 55 feet in height, a fire equipment cache room shall be provided every 5 stories and stocked as specified by the *Fire Code Official*. Fire cache room shall be provided and stocked per *fire code official* request, for buildings or occupancies where it is deemed necessary based on special hazards or square footage.

510.1 Emergency responder radio coverage in new buildings

510.1 Emergency responder radio coverage in new buildings. ~~New buildings shall have approved radio coverage for emergency responders within the building based on the existing coverage levels of the public safety~~

~~communication systems utilized by the jurisdiction, measured at the exterior of the building. This section shall not require improvement of the existing public safety communication systems.~~ An emergency responder radio coverage system shall be provided throughout buildings when any of the following apply:

1. **High-rise buildings.** Buildings with a floor used for human occupancy located more than 55 feet above the lowest level of fire department vehicle access.
2. **Wide-rise buildings.** Buildings over 30,000 square feet.
3. **Underground and below grade buildings.** Buildings having a floor level below the finished floor of the lowest level of exit discharge of any level.
4. **Other buildings.** The *fire code official* is authorized to require a technical opinion and report, in accordance with Section 104.7.2, for buildings whose design, due to location, size, construction type, or other factors, could impede radio coverage as required by Section 510.4.1. The report shall make a recommendation regarding the need for an emergency responder radio coverage system.

~~**Exceptions:**~~

~~1. Where approved by the building official and fire official a wired communication system in accordance with Section 907.2.12.2 shall be permitted to be installed and maintained instead of an approved radio coverage system.~~
~~2. Where it is determined by the fire code official that the radio coverage is not needed.~~
~~3. In facilities where emergency responder radio coverage is required, and such systems, components or equipment required could have a negative impact on the normal operations of that facility, the fire code official shall have the authority to accept an automatically activated.~~

510.2 Emergency responder radio coverage in existing buildings

510.2 Emergency responder radio coverage in existing buildings. Existing buildings ~~shall be provided with approved radio coverage for emergency coverage as required in chapter 11.~~ other than Group R-3, which do not have *approved* radio coverage for emergency responders in the building based on existing coverage levels of the public safety communications systems, shall be equipped with such coverage according to one of the following conditions:

1. Existing buildings that do not have approved radio coverage, as determined by the *fire code official*, in accordance with Section 510.4.1.
2. Where an existing wired communication system cannot be repaired or is being replaced.
3. Within a time frame established by the adopting authority.

Exception: Where it is determined by the *fire code official* that the radio coverage is not needed.

901.4.6.2 Marking on access door

901.4.6.2 Marking on access door. Access doors for automatic sprinkler system riser rooms and fire pump rooms shall be labeled with an *approved and* maintained all-weather sign. The lettering shall be in contrasting color to the background. Letters shall have a minimum height of 2 inches (51 mm) with a minimum stroke of 3/8 inch (10 mm).

901.6 Inspection, testing and maintenance

901.6 Inspection, testing and maintenance. Fire detection and alarm systems, emergency alarm systems, gas detection systems, fire-extinguishing systems, mechanical smoke exhaust systems, smoke and heat vents, and commercial kitchen hood ventilation systems shall be maintained in an operative condition at all times and shall be replaced or repaired where defective. Nonrequired *fire protection systems* and equipment shall be inspected,

tested and maintained or removed. Air systems for fire-suppression breathing apparatus shall be maintained at the same frequency as other *high-rise* and *wide-rise* life safety systems.

901.6.2.3 Fire fighter air replenishment system

Section 901.6.2.3 Fire fighter air replenishment system. Fire suppression breathing apparatus air system procedures, maintenance and report records shall be approved by the *fire code official*. Inspection records shall be kept on-site.

901.7 Systems out of service

901.7 Systems out of service. Where a required *fire protection system* is out of service, the fire department and the *fire code official* shall be notified immediately and, where required by the *fire code official*, the building shall be either evacuated or an *approved* fire watch shall be provided for all occupants left unprotected by the shutdown until the *fire protection system* has been returned to service. In the event that the service/maintenance contract for any *fire protection system* is canceled or not renewed, the *fire code official* shall be notified by the service/maintenance contractor within 24 hours.

901.11 Problematic unwanted fire alarms

901.11 Problematic unwanted fire alarms. Problematic unwanted fire alarms are a violation of this code. When a fire alarm system is required by this code, it shall be the responsibility of the property owner or owner's authorized agent to maintain the system and properly educate occupants, tenants, and/or employees in accepted behavioral practices that will minimize or eliminate false and/or nuisance alarms. This includes nuisance activations in response to predictable environmental stimuli such as but not limited to cooking fumes, smoking, and construction activities. Where unwanted alarms become repetitive, the fire code official is authorized to charge fees or issue administrative citations to the property owner in accordance with the fee schedule or administrative code as established by the applicable governing authority.

903.2 Where required

903.2 Where required. *Approved automatic sprinkler systems* in new buildings and structures shall be provided in locations described in Sections 903.2.1 through 903.2, Group A, B, E, F, H, I, M, S and U occupancies with a fire area greater than or equal to 5,000 square feet (464 m^2), and buildings with two stories and a basement or more than two stories in height.

903.2.3 Group E

903.2.3 Group E. An *automatic sprinkler system* shall be provided for Group E occupancies ~~as follows~~ where one of the following exists:

1. Throughout all Group E *fire areas* greater than ~~12,000~~ 5,000 square feet (~~1115~~ 464 m^2) in area.
2. The Group E fire area is located on a floor other than a level of exit discharge serving such occupancies.

   Exception: In buildings where every classroom has not fewer than one exterior exit door at ground level, an automatic sprinkler system is not required in any area below the lowest level of exit discharge serving that area.

3. The Group E fire area has an occupant load of 300 or more.

   Exception: In buildings where every classroom has not fewer than one exterior exit door at ground level, an automatic sprinkler system is not required in any area below the lowest.

4. Daycare facilities where there is occupancy from 12:00 am- 6:00 am and care for 7 or more children.

In high schools where *automatic fire sprinkler systems* are provided, the automatic fire sprinkler systems for automotive and woodworking shops must be *designed* to Ordinary Hazard, Group 1 automatic fire sprinkler systems *criteria, or as required by the fire code official.*

903.4 Sprinkler system supervision and alarms

903.4 Sprinkler system supervision and alarms. Valves controlling the water supply for *automatic sprinkler systems*, pumps, tanks, water levels and temperatures, critical air pressures and waterflow switches on all sprinkler systems shall be electrically supervised by a *listed* fire alarm control unit.

Exceptions:

5. Control valves to commercial kitchen hoods, paint spray booths or dip tanks that are sealed or locked in the open position. This exception will not apply to any of the above- mentioned control valves if they are located in a building equipped with any fire alarm or protection system that is required to be monitored by a central station fire alarm company.

903.4.2 Alarms

903.4.2 Alarms. An approved ~~audible~~ alarm notification appliance ~~device, located on the exterior of the building in an *approved* location,~~ shall be connected to each *automatic sprinkler system*. Such sprinkler waterflow alarm devices shall be activated by waterflow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Approved alarm notification appliances shall be provided on the exterior of the building and within each tenant space on the interior of the building and in an *approved* location. When residential (single family dwelling) automatic sprinkler systems are provided, waterflow activation shall provide occupant notification at all occupied levels and sleeping units, with minimum audible notification level of 75 dba sound pressure at pillow height. Where a fire alarm system is installed, actuation of the *automatic sprinkler system* shall actuate the building fire alarm system.

903.4.3 Floor control valves

903.4.3 Floor control valves. Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor ~~*in high-rise buildings*~~ in multi-story facilities.

905.3 Required installations

905.3 General requirements. Standpipe systems shall be installed where required by Sections 905.3.1 through 905.3.~~8~~9. Standpipe systems are allowed to be combined with *automatic sprinkler systems*.

905.3.9 Exterior man doors

905.3.9 Exterior man doors. Hose valve outlets are required at all exterior man doors. Hose valve outlets shall be a minimum of 2½-inch (64 mm) National Pipe Threat (NPT), mounted 3 feet above finished floor with the valve mounted downward at a 45 degree angle, and a metal sign with a minimum dimension of 9 inches high by 18 inches wide, with red letters at least 1 inch stroke and 6 inches tall on a white reflective background shall be mounted outside the door stating "STANDPIPE". Additional hose valve outlets may be required interior of the building for occupancies of a hazardous nature, where special hazards exist in addition to the normal hazards of the occupancy, or where the *fire code official* determines that access for fire apparatus is unduly difficult.

906.2 General requirements

906.2 General requirements. Portable fire extinguishers shall be selected, installed, and maintained in accordance with this section and NFPA 10.

Exceptions:

1. Travel distance to reach an extinguisher shall not apply to the spectator seating portions of Group A-5 occupancies.
2. Thirty-day inspections shall not be required, and maintenance shall be allowed to be ~~once every three years~~ annually for dry-chemical or halogenated agent portable fire extinguishers that are supervised by a listed and approved electronic monitoring device, provided that all of the following conditions are met:
   2.1 Electronic monitoring shall confirm that extinguishers are properly positioned, properly charged and unobstructed.
   2.2 Loss of power or circuit continuity to the electronic monitoring device shall initiate a trouble signal.
   2.3 The extinguishers shall be installed inside of a building or cabinet in a noncorrosive environment.
   2.4 Electronic monitoring devices and supervisory circuits shall be tested ~~every three years~~ annually when extinguisher maintenance is performed.
   2.5 A written log of required hydrostatic test dates for extinguishers shall be maintained by the owner to verify that hydrostatic tests are conducted at the frequency required by NFPA 10.
3. In Group I-3, portable fire extinguishers shall be permitted to be located at staff locations.

Carbon dioxide, wet chemical, halogenated agent, AFFF and FFFP portable fire extinguishers shall be internally examined in accordance with NFPA 10. All other portable fire extinguishers shall be internally examined annually.

907.2.9.4 Automatic smoke detection systems in Group R-4

907.2.9.4 Automatic smoke detection system in Group R-4. An *automatic smoke detection system* that activates the occupant notification system in accordance with Section 907.5 shall be installed in *corridors*, waiting areas open to *corridors* and *habitable spaces* other than *sleeping units* and kitchens.

Exceptions:

1. Smoke detection in *habitable spaces* is not required where the facility is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1.
2. An *automatic smoke detection system* is not required in buildings that do not have interior *corridors* serving *sleeping units* and where each *sleeping unit* has a *means of egress* door opening directly to an exit or to an exterior *exit access* that leads directly to an exit.

907.2.10.2.1 Alternative to single- and multiple-station smoke alarms

907.2.10.2.1 Alternative to single- and multiple-station smoke alarms. Fire alarm in place of single and multiple-station smoke alarms may be replaced by an NFPA 72 Household compliant fire alarm system. Plans shall be submitted to the *fire code official* and permit obtained prior to installation. All fire alarm installation contractors shall be required to be licensed by both the Nevada State Contractors Board and Nevada State Fire Marshal (F license).

907.5.2.1.1 Average sound pressure

907.5.2.1.1 Average sound pressure. The audible alarm notification appliances shall provide a sound pressure level of 15 decibels (dBA) above the average ambient sound level or 5 dBA above the maximum sound level having a

duration of at least 60 seconds, whichever is greater, in every occupiable space within the building. The minimum sound pressure levels shall be 90 dBA in mechanical equipment rooms and 80 dBA in all other occupancies.

910.2.2 High-piled combustible storage

910.2.2 High-piled combustible storage. Smoke and heat removal required by Table 3206.2 for buildings and portions thereof containing high-piles combustible storage shall be installed in accordance with Section 910.3 in un-sprinklered buildings. In buildings and portions thereof containing high-piled combustible storage equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, a smoke and heat removal system shall be installed in accordance with 910.3 or 910.4. Smoke and heat vents shall be activated by manual controls only per Section 910.4.4. In occupied portions of a building equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 where the upper surface of the story is not a roof assembly, a mechanical smoke removal system in accordance with 910.4 shall be installed.

910.3.2.2.1 Control mode sprinkler system

910.3.2.2.1 Control mode sprinkler system. Smoke and heat vents installed in areas of buildings with a control mode sprinkler system shall have operating elements with a higher temperature classification than the automatic fire sprinklers in accordance with NFPA 13.

910.3.2.2.2 Early suppression fast-response (ESFR) sprinkler system

910.3.2.2.2 Early suppression fast-response (ESFR) sprinkler system. Smoke and heat vents installed in areas of buildings with early suppression fast-response (ESFR) sprinklers shall be equipped with a standard-response operating mechanism with a minimum temperature rating of 360°F (182°C) or 100°F (56°C) above the operating temperature of the sprinklers, whichever is higher.

912.5.1 Connection sign

912.5.1 Connection sign. An approved all-weather sign indicating the buildings address or areas serviced by a sprinkler or standpipe system shall be permanently mounted and maintained on all fire department connections when required by the fire code official.

912.8 Distance to fire hydrant

912.8 Distance to fire hydrant. One fire hydrant supplied from the municipal water system shall be installed within 100 feet (30 m) of all fire department connections.

913.4 Valve supervision

913.4 Valve supervision. Where provided, the fire pump suction, discharge and bypass valves, and isolation valves on the backflow prevention device or assembly shall be supervised open by one of the following methods.

1. Central-station, proprietary or remote-station signaling service.
2. Local signaling service that will cause the sounding of an audible signal at a constant attended location.
3. ~~Locking valves open.~~
4. ~~Sealing of valves and *approved* weekly recorded inspection where valves are located within fenced enclosures under the control of the *owner*.~~

913.6 Fire pump capacity

913.6 Fire pump capacity. Fire pumps shall be sized and operated at their rated UL or FM Capacity at 100 percent of their rated capacity as listed on the nomenclature plate. The greatest fire flow demand will equal the total flow for the greatest demand on the automatic fire sprinkler system or the standpipe requirements.

913.7 Fire pump drivers

913.7 Fire pump drivers. Fire pumps shall be driven by diesel or electric engines, approved by *the fire code official*.

913.7.1 Variable speed control

913.7.1 Variable speed control. Diesel and Electric engines for fire pump drive shall have a variable speed limiting control system.

913.8 Redundant fire pumps

913.8 Redundant fire pumps. All fire pumps shall have a redundant fire pump installed in parallel.

913.9 Approval

913.9 Approval. Fire pumps shall be approved by the *fire code official* prior to installation.

914.3.8 Fire fighter air replenishment systems

914.3.8 Fire fighter air replenishment systems. A fire fighter air replenishment system shall be provided in all new *high-rise buildings* of ten (10) or more stories in height. The fire fighter breathing air system installation and maintenance shall comply with Appendix L. Inspection records shall be kept on site and shall be readily available to the *fire code official*.

1023.9.1 Signage requirements

[BE] 1023.9.1 Signage requirements. Stairway identification signs shall comply with all of the following requirements:

7. The background color of the sign shall be green if roof access is available from the signed stairway. The background color of the signs shall be red if roof access is not available from the signed stairway.

CHAPTER 11 CONSTRUCTION REQUIREMENTS FOR EXISTING BUILDINGS

Chapter 11 is deleted in its entirety.

2809.1 General

2809.1 General. Exterior storage of finished lumber products, firewood, chips, hogged material, associated raw products and solid biofuel products shall comply with Sections 2809.2 through 2809.5.

3903.2 Prohibited occupancies

3903.2 Prohibited occupancies. Extraction processes utilizing flammable gases or flammable ~~cryogenic fluids~~ liquids shall not be located in a building containing a Group A, E, I or R occupancy.

3903.3 Location

3903.3 Location. The extraction equipment and extraction processes utilizing hydrocarbon solvents shall be located in a room or area dedicated to extraction. For other than CO_2 and nonhazardous extraction process, the marijuana extraction equipment and process shall be located in a room of noncombustible construction dedicated to the extraction process and the room shall not be used for any other purpose.

3903.5 Use of flammable and combustible liquids

3903.5 Use of flammable and combustible liquids. ~~The use of flammable and combustible liquids for liquid extraction processes where the liquid is boiled, distilled or evaporated shall be located within a hazardous exhaust fume hood, rated for exhausting flammable vapors~~. Extraction and post oil processing operations, including dispensing of flammable liquids between containers, shall be performed in one of the following locations:

1. A chemical fume hood in accordance with Chapter of NFPA 45.
2. A room with an approved exhaust system installed in accordance with the International Mechanical Code or Uniform Mechanical Code.

Electrical equipment used within the hazardous exhaust fume hood shall be rated for use in flammable atmospheres. Heating of flammable or combustible liquids over an open flame is prohibited.

Exception 1: The use of a heating element not rated for flammable atmospheres, where documentation from the manufacture, or approved testing laboratory indicates the element is rated for heating of flammable liquids.

Exception 2: Unheated processes at atmospheric pressure using less than 16 oz. (473 ml) of flammable liquids shall not be required to comply with 3903.5(1) or 3903.5(2).

3903.5.1 Electrical components

3903.5.1 Electrical components. All electrical components within the chemical fume hood or exhausted enclosure shall be *approved* permanent wiring, interlocked such that the exhaust system shall be in operation for lighting and components to be used.

3903.6 Liquified petroleum gas

3903.6 Liquefied petroleum gas. Liquefied petroleum gases (LPG) shall not be released to the atmosphere except where released in accordance with Section 7.3 of NFPA 58. LPG liquid piping systems shall be in compliance with NFPA 58.

3903.6.1 Exhaust

3903.6.1 Exhaust. An approved exhaust system shall be provided for LPG extractions.

3903.6.1.1 Installation

3903.6.1.1 Installation. The exhaust systems shall be installed and maintained in accordance with the *International Mechanical Code* or *Uniform Mechanical Code* as adopted by the Authority Having Jurisdiction.

3903.6.1.2 Processes

3903.6.1.2 Processes. All LPG extraction operations, including processes for off-gassing spent plant material and oil retrieval, shall be conducted within a chemical fume hood, enclosure, or room in compliance with the *International Mechanical Code* or *Uniform Mechanical Code* as adopted by the Authority Having Jurisdiction.

3903.6.2 Electrical bonding and grounding

3903.6.2 Electrical bonding and grounding. All conductive equipment and conductive objects within the exhaust room shall be bonded and grounded with a resistance of less than 1.0 x 106 ohms in accordance with NFPA 70.

3903.6.2.1 Classified areas

3903.6.2.1 Classified areas. The area within a hood or enclosure used of LPG extractions shall be classified as a Class 1, Division 1 hazardous location in accordance with NFPA 70. Areas adjacent to Class 1, Division 1 locations shall be classified in accordance with NFPA 70.

3903.6.2.2 Interlocks

3903.6.2.2 Interlocks. All electrical components within the extraction room shall be interlocked with the hazardous exhaust system such that room lighting and other extraction room electrical equipment will only operate when the exhaust system is in operation.

3903.6.2.3 Emergency power

3903.6.2.3 Emergency power. An automatic emergency power system shall be provided for the following items, when installed:

1. Extraction room lighting
2. Extraction room ventilation system
3. Solvent gas detection system

3903.6.2.4 Gas detection systems

3903.6.2.4 Gas detection systems. Gas detection systems shall be provided with constant non-interlocked power.

3903.7 Carbon dioxide extraction

3903.7 Carbon dioxide extraction. Carbon Dioxide extraction shall comply with sections 3903.7.1, 3903.7.2, and 3903.7.3.

3903.7.1 Storage and handling

3903.7.1 Storage and handling. All CO_2 compressed gas cylinders shall be secured in *approved* method to prevent falling.

3903.7.2 CO_2 gas detection

3903.7.2 CO_2 Gas detection. An *approved*, listed CO_2 detection system complying with 5307.4.3 shall be installed in the CO_2 extraction room. Auto-calibrating and self-zeroing devices or detectors shall be prohibited.

3903.7.3 CO_2 discharge

3903.7.3 CO_2 discharge. The extraction equipment pressure relief devices and blow-off valves shall be piped to the exterior of the building.

3903.8 Means of egress

3903.8 Means of egress. For extraction rooms using hazardous materials, each room shall be provided with at least one exit access door complying with the following:

1. The door shall swing in the direction of egress travel.
2. The door shall be provided with a self-closing or automatic closing device.
3. The door shall be equipped with panic or fire exit hardware.
4. The exit access travel distance cannot be increased as allowed in Section 1017.2.2 for extraction/cultivation facilities.

3903.9 Signage

3903.9. Signage. The NFPA 704 hazard rating diamond sign, minimum 10" in size, and no smoking signs shall be posted on the exterior of the extraction room door.

3903.9.1 Safety data sheets

3903.9.1 Safety data sheets. All applicable safety data sheets (SDS) shall be posted in the *approved* location.

3903.9.2 Warning signage

3903.9.2 Warning signage. Applicable hazard warning signage shall be posted throughout the facility as applicable for emergency equipment.

3904.4 Site inspection

3904.4 Site inspection. Prior to the operation of the extraction equipment, ~~where required by the *fire code official*,~~ the engineer of record or *approved* professional, as *approved* in Section 3904.2, shall inspect the site of the extraction process once equipment has been installed for compliance with the technical report and the building analysis. The engineer of record or *approved* professional shall provide a report of findings to the *fire code official* prior to the approval of the extraction process. The field inspection report authored by the engineer of record shall include the serial number of the equipment used in the process and shall confirm that the equipment installed is the same model and type of equipment identified in the technical report.

3904.5 Change of extraction medium

3904.5 Change of extraction medium. Where the medium of extraction or solvent is changed from the material indicated in the technical report or as required by the manufacturer, the technical report shall be revised at the cost of the facility owner and submitted for review and approval by the fire code official prior to the use of the equipment with the new medium or solvent.

5601.1.3 Fireworks

5601.1.3 Fireworks. The possession, manufacture, storage, sale, handling and use of fireworks are prohibited.

Exceptions:

1. Storage and handling of fireworks as allowed in Section 5604.
2. Manufacture, assembly and testing of fireworks as allowed in Section 5605.
3. The use of fireworks for fireworks displays as allowed in Section 5608.

~~4. The possession, storage, sale, handling and use of specific types of Division 1.4G fireworks where allowed by applicable laws, ordinances and regulations, provided such fireworks comply with CPSC 16 CFR Parts~~ 1500 and 1507, ~~and DOTn 49 CFR Parts 100–185, as applicable for consumer fireworks.~~

5601.1.6 Exploding targets

5601.1.6 Exploding targets. The possession, manufacture, sale, and use of exploding targets, including binary exploding targets, are prohibited.

6101.1 Scope

6101.1 Scope. Storage, handling and transportation of liquefied petroleum gas (LP-gas) and the installation of LP-gas equipment pertinent to systems for such uses shall comply with this chapter and NFPA 58. Properties of LP-gases shall be determined in accordance with Appendix B of NFPA 58. In the event of a conflict between any provision in this chapter and the regulations of the Board for the Regulation of Liquefied Petroleum Gas, the regulations of the Board take precedence.

APPENDIX B FIRE-FLOW REQUIREMENTS FOR BUILDINGS

Appendix B is adopted in whole in accordance with 2018 Edition of the International Fire Code Section 101.2.

B102 Definitions

Special Fire Protection Problem Facilities. Special Fire Protection Problem Facilities are those facilities that consist of uses similar to fires that may result in large size fires or fires with high heat release such as bulk flammable liquid storage, bulk flammable gas storage, large varnish and paint factories, some plastics manufacturing and storage, aircraft hangars, distilleries, refineries, lumberyards, grain elevators, chemical plants, coal mines, tunnels, subterranean structures, storage facilities, and warehouses using high rack/piled storage for flammables or pressurized aerosols.

B103.3 Areas without water supply systems

B103.3 Areas without water supply systems. For information regarding water supplies for fire-fighting purposes in rural and suburban areas in which adequate and reliable water supply systems do not exist, the *fire code official* is authorized to utilize the *International Wildland-Urban Interface Code* or NFPA 1142 ~~or the~~ where the site is not considered as a "special fire protection problem" as defined in Section B102.

TABLE B105.2

TABLE B105.2
REQUIRED FIRE FLOW FOR BUILDINGS OTHER THAN ONE- AND TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES

AUTOMATIC SPRINKLER SYSTEM (Design Standard)	MINIMUM FIRE FLOW (gallons per minute)	FLOW DURATION (hours)
No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2)
Section 903.3.1.1 of the International Fire Code	~~25~~ 50 % of the value in Table B105.1(2)[a][c]	Duration in Table B105.1(2) at the reduced flow rate
Section 903.3.1.2 of the International Fire Code	~~25~~ 50 % of the value in Table B105.1(2)[c]	Duration in Table B105.1(2) at the reduced flow rate
Early Suppression, Fast Response (ESFR) sprinkler system	50 % of the value in Table B105.1(2)[b]	Duration in Table B105.1(2) at the reduced flow rate

For SI: 1 gallon per minute = 3.785 L/m.

~~a. The reduced fire flow shall be not less than 1,000 gallons per minute.~~

b. The reduced fire flow shall be not less than 1,500 gallons per minute.

APPENDIX C FIRE HYDRANT LOCATIONS AND DISTRIBUTION

Appendix C is adopted in whole in accordance with 2018 Edition of the International Fire Code Section 101.2.1.

APPENDIX D FIRE APPARATUS ROADS

Appendix D is adopted in whole in accordance with 2018 Edition of the International Fire Code Section 101.2.1.

D103.2 Grade

D103.2 Grade. Fire apparatus access roads shall not exceed ~~6~~10 percent grade.

Exception: Grades steeper than ~~6~~10 percent as *approved* by the *fire code official*.

APPENDIX L REQUIREMENTS FOR FIRE FIGHTER AIR REPLENISHMENT SYSTEMS

Appendix L is adopted in whole in accordance with 2018 Edition of the International Fire Code Section 101.2.1.