

[P] = International Plumbing Code Development Committee.

[WS] = Washington State Amendments;



**CHAPTER 51-54A WAC  
STATE BUILDING CODE ADOPTION AND AMENDMENT  
OF THE 2015 EDITION OF THE INTERNATIONAL FIRE CODE**

**WAC 51-54A-001 AUTHORITY**

These rules are adopted under the authority of Chapter 19.27 RCW.

**WAC 51-54A-002 PURPOSE**

The purpose of these rules is to implement the provisions of Chapter 19.27 RCW, which provides that the State Building Code Council shall maintain the State Building Code in a status which is consistent with the purpose as set forth in RCW 19.27.020. In maintaining the codes the Council shall regularly review updated versions of the codes adopted under the act, and other pertinent information, and shall amend the codes as deemed appropriate by the Council.

**WAC 51-54A-003 INTERNATIONAL FIRE CODE**

The 2015 edition of the International Fire Code, published by the International Code Council, is hereby adopted by reference with the following additions, deletions, and exceptions.

**WAC 51-54A-007 EXCEPTIONS**

The exceptions and amendments to the International Fire Code contained in the provisions of Chapter 19.27 RCW shall apply in case of conflict with any of the provisions of these rules.

Codes referenced which are not adopted through RCW 19.27.031 or RCW 19.27A shall not apply unless specifically adopted by the authority having jurisdiction. The 2015 International Wildland Urban Interface Code is included in this Code as Section 8100 with amendments found in Appendix Chapter N.

The provisions of this code do not apply to temporary growing structures used solely for the commercial production of horticultural plants including ornamental plants, flowers, vegetables, and fruits. "Temporary growing structure" means a structure that has the sides and roof covered with polyethylene, polyvinyl, or similar flexible synthetic material and is used to provide plants with either frost protection or increased heat retention. A temporary growing structure is not considered a building for purposes of this code.

The provisions of this code do not apply to the construction, alteration, or repair of temporary worker housing except as provided by rule adopted under chapter 70.114A RCW or chapter 37, Laws of 1998 (SB 6168). "Temporary worker housing" means a place, area, or piece of land where sleeping places or housing sites are provided by an employer for his or her employees or by another person, including a temporary worker housing operator, who is providing such accommodations for employees, for temporary, seasonal occupancy, and includes "labor camps" under RCW 70.54.110.

The manufacture, storage, handling, sale and use of fireworks shall be governed by Chapter 70.77 RCW and by Chapter 212-17 WAC and local ordinances consistent with Chapter 212-17 WAC.

**WAC 51-54A-008 IMPLEMENTATION**

The International Fire Code adopted by Chapter 51-54A WAC shall become effective in all counties and cities of this state on July 1, 2016.

**23.11.100 Adoptions – International Fire Code.**

The International Fire Code, 2015 Edition, and Appendices B and C, all published by the International Code Council, as adopted by the State Building Code Council in Chapter 51-54A WAC, and as amended, added to or excepted in this chapter, and not including International Fire Code **Sections** 108.2, 108.3, 109.1, 109.3, 109.3.1, 109.3.2, 109.3.3, 109.3.4, 109.4, 905.3.4, 905.3.4.1, 907.2.7.1 and 909.11.1, are adopted by reference thereto as though fully set forth herein and shall be applicable within the city. Not less than one copy of such code, appendices and standards, in the form in which they were adopted, shall be filed in the city clerk's office and shall be available for use and examination by the public.

**23.11.101 Definitions.**

As used in this chapter:

- A. "Fire code official" means the fire marshal or his or her designee.
- B. Terms used in this chapter and otherwise defined in Chapter 1.18 BCC shall have the meanings set forth in Chapter 1.18 BCC as now or hereafter amended.
- C. Point of Information. Text marked "Point of Information" is for guidance only and does not have the force of law.

**[WS] 101.2.1 Appendices.**

Provisions in the appendices shall not apply unless specifically adopted. The State Building Code Council has determined that a local ordinance adopting Appendix N Wildland Urban Interface Code may be adopted by any local government upon notification of the Council.

**23.11.102 Violations.**

A. Unless otherwise provided for herein, any violation of this chapter or the code, appendices or standards adopted herein or any failure to comply with any lawful order of the chief or his authorized representative may be prosecuted as a misdemeanor or may be treated as a civil violation under Chapter 1.18 BCC. The imposition of one penalty for any violation shall not excuse the violation or permit it to continue.

B. In addition to those costs and expenses listed in Chapter 1.18 BCC (Civil Violations), the city may recover costs from responsible persons, or business or property owners, for any of the following:

- 1. Suppression and investigation of incendiary fires where the responsible party has been duly convicted of causing the fire.
- 2. Suppression and investigation of fires resulting from or aggravated by a condition that was a code violation for which a violation notice or letter of violation was issued, but not corrected.

- 3. Suppression and investigation of fires resulting from an escape of a control burn.
- 4. Extinguishment of an illegal control burn or a control burn in violation of a permit where adequate private fire extinguishing capability has not been provided or where private fire extinguishing efforts have been unsatisfactory.
- 5. Repeat responses to situations involving illegal burning.
- 6. Mitigation of a hazardous materials incident when the duration of the incident exceeds two hours.
- 7. Preventable responses to fire alarms when the number exceeds five nonexempt preventable responses to a single alarm system during a calendar year. This shall be in addition to any fees assessed under BCC 23.11.901.11. The chief may credit costs of system improvement to prevent responses or other life or life safety improvements to offset charges for fire departmental costs.
- 8. Extraordinary expenses incurred in, or as a result of, the control or extinguishment of fires or mitigation of hazardous materials incidents.

C. Chargeable costs under this section shall include the following:

- 1. Personnel costs (including salaries, overtime, fringe benefits, etc.) for the time that involved personnel were not available to respond to valid emergencies.
- 2. Apparatus costs according to the "Fee Schedule for Hazardous Materials Incidents and/or Fire Suppression" established by the King County Fire Chiefs' Association.
- 3. With regard to subsection (B)(8) of this section, costs may include damaged, destroyed or contaminated equipment (such as protective clothing and fire hose); special supplies utilized (such as fire-fighting foams and absorbent pads); and cost of specialized or heavy equipment and their operation including that of other fire agencies, other departments of the city of Bellevue and private contractors or suppliers when such equipment is determined to be needed by the chief.
- 4. Administrative and any other costs associated with the recovery of these costs.

**102.5** Where structures are designed and constructed in accordance with the *International Residential Code*, the provisions of this code shall apply as follows:

1. Construction and design provisions of this code pertaining to the exterior of the structure shall apply including, but not limited to, premises identification, fire apparatus access and water supplies. Where interior or exterior systems or devices are installed, construction permits required by Section 105.7 of this code shall apply.

**Exception:** Additions to existing structures of up to 500 square feet for other than adult family homes are not required to comply with fire apparatus access or water supply requirements.

For other than adult family homes, additions greater than 500 square feet are allowed, provided the following criteria are met:

1. When there is inadequate fire department access (Section 503), distance to fire hydrants and/or inadequate fire flow (Section 507) and a proposed addition to a dwelling is less than 25% of the existing total living area square footage, interconnected carbon monoxide and smoke alarm devices shall be installed in accordance with Section 907.2.11.2 and *International Residential Code* Section 315.1 throughout the dwelling.
2. When there is inadequate fire department access (Section 503), distance to fire hydrants and/or inadequate fire flow (Section 507) and a proposed addition to a dwelling is greater than 25% but less than 50% of the existing total living area, interconnected carbon monoxide and smoke alarm devices\* shall be installed in accordance with Section 907.2.11.2 and the *International Residential Code* Section 315.1 standards throughout the dwelling and monitored by an approved central station **provided** there is a minimum available fire flow of 1,000 G.P.M. If the available fire flow is less than 1,000 G.P.M., item #3 shall apply.
3. When there is inadequate fire department access (Section 503), distance to fire hydrants and/or inadequate fire flow (Section 507) and a proposed addition to a dwelling is greater than 50% of the existing total living area an automatic fire sprinkler system installed in accordance with NFPA standard 13D standard shall be installed throughout the dwelling.

\*UL 217 listed wireless devices are approved for installation.

2. Administrative, operational and maintenance provisions of this code shall apply. 23.11.102.7 *International Fire Code* Section 102.7 amended – Referenced codes and standards.

**102.7 Referenced codes and standards.**

The codes and standards referenced in this code shall be those that are listed in Chapter 80 of the *International Fire Code* Effective July 1, 2016

Code, and such codes and standards shall be considered part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Sections 102.7.1 and 102.7.2.

**Point of Information**

When allowed by the *Fire Code official*, editions of standards not herein referenced may be utilized provided the entire standard is utilized.

**102.7.1 Conflicts.**

Where conflicts occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

**102.7.2 Provisions in referenced codes and standards.**

Where the extent of the reference to a referenced code or standard includes subject matter that is within the scope of this code, the provisions of this code, as applicable, shall take precedence over the provisions in the referenced code or standard.

**104.1 General.**

The chief is hereby authorized to administer and enforce this code and to adopt policies, procedures, rules, and regulations in order to clarify the application of its provisions. Such interpretations, policies, procedures, rules and regulations shall be in compliance with the intent and purpose of this code and shall not have the effect of waiving requirements specifically provided for in this code. The chief hereby delegates to the fire code official all authority under this chapter to enforce all ordinances of the jurisdiction pertaining to:

1. The prevention of fires.
2. The suppression or extinguishment of dangerous or hazardous fires.
3. The storage, use and handling of hazardous materials.
4. The installation and maintenance of automatic, manual and other private fire alarm systems and fire-extinguishing equipment.
5. The maintenance and regulation of fire escapes.
6. The maintenance of fire protection and the elimination of fire hazards on land and in buildings, structures and other property, including those under construction.
7. The maintenance of exits.
8. The investigation of the cause, origin and circumstances of fire and unauthorized release of hazardous materials.

**104.1.1 Fire department personnel and police.**

The chief and members of the fire prevention bureau shall have the powers of a police officer performing their duties under this code.

**104.1.2 Indigent housing guidelines.**

The fire code official is hereby authorized to develop a policy regarding application and exemption of construction codes for temporary homeless shelters in accordance with WAC 51-16-030 Exemptions for indigent housing guidelines, now or as hereafter amended.

**104.11.2 Obstructing operations.**

No person shall obstruct the operations of the fire department in connection with extinguishment, investigation, or control of any fire, or actions relative to other emergencies, or disobey any lawful command of the fire chief or officer of the fire department in charge of the emergency, or any part thereof, or any lawful order of a police officer assisting the fire department.

**105.1.1 Permits required.**

Any property owner or authorized agent who intends to conduct an operation or business, or install or modify systems and equipment which is regulated by this code, or to cause any such work to be done, shall first make application to the fire code official and obtain the required permit. Permit fees, if any, may be required to be paid prior to issuance of the permit. Failure to pay the required permit fee may result in cancellation of the permit.

**104.10.1 Assistance from other agencies.**

Police and other enforcement agencies shall have authority to render necessary assistance in the investigation of fires or the enforcement of this code as requested by the fire code official.

**105.2.3 Time limitation of application.**

1. Applications for which no permit is issued within one year following the date of application shall expire. Plans and other data submitted with the application may thereafter be returned to the applicant or destroyed in accordance with state law by the fire code official. The fire code official may, prior to expiration, extend the time for action by the applicant for a period not to exceed 180 days.
2. Applications may be canceled for inactivity if an applicant fails to respond to the department's written request for revisions, corrections, actions or additional information within 90 days of the date of request. The fire code official may extend the response period beyond 90 days if, within the original 90-day time period, the applicant provides and subsequently adheres to an approved schedule with specific target dates for submitting the full revisions, corrections or other information needed by the department.
3. In addition to the extension allowed in subsection (1) of this section, the fire code official may extend the life of an application if any of the following conditions exist:
  - a. Compliance with the State Environmental Policy Act is in progress; or
  - b. Any other city review is in progress; provided the applicant has submitted a complete response to city requests or the fire code official determines that unique or unusual circumstances exist that warrant additional time for such response, and the fire code official determines that the review is proceeding in a timely manner toward final city decision; or
  - c. Litigation against the city or the applicant is in progress, the outcome of which may affect the validity or the provisions of any permit issued pursuant to such application.

In no event may the fire code official extend the application for a period of more than 180 days following the conclusion of any of the conditions described in subsection (3).

Effective July 1, 2016

**105.3.1 Expiration.**

An operational permit shall remain in effect until reissued, renewed, or revoked or for such a period of time as specified in the permit.

Construction permits issued by the fire code official under the provisions of this chapter shall expire by limitation and become null and void if the work authorized by such permit is not commenced within one year from the date of such permit, or if work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days except that the fire code official may extend permits associated with single-family construction for an additional period of up to 180 days at his or her sole discretion.

Construction permits issued under which work is continuously performed and the necessary periodic inspections are completed shall be extended beyond the one-year period by the fire code official for a period of no more than one year. No more than two one-year extensions shall be granted except that the fire code official may extend permits associated with single-family construction for an additional period of up to 90 days at his or her sole discretion.

Before such work recommences, a new permit shall be first obtained. Permits are not transferable and any change in occupancy, operation, tenancy or ownership shall require that a new permit be issued.

(Insert facing page 5)



**105.6.17 Flammable and combustible liquids. An operational permit is required:**

1. To use or operate a pipeline for the transportation within facilities of flammable or combustible liquids. This requirement shall not apply to the off-site transportation in pipelines regulated by the Department of Transportation (DOT) nor does it apply to piping systems.
2. To store, handle or use Class I liquids in excess of 5 gallons (19 L) in a building or in excess of 10 gallons (37.9 L) outside of a building, except that a permit is not required for the following:
  - 2.1. The storage or use of Class I liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant or mobile heating plant, or storage of approved portable motor boat fuel containers of six (6) gallons (22.7L) or less individual capacity and twelve (12) gallons (45.4L) aggregate capacity, unless such storage, in the opinion of the fire code official, would cause an unsafe condition.
  - 2.2. The storage or use of paints, oils, varnishes or similar flammable mixtures when such liquids are stored for maintenance, painting or similar purposes for a period of not more than 30 days.
3. To store, handle or use Class II or Class IIIA liquids in excess of 25 gallons (95 L) in a building or in excess of 60 gallons (227 L) outside a building, except for fuel oil used in connection with oil-burning equipment.

4. To store, handle or use Class IIIB liquids in tanks or portable tanks for fueling motor vehicles at motor fuel-dispensing facilities or where connected to fuel-burning equipment.
5. To remove Class I or Class II liquids from an underground storage tank used for fueling motor vehicles by any means other than the approved, stationary on-site pumps normally used for dispensing purposes.
6. To operate tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed or used.
7. To place temporarily out of service (for more than 90 days) an underground, protected above-ground or above-ground flammable or combustible liquid tank.
8. To change the type of contents stored in a flammable or combustible liquid tank to a material which poses a greater hazard than that for which the tank was designed and constructed.
9. To manufacture, process, blend or refine flammable or combustible liquids.
10. To engage in the dispensing of liquid fuels into the fuel tanks of motor vehicles at commercial, industrial, governmental or manufacturing establishments.
11. To utilize a site for the dispensing of liquid fuels from tank vehicles into the fuel tanks of motor vehicles at commercial, industrial, governmental or manufacturing establishments.
12. To engage in the business of removing, abandoning or otherwise disposing of residential heating oil tanks.

**[WS] 105.6.49 Marijuana extraction systems.** An operational permit is required to use a marijuana/cannabis extraction system regulated under WAC 314-55-104.

**105.6.50 Emergency responder radio coverage system.** An operational permit is required to operate an Emergency Responder Radio Coverage System as prescribed in Bellevue City Code 23.11.510.

**105.6.51 Positive alarm sequence.** An operational permit is required to operate a PAS (Positive Alarm Sequence) Account as prescribed in NFPA (National Fire Protection Association) 72.23.11.

**105.7 Required Construction Permits.** Permits referenced in Section 105.7 are issued by the Development Services Department when authorized to do so by the fire code official.

**[WS] 105.7.19 Marijuana extraction systems.** A construction permit is required to install a marijuana/cannabis extraction system regulated under WAC 314-55-104.

**[WS] 105.7.20 Underground supply piping for automatic sprinkler system.** A construction permit is required for the installation of the portion of the underground water supply piping, public or private, supplying a water-based fire protection system. The permit shall apply to all

underground piping and appurtenances downstream of the first control valve on the lateral piping or service line from the distribution main to one foot above finished floor of the

facility with the fire protection system. Maintenance performed in accordance with this code is not considered to be a modification and does not require a permit.

**Exceptions:**

1. When the underground piping is installed by the aboveground piping contractor.
2. Underground piping serves a fire protection system installed in accordance with NFPA 13D.

**105.7.21 Firefighter Air Systems.** A construction permit is required to install a firefighter air system.

**107.3 Recordkeeping.**

A record of periodic inspections, test, servicing and other operations and maintenance shall be maintained on the premises or other *approved* location for not less than 3 years, or a different period of time where specified in this code or referenced standards. Records shall be made available for inspection by the *fire code official*, and a copy of the records shall be provided to the *fire code official* upon request.

The *fire code official* is authorized to prescribe the form and format of such recordkeeping. The *fire code official* is authorized to require that certain required records be filed with the *fire code official*.

**Point of Information**

Effective January 1, 2017 all confidence test reports must be filed with the *Compliance Engine* ([www.thecomplianceengine.com](http://www.thecomplianceengine.com))

**107.6 Overcrowding.**

Overcrowding or admittance of any person beyond the approved capacity of a building or a portion thereof shall not be allowed. The fire code official, upon finding any overcrowding conditions or obstructions in aisles, passageways or other means of egress, or upon finding any condition which constitutes a life safety hazard, shall be authorized to direct actions be taken to reduce the overcrowding or to cause the event to be stopped until such condition or obstruction is corrected.

**107.7 Unauthorized tampering.**

Signs, tags or seals posted or affixed by the fire code official shall not be mutilated, destroyed or tampered with or removed without authorization from the fire code official.

**108.1 Appeals Established.**

1. The City of Bellevue Hearing Examiner may hear appeals relating to the following:

A. The fire code official's denial of an application for an operational permit under Section 105 of the International Fire Code as adopted by this chapter and now or hereafter amended;

B. The fire code official's denial of an application for a construction permit under Section 105 of the International Fire Code as adopted by this chapter and now or hereafter amended;

C. The determination by the fire code official that a nonexempt preventable fire department response to a fire alarm has occurred under BCC 23.11.901.11 as now or hereafter amended;

D. Formal written interpretations of the fire code by the fire code official.

2. The applicant in A or B above, the responsible party in C above, or an aggrieved party in D above, may appeal to the City of Bellevue Hearing Examiner within thirty days from the date of the fire code official's determination. The fire code official's determination shall be in writing and shall constitute the final decision of the City. Appeals of determinations made by the fire code official in proceedings authorized under Chapter 1.18 BCC shall be heard simultaneously with the underlying action before the hearing examiner presiding over the proceeding.

**108.2 Limitations on authority.** This section is not adopted.

**108.3 Qualifications.** This section is not adopted

**109.3 Notice of violation.** This section is not adopted.

**109.3.1 Service.** This section is not adopted.

**109.3.2 Compliance with orders and notices.** This section is not adopted.

**109.3.3 Prosecution of violations.** This section is not adopted.

**109.3.4 Unauthorized tampering.** This section is not adopted.

**109.4 Violation penalties.** This section is not adopted.

**109.4.1 Abatement of violation.**

In addition to the enforcement provisions of 23.11.102, the fire code official is authorized to institute appropriate action to prevent unlawful construction or to restrain, correct or abate a violation; or to prevent illegal occupancy of a structure or premises; or to stop an illegal act, conduct of business or occupancy of a structure on or about any premises.

**113.1 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.

**113.2 Schedule of permit fees.**

A fee for each permit shall be paid as required, in accordance with Table 113.6.

These fees shall be reviewed annually, and, effective January 1 of each year, administratively increased or decreased to the nearest whole dollar by an adjustment to reflect the current published annual change in the Seattle Consumer Price Index for Wage Earners and Clerical Workers.

A fee schedule ([Fire Prevention Fee Schedule](#)) reflecting the base fees in Table 113.6 and any applicable administrative adjustment pursuant to this section will be made available to the public.

**113.3 Work commencing before permit issuance.**

Any person who commences any work, activity or operation regulated by this code before obtaining the necessary permits shall reimburse the City for all expenses related to any enforcement proceedings and be subject to a penalty levied in an amount up to double the fee required for the work, activity or operation commenced prior to obtaining the necessary permits which shall be in addition to the required permit fees.

This provision does not apply to emergency work, activity or operations when it is proved to the satisfaction of the Fire Marshal that such work, activity or operation was urgently necessary and that it was not practical to obtain a permit before commencement of the work, activity or operation.

In all such cases, a permit must be obtained as soon as it is practical to do so; and if there is an unreasonable delay in obtaining the permit, a double fee (as provided for in this ordinance) will be charged. The payment of this double fee does not relieve any person from fully complying with the requirements of the Bellevue City Code in the execution of the work or from any other penalties prescribed by law. Such person may also be required to reimburse the City for all expenses related to any enforcement proceedings as determined by the Fire Marshal.

**113.4 Related fees.**

The payment of the fee for the construction, alteration, removal or demolition of work done in connection to or concurrently with the work or activity authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law.

**113.5 Refunds.**

The applicable governing authority is authorized to establish a refund policy.

**Table 113.6**

Effective April 9, 2018

**113.6.1 Operational permit fees.** A base fee of \$121.00, subject to adjustment as specified in BCC 23.11.113.2, shall be charged annually for each type of operational permit (as defined in International Fire Code Section 105.6).

**Exceptions:**

1. Any hazardous material with multiple classifications shall be charged only once.
2. No fees shall be charged for candles in a place of assembly or parade floats.
3. Fees shall be waived for government agencies and non-profit organizations.

**113.6.2. Pyrotechnical effects permits.** A base fee of \$220.00, subject to adjustment as specified in BCC 23.11.113.2, shall be charged for pyrotechnical effects permits.

**113.6.3 Construction permit fees.**

The fee for each permit shall be as set forth in the fee ordinance, as now or hereafter amended.

**113.6.4 Re-inspection fee.** A re-inspection fee may be assessed when all of the following criteria have been met:

- Code violations have been identified by the fire code official.
- A written notice has been issued to the responsible party, identifying the code violations and a time period to make corrections.
- The code violations have not been corrected within the specified period.

The fee shall be \$156.00 /hour, subject to adjustment as specified in BCC 23.11.113.2, with a one hour minimum.

**113.6.5 Event Fee.** When the fire chief determines it is necessary to preserve the public health, safety and welfare, event sponsors may be required to compensate the department for staffing and equipment in an amount calculated according to the Washington State Fire Chiefs Association's fee schedule together with Fire Prevention hourly staffing rate as published in Development Services Fee Ordinance 6263 or as amended.

**113.6.6 Confidence Test Report Filing Fee.** Effective January 1, 2017 confidence test reports must be filed with "The Compliance Engine" ([www.thecompliancengine.com](http://www.thecompliancengine.com)). A \$25.00 filing fee remitted to Brycer L.L.C is required at the time of filing. Brycer L.L.C will retain \$10.00 and 6% of the balance and return \$13.90 to the City of Bellevue to partially offset an incremental increase in staffing required to fully implement this program.

**113.6.7 Late Fee.** All balances 30 days or greater past the invoice date are assessed a late charge of 1%, with a minimum charge of \$25 per month.

(Insert facing page 14)

**[WS] ADULT FAMILY HOME** A dwelling, licensed by Washington state, in which a person or persons provide personal care, special care, room and board to more than one but not more than six adults who are not related by blood or marriage to the person or persons providing the services.

**High-rise Building.** Buildings having occupied floors or occupied roof located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

**[WS] HOSPICE CARE CENTER.** A building or portion thereof used on a 24-hour basis for the provision of hospice services to terminally ill inpatients.



**Standby Power System.** All references to Standby Power System shall be considered to indicate Legally Required Power in accordance with the Washington Cities Electrical Code, and NFPA 70 (National Electrical Code), and shall be in accordance with Chapter 27 Legally Required Standby Power, as a source of automatic electric power of a required capacity and duration to operate required building, hazardous materials or ventilation systems in the event of a failure of the primary power. Standby power systems are required for electrical loads where interruption of the primary power could create hazards or hamper rescue or fire-fighting operations.

**Water Supply.** The source and delivery system supplying the required flow (gpm) and pressure (psi) to a sprinkler system or other fire protection system/equipment.

**307.1.1 Open burning prohibited.**

Open burning shall not be conducted at any time in compliance with a permanent ban on open burning established by the Puget Sound Air Pollution Control Agency in September of 1992.

**Point of Information**

For air quality and burn ban status information and regulations contact the Puget Sound Clean Air Agency at [www.pscleanair.org](http://www.pscleanair.org) or (206) 343-8800.

**[WS] 307.2.1 Authorization.**

Where required by state or local law or regulations, *open burning* shall only be permitted with prior approval from the state or local air and water quality management authority, provided that all conditions specified in the authorization are followed. See also WAC 173-425

**[WS] 308.1.4 Open-flame cooking devices.** This section is not adopted

**[WS] 307.4.2 Recreational fires.**

*Recreational fires* shall not be conducted within 25 feet (7620 mm) of a structure or combustible material. Conditions which could cause a fire to spread within 25 feet (7620 mm) of a structure shall be eliminated prior to ignition. See also WAC 173-425

**315.3.2.1 Storage under stairways.**

Storage is prohibited under exit stairways.

**Exception:** Enclosures under stairways in accordance with Sections 1011.7.3 or 1011.7.4 as applicable.

**SECTION 319****FIXED GUIDEWAY TRANSIT AND PASSENGER RAIL SYSTEMS****319.1 Fixed guideway transit and passenger rail systems.**

Fixed guideway transit and passenger rail systems shall be in accordance with NFPA 130 as amended in Chapter 23.85 BCC.

**SECTION 320****ROAD TUNNELS, BRIDGES AND OTHER LIMITED ACCESS HIGHWAYS****320.1 Road tunnels, bridges and other limited access highways.**

Road tunnels, bridges, and other limited access highways shall be in accordance with NFPA 502.

**SECTION 321****MOBILE FOOD VENDING****321.1 Egress and Emergency Access.**

Mobile food vending vehicles, trucks, trailers, carts or the like shall not obstruct or interfere with fire lanes, fire department connections, fire hydrants or egress from any building.

**321.2 Fire Protection Systems****321.2.1 Fire Extinguishers.**

Portable fire extinguishers are required for all mobile food vendor operations. All fire extinguishers shall be maintained and inspected on an annual basis and the pressure gauge reading or indicator shall be in the operable range or position. A fire extinguisher (having a minimum size of 2-A: 10-B:C classification) will be required in addition to any Class K extinguisher. If deep fat fryers are used operators shall have and maintain a Class K portable fire extinguisher.

All fire extinguishing systems shall be inspected by a certified fire protection company every 6 months.

**321.2.2 Type I Hood.**

All Mobile Food Trucks that have any commercial cooking equipment producing grease laden vapors shall be required to have a Type I hood which must be serviced and inspected every 6 months or less.

**321.3 Propane (LPG)**

**321.3.1** LP vessels shall be affixed and secure to the portable food service platform in a manner that provides a reasonable expectation of security while parked or in transit. All applicable DOT regulations shall be followed.

**321.3.2** LP-gas shall not be used for the purpose of operating devices or equipment unless such device or equipment is approved for use with LP-gas

**321.3.3** Safety devices on LP-gas containers, equipment and systems shall not be tampered with or made

ineffective. All LP-gas supply hoses shall be inspected by the operator for tight-fitting connections.

**321.4 Portable Generators**

**320.4.1** Portable generators and other internal combustion power sources shall not be located within 20' of Mobile Food Vending while in operation, and shall be isolated from contact with the public by fencing, enclosure or other approved means.

**Exception:** Portable generators not exceeding 6,500 watts when located in an area not readily accessible to the public

**321.4.2** Portable generators and other combustion power sources shall not be refueled while the generator or other internal combustion power source is operating.

**321.5 Inspections** The *Fire Code Official* is authorized to conduct such inspections as deemed necessary to determine the extent of compliance with the provisions of the Code.

**[WS] 401.2 Approval.**

Where required by the fire code official, fire safety plans, emergency procedures and employee training programs shall be *approved*.

**[WS] 402.1 Definitions.**

The following terms are defined in Chapter 2:

**EMERGENCY EVACUATION DRILL.**

**ALARM SIGNAL**

**ALERT SIGNAL**

**ALERT SYSTEM**

**SHELTER-IN-PLACE**

**RECALL SIGNAL**

**401.9 Evacuation required.**

In the event of activation of a fire, emergency alarm, or at the direction the fire code official, occupants of the building or portion of the building in which the alarm is activated shall make a safe and orderly evacuation out of the building, or as provided in the building's fire safety and evacuation or high-rise emergency operations plan.

**Exceptions:**

1. Where the occupant's physical or other disability make the occupant unable to evacuate without assistance and no assistance is immediately available; or
2. Where the presence of smoke, fire, structural collapse or other hazard or obstruction in the occupant's means of egress make evacuation unsafe.

**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 the City of Bellevue Transportation Department Design Standards and Manual.

other similar conditions, and an approved alternative means of fire protection is provided.

Alternate means may include installation of stairs that extend to the roof, sprinkler system, fire alarm system, standpipes, smoke control system, ready access to fire service elevators and others (sometimes in combination) to mitigate the additional access distance.

3. There are not more than two Group R-3 or Group U occupancies.

**503.1.2 Additional access.**

The fire code official is authorized to require more than one fire apparatus access road based on the potential for impairment of a single road by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access.

**503.1.3 High-piled storage.**

Fire department vehicle access to buildings used for high-piled combustible storage shall comply with the applicable provisions of Chapter 32.

**503.2 Specifications.** Fire apparatus access roads shall be installed and arranged in accordance with Sections 503.2.1 through 503.2.8, and the City of Bellevue Transportation Department Design Standards and Manual.

**503.2.1 Dimensions.** Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), exclusive of shoulders, except as modified in the City of Bellevue Transportation Department Design Standards and Manual, and an unobstructed vertical clearance of not less than 13 ft. 6 in.

**Exceptions:**

1. Access roads serving not more than two Group R-3 or U occupancies shall have an unobstructed width of not less than 16 feet.
2. Public streets shall be in accordance with the City of Bellevue Transportation Department Design Standards and Manual.
3. When all structures served by the fire apparatus access roads are equipped with approved automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3 the fire code official may approve reduced widths. 503.2.2 Authority. The fire code official shall have the authority to require an increase in the minimum access widths where they are inadequate for fire or rescue operations.

**503.1.1 Buildings and facilities.** Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall comply with the requirements of this section and shall extend to within 150 feet (45 720 mm) of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility.

**Exceptions:** The *fire code official* is authorized to increase the distance:

1. Up to 200 feet where the building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.
2. Where fire apparatus access roads cannot be installed because of location on property, topography, waterways, nonnegotiable grades or

**503.2.2 Authority.**

The fire code official shall have the authority to require an increase in the minimum access widths where they are inadequate for fire or rescue operations.

**503.2.3 Surface.** Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced so as to provide all weather driving capabilities.

**503.2.4 Turning radius.** The required turning radius of a fire apparatus access road shall be 28 feet minimum inside curb and 48 feet minimum outside curb.

**503.2.5 Dead ends.** Dead-end fire apparatus access roads in excess of 150 feet (45 720 mm) in length shall be provided with a turnaround in accordance with the City of Bellevue Transportation Department Design Standards and Manual.

**Exception:** The fire code official is authorized to increase the length up to 300 feet (45 720 mm) for driveways serving only one Group R-3 occupancy.

**503.2.6 Bridges and elevated surfaces.**

Where a bridge or an elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with the City of Bellevue Transportation Department Design Standards and Manual. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits shall be posted at both entrances to bridges when required by the fire code official. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces which are not designed for such use, approved barriers, approved signs or both shall be installed and maintained when required by the fire code official.

**503.2.7 Grade.**

The grade of the fire apparatus access road shall be in accordance with the City of Bellevue Transportation Department Design Standards and Manual. Access roads, including public and private roads and driveways shall comply with the following.

1. The grade of access for non-sprinklered properties shall not exceed 12%.
2. The grade of access for sprinklered properties shall not exceed 15%.
3. All grades of access in excess of 15% require approval by the fire department.

**503.2.8 Angles of approach and departure.**

The angles of approach and departure for fire apparatus access roads shall be in accordance with the City of Bellevue Transportation Department Design Standards and Manual.

**503.3 Marking.**

Where required by the fire code official fire apparatus access roads shall be marked as follows:

1. FIRE LANE – NO PARKING Signs shall be mounted a minimum of 7' from bottom of the sign to the street or sidewalk. Signs must be a type "R8-31" or equivalent reflective sign no less than 12" x 18" in size, with a white background and the wording "No Parking Fire Lane" in red letters. When in a straight line of sight, these signs shall be no further than one hundred fifty feet (150') apart. This distance may be reduced when curves, corners, or other adverse sighting conditions restrict the line of sight.
2. Curbs along designated Fire Department Access Roads (Fire Lanes) shall also be painted red. This shall include both the vertical and horizontal portions of the curb. Minimum three-inch (3") white lettering which shall read: NO PARKING – FIRE LANE, shall be placed every fifty feet (50') or portion thereof on the vertical portion of the curb. The entire curb length shall be painted. If there are rolled curbs or no curbs, stenciling shall be placed on pavement.

Where no curbs exists, stenciling shall be placed on the pavement with minimum 10" white block lettering on continuous 16" red background to read NO PARKING FIRE LANE at 50 foot intervals.

**Exception:** Variations to Fire Lanes markings may be approved when in the opinion of the Fire Code Official the proposed signage and markings achieve the same outcome. The Fire Chief retains the right to revoke the variations for cause.

**Point of Information**

See Public Information Sheet F-11 for additional information ([http://www.bellevuewa.gov/pdf/Fire/F-11\\_FireLanes.pdf](http://www.bellevuewa.gov/pdf/Fire/F-11_FireLanes.pdf)).

**503.4 Obstruction of fire apparatus access roads.**

Fire apparatus access roads shall not be obstructed in any manner, including parking of vehicles. The minimum widths and clearances established in Section 503.2.1 shall be maintained at all times.

**503.4.1 Entrances.**

Entrances to roads, trails or other access ways which have been closed with gates and barriers in accordance with Section 503.5 shall not be obstructed by parked vehicles.

**503.4.2 Towing notification.**

At each entrance to property where fire lanes have been designated, signs shall be posted in a clearly conspicuous location and shall clearly state that vehicles parked in fire lanes may be impounded, and the name, telephone number, and address of the towing firm where the vehicle may be redeemed.

**503.4.3 Property owner responsible.**

The owner, manager or person in charge of any property upon which designated fire lanes have been established shall prevent the parking of vehicles or placement of other obstructions in such fire lanes.



**503.4.4 Violation – civil infraction.**

Any person who fails to mark or maintain the marking of a designated fire lane as prescribed in this chapter or who parks a vehicle in, allows the parking of a vehicle in, obstructs or allows the obstruction of a designated fire lane commits a civil infraction to which the provisions of Chapter 7.80 RCW shall apply. The penalty for parking a vehicle in, allowing the parking of a vehicle in, obstructing or allowing the obstruction of a designated fire lane shall be one hundred dollars (\$100.00).

**503.4.5 Impoundment.**

Any vehicle or object obstructing a designated fire lane, whether on public or private property, is hereby declared a hazard and may be abated without prior notification to its owner by impoundment pursuant to the applicable state law.

**503.4.6. Authorization.**

The fire chief, or his or her designee, is authorized to take such lawful action, including impoundment or the writing and issuance of citations for civil infractions, as may be required to enforce the provisions of this section.

**503.4.7 Obstructing a fire facility.**

It is hereby declared a violation of this section to stop, park a vehicle, or otherwise obstruct any fire station facility housing emergency response apparatus.

**503.6 Security gates, Bollards or other Obstructions.**

The installation of security gates, bollards or other obstructions across a fire apparatus access road shall be reviewed and approved by the fire code official. The use of directional-limiting devices (tire spikes) is prohibited. Where security gates, bollards or other obstructions are installed, they shall have an approved means of emergency operation. The security gates, bollards or other obstruction and the emergency operation shall be maintained operational at all times.

Electric gate operators, where provided, shall be listed in accordance with UL 325.

Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200 and must be equipped with Click 2 Enter or other authorized equipment that allows for operation of the gate by Fire & Police personnel from their vehicle

Gates shall be at a minimum as wide as the required access road width. Gates, bollards or other obstructions on commercial properties must be set back 30 ft. from roadway edge of pavement. Where a fence is provided on each side of a gate for a commercial property, a man door shall be provided at an approved location with a Knox key for access to the man door.

**Exception:** Automated gates equipped with Click 2 Enter or other authorized equipment that allows for operation of the gate by Fire and Police personnel from their vehicle are not required to be set back 30 ft. from

the roadway edge of pavement provided the roadway is not an arterial, residential collector street or a street with lane markers.

**504.4. Buildings with enclosed interior courtyards.** New buildings with enclosed interior courtyards shall have a straight/direct access corridor and/or stairway from the exterior to the courtyard at a location acceptable to the fire code official. If a stairway is used it shall comply with International Fire Code Section 1011 and a corridor shall comply with International Fire Code Section 1020. The access shall have a minimum width of 4 feet, (or as directed by the fire code official), and be large enough to carry a 35 foot long sectional ladder (minimum folded length 20 feet) directly from the exterior to the courtyard without obstructions. The access door shall be marked at the street as "Direct access to courtyard".

**507.1 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.

All underground piping shall be designed, constructed and installed in accordance with NFPA 24 for Private fire service mains and NFPA 13 for water based fire protection systems. In addition to the requirements of these standards, two forms of joint restraint shall be used.

**Exception:** Underground piping that is threaded, welded, heatfused or utilizes chemical or solvent cemented connections provided that such joints can pass the hydrostatic test without shifting of the piping.

**Point of Information**

Piping systems under the control of the Bellevue Utilities Department shall be installed in accordance with the Bellevue Utilities Engineering Standard.

**507.3 Fire flow.**

Fire flow requirements for buildings or portions of buildings and facilities shall be determined by an approved method and shall be in accordance with Appendix B as amended, unless otherwise approved by the fire code official.

**[WS] Exceptions:**

1. Fire flow is not required for structures under 500 square feet with a B, U or R-1 occupancy where structures are at least 30 feet from any other structure and are used only for recreation.
2. In rural and suburban areas in which adequate and reliable water supply systems do not exist, the fire code official is authorized to utilize NFPA 1142 or the International Wildland-Urban Interface Code.

**Point of Information**

Fire flow shall be measured in accordance with WAC 246-290-230 & WAC 246-290-420 as now or hereafter amended.

**507.5.1 Where required.**

Where any portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 400 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.

**Exception:** For Group R-3 and U occupancies equipped throughout with an approved automatic sprinkler system installed in accordance with International Fire Code Section 903.3.1.3, the distance requirement shall be 600 feet.

**507.5.3.3 Private Hydrants** – Inspection reports. Inspection reports of private hydrants must be submitted to [www.TheComplianceEngine.com](http://www.TheComplianceEngine.com) within five working days of the date of inspection by the servicing inspector.

**507.5.3.4 Private Hydrants – damage – malfunction.**

Property owners, their agents and tenants with private hydrants shall immediately contact the fire department in the event a private hydrant is damaged, malfunctions, or is otherwise out of order. “Immediately” means not more than forty-eight hours after a problem is noticed or should have been noticed in the exercise of reasonable care.

**507.5.3.5 Private Hydrants – maintenance and repair.**

All maintenance and repair of private hydrants shall be solely the responsibility of the property owner. Obligations imposed upon property owners apply also to their managers and other authorized agents.

**507.5.3.6 Private hydrants – access.** Roads and access to the fire hydrant must be provided in accordance with International Fire Code Sections 503 and 507.

**507.5.3 Private fire service mains and water tanks.**

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 (all types): Inspection annually and after each operation; flow test and maintenance annually. Property owners with private hydrants are responsible to obtain annual, satisfactory inspection of their private hydrant(s) from a qualified inspector. Inspection procedures and forms for inspection by the City or others are set by the fire code official. The fire official may order additional inspections as he deems necessary.
2. Fire service main piping: Inspection of exposed, annually; flow test every 5 years.
3. Fire service main piping strainers: Inspection and maintenance after each use.

**507.5.3.1 Private Hydrants – Use**

1. Fire hydrant protection may be provided by private fire hydrants.
2. No person may open, damage, interfere with, or otherwise use a private hydrant, except in a manner and subject to such conditions as the fire official may require.

**507.5.3.2 Private Hydrants – regulations.**

The fire code official, with the assistance of the City of Bellevue Utilities Department, is authorized to establish regulations and design standards for private hydrants. These officials have the authority to interpret and apply the regulations and standards and to make rulings and orders consistent with the purpose of this chapter.

**508.1.2 Separation & Penetrations.**

Fire command center shall be separated from the remainder of the building by not less than a 2 hr fire barrier constructed in accordance with section 707 of the International Building Code (IBC) or horizontal assembly constructed in accordance with section 711 of the IBC, or both.

Penetrations into and openings through a fire command center are prohibited except for required exit doors, equipment and ductwork necessary for heating, cooling or ventilation, sprinkler branch line piping, electrical raceway for fire department communication and control and electrical raceway serving the fire command center or being controlled from the fire command center. Such penetrations shall be protected in accordance with International Building Code Section 714.

**Exception:** Metallic piping with no joints or openings.

**Point of Information**

Hydrants shall be 5 ¼” M.V.O. Hydrant with 2-2 ½ N.S.T. and 1-4” Pumper Ports, City of Seattle Standard Thread – M.J. Inlet with lugs, brass to brass sub-seat. (Ref.: [http://www.bellevuewa.gov/pdf/Utilities/2016\\_W-13.pdf](http://www.bellevuewa.gov/pdf/Utilities/2016_W-13.pdf))

**510.1 Emergency responder radio coverage in new buildings.**

Approved radio coverage for emergency responders shall be provided with buildings meeting any of the following conditions:

1. There are more than five stories above grade plane (as defined by the International Building Code, Section 202);
2. The total building is 50,000 square feet or more;
3. The total basement area is 10,000 square feet or more; Or
4. There are floors used for human occupancy more than 30 feet below the finish floor of the lowest level of exit discharge.

Radio coverage is based upon the existing coverage levels of the public safety communication systems of the jurisdictions at the exterior of the building. This section shall not require improvements of the existing public safety communication system.

**Exception:** Buildings and areas of buildings that have minimum radio coverage signal strength levels of the King County Regional 800 MHz Radio System within the building in accordance with Section 510.4.1.

**510.2 Emergency responder radio coverage in existing buildings.**

Existing buildings shall be provided with approved radio coverage for emergency responders as required in BCC 23.11.1103.2.

**510.3.2 Operational permit.**

An operational permit is required to operate an in building radio system in accordance with BCC 23.11.105.6.47.

**510.4.2.3 Standby Power.** Emergency responder radio coverage systems shall be provided with standby power in accordance with Section 604. The standby power supply shall be capable of operating the emergency responder radio coverage system for a duration of not less than 24 hours.

**Exception:** When approved by the Building Official and the Fire Marshal, legally required standby power systems may be designed and constructed as emergency power systems.

**510.4.2.4 Signal Booster Requirements.**

If used, signal boosters shall serve a single building and meet the following requirements:

**Exception:** Signal boosters may serve multiple buildings when in the opinion of the *fire code official* there are sufficient reduncencies or safeguards.

1. All active signal booster components shall be contained in a (NEMA) 4, IP66 -type waterproof cabinet or equivalent.
2. The battery system shall be contained in a (NEMA) 4, IP66-type waterproof cabinet or equivalent.
3. The system shall include automatic alarming of malfunctions of the signal booster and battery system. Any resulting trouble alarm shall be automatically transmitted to an approved central station.
4. Equipment shall have FCC certification prior to installation.

**510.5.3 Acceptance Test procedure.**

Acceptance testing for Emergency responder radio amplification system is required, upon completion of installation. It is the building owner's responsibility to have the radio system tested by qualified personnel to ensure a minimum of 95% two-way coverage on each floor of the building.

A report shall be submitted to the Bellevue Fire Department at the conclusion of acceptance testing containing a floor plan and the signal strengths at each location tested and other relevant information. A representative of the Bellevue Fire Department may oversee the acceptance test. Acceptance testing is also required whenever changes occur to the building that would materially change the original field performance test. The test procedure shall be conducted as follows:

1. Each floor of the building shall be divided into a grid of approximately forty (40) equal areas.
2. Testing shall use a two (2) watt, portable transceiver with speaker/microphone and flexible antenna (or any calibrated device which will produce signal levels useable by the prescribed portable radio). Field strength testing instruments must have been

calibrated within one (1) year of the date of the acceptance test. Field strength testing instruments must be of the frequency selective type incorporating a flexible antenna similar to the ones used on the hand held transceivers. City Radio System Manager may designate alternate methods of measuring the signal level, which satisfy appropriate levels of public safety coverage.

3. A maximum of two (2) nonadjacent areas will be allowed to fail the test.
4. In the event that three (3) of the areas fail the test, the floor may be divided into eighty (80) equal areas in order to be more statistically accurate. In such event, a maximum of four (4) nonadjacent areas will be allowed to fail the test. After the eighty (80) area tests, if the system continues to fail, the building owner shall have the system altered to meet the 95% coverage requirement.
5. A spot located approximately in the center of a grid area will be selected for the test, then the radio will be keyed to verify two-way communication to and from the outside of the building through the Regional 800 MHz Radio System. Once the spot has been selected, prospecting for a better spot within the grid area is not permitted. The gain values of all amplifiers shall be measured and the results kept on file with the building owner so that the measurements can be verified each year during the annual tests. In the event that the measurement results become lost, the building owner will be required to rerun the acceptance test to reestablish the gain values.
6. The gain values of all amplifiers shall be measured and the test measurement results shall be kept on file with the building owner so that the measurements can be verified during annual tests. In the event that the measurement results become lost, the building owner shall be required to rerun the acceptance test to reestablish the gain values.
7. As part of the installation a spectrum analyzer or other suitable test equipment shall be utilized to ensure spurious oscillations are not being generated by the subject signal booster. This test shall be conducted at time of installation and subsequent annual inspections.

**510.5.5 Approval Prior to Occupancy.**

A Certificate of Occupancy will not be issued to any structure if the building fails to comply with BCC 23.11.510.

**510.6 Maintenance.**

The emergency responder radio coverage system shall be maintained operational at all times in accordance with Sections 510.6.1 through 510.6.3.

**510.6.1 Testing and proof of Compliance.**

The emergency responder radio coverage system shall be inspected and tested annually, or whenever structural changes occur including additions or remodels that could materially change the original field performance tests.

Testing shall consist of the following:

1. In-building coverage test as described in Section 510.5.3.

**Exception:** Group R Occupancy annual testing is not required within dwelling units

2. Signal boosters shall be tested to ensure that the gain is the same as it was upon initial installation and acceptance.
3. Backup batteries and power supplies shall be tested under load of a period of 1 hour to verify that they will properly operate during an actual power outage. If within the 1-hour test period the battery exhibits symptoms of failure, the test shall be extended for additional 1-hour periods until the integrity of the battery can be determined.
4. All other active components shall be checked to verify operation within the manufacturer's specifications.
5. At the conclusion of the testing, a report, which shall verify compliance with Section 510.5.3, shall be submitted to the fire code official.

**510.6.4 Identification.**

Radio Coverage system shall be identified by a sign located on or near the Fire Alarm Control Panel stating "This building is equipped with an Emergency Responder Radio Coverage System."

**510.6.5 Field Testing.**

Police and Fire Personnel shall at any time have the right to enter onto the property to conduct its own field-testing to be certain that the required level of radio coverage is present.

**604.1 General.**

Emergency power systems and standby power systems required by this code shall comply with *International Building Code* chapter 27 as amended by the City of Bellevue.

**605.3 Working space and clearance.**

A working space of not less than 30 inches (762 mm) in width, 36 inches (914 mm) in depth and 78 inches (1,981 mm) in height shall be provided in front of electrical service equipment. Where the electrical service equipment is wider than 30 inches (762 mm), the working space shall not be less than the width of the equipment. No storage of any materials shall be located within the designated working space.

**Exceptions:**

1. Where other dimensions are required or allowed by the electrical code as adopted by the City.
2. Access openings into attics or under-floor areas which provide a minimum clear opening of 22 inches (559 mm) by 30 inches (762 mm).

**605.4 Multiplug adapters.**

Multiplug adapters, such as cube adapters, unfused plug strips or any other device not complying with the electrical code as adopted by the City shall be prohibited.

**605.9 Temporary wiring.**

Temporary wiring for electrical power and lighting installations is allowed for a period not to exceed 90 days. Temporary wiring methods shall meet the applicable provisions of the electrical code as adopted by the City.

**[WS] 605.11 Solar photovoltaic power systems.**

Installation, modification, or alteration of solar photovoltaic power systems shall comply with this section. Due to the emerging technologies in the solar photovoltaic industry, it is understood fire code officials may need to amend prescriptive requirements of this section to meet the requirements for firefighter access and product installations. Section 104.9 Alternative materials and methods of this code shall be considered when approving the installation of solar photovoltaic power systems. Solar photovoltaic power systems shall be installed in accordance with Sections 605.11.1 through 605.11.2, the *International Building Code* and chapter 19.28 RCW.



**[WS] 605.11.1.2.5 Allowance for smoke ventilation operations.**

Panels and modules installed on Group R-3 buildings shall be located not less than 18 inches (457 mm) from the ridge in order to allow for fire department smoke ventilation operations.

**Exception:** Panels and modules shall be permitted to be located up to the roof ridge where an alternative ventilation method *approved* by the fire chief has been provided or where the fire chief has determined vertical ventilation techniques will not be employed.

**[WS] 605.11.1.2.1 Size of solar photovoltaic array.**

1. Each photovoltaic array shall be limited to 150 feet (45 720 mm) by 150 feet (45 720 mm). Multiple arrays shall be separated by a 3-foot-wide (914 mm) clear access pathway.
2. Panels/modules shall be located up to the roof ridge where an alternative ventilation method approved by the fire code official has determined vertical ventilation techniques will not be employed.

**606.16 Electrical equipment.**

Where refrigerants of Groups A2, A3, B2, and B3, as defined in the International Mechanical Code, are used, refrigeration machinery rooms shall conform to the Class I, Division 2 hazardous location classification requirement of the electrical code as adopted by the City.

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**901.7 Systems out of service.**

Where a 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 either be evacuated or an approved fire watch shall be provided for all occupants left unprotected by the shut down until the fire protection system has been returned to service.

Where utilized, fire watches shall be provided with at least one approved means for notification of the fire department and their only duty shall be to perform constant patrols of the protected premises and keep watch for fires.

**[WS] 901.8.2 Removal of existing occupant-use hose lines.**

The *fire code official* is authorized to permit the removal of existing occupant-use hose lines where all of the following conditions exist:

1. Installation is not required by this code or the *International Building Code* or a previously approved alternative method.
2. The hose line would not be utilized by trained personnel or the fire department.
3. The remaining outlets are compatible with local fire department fittings.

**901.11 Preventable responses to fire alarms- scope.**

This section shall apply to activation of a fire alarm system resulting in responses of fire apparatus due to either direct transmission of the alarm to a monitoring station or telephone report of fire alarm activation caused by any of the following:

1. Improper type, installation, sensitivity, or maintenance of automatic detectors;
2. Improper installation (including unapproved or incompatible components) or maintenance of fire alarm systems including systems with unapparent reasons for repetitious alarms;
3. Erroneous transmission of an alarm including the reporting of trouble signals by fire alarm monitoring companies;
4. Work on a fire alarm system or automatic extinguishing system connected to an alarm system when reasonable steps were not taken to prevent reporting of an alarm to the fire department;
5. Fire drills or tests of alarm or extinguishing systems when reasonable steps were not taken to prevent reporting of an alarm to the fire department;
6. Work including painting, welding, cleaning, cooking, dust producing or other activities which could activate a fire alarm detector;
7. Smoke or fumes resulting from closed fireplace dampers, cooking activities, smoking of tobacco products, etc., including opening a door to a corridor equipped with detectors for the purpose of ventilating such smoke or fumes.

**Exception:** This section shall not apply to activation of a fire alarm system resulting from the following:

1. Any actual fire, explosion or overheating or other situation that could have resulted in a fire;
2. Any manual activation of an alarm where it was believed that a fire or any other emergency requiring response of emergency personnel existed;

3. Malicious manual activation or unlawful tampering with a fire alarm system;
4. Accidental striking of an alarm box, detector, circuitry, panel or other components of an alarm system or accidental breakage or discharge of a sprinkler system or other fire extinguishing system;
5. Accidental breakage or leak of any system that releases steam, heat, gases, water or vapors which might activate a detector;
6. Earthquake, lightning or natural occurrences that result in movement or flooding of a building;
7. Work on telephone lines or central office equipment.

**901.11.1 Fees.**

**1. Exempt Alarms.**

- a. The first preventable fire department response to fire alarms from any one system during a calendar year shall be exempt except that there shall be no exempt responses to alarms caused by alarm system monitoring companies or companies performing work on fire alarm or fire extinguishing systems.
- b. For newly installed alarm systems, the first five preventable responses to fire alarms from any one system or all preventable responses within 30 days of the first such alarm, whichever occurs first, are exempt.

**2. Nonexempt Fire Department Responses to Fire Alarms.**

- a. A fee of \$150.00 shall be charged for the first nonexempt preventable fire department response to a fire alarm during a calendar year from any one system.
- b. A fee of \$200.00 shall be charged for all subsequent nonexempt preventable fire department responses to a fire alarm from any system during a calendar year.

**901.11.1.1 Late Charges.**

All balances 30 days or greater past the invoice date are assessed a late charge of 1%, with a minimum charge of \$25 per month.

**Point of Information**

Preventable responses beyond five in a calendar year are subject to the full cost of the response. See BMC 23.11.102 for further information.

**901.11.2. Responsibilities.**

1. The owner of the alarm system or subscriber of an alarm service shall be responsible for all preventable fire department responses resulting from activation of a fire alarm system including those caused by tenants or any other occupant of the building or occupancy, except that fire alarm monitoring companies shall be responsible for their erroneous transmission of alarms and companies performing work on fire alarm or extinguishing systems shall be responsible when such work results in a fire department response.
2. When a preventable fire department response to a fire alarm has occurred, the responsible party shall, within 30 days, make a written report to the fire chief on forms provided by the fire department, stating the reasons for such alarm and the corrective action taken to prevent recurrence.
3. The fire code official's determination that a preventable fire department response has occurred shall be made in writing and shall constitute the final decision of the City. Any person aggrieved by this determination may file an appeal with the Hearing Examiner within thirty (30) days. The Hearing Examiner shall have jurisdiction over such appeal in accordance with the provisions of Section 108 of the International Fire Code as now or hereafter amended in this chapter and BCC 1.18 as now or hereafter amended.

**[WS] 903.2.8 Group R.**

An *automatic sprinkler system* installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R *fire area*.

**Exception:** Group R-1 if all of the following conditions apply:

1. The Group R fire area is no more than 500 square feet and is used for recreational use only.
2. The Group R fire area is on only one story.
3. The Group R fire area does not include a basement.
4. The Group R fire area is no closer than 30 feet from another structure.
5. Cooking is not allowed within the Group R fire area.
6. The Group R fire area has an occupant load of no more than 8.
7. A hand held (portable) fire extinguisher is in every Group R fire area.

**903.2.11 All occupancies.**

In all occupancies other than Group U, an automatic sprinkler system shall be installed for building design or hazards in the locations set forth in Section 903.2.11.1 through 903.2.11.8.

**903.2.11.1 Stories and basements without openings.**

An automatic sprinkler system shall be installed throughout all stories, including basements, of all buildings where the

floor area exceeds 1,500 square feet (139.4 m<sup>2</sup>) and where there is not provided at least one of the following types of exterior wall openings:

1. Openings below grade that lead directly to ground level by an exterior stairway complying with Section 1011 or an outside ramp complying with Section 1012. Openings shall be located in each 50 linear feet (15,240 mm), or fraction thereof, of exterior wall in the story on at least one side. The required openings shall be distributed such that the lineal distance between adjacent openings does not exceed 50 feet (15 240 mm).
2. Openings entirely above the adjoining ground level totaling at least 20 square feet (1.86 m<sup>2</sup>) in each 50 linear feet (15,240 mm), or fraction thereof, of exterior wall in the story on at least one side. The required openings shall be distributed such that the lineal distance between adjacent openings does not exceed 50 feet (15 240 mm). The height of the bottom of the clear opening shall not exceed 44 inches (1118 mm) measured from the floor.

**903.2.11.1.1 Opening dimensions and access.**

Openings shall have a minimum dimension of not less than 30 inches (762 mm). Such openings shall be accessible to the fire department from the exterior and shall not be obstructed in a manner that firefighting or rescue cannot be accomplished from the exterior.

**903.2.11.1.2 Openings on one side only.**

Where openings in a story are provided on only one side and the opposite wall of such story is more than 75 feet (22,860 mm) from such openings, the story shall be equipped throughout with an approved automatic sprinkler system or openings as specified above shall be provided on at least two sides of the story.

**[WS] 903.2.11.1.3 Basements.**

Where any portion of a basement is located more than 75 feet (22,860 mm) from openings required by Section 903.2.11.1, or where new walls, partitions or other obstructions are installed that increase the exit access travel distance to more than 75 feet, the basement shall be equipped throughout with an approved automatic sprinkler system.

**903.2.11.2 Rubbish and linen chutes.**

An automatic sprinkler system shall be installed at the top of rubbish and linen chutes and in their terminal rooms. Chutes shall have additional sprinkler heads installed at alternate floors and at the lowest intake. Where a rubbish chute extends through a building more than one floor below the lowest intake, the extension shall have sprinklers installed that are recessed from the drop area of the chute and protected from freezing in accordance with Section 903.3.1.1. Such sprinklers shall be installed at alternate floors beginning with the second level below the last intake and ending with the floor above the discharge. Chute sprinklers shall be accessible for servicing.

**903.2.11.3 Buildings 55 feet or more in height.**

An automatic sprinkler system shall be installed throughout buildings with a floor level having an occupant load of 30 or more that is located 55 feet (16 764 mm) or more above the lowest level of fire department vehicle access.

**903.2.11.4 Ducts conveying hazardous exhausts.**

Where required by the International Mechanical Code, automatic sprinklers shall be provided in ducts conveying hazardous exhaust, flammable or combustible materials.

**Exception:** Ducts where the largest cross-sectional diameter of the duct is less than 10 inches (254 mm).

**903.2.11.5 Commercial cooking operations.**

An automatic sprinkler system shall be installed in a commercial kitchen exhaust hood and duct system where an automatic sprinkler system is used to comply with Section 904.

**903.2.11.6 Other required suppression systems.**

In addition to the requirements of Section 903.2, the provisions indicated in Table 903.2.11.6 also require the installation of a fire suppression system for certain buildings and areas.

**[WS] 903.2.11.7 Relocatable buildings within buildings.**

Relocatable buildings or structures located within a building with an approved fire sprinkler system shall be provided with fire sprinkler protection within the occupiable space of the building and the space underneath the relocatable building.

**Exceptions:**

1. Sprinkler protection is not required underneath the building when the space is separated from the adjacent space by construction resisting the passage of smoke and heat and combustible storage will not be located there.
2. If the building or structure does not have a roof or ceiling obstructing the overhead sprinklers.
3. Construction trailers and temporary offices used during new building construction prior to occupancy.
4. Movable shopping mall kiosks with a roof or canopy dimension of less than 4 feet on the smallest side.

**903.2.11.8 Buildings exceeding 10,000 square feet.**

Notwithstanding any provision of the International Building Code or International Fire Code, as such codes are adopted by the City, throughout all buildings where the total floor area, including basements, exceeds 10,000 square feet. For purposes of this paragraph, portions of buildings separated by one or more fire walls will not be considered a separate building. Existing buildings shall comply with this section when an addition is made to the building and the total floor area, including the basements, of the existing building and the addition combined exceeds 10,000 square feet, or when the value of a structural alteration or repair of an existing building 10,000 square feet in area or greater exceeds 50 percent of the assessed valuation of such existing building, or exceeds 50 percent of the recognized replacement cost of

the structure, without consideration of depreciation, as determined under the Marshall Valuation Service Cost Handbook, whichever is greater.

**903.3.1 Standards.**

Sprinkler systems shall be designed and installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3 and other chapters of this code, as applicable. In addition sprinkler systems shall be designed with a buffer to account for water system fluctuations to include a low reservoir condition. Such buffer shall be 5% for static pressures less than 50 p.s.i. and 10% for static pressures above 50 p.s.i.

**Exception:** Buffers are not required for systems designed in accordance with Section 903.3.1.3 (NFPA 13 D)

Permit applicants shall independently verify site specific static pressure:

- Prior to initiating sprinkler system.
- Prior to installing any sprinkler piping, including the underground supply.
- Prior to requesting any cover inspections.

**903.3.1.1.1 Exempt locations.**

Automatic sprinklers shall not be required in the following rooms or areas where such rooms or areas are protected with an approved automatic fire detection system in accordance with Section 907.2 that will respond to visible or invisible particles of combustion. Sprinklers shall not be omitted from any room merely because it is damp, of fire-resistance rated construction or contains electrical equipment.

1. Any room where the application of water, or flame and water, constitutes a serious life or fire hazard, when approved by the fire code official.
2. Any room or space where sprinklers are considered undesirable because of the nature of the contents, when approved by the fire code official.
3. In rooms or areas that are of noncombustible construction with wholly noncombustible contents.
4. Fire service access elevator machine rooms and machinery spaces.
5. Machine rooms and machinery spaces associated with occupant evacuation elevators designed in accordance with Section 3008 of the International Building Code.



6. Elevator machine rooms, elevator machinery spaces, control spaces, or hoistways of traction elevators that comply with NFPA 13 (2013) Section 8.15.5.3

**903.3.1.1.3 Seismic Coefficient.**

The coefficient  $C_p$  for seismic bracing design calculations in accordance with NFPA 13 shall either use a value of 0.70, or shall use a value based on site specific USGS data.

**903.3.1.2 NFPA 13 R Sprinkler Systems.**

*Automatic sprinkler systems* in Group R occupancies up to and including four stories in height shall be permitted to be installed throughout in accordance with NFPA 13R.

*Buildings* designed in accordance with Washington Administrative Code 51-50-0504, 0510 or Section 510.4 of the *International Building Code* shall be designed in accordance with NFPA 13 throughout.

**903.3.3 Obstructed locations.** Automatic sprinklers shall be installed in accordance with NFPA 13 obstruction criteria and the listing requirements of the sprinkler head. Automatic sprinklers shall be installed in or under covered kiosks, displays, booths, concession stands, or equipment that exceeds 4 feet (1219 mm) in width and depth, and for all multi-level exhibit booths. Not less than a 3-foot (914 mm) clearance shall be maintained between automatic sprinklers and the top of piles of combustible fibers.

**Exception:** Kitchen equipment under exhaust hoods protected with a fire-extinguishing system in accordance with Section 904.

**[WS] 903.3.5.3 Underground portions of fire protection system water supply piping.**

The installation or modification of an underground water main, public or private, supplying a water-based fire protection system shall be in accordance with NFPA 24 and chapter 18.160 RCW. Piping and appurtenances downstream of the first control valve on the lateral or service line from the distribution main to one-foot above finished floor shall be approved by the fire *code official*. Such underground piping shall be installed by a fire sprinkler system contractor licensed in accordance with chapter 18.160 RCW and holding either a Level U or a Level 3 license. For underground piping supplying systems installed in accordance with Section 903.3.1.2, a Level 2, 3, or U licensed contractor is acceptable.

**Exception:** Portions of underground piping supplying automatic sprinkler systems installed in accordance with NFPA 13D.

**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. The floor control valves shall be located within interior exit stairway and within 6' of floors or landings unless chains or other approved devices are readily available.

**Exception:** In buildings without interior exit stairway enclosures, the location of the floor control valves shall be determined by the Fire Code Official.

**903.5.1 Fire Sprinkler and Standpipe main/express drains.** Fire Sprinkler and standpipe main/express drains shall be positioned to drain to the sanitary sewer. Additionally maintenance or testing discharges from fire pumps shall be treated in order to comply with the National Pollution Discharge Elimination System (NPDES) requirements.

**Point of Information**

Water drained or otherwise discharged from a fire sprinkler system, standpipe or fire pump is considered an "illicit discharge" and must drain to the sanitary sewer or be treated in order to discharge to storm drains, ditches, or water bodies. See handout [http://www.bellevuewa.gov/pdf/Utilities/Fire\\_Confidence-WQ\\_3-14-12.pdf](http://www.bellevuewa.gov/pdf/Utilities/Fire_Confidence-WQ_3-14-12.pdf) for addition information

**905.3.1 Height.**

Class I standpipe systems shall be installed throughout buildings where the floor level of the highest story is located more than 30 feet (9144 mm) above the lowest level of the fire department vehicle access, or where the floor level of the lowest story is located more than 30 feet (9144 mm) below the highest level of fire department vehicle access.

**Exceptions:**

1. In determining the lowest level of fire department vehicle access, it shall not be required to consider:
  - 1.1. Recessed loading docks for four vehicles or less, and
  - 1.2. Conditions where topography makes access from the fire department vehicle to the building impractical or impossible.

**905.3.9 High Rise Building Standpipes.**

Standpipe risers shall be combination standpipe/sprinkler risers using a minimum pipe size of 6 inch. One 2-1/2 inch hose connection shall be provided on every intermediate floor level landing in every required stairway and elsewhere as required by NFPA 14. Where, and only where, static or residual water pressures at any hose outlet exceeds 175 psi (1207 kPa), approved pressure-regulating devices shall be installed to limit the pressure to a range between 125 and 175 psi at not less than 300 gpm.. The pressure on the inlet side of the pressure-regulating device shall not exceed the rated working pressure of the device. An additional non-regulated hose connection located directly below the PRV or an equally sized bypass around the pressure regulating device with a normally closed control valve shall be provided at each reduced pressure connection.

Each non-regulated hose connection shall be labeled "High Pressure – No PRV". The sign shall have 1/2" white letters on a red background.

**Point of Information**

Additional flow and pressure requirements are contained in NFPA 14. Designers should be cognizant of space considerations within stair shafts and additional signage needed for the PRV by-pass control valves.

**905.3.10 Vertical Standpipes served by Fire Pumps.**

Where vertical standpipes are served by fire pumps a check valve shall be installed at the base of vertical standpipe.

**905.4 Location of Class I standpipe hose connections.**

Class I standpipe hose connections shall be provided in all of the following locations:

1. In every required interior exit stairway, a hose connection shall be provided for each floor level above or below grade. Hose connections shall be located at an intermediate floor level landing between floors. Where stairs are required to provide roof access, the standpipe roof connections shall be located adjacent to the stair opening on the roof.
2. On each side of the wall adjacent to the exit opening of a horizontal exit.

**Exceptions:**

1. Where floor areas adjacent to a horizontal exit are reachable from an interior exit stairway hose connections by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30 480 mm) of hose, a hose connection shall not be required at the horizontal exit.
2. When the Fire Code Official determines that standpipe connection is not needed.
3. In every exit passageway, at the entrance from the exit passageway to other areas of a building.

**Exception:** Where floor areas adjacent to an exit passageway are reachable from an interior exit stairway hose connections by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30 480 mm) of hose, a hose connection shall not be required at the entrance from the exit passageway to other areas of the building.

4. In covered and open mall buildings, adjacent to each exterior public entrance to the mall, adjacent to each entrance from an exit passageway or exit corridor to the mall, at each intermediate landing within required enclosed stairways, and at other locations as necessary so that the distance to reach all portions of a tenant space does not exceed 200 feet (60 960 mm) from a hose connection.
5. Where the roof has a slope less than four units vertical in 12 units horizontal (33.3-percent slope), at least one standpipe shall be provided with a 2 1/2 in. hose connection located on the roof. Additional hose connections shall be provided so that all portions of the roof are within 200 feet of hose travel distance from a standpipe hose connection. The hose connection(s) shall be at least 10 feet (3048 mm) from the roof edge, skylight, light well or other similar openings, unless protected by a 42-inch-high (1067 mm) guardrail or equivalent. All roof hose connections shall be arranged to be operable without entering the building. Roof connections in high-rise buildings are allowed to be located at the highest landing of a stairway with stair access to the roof. An additional hose connection shall be provided at the top of the most hydraulically remote standpipe for testing purposes.
6. Where the most remote portion of a nonsprinklered floor or story is more than 150 feet (45 720 mm) of hose travel distance from a hose connection or the most remote portion of a sprinklered floor or story is more than 200 feet (60 960 mm) of hose travel distance from a hose connection, additional hose connections shall be provided in interior exit stairway or protected locations that are accessed through protected enclosures. The protected enclosure shall be a corridor constructed as a smoke barrier from the exit enclosure to the standpipe connection.

**Exception:** Hose connections in parking garages must be located in interior exit stair, protected locations, immediately adjacent to exterior exit doors, loading docks or other areas as approved by the fire code official. Subject to the approval of the fire code official the travel distance may also be increased to a maximum distance of 240 feet.

**Point of Information**

Chapter 10 of this code outlines the requirements for stairways to the roof and roof access. This section (905.4), identifies the locations of standpipes and hose connections, but does not dictate the need for additional stairways to the roof or roof access.

**905.8 Dry standpipes.** Dry standpipes shall not be installed.

**Exception:** Where subject to freezing and in accordance with NFPA 14 when approved by the fire code official.

**Point of Information**

See Public Information Sheet [F-75 "Fire Alarm Panel Replacement"](#) for additional information

Fire alarm systems upgrades shall not require upgrades to other building systems, unless necessary to meet the requirements of Section 907.2.

Pursuant to Section 104.8 and subject to the approval of the Fire Official, fire alarm system upgrades may be phased in over a time period not to exceed 5 years. Approval of a phased alarm system upgrade must be documented in an executed agreement between the applicant and City of Bellevue and shall contain measurable milestones, insurance requirements, and indemnity provisions.

3. The requirements of Section 907.9 are applicable to existing buildings and structures aside from the condition described in item 2.
4. For the purpose of this section, fire barriers shall not be considered to create a separate building.
5. Building required by this section to be provided with a fire alarm system shall be provided with a single fire alarm system unless otherwise approved by the fire code official.

**907.1.2 Fire alarm shop drawings.**

Shop drawings for fire alarm systems shall be submitted for review and approval prior to system installation, and shall include, but not be limited to, all of the following:

1. A floor plan that indicates the use of all rooms.
2. Locations of alarm-initiating devices.
3. Locations of alarm notification appliances, including candela ratings for visible alarm notification appliances.
4. Design minimum audibility level for occupant notification
5. Location of fire alarm control unit, transponders and notification power supplies.
6. Annunciators.
7. Power connection.
8. Battery calculations.
9. Conductor type and sizes.
10. Voltage drop calculations.
11. Manufacturers' data sheets indicating model numbers and listing information for equipment, devices and materials.

907.1 General. This section covers the application, installation, performance and maintenance of fire alarm systems and their components in new and existing building and structures:

1. The requirements of Section 907.2 are applicable to new buildings and structures, new fire alarm systems, and replacement of existing fire alarm control panels being installed in existing structures.
2. When an existing fire alarm control units is replaced in existing structures, the entire fire alarm system shall comply with the requirements of Section 907.2

12. Details of ceiling height and construction.
13. The interface of fire safety control functions.
14. Classification of the supervising station.
15. A narrative and input/output matrix that supports the approved exiting plan for the building.

**[WS] 907.2.3 Group E.**

A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in Group E occupancies. When *automatic sprinkler systems* or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

**Exceptions:**

1. A manual fire alarm system is not required in Group E occupancies with an *occupant load* of 50 or less.
2. Emergency voice/alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be required in Group E occupancies with occupant loads of 100 or less, provided that activation of the manual fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5.

**907.2.13.1.1 Area smoke detection.**

Area smoke detectors shall be provided in accordance with this section. Smoke detectors shall be connected to an automatic fire alarm system. The activation of any detector required by this section, other than duct smoke detectors, shall activate the emergency voice/alarm communication system in accordance with Section 907.5.2.2. In addition to smoke detectors required by Sections 907.2.1 through 907.2.10, smoke detectors (Where such locations are within unconditioned spaces, other devices may be installed in accordance with 907.4.3) shall be located as follows:

1. In each mechanical equipment, electrical, transformer, telephone equipment or similar room which is not provided with sprinkler protection.
2. In each elevator machine room, machinery space, control room and control space and in elevator lobbies.
3. Within 5 feet (1524 mm) of doors opening into stairways that are smoke proof enclosures, or are pressurized stairways.



**907.2.18.1 Smoke detectors.**

A minimum of one smoke detector (Where such locations are within unconditioned spaces, other devices may be installed in accordance with 907.4.3.) listed for the intended purpose shall be installed in the following areas:

1. Electrical, Non-Utility owned transformer vault rooms, telephone equipment, elevator machine or similar rooms.
2. Elevator lobbies.
3. The main return and exhaust air plenum of each air-conditioning system serving more than one story and located in a serviceable area downstream of the last duct inlet.
4. Each connection to a vertical duct or riser serving two or more floors from return air ducts or plenums of heating, ventilating and air-conditioning systems, except that in Group R occupancies, a listed smoke detector is allowed to be used in each return-air riser carrying not more than 5,000 cfm (2.4 m<sup>3</sup>/s) and serving not more than 10 air inlet openings.
5. Within 5 ft. of doors opening into stairways that are smoke proof enclosures, or that are pressurized stairways.

**Exception:** Where any such locations in items 1 through 5 are within unconditioned spaces, other devices may be installed in accordance with 907.4.3

**907.2.13.2 Fire department communication system.**

An approved two-way, fire department communication system designed and installed in accordance with NFPA 72 shall be provided for fire department use. It shall operate between a fire command center complying with Section 508, elevators, elevator lobbies, emergency and standby power rooms, fire pump rooms, areas of refuge and inside enclosed exit stairways. The fire department communication device shall be provided at each floor level within the interior exit stairway.

**907.5 Occupant notification systems.**

A fire alarm system shall annunciate at the fire alarm control unit and shall initiate occupant notification upon activation, in accordance with Sections 907.5.1 through 907.5.2.3.3.

Where a fire alarm system is required by another section of this code, it shall be activated by:

1. Automatic fire detectors.
2. Automatic sprinkler system waterflow devices.
3. Manual fire alarm boxes.
4. Automatic fire-extinguishing systems.

**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, or in the case of a partial alarm system, throughout the space that is being provided with the fire alarm system. The minimum sound pressure levels shall be: 75 dBA in occupancies in Groups R and I-1; 90 dBA in mechanical equipment rooms; and 60 dBA in other occupancies. In occupancies with high sound levels such as nightclubs, bars, theaters, auditoriums, sanctuaries, etc. an interface shall be provided between the fire alarm system and the noise source to eliminate the noise source upon activation of the fire alarm system.

**Exception:** Private mode signaling in accordance with NFPA 72 shall be allowed in areas of group I-2 and I-3 occupancies where occupants are not expected to self-evacuate.

**[WS] 907.5.2.1.2 Maximum sound pressure.**

The maximum sound pressure level for audible alarm notification appliances shall be 110 dBA at the minimum hearing distance from the audible appliance. For systems operating in public mode, the maximum sound pressure level shall not exceed 30 dBA over the average ambient sound level. Where the average ambient noise is greater than 95 dBA, visible alarm notification appliances shall be provided in accordance with NFPA 72 and audible alarm notification appliances shall not be required.

**907.5.2.2 Emergency voice/alarm communication systems.**

Emergency voice/alarm communication systems required by this code shall be designed and installed in accordance with NFPA 72. The operation of any automatic fire detector, sprinkler water flow device or manual fire alarm box shall automatically sound an alert tone followed by voice instructions giving

approved information and directions for a general or staged evacuation in accordance with the building's fire safety and evacuation plans required by Section 404. In high-rise buildings, the system shall operate on a minimum of the alarming floor, the floor above and the floor below. Speakers shall be provided throughout the building by paging zones. At a minimum, paging zones shall be provided as follows:

1. Elevator groups.
2. Interior exit stairways.
3. Each floor.
4. Areas of refuge as defined in Chapter 2.

**Exception:** In Group I-1 and I-2 occupancies, the alarm shall sound in a constantly attended location and a general occupant notification shall be broadcast over the overhead page.

**907.5.2.2.1 Manual override.**

A manual override for emergency voice communication shall be provided on a selective and all-call basis for all paging zones.

**907.5.2.2.2 Live voice messages.**

The emergency voice/alarm communication system shall also have the capability to broadcast live voice messages by paging zones on a selective and all-call basis.

Point of Information

See Emergency Voice Alarm public information sheet F-44 for detailed messaging requirements.

**907.5.2.2.3 Alternate uses.**

The emergency voice/alarm communication system shall be allowed to be used for other announcements, provided the manual fire alarm use takes precedence over any other use.

**907.5.2.2.4 Emergency voice/alarm communication captions.**

Where stadiums, arenas and grandstands are required to caption audible public announcements in accordance with Section 1108.2.7.3 of the International Building Code, the emergency/voice alarm communication system shall also be captioned. Prerecorded or live emergency captions shall be from an approved location constantly attended by personnel trained to respond to an emergency.

**907.5.2.2.5 Emergency power.**

Emergency voice/alarm communications systems shall be provided with emergency power in accordance with *International Building Code* Section 2702. The system shall be capable of powering the required load for a duration of not less than 24 hours, as required by NFPA 72.

**907.5.2.2.6 Phased Evacuation.**

All buildings more than 10 stories above grade plane shall utilize an approved phased evacuation plan

**Exceptions:**

1. When an additional exit stairway meeting the requirements of Sections IBC 1011 and 1023 are provided in addition to the minimum number of exits required by Section IBC 1006.
2. Where the width of each required exit stairway is as specified in Section 1011.2 is increased by not less than 24" of additional width.
3. Where occupant self-evacuation elevators in accordance with IBC Section 3008 have been installed.
4. Where full tenant evacuation can be demonstrated to be accomplished in less than 7 minutes.

**Point of Information**

These provisions are intended to facilitate the simultaneous building evacuation and firefighter response into the building.

**907.5.2.3 Visible alarms.** Visible alarm notification appliances shall be provided in accordance with Sections 907.5.2.3.1 through 907.5.2.3.3.

**Exceptions:**

1. Visible alarm notification appliances are not required in alterations, except where an existing fire alarm system is replaced, or a new fire alarm system is installed.
2. Visible alarm notification appliances shall not be required in exits as defined in Chapter 2.
3. Visible alarm notification appliances shall not be required in elevator cars.
4. Visible alarms notification appliances are not required in critical care areas of Group I-2 Condition 2 occupancies that are in compliance with Section 907.2.6 Exception 2.

**907.6.3.1 Annunciator panel.**

All fire alarm systems in buildings without a fire command center shall be provided with an annunciator panel (or the main fire alarm control panel) located inside the building at the main addressed building entrance.

**Exception:** Other approved locations

**907.6.4.1 – Graphic Annunciator**

Graphic annunciators, when provided, shall be mounted to maintain the viewer's directional orientation. The visual zone indication on the annunciator panel shall lock in until the system is reset and shall not be canceled by the operation of an audible-alarm silencing switch. Alarm panels and annunciators shall not be installed where they would obstruct exiting. The required exit width plus 12 inches shall be provided when the panel is located in a means of egress. Alarm panels shall not be installed in an exit enclosure providing the sole exit from any space.

**907.10 NICET:** National Institute for Certification in Engineering Technologies.

**907.10.1 Scope.**

This section shall apply to new and existing fire alarm systems.

**907.10.2 Design review:**

All construction documents shall be reviewed by a NICET III in fire alarms or a licensed professional engineer (PE) in Washington prior to being submitted for permitting. The reviewing professional shall submit a stamped, signed, and dated letter; or a verification method approved by the local authority having jurisdiction indicating the system has been reviewed and meets or exceeds the design requirements of the state of Washington and the local jurisdiction (effective July 1, 2018).

**907.10.3 Testing/maintenance:**

All inspection, testing, maintenance and programming not defined as "*electrical construction trade*" by chapter 19.28 RCW shall be completed by a NICET II in fire alarms (effective July 1, 2018).

**909.1 Scope and purpose.** This section applies to mechanical or passive smoke control systems when they are required by other provisions of this code. The purpose of this section is to establish minimum requirements for the design, installation and acceptance testing of smoke control systems that are intended to provide a tenable environment for the evacuation or relocation of occupants. These provisions are not intended for the preservation of contents, or the timely restoration of operations. Smoke control systems regulated by this section serve a different purpose than the smoke- and heat-venting provisions found in Section 910. Mechanical smoke control systems shall not be considered exhaust systems under Chapter 5 of the International Mechanical Code.

**909.4.6. Duration of operation.**

All portions of active or passive smoke control systems shall be capable of continued operation after detection of the fire event for a period of not less than either 20 minutes or 1.5 times the calculated egress time, whichever is less, except that for smoke control in high-rise buildings, the emergency generator shall have fuel capacity for no less than that time stipulated in *International Building Code* Section 2702, and in non-high-rise buildings, the emergency generator shall have fuel capacity for no less than 2 hours.

located so as to minimize the potential for introducing smoke or flame into the building. Exhaust outlets shall be so located as to minimize reintroduction of smoke into the building and to limit exposure of the building or adjacent buildings to an additional fire hazard. In addition, supply air shall be taken directly from an outside, uncontaminated source located a minimum distance of 20 feet from any air exhaust system or outlet.

#### **909.10.2 Ducts.**

Duct materials, including shafts acting as ducts and joints shall be capable of withstanding the probable temperatures and pressures to which they are exposed as determined in accordance with Section 909.10.1. Ducts shall be constructed and supported in accordance with the International Mechanical Code. Ducts shall be leak tested to 1.5 times the maximum design pressure in accordance with nationally accepted practices. Measured leakage shall not exceed 5 percent of design flow. Results of such testing shall be a part of the documentation procedure. Ducts shall be supported directly from fire resistance-rated structural elements of the building by substantial, noncombustible supports.

**Exception:** Flexible connections (for the purpose of vibration isolation) complying with the International Mechanical Code and which are constructed of approved fire-resistance-rated materials.

#### **909.10.3 Equipment, inlets and outlets.**

Equipment shall be located so as to not expose uninvolved portions of the building to an additional fire hazard. Outdoor air inlets shall be

#### **909.11 Emergency Power.**

Smoke control systems, including energy management systems used for smoke control or smoke removal, shall be provided with emergency power in accordance with *International Building Code* Section 2702.

**Exception:** In other than high-rise buildings, underground buildings, atriums and covered mall buildings, smoke control systems shall be provided with legally required standby power in accordance with *International Building Code* Section 2702.

##### **909.11.1 Power Sources and power surges.**

Elements of the smoke control system relying on volatile memories or the like shall be supplied with uninterruptable power sources of sufficient duration to span 15-minute primary power interruption. Elements of the smoke control system susceptible to power surges shall be suitably protected by conditioners, suppressors or other *approved* means.

#### **909.12 Detection and control systems.**

Fire detection systems providing control input or output signals to mechanical smoke control systems or elements thereof shall comply with the requirements of Section 907. Such systems shall be equipped with a control unit complying with UL 864 and *listed* as smoke control.

**Exception:** Shaft pressurization equipment in *buildings* constructed in accordance with Washington Administrative Code 51-50-0504, 0510 or Section 510.4 of the *International Building Code* may utilize a fire detection system that is *listed* as releasing equipment.

##### **909.12.1 Verification.**

Control systems for mechanical smoke control systems shall include provisions for verification. Verification shall include positive confirmation of actuation, testing, manual override and the presence of power downstream of all disconnects. A preprogrammed weekly test sequence shall report abnormal conditions

audibly, visually and by printed report or other approved means. The preprogrammed weekly test shall operate all devices, equipment, and components used for smoke control.

**Exception:** Where verification of individual components tested through the preprogrammed weekly testing sequence will interfere with, and produce unwanted effects to, normal building operation, such individual components are permitted to be bypassed from the preprogrammed weekly testing, where *approved* by the *fire code official* and in accordance with both of the following:

1. Where the operation of components is bypassed from the preprogrammed weekly test, presence of power downstream of all disconnects shall be verified weekly by a listed control unit.
2. Testing of all components bypassed from the preprogrammed weekly test shall be in accordance with Section 909.20.6.



**909.17 System response time.**

Smoke-control system activation shall be initiated immediately after receipt of an appropriate automatic or manual activation command. Smoke control systems shall activate individual components (such as dampers and fans) in the sequence necessary to prevent physical damage to the fans, dampers, ducts and other equipment. For purposes of smoke control, the fire-fighter's smoke control panel response time shall be the same for automatic or manual smoke control action initiated from any other building control point. The total response time, including that necessary for detection, shut-down of operating equipment and smoke control system startup, shall allow for full operational mode to be achieved before the conditions in the space exceed the design smoke condition. Upon receipt of an alarm condition at the fire alarm control panel, fans, dampers and automatic doors shall have achieved their expected operating state and confirmation of proper operation shall be indicated at the smoke control panel within 60 seconds. Documentation shall be provided in the required final report.

**909.18.8.3.2 Certificate of compliance.**

A certificate of compliance shall be provided by the special inspector and responsible registered design professional certifying that the referenced property is in substantial compliance. The certificate shall identify the company, designer, special inspector that performed the testing, name, date and address of the property being tested. The following statement must also be included: "I have reviewed the report and by personal knowledge and on-site observation certify that the smoke control system is in substantial compliance with the approved design documents, and to the best of my understanding complies with requirements of the applicable codes as identified in the smoke control report."

**909.21.4.4 Fan Capacity.**

The supply fan shall be either adjustable with a capacity of not less than 1,000 cfm (.4719m<sup>3</sup>/S) per door, or that specified by a *registered design professional* to meet the requirements of a designed pressurization system. Fans shall be in accordance with Section 909.10.5.

**[WS] 909.21.12 Hoistway venting.**

Hoistway venting required by Section 3004 of the International Building Code need not be provided for pressurized elevator shafts.

**[WS] 909.21.13 Machine rooms.**

Elevator machine rooms shall be pressurized in accordance with this section unless separated from the hoistway shaft by construction in accordance with Section 707 of the International Building Code.

**909.21.3 Ducts for system.**

Any duct system that is part of the pressurization system shall be protected with the same *fire-resistance rating* as required for the elevator shaft enclosure, and equipment, control wiring, power wiring, and ductwork shall comply with one of the methods specified in Section 909.20.6.1. Ducts shall be in accordance with Section 909.10.2.

**913.1 General.** Where provided, fire pumps shall be installed in accordance with this section and NFPA 20

**913.1.1 Fire Pump Controls.** Fire pump controllers supplying standpipes in excess of 130 p.s.i. shall be soft start.

**913.2 Protection against interruption of service.**

The fire pump, driver, and controller shall be protected in accordance with NFPA 20 against possible interruption of service through damage caused by explosion, fire, flood, earthquake, rodents, insects, windstorm, freezing, vandalism and other adverse conditions.

**913.2.1 Protection of fire pump rooms and access.**

Fire pumps shall be located in rooms that are separated from all other areas of the building by 2-hour *fire barriers* constructed in accordance with Section 707 or 2-hour *horizontal assemblies* constructed in accordance with Section 711, or both. Fire pump rooms not directly accessible from the outside shall be accessible through an enclosed passageway from an *interior exit stairway* or exterior exit. The enclosed passageway shall have a fire-resistance rating not less than the fire-resistance rating of the fire pump room (See NFPA 20 Section 4.12.2.1.2).

**912.5 Signs.**

A red metal sign with white raised letters at least 1 inch (25mm) in size shall be mounted on all fire department connections serving automatic sprinklers, standpipes or fire pump connections. Such signs shall read: SPRINKLERS, STANDPIPES, COMBINED, DRY S/PIPES, DRY S/P & SPKRS, BOOST TO \_\_\_\_\_ (as specified by the fire code official) PSI, or TEST CONNECTION or a combination thereof as applicable.

If it is not readily apparent which building or portion the fire department connection serves, the sign shall also include the premise address or building identification, and the portion of the building protected.

**Exception:** A metal sign with letters at least 1 inch (25mm) in size may match the fire department connection where chrome, brass or other approved decorative finish is utilized.

**912.5.1 Markings.** The fire department connection stand-alone pipe shall be painted red for greater visibility.

**Exception:** Fire department connections such as chrome, brass, or other approved decorative finish.

**Point of Information**

These provisions originate in NFPA 20 (2013) and are intended to facilitate fire department access to the fire pump room. Ideally fire pump rooms are located on the perimeter of the building affording direct access. Where that is not possible, a protected passageway is required. This passageway is not synonymous with an *exit passageway* and therefore not subject to the significant limitations of allowable penetrations. Fire pump rooms are not permitted to open directly into an *exit passageway* or *interior exit stairway*; rather the fire pump room must open into a vestibule before access to an *exit passageway* or an *interior exit stairway*.

**Point of Information:**

Systems utilizing Pressure Reducing Valves (PRV's) must note the required boosted pressure at the Fire Department Connection, in order to overcome the PRV setting.

**914.3.1 Automatic sprinkler system – High rise building.**

Buildings and structures shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and a secondary water supply where required by Section 914.3.2.

**914.2.1 Automatic sprinkler system.**

Covered and open mall building and buildings connected shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.1.1, which shall comply with the following:

1. The automatic sprinkler system shall be complete and operative throughout occupied space in the mall building prior to occupancy of any of the tenant spaces. Unoccupied tenant spaces shall be similarly protected unless provided with approved alternative protection.
2. Sprinkler protection for the mall of a covered mall building shall be independent from that provided for tenant spaces or anchors. Where tenant spaces are supplied by the same system, they shall be independently controlled.
3. Sprinkler protection for the tenant spaces of an open mall building shall be independent from that provided for anchor buildings.
4. Sprinkler protection shall be provided beneath exterior circulation balconies located adjacent to an open mall.
5. Where tenant spaces are supplied by the same system, they shall be independently controlled.

**914.3.1.2 Water supply to required fire pumps.**

In buildings that are more than 450 feet in building height, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets and shall not serve other buildings. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

**Exception:** When approved by the Fire Code Official, two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water sup-

ply will continue without interruption through no fewer than one of the connections.

**914.3.1.3 High rise building sprinkler system design.**

Combination standpipe/sprinkler risers using 6 in. pipe minimum, shall be used. Shut-off valves and water-flow devices shall be provided on each floor at the sprinkler system connection to each standpipe. Two four-way fire department connections serving the combination system shall be provided on separate streets well separated from each other. At least one of the fire department connections shall be connected to the riser above a riser isolation valve. Dry pipe sprinkler systems serving parking garages may use one separate two-way fire department connection. The dry pipe sprinkler system shall be supplied by the on-site water tank.

**914.3.2 Secondary water source.** A secondary on-site water source shall be provided for high-rise building as follows:

1. High-rise buildings containing R or B occupancy only shall be provided with a net useable volume of 15,000 gallons.
2. High-rise buildings containing an S-2 occupancy shall be provided with a net useable volume of 40,000 gallons.
3. High-rise buildings containing an M occupancy shall be provided with a net useable volume of 50,000 gallons.
4. Multi high-rise complexes that are less than 450' in height may share a common secondary water source by combining the highest demand of number 2 or 3 above, with number 1 above. Only one parking/retail area and 2 high-rise buildings may share a common secondary water source.

An acceptable alternative to items 1 through 4 above, is to prove a calculated net useable volume capable of meeting the hydraulically calculated sprinkler demand, including the total (combined inside and outside) hose stream requirement, as per NFPA 13. The duration of the calculated source shall have a duration of not less than 30 minutes for buildings with light hazard occupancies only and a 60 minute duration for building with ordinary hazard occupancies as defined by NFPA 13.

**Exception:** Existing building, including those undergoing substantial renovation.

## SECTION 917 FIREFIGHTER AIR SYSTEMS

**917.1 Scope.** The design, installation, and maintenance of firefighter air systems shall be in accordance with this section.

**917.2 Required installations.** Firefighter air system shall be installed in the following buildings:

1. Buildings classified as high-rise in accordance with the *International Building Code*.
2. Transportation tunnels constructed in accordance with NFPA 130 or 502 that exceed 300' in length.

**917.3 Plans and contractor qualifications.**

**917.3.1 Plans.** Prior to the installation of a firefighter air system, a minimum of two sets of plans and specifications shall be submitted to the Bellevue Fire Department for review and approval. Plans shall demonstrate compliance with the requirements of this section and shall include calculations prepared by a registered professional engineer demonstrating that the design criteria for all pressure containing components is satisfied plus a minimum safety factor of 25 percent.

The plans submittal shall also include specifications for the tubing, fittings, and manufacturer data sheets for valves, pressure regulators, pressure relief devices, gauges, RIC universal air connections and cylinder filling hoses.

**917.3.2 Contractor qualification.** The firefighter air system shall be installed by Washington state licensed contractors. Proof of licensure shall be provided with the plan submittal.

**917.4 Design criteria.**

**917.4.1** The system shall be designed to fill, at each interior cylinder filling panel, two empty 66 standard cubic foot compressed breathing air cylinders to a maximum pressure of 5,500 psig (37 921.17 kPa).

**917.4.2** The filling operation shall be completed in not more than two minutes upon connection of the cylinders to the fill hose.

**917.4.3** The minimum design flow of the breathing air piping system shall be calculated using two interior cylinder filling panels operating simultaneously and located at the highest level above the most remote location from the base station exterior fire department connection panel and enclosure base.

**917.5 Operating pressure.** All components used in the system shall be rated to operate at a minimum pressure of 5,500 psig (37 921.17 kPa) at 70°F (210C).

**917.6 Marking.** System piping, gauges, valves and air outlets shall be clearly marked by means of steel or plastic labels or tags indicating their function. Markings used for piping systems shall consist of the content's name and

Effective April 9, 2018

include a direction of flow arrow. Markings shall be provided at each valve; at wall, floor or ceiling penetrations; at each change of direction; and at a minimum of every 20 feet (6096 mm) or fraction thereof throughout the piping system.

**917.7 Base station exterior fire department connection panel and enclosure.**

**917.7.1 Location.**

A fire department connection panel shall be attached to the building or on a remote monument at the exterior of the building. The panel shall be secured inside of a weather-resistant enclosure. The panel shall be within 50 feet (15 240 mm) of an approved roadway or driveway, or other location approved by the Bellevue Fire Department. The enclosure shall be visible and accessible on approach to the building.

**917.7.2 Construction.**

The fire department connection panel shall be installed in a cabinet constructed of minimum 18-gauge carbon steel. When constructed of steel, the cabinet shall be provided with coating to protect the cabinet from corrosion. When the enclosure is constructed of nonmetallic materials, the enclosure shall be resistant to ultraviolet and infrared solar radiation.

**917.7.3 Vehicle protection.**

When the panel is located in an area subject to vehicle traffic, impact protection shall be provided in accordance with this code.

**917.7.4 Base station enclosure marking.**

The front of the enclosure shall be marked "FIRE-FIGHTER AIR SYSTEM" on securely attached steel, plastic engraved or painted plate. The lettering shall be in a color that contrasts with the enclosure front and in letters that are a minimum of 2 inches (51 mm) high with 3/8-inch (9053 mm) brush stroke. The marking of the enclosure shall be visible.

**917.7.5 Base station enclosure components.**

The components in the base station panel shall consist of the necessary components to provide air to the air substations located on upper and/or lower building levels. The fire department air supply source shall be designed to connect to the base station panel. The following components shall be installed in the base station enclosure.

1. Two Male Rapid Intervention Crew (RIC) Universal Air Connection (UAC) fittings. When connected to a female fitting, the assembled UAC shall meet the construction, performance and dimensional requirements of NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire and Emergency Services*.
2. One downstream shutoff valve.
3. One pressure gauge to check pressure of the piping distribution to air substations located on upper and lower building levels.

4. One pressure relief valve designed for 1.25 times the design discharge of the fire department air supply or air supply trucks. All fittings, hoses and hard piping in the base station supply panel and distribution piping to air substations supply panels, shall be designed for an air pressure of 1.5 times the pressure of the fire department air delivery system.
5. Base station can be designed for an air pressure supply piping system for supply of air to air substations.  
  
The air supply lines will require an intermediate regulator to provide air pressure for a 5,500 psi (37 921.17 kPa), for a 5.5 air pack system. The air supply lines will be fitted with separate pressure relief valves set at 1.25 times the working pressure of the air supply line and the operating pressure of the pressurized lines.
6. The relief valve, piping, pressure regulator, pressure gauges, fittings and connection hoses shall meet the requirement of the ASME Boiler and Pressure Code, 7 Section VIII, Unified Pressure Vessel Code. The installation of the piping system, as a minimum, will be based on ASME B31.3-2012.
7. Mechanical supports for piping, hoses, gauges and pressure components, will be designed and built to provide a solid rigid structure.

**917.7.6 Security.**

To prevent unauthorized access to or tampering with the system, the fire department connection panel enclosure shall remain locked by an *approved* means.

**917.7.7 Fire department key box.**

A fire department *key box* shall be provided adjacent to the fire department connection panel and enclosure. A key for the enclosure shall be provided in the *key box*.

**917.8 Interior cylinder fill panels and enclosure—air substation.**

**917.8.1 Location.** Cylinder fill panels shall be installed in the interior of buildings as follows:

1. **Aboveground structure.** An interior air substation cylinder fill panel and enclosure shall be installed on floor landings. In buildings classified as high-rise in two stairwells as approved by the *fire code official* regardless of height of buildings commencing on the second floor landing above grade, below grade and every other floor thereafter. Approved stairwells must extend the full height of the building and separated in accordance with *International Building Code Section 403.5.1*
2. **Underground structure.** An interior air substation cylinder fill panel and enclosure shall be installed in two stairwells as approved by the *fire code official* on the floor landing on the third level below grade

and every other below-grade level thereafter. The panel shall be located a minimum of 36 inches (914 mm) but not more than 60 inches (1524 mm) above the finished floor or a stairway landing. Approved stairwells must extend the full height of the underground structure and separated in accordance with *International Building Code Section 1007.1.1*

3. **Transportation tunnels.** An interior air substation cylinder fill panel and enclosure shall be installed within 200' of the tunnel entrance and then at intervals not exceeding 400' thereafter. All fill panels shall be located within 10' of standpipe hose connections. The panel shall be located a minimum of 36 inches (914 mm) but not more than 60 inches (1524 mm) above the finished floor.

**917.8.2 Cabinet requirements.**

Each air substation cylinder fill panel shall be installed in a cabinet constructed of minimum 18-gauge carbon steel. The depth of the cabinet shall not create an exit obstruction when installed in building stairways. All components, with the exception of the shutoff valve, pressure gauges, fill hoses and ancillary components, shall be contained behind a minimum 18-gauge interior panel.

**917.8.3 Door.**

Hinges for the cabinet door shall be located inside of the cabinet. The door shall be arranged such that when the door is open, it does not reduce the required exit width or create an obstruction in the path of egress. A minimum of 80 percent of the door surface area shall be constructed of tempered glass. The thickness of the glass shall not be greater than 1/8 inch (3.17 mm).

**917.8.4 Cabinet marking.**

The front of each cylinder fill panel shall be marked "FIREFIGHTER AIR SYSTEM." The lettering shall be in a color that contrasts with the cabinet and in letters that are a minimum of 2 inches (50mm) high with 3/8-inch (5 mm) brush stroke. The marking of the cabinet shall be visible to emergency response personnel.

**917.8.5 Air substation cabinet components.**

The cabinet shall be of sufficient size to allow for the installation of the following components:

1. One-isolation valve located between the air discharge line to the next air substation and the downstream line to the air base station supply or the air substation immediately below to the next substation above the air base station.
2. The fill hoses and isolation valves shall be installed between the air bottle connection line and the fresh air supply.
3. Excess bleed valves shall be located between the air bottle fill hose and the next air substation.

3. Four SCBA fill hoses are required at a single air substation, the air supply lines shall be identified as 5,500 psig (37 921.17 kPa) pressure and shall be controlled by a single valve between the air supply and air bottle. The SCBA fill hoses shall be designed with RIC UAC fittings. A protective cap shall be provided for each hose.
4. Mechanical supports for piping, hoses, gauges and pressure components shall be designed and built to provide a solid rigid structure.

#### **917.8.6 Cylinder filling hose.**

The design of the cabinet shall provide a means for storing the hose to prevent kinking. When the hose is coiled, the brackets shall be installed so that the hose bend radius is maintained at 4 inches (102 mm) or greater.

The discharge outlet of each cylinder filling hose shall have a female RIC UAC. The female fitting shall be designed to connect to a male RIC UAC. The assembled RIC UAC shall meet the construction, performance and dimensional requirements of NFPA 1981, *Standard on Open Breathing Circuit Self-Contained Breathing Apparatus for Fire and Emergency Services*.

#### **917.8.7 Security.**

To prevent unauthorized access to or tampering with the system, each panel cover shall remain locked by an *approved* means.

#### **917.9 Installation of components.**

**917.9.1 Air monitoring system.** An approved air monitoring system shall be provided. The system shall automatically monitor air quality, moisture and pressure on a continual basis. The air monitoring system shall be equipped with not less than two content analyzers capable of detecting carbon monoxide, carbon dioxide, nitrogen, oxygen, moisture and hydrocarbons.

##### **917.9.1.1 Alarm conditions.**

The air monitoring system shall transmit a supervisory signal when any of the following levels are detected:

1. Carbon monoxide exceeds 5 ppm.
2. Carbon dioxide exceeds 1,000 ppm.
3. An oxygen level below 19.5 percent or above 23.5 percent.
4. A nitrogen level below 75 percent or above 81 percent.
5. Hydrocarbon (condensed) content exceeds 5 milligrams per cubic meter of air.
6. The moisture concentration exceeds 24 ppm by volume.
7. The pressure falls below 4,950 psig (34 129.05 kPa) at 70° F (210C)

##### **917.9.1.2 Alarm supervision, monitoring and notification.**

The air monitoring system shall be electrically supervised and monitored by an approved supervising station.

##### **917.9.1.3 Air quality status display.**

Air quality status shall be visually displayed at within the fire command center.

##### **917.9.2 Tubing.**

Piping shall be constructed of stainless steel or other *approved* materials that are compatible with breathing air. The use of nonmetallic materials shall be compatible with breathing air. When stainless steel tubing is used, it shall meet ASTM A-269, Grade 316 or an equal standard. Stainless steel fitting shall be Grade 316 and a minimum, 0.375 inch (9.5 mm) outside diameter by .065 inch (1.6 mm) wall Grade 316 fully annealed seamless. Stainless steel fittings shall be at least Grade 316 and meet the requirements of ASTM A 479 or equal. Routing of tubing and bends shall be such as to protect the tubing from mechanical damage.

##### **917.9.3 Support.**

Piping shall be supported at maximum intervals of 5 feet (1524 mm). Individual tubing clamps and mounting components shall be mechanically secured to the building support members in accordance with the manufacturer's specifications.

##### **917.9.4 Fittings.**

Fittings shall be constructed of stainless steel or other *approved* materials that are compatible with breathing air. The use of nonmetallic materials shall be compatible with breathing air. Stainless steel fittings shall be at least Grade 316 and meet the requirements of ASTM A 479 or an equal standard.

##### **917.9.5 Prohibition.**

The use of carbon steel, iron pipe, malleable iron, high-strength gray iron or alloy steel is prohibited.

##### **917.10 System assembly requirements.**

The system shall be welded except where the tubing joints are readily accessible and at the individual air fill panels. When mechanical high-pressure tube fittings are used, they shall be *approved* for the type of materials to be joined and rated for the maximum pressure of the system. Welding procedures shall meet ASME B31.1-2010, Part 4 and Chapter V (Exhibit VI). Prior to and during the welding of sections of tubing, a continuous, regulated dry nitrogen or argon purge at 3 psig (20.68 kPa) shall be maintained to eliminate contamination with products of the oxidation or welding flux. The purge shall commence a minimum of 2 minutes prior to welding operations and continue until the welded joint is at an ambient temperature between 60° F and 80° F (15.5°C and 26.6°C).

##### **917.11 Prevention of contamination.**

The installing contractor shall ensure that, at all times, the system components are not exposed to contaminants, including, but not limited to, oils, solvents, dirt and construction materials. When contamination of system components has occurred, the effected component shall not be installed in the system.



**917.12 Testing and inspection.**

tests and verification of air quality, the system shall be considered complete.

**917.12.1 Testing.**

Following fabrication, assembly, and installation of the piping distribution system, exterior connection panel and interior cylinder fill panels, the Bellevue Fire Department shall witness the pneumatic testing of the complete system at a minimum test pressure of 6,050 psi (41 368.54 kPa) using oil-free dry air, nitrogen or argon. A minimum 24-hour pneumatic or hydrostatic test shall be performed. During this test all fittings, joints and system components shall be inspected for leaks. A solution compatible with the system component materials shall be used on each joint and fitting. Any defects in the system or leaks detected shall be documented on an inspection report, repaired or replaced. As an alternate, a pressure decay test in accordance with ASME B31.3 is allowed. A test of the low-pressure monitoring switch shall be performed. Each air fill panel shall be tested for compatibility with the fire department's SCBA RIC UAC. The pipe or tubing manufacturer mill report shall be provided to the Bellevue Fire Department.

**917.12.2 Air samples.**

A minimum of two samples shall be taken from separate air fill panels and submitted to an independent, certified gas analysis laboratory to verify the system's cleanliness and that the air is certified as breathing air. The laboratory shall submit a written report of the analysis to the Bellevue Fire Department documenting that the breathing air complies with this section.

**917.12.3 Quality analysis.**

During the period of air quality analysis, the air fill panel inlet shall be secured so that no air can be introduced into the system and each air fill panel shall be provided with a sign stating: "AIR QUALITY ANALYSIS IN PROGRESS, DO NOT FILL OR USE ANY AIR FROM THIS SYSTEM." This sign shall be a minimum of 8 1/2 by 11 inches (215mm by 279 mm) with a minimum of 1-inch (25 mm) lettering.

**917.12.4 Periodic Inspection, Testing and Maintenance.**

The Firefighter Air System shall be continuously maintained in an operative condition and shall be inspected not less than annually. Annually two air samples shall be taken from two separate filling stations and tested to verify compliance with NFPA 1989. The laboratory test results shall be maintained on site and readily available for review by the Bellevue Fire Department.

**917.13 System acceptance and certification.**

Prior to the final acceptance of the air system, the building owner shall provide for the testing and certification of the system. As a minimum, this shall include verifying the system's compatibility with the fire department's SCBA apparatus; the system's ability to maintain 5,500 psi (37 921.17 kPa) working pressure; the operability of the low-pressure monitoring switch and that the system's air quality complies with the requirements of Section 915.12. Prior to final acceptance, the building owner shall provide the Bellevue Fire Department with written verification of a testing and certification contract. Upon satisfactory completion of all

**1008.3.4 Duration.**

The emergency power system shall provide power for a duration of not less than 90 minutes, or such time as stipulated by Section 2702 when applicable for high-rise or underground buildings, and shall consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with International Building Code Section 2702.

**[WS] 1009.1 Accessible means of egress required.**

*Accessible means of egress* shall comply with this section. Accessible spaces shall be provided with not less than one *accessible means of egress*. Where more than one *means of egress* is required by Section 1006.2 or 1006.3 from an accessible space, each accessible portion of the space shall be served by not less than two *accessible means of egress*.

**Exceptions:**

1. *Accessible means of egress* are not required to be provided in existing buildings.

**1011.7 Stairway construction.**

Stairways shall be built of materials consistent with the types permitted for the type of construction of the building, except that wood handrails shall be permitted for all types of construction.

**Exception:** In buildings with a 3-hour horizontal assembly used to establish two separate buildings in accordance with Section 510, a stairway constructed of combustible materials may extend below the 3-hour horizontal assembly if it is enclosed within a 3-hour fire-resistance rated shaft enclosure in accordance with Section 713, extending from the 3-hour horizontal assembly through the lowest basement level.

**1011.12.2 Roof access.**

Where a stairway is provided to a roof, access to the roof shall be provided through a penthouse complying with Section 1510.2 of the International Building Code.

**Exception:** In buildings without an occupied roof, access to the roof shall be permitted to be a roof hatch or trap door not less than 16 square feet in area and having a minimum dimension of 3 feet.

3. Vehicle ramps in parking garages for pedestrian exit access shall not be required to comply with Sections 1012.3 1010.4 through 1012.10 1010.10 where they are not an accessible route serving accessible parking spaces, other required accessible elements. or part of an accessible means of egress.
4. In a parking garage where one accessible means of egress serving accessible parking spaces or other accessible elements is provided, a second accessible means of egress serving that area may include a vehicle ramp that does not comply with Sections 1010.5, 1010.6, and 1010.9. A landing complying with Sections 1010.7.1 and 1010.7.4 shall be provided at any change of direction in the accessible means of egress.

**[WS] 1011.17 Stairways in individual dwelling units.**

Stairs or ladders within an individual dwelling unit used for access to areas of 200 square feet (18.6 m<sup>2</sup>) or less, and not containing the primary bathroom or kitchen, are exempt from the requirements of Section 1009.

**[WS] 1012.1 Scope.**

The provisions of this section shall apply to ramps used as a component of a *means of egress*.

**Exceptions:**

1. Other than ramps that are part of the accessible routes providing access in accordance with Sections 1108.2 through 1108.2.4 and 1108.2.6, ~~Ramped~~ ramped *aisles* within assembly rooms or spaces shall comply with the provisions in Section 1029.13.
2. Curb ramps shall comply with ICC A117.1.

**1103.2 Emergency responder radio coverage in existing buildings.**

Buildings constructed prior to the implementation of this code shall not be required to comply with the emergency responder radio coverage provisions except as follows:

1. Whenever an existing wired communication system cannot be repaired or is being replaced.
2. Buildings identified in Section 510.1 undergoing substantial alteration as determined by the Fire Code Official.
3. When buildings, classes of buildings or specific occupancies do not have minimum radio coverage signal strength as identified in Section 510.4.1 and the Fire or Police Chief determines that lack of minimum signal strength poses an undue risk to emergency responders that cannot be reasonably mitigated by other means.

CITY OF BELLEVUE AMENDMENTS

**1103.8.1 Where required.** Existing Group I-1 and R occupancies shall be provided with single-station smoke alarms in accordance with Section 907.2.11, except as provided in Sections 1103.8.2 and 1103.8.3.

**Exception:** Where smoke detectors connected to a fire alarm system have been installed as a substitute for smoke alarms.

**1103.8 Single- and multiple-station smoke alarms.**

Single- and multiple-station smoke alarms shall be installed in existing Group I-1 and R occupancies in accordance with Sections 1103.8.1 through 1103.8.3.

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**[WS] 1103.9 Carbon monoxide alarms.**

Existing Group I or Group R occupancies shall be provided with single station carbon monoxide alarms in accordance with Section 915.4.3. An inspection will occur when alterations, repairs or additions requiring a permit occur, or when one or more sleeping rooms are added or created. The carbon monoxide alarms shall be listed as complying with UL 2034 and be installed and maintained in accordance with NFPA 720-2015 and the manufacturer's instructions.

**Exceptions:**

1. For other than R-2 occupancies, if the building does not contain a fuel-burning appliance, a fuel-burning fireplace, or an attached garage
2. Work involving the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck, or electrical permits.
3. Installation, alteration or repairs of noncombustion plumbing or mechanical systems.
4. Sleeping units or dwelling units in I and R-1 occupancies and R-2 college dormitories, hotel, DOC prisons and work releases and assisted living facilities and residential treatment facilities licensed by the state of Washington which do not themselves contain a fuelburning appliance, a fuel-burning fireplace, or have an attached garage, need not be provided with carbon monoxide alarms provided that:
  - 4.1. The sleeping units or dwelling unit is not adjacent to any room which contains a fuel-burning appliance, a fuel-burning fireplace, or an attached garage; and
  - 4.2. The sleeping units or dwelling unit is not connected by duct work or ventilation shafts with a supply or return register in the same room to any room containing a fuel-burning appliance, a fuel-burning fireplace, or to an attached garage; and
  - 4.3. The building is provided with a common area carbon monoxide detection system.
5. An open parking garage, as defined in the International Building Code, or enclosed parking garage ventilated in accordance with Section 404 of the International Mechanical Code shall not be considered an attached garage.

**[WS] 1104.1 General.**

*Means of egress* in existing buildings shall comply with Section 1030 and Sections 1104.2 through 1104.25.

**Exception:** Means of egress conforming to the requirements of the building code under which they were constructed and Section 1030 shall not be required to comply with 1104.2 through 1104.22 and 1104.25.

**1103.11 – Building Information Card**

An *approved* Building Information Card shall be located in each fire command center that includes, but is not limited to, all of the following information:

**1103.11.1 General Building Information.**

General building information that includes: property name, address, the number of floors in the building above and below grade, use and occupancy classification (for mix uses, identify the different types of occupancies on each floor) and the estimated building population during the day, night and weekend;

**1103.11.2 Building Emergency Contact Information.**

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;

**1103.11.3 Building Construction Information.**

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

**1103.11.4 Exit Stairway Information.**

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 allow 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;

**1103.11.5 Building Services and System Information.**

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;

**1103.11.6 Fire Protection System Information.**

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;

**1103.11.7 Hazardous Material Information.**

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



**SECTION 1107**

**PREMISES IDENTIFICATION**

**1107.1 Address Identification.**

Address Identification for existing buildings shall be in accordance with section 505.1 of this code.

**2306.2.3 Above-ground tanks located outside, above grade.**

Above-ground tanks shall not be used for the storage of Class I, II or IIIA liquid fuels except as provided by this section.

1. The storage of Class I and Class II liquids in above ground tanks outside of buildings is prohibited within the limits established by law as the limits of districts in which such storage is prohibited. Districts for which this prohibition applies include areas zoned as other than LI (Light Industrial) and GC (General Commercial) as defined in City of Bellevue Land Use Code and designated on the City's official zoning map.
2. Above-ground tanks used for outside, above-grade storage of Class I liquids shall be listed and labeled as protected above-ground tanks in accordance with UL 2085 and shall be in accordance with Chapter 57. Such tanks shall be located in accordance with Table 2306.2.3.
3. Above-ground tanks used for outside, above-grade storage of Class II or IIIA liquids shall be listed and labeled as protected above-ground tanks in accordance with UL 2085 and shall be installed in accordance with Chapter 57. Tank locations shall be in accordance with Table 2306.2.3.

**Exception:** Other above-ground tanks that comply with Chapter 57 where approved by the fire code official.

4. Tanks containing fuels shall not exceed 12,000 gallons (45 420 L) in individual capacity or 48,000 gallons (181 680 L) in aggregate capacity. Installations with the maximum allowable aggregate capacity shall be separated from other such installations by not less than 100 feet (30 480 mm).
5. Tanks located at farms, construction projects, or rural areas shall comply with Section 5706.2.
6. Above-ground tanks used for outside above-grade storage of Class IIIB liquid motor fuel shall be listed and labeled in accordance with UL 142 or listed and labeled as protected above-ground tanks in accordance with UL 2085 and shall be installed in accordance with Chapter 57. Tank locations shall be in accordance with Table 2306.2.

immediately removed upon the completion of the construction processes in the room or area in which the devices are installed.

**3308.8 Additional Requirements for High-rise buildings and wood-frame buildings more than 50,000 s.f. in area.**

**3308.8.1 Job Site Security.**

The job site shall be secured with controlled access once above grade combustible construction has begun together with off hours guard service, motion controlled surveillance or both.

**3308.8.2 Job shacks and other temporary structures.**

Job shacks and other temporary structures located within or less than 20' from the permanent building shall be:

- Constructed of non-combustible materials or 1 hour fire-resistive construction.
- Shall not be equipped with fuel fired heaters
- Shall be equipped with monitored fire alarm system when located below grade
- Shall not function as offices unless protected with automatic sprinkler systems

**3308.8.3 Construction mitigations for wood frame buildings exceeding 80,000 s.f. when exposures exists within 60' of a building under construction.**

The exterior wall of the building under construction shall be covered with 5/8-inch gypsum sheathing to include windows, doors or other openings until interior framing members have been covered with gypsum board or their finish materials. For the purpose of measuring total square footage of wood framing, any adjacent on-going wood frame construction is considered to be within the project when adjacent structures are separated by less than sixty (60) feet of open air

**Exception:** A mitigation plan developed by a Washington State Licensed Fire Protection Engineer. The mitigation plan may rely on temporary, permanent and/or active measures.

**3308.8.4 Construction mitigations for wood frame buildings exceeding three hundred fifty thousand square feet; or two hundred thousand square feet when the building exceeds fifty feet in height:**

Mitigating fire protection barriers consisting of at least one layer of 5/8-inch gypsum board or other equivalent fire resistive materials shall be installed such that the mitigating fire protection barrier(s) enclose area(s) of not more than fifty thousand square feet.

For the purpose of measuring total square footage of wood framing, any adjacent on-going wood frame construction is considered to be within the project when adjacent structures are separated by less than sixty (60) feet of open air

**Exception:** A mitigation plan developed by a Washington State Licensed Fire Protection Engineer. The mitigation plan may rely on temporary, permanent and/or active measures.

**3308.1 Program superintendent.**

The owner shall designate a person to be the fire prevention program superintendent who shall be responsible for the fire prevention program and ensure that it is carried out through completion of the project. The fire prevention program superintendent shall have the authority to enforce the provisions of this chapter and other provisions as necessary to secure the intent of this chapter. Where guard service is provided, the superintendent shall be responsible for the guard service.

**3308.2 Prefire plans.** The fire prevention program superintendent shall develop and maintain an approved prefire plan in cooperation with the fire chief. The fire chief and the fire code official shall be notified of changes affecting the utilization of information contained in such prefire plans.

**3308.3 Training.**

Training of responsible personnel in the use of fire protection equipment shall be the responsibility of the fire prevention program superintendent.

**3308.4 Fire protection devices.**

The fire prevention program superintendent shall determine that all fire protection equipment is maintained and serviced in accordance with this code. The quantity and type of fire protection equipment shall be approved.

**3308.5 Hot work operations.**

The fire prevention program superintendent shall be responsible for supervising the permit system for hot work operations in accordance with Chapter 35.

**3308.6 Impairment of fire protection systems.**

Impairments to any fire protection system shall be in accordance with Section 901.

**3308.7 Temporary covering of fire protection devices.**

Coverings placed on or over fire protection devices to protect them from damage during construction processes shall be

**5003.9 International Fire Code Section 5003.9 – General safety precautions.**

General precautions for the safe storage, handling or care of hazardous materials shall be in accordance with Sections 5003.9.1 through 5003.9.11.

**5003.9.11 International Fire Code Section 5003.9.11 – Manufacturer’s Limitations.**

The storage and use of hazardous materials shall not exceed the manufacturer’s limitations on shelf life and any other restrictions on use.

**[WS] 5601.1 Scope.**

The provisions of this chapter shall govern the possession, manufacture, storage, handling, sale and use of *explosives*, *explosive materials*, fireworks and small arms ammunition. The manufacture, storage, handling, sale and use of fireworks shall be governed by Chapter 70.77 RCW and by Chapter 212-17 WAC and local ordinances consistent with Chapter 212-17 WAC.

**Exceptions:**

1. The Armed Forces of the United States, Coast Guard or National Guard.
2. Explosives in forms prescribed by the official United States Pharmacopoeia.
3. The possession, storage and use of small arms ammunition where packaged in accordance with DOTn packaging requirements.
4. The possession, storage and use of not more than 1 pound (0.454 kg) of commercially manufactured sporting black powder, 20 pounds (9 kg) of smokeless powder and 10,000 small arms primers for hand loading of small arms ammunition for personal consumption.
5. The use of explosive materials by federal, state and local regulatory, law enforcement and fire agencies acting in their official capacities.
6. Special industrial explosive devices that in the aggregate contain less than 50 pounds (23 kg) of explosive materials.
7. The possession, storage and use of blank industrial-power load cartridges where packaged in accordance with DOTn packaging regulations.
8. Transportation in accordance with DOTn 49 CFR Parts 100–185178.
9. Items preempted by federal regulations.

**[WS] 5601.1.1 Explosive material standard.**

In addition to the requirements of this chapter, NFPA 495 shall govern the manufacture, transportation, storage, sale, handling and use of *explosive materials*. See also Chapter 70.74 RCW and Chapter 296-52 WAC.

**5601.2.2 Explosives, Explosive Materials or Fireworks**

**Sale.** It is illegal to offer for sale explosives, explosive materials or fireworks.

**Exceptions:**

1. The Fire Marshal is authorized to allow sales of explosives or explosive materials for activities such as demolition activities and fireworks for permitted public displays.
2. The use by law enforcement or emergency response agencies of devices that may fall within the definition of explosives, explosive materials or the definition of fireworks, when such devices are to be used in the furtherance of law enforcement or emergency response operations or training.
3. For the purposes of this chapter, small arms ammunition, small arms ammunition primers, smokeless powder not exceeding fifty pounds, and black powder not exceeding five pounds shall not be defined as explosives, unless possessed or used for a purpose inconsistent with small arms use or other lawful purpose.

**5601.2.3 – Permit restrictions.**

The storage of explosive materials is prohibited within the limits of the City. The fire code official is authorized to limit the quantity of fireworks permitted at a given location. No person, possessing a permit for storage of fireworks at any place, shall keep or store an amount greater than authorized in such permit. Only the kind of fireworks specified in such a permit shall be kept or stored.

**5601.9 Violations and penalties.**

Violations of BCC 23.11.5601.2.2 or BCC 23.11.5608.2 may be prosecuted as a civil violation under Chapter 1.18 BCC.

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**5608.2 Fireworks Discharge Prohibited.**

No person shall ignite or discharge any fireworks at any time.

**Exceptions:**

1. Displays authorized by permit issued by the city pursuant to RCW 70.77.260(2) now or as hereafter amended;
2. Use by a group or individual for religious or other specific purposes on an approved date at an approved location pursuant to a permit issued pursuant to RCW 70.77.311(2)(c) now or hereafter amended and (d);
3. Use of trick and novelty devices as defined in WAC 212-17-030, as amended, and as hereafter amended and use of agricultural and wildlife fireworks as defined in WAC 212-17-045, as amended and as hereafter amended.

**5608.2.3 Standards for fireworks displays.**

All fireworks displays shall conform to the following minimum standards and conditions:

- A. All fireworks displays must be planned, organized, and discharged by a state-licensed pyrotechnician.
- B. A permit must be obtained from the city and approved by the fire chief or designee prior to any display of fireworks. The permit shall include the name of the applicant and his address, the name of the pyrotechnician and his address, the exact location, date and time of the proposed display, the number, type and class of fireworks to be displayed, and the manner in which the fireworks are being stored prior to the public fireworks display.
- C. The applicant for a display of fireworks permit shall include with the application evidence of a bond issued by an authorized surety or a certificate of public liability insurance. Such bond or certificate shall conform to the requirements set forth in RCW 70.77.285 and 70.77.355.
- D. A drawing shall be submitted with the application to the fire chief showing a plan view of the fireworks discharge site and the surrounding area within a 500-foot radius. The drawing shall include all structures, fences, barricades, streets, fields, streams, and any other significant factors that may be subjected to ignition or that may inhibit firefighting capabilities.
- E. When, in the discretion of the fire chief, such requirement is necessary to preserve the public health, safety and welfare, the permit may, at the direction of the fire chief or designee, require that a Bellevue fire pumper and a minimum of three firefighters shall be on site 30 minutes prior to and after the conclusion of the display. All compensation for fire personnel and apparatus will be paid by the applicant in an amount calculated according to the Washington State Fire Chiefs Association's fee schedule and shall be designated to the Bellevue fire department.
- F. All combustible debris and trash shall be removed by the applicant from the area of discharge for a distance of 300 feet in all directions.
- G. Applicant shall dispose of all unfired or "dud" fireworks in a safe manner.
- H. Applicant shall provide the fireworks discharge site a minimum of two 2A-rated pressurized water fire extinguishers and one fire blanket.
- I. The permit may be immediately revoked at any time deemed necessary by the fire chief or designee due to any noncompliance or weather conditions such as extremely low humidity or wind factor. The display may also be canceled by accidental ignition of combustible or flammable material in the vicinity due to fall debris from the display.
- J. Areas of public access shall be determined by the fire chief or designee and maintained by the applicant in an approved manner.
- K. For displays other than the 4th of July, the permit application must also include a public notification plan for affected residents or businesses. This may include newspaper, radio, and/or television announcements; door to door distribution of written announcements; reader boards and/or other methods or media. The public notification plan is subject to approval by the fire chief or designee. Costs associated with public notification to affected residents are to be borne by the permit applicant.



**5704.2.7.2 Pressure limitations for tanks.**

Tanks shall be designed for the pressures to which they will be subjected in accordance with NFPA 30. If the static head with a vent pipe filled with oil exceeds 10 pounds per square inch (psi) (69 kPa), the tank shall be designed for the maximum static head that will be imposed.

**5704.2.9.6.1 Locations where above-ground tanks are prohibited or restricted.**

Storage of Class I and II liquids in above-ground tanks outside of buildings is prohibited unless screened in accordance with the City of Bellevue Land Use Code (LUC) Section 20.20.525 as now or hereafter amended.

**Exception:** Areas zoned as LI (Light Industrial) and GC (General Commercial) as defined in the LUC and designated on the City's official zoning map.

**5704.2.13 – Abandonment and status of tanks.**

Tanks taken out of service shall be removed in accordance with Section 5704.2.14, or safeguarded in accordance with Sections 5704.2.13.1 through 5704.2.13.2.3 and American Petroleum Institutes (API) 1604.

Residential heating oil tanks required by this code to be removed or decommissioned shall also comply with Public Information Sheet [F-07 Decommissioning Residential Heating Oil Tanks](#) and any future revision to this document.

**6104.2 Maximum Capacity.**

Within the limits established by law restricting the storage of liquefied petroleum gas for the protection of heavily populated or congested commercial areas, the aggregate capacity of any one installation shall not exceed 2,000 gallons water capacity, except that in particular installations this capacity limit may be altered at the discretion of the chief after consideration of special features such as topographical conditions, nature of occupancy and proximity to buildings, capacity of proposed tanks, degree of private fire protection to be provided, and facilities of the local fire department. The storage of liquefied petroleum gas shall conform to the provisions of the local zoning ordinance. Districts for which this prohibition applies includes areas zoned as other than LI (Light Industrial) and GC (General Commercial) as defined in the City of Bellevue Land Use Code and designated on the City's official zoning map.

**[WS] Section 6108.1 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 LPgas shall be determined in accordance with Appendix B of NFPA 58.

**Exception:** The use and storage of listed propane fired barbeque grills on R-2 decks and balconies with an approved container not exceeding a water capacity of 20 pounds (9 kg) that maintain a minimum clearance of 18 inches on all sides, unless listed for lesser clearances.