

WASHINGTON STATE BUILDING CODE

CHAPTER 51-50 WAC

INTERNATIONAL BUILDING CODE 2021 Edition

**Includes adoption of and amendments to
the ICC/ANSI A117.1-2017**



**Washington State Building Code Council
Effective March 15, 2024**

Copies of the State Building Codes and
complete copies of the 2021 International Building Code
as published by the International Code Council
may be obtained from:

International Code Council
<https://shop.iccsafe.org/custom-codes/2021-washington-state-building-code-based-on-the-2021-international-building-code.html>

The 2021 International Building Code as published by the International Code Council
may be viewed at the following website: <https://codes.iccsafe.org/content/IBC2021P2>

ICC/ANSI A117.1-2017 as published by the International Code Council
may be viewed at the following website: <https://codes.iccsafe.org/content/icca117-12017P4>

Second Edition Titled
International Building Code
Chapter 51-50 WAC

Effective March 15, 2024

Preface

Authority: The International Building Code (Chapter 51-50 WAC) is adopted by the Washington State Building Code Council pursuant to Chapters 19.27 and 70.92 RCW. These codes were first adopted by reference by the Washington State Legislature in 1974. In 1985, the Legislature delegated the responsibility of adoption and amendment of these codes to the State Building Code Council.

Code Precedence: The State Building Code Act, Chapter 19.27 RCW, establishes the following order of precedence among the documents adopted as parts of the State Building Code:

- International Building Code, Standards and amendments -WAC 51-50;
- International Residential Code, Standards and amendments – WAC 51-51;
- International Mechanical Code, Standards and amendments - WAC 51-52;
- International Fire Code, Standards and amendments - WAC 51-54A;
- Wildland-Urban Interface Code and amendments – WAC 51-55
- Uniform Plumbing Code, Standards, and amendments - WAC 51-56

Where there is a conflict between codes, an earlier named code takes precedence over a later named code. In the case of conflict between the duct insulation requirements of the International Mechanical Code and the duct insulation requirements of the Energy Code, the Energy Code, or where applicable, a local jurisdiction's energy code, shall govern.

Where, in any specific case, different sections of this Code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

Organization and Numbering: These rules are written to allow compatible use with the International Building Code. All sections which are amended, deleted, or added are referenced.

Enforcement: The State Building Code Act requires that each local jurisdiction enforce the State Building Code within its jurisdiction. Any jurisdiction can contract with another jurisdiction or an inspection agency to provide the mandated enforcement activities.

Amendments to the State Building Code:

The State Building Code Council has adopted review procedures and approval criteria for local amendments. These procedures and criteria are found in Chapter 51-04 WAC. The Council has exempted from its review any amendments to the administrative provisions of the various codes.

Forms for proposing statewide amendments to the State Building Code are available from the State Building Code Council Website: <https://www.sbcc.wa.gov/state-codes-regulations-guidelines/forms>

- A. **Amendments of Statewide Application:** The State Building Code Council will consider proposals to amend the Code every three years to coincide with the model code publication. The Council is not scheduled to enter formal rulemaking until 2024 as part of its consideration of adoption of the 2024 series of codes.

Proposals to amend the Code shall be made on forms provided by the Building Code Council.

- B. **Local Amendments:** Any jurisdiction may amend the State Building Code provided the amendments do not reduce the minimum performance standards of the codes. There are areas where local amendments are limited or prohibited:

Prohibited Amendments: Residential provisions of the State Energy Code (WAC 51-11R and WAC 51-11C), Ventilation provisions in Section 408 of the Mechanical Code (WAC 51-52) and Section M1507 of the IRC (WAC 51-51); any provision of the International Building Code or International Residential Code affecting accessibility; and standards specifically adopted in Chapters 19.27 and 19.27A RCW cannot be amended by any local jurisdiction.

Residential Amendments: Amendments by local jurisdictions which affect the construction of single family and multi-family residential buildings must be reviewed and approved by the State Building Code Council before such amendments can be enforced. The State Building Code Act provides the following definition:

“Multi-family residential building” means common wall residential buildings that consist of four or fewer units, that do not exceed two stories in height, that are less than 5,000 square feet in area, and that have a one-hour fire-resistive occupancy separation between units.

Application forms for Council review of local amendments are available from the State Building Code Council Website: <https://www.sbcc.wa.gov/state-codes-regulations-guidelines/forms>

Washington State Building Code Council
Post Office Box 41449
Olympia, Washington 98504-1449
www.sbcc.wa.gov
(360) 407-9280
Fax (360) 586-5366
e-mail: sbcc@des.wa.gov

Printing Format: This version of the rules is published as a series of insert or replacement pages and is intended to be printed as a two-sided document. Each page provides instructions for installing them in the model code book. Amendments to the model code, are indicated by a double line in the margin next to the revised portions. Any portion of the model code that has been deleted in the amendment will be marked with (<) symbol.

Effective Date: These rules were adopted by the State Building Code Council on October 20, 2023. The rules are effective throughout the state on March 15, 2024. (This version of the code is based on WAC 51-50 as published in WSR 23-14-123, and WSR 23-23-102.)

Building Permit Fees: The activities of the State Building Code Council are supported by permit fees collected by each city and county. Section 19.27.085 of the State Building Code Act requires that a fee of \$6.50 be imposed on each residential permit and \$25.00 on each commercial building permit issued by each city and county. In addition, a fee of \$2.00 per unit shall be imposed for each dwelling unit after the first unit, on each building containing more than one residential unit. For the purpose of this fee, WAC 365-110-035 defines building permits as any permit to construct, enlarge, alter, repair, move, improve, remove, convert, or demolish any building or structure regulated by the Building Code. Exempt from the fee are plumbing, electrical, mechanical permits, permits issued to install a mobile/manufactured home, commercial coach, or factory-built structure, or permits issued pursuant to the International Fire Code.

Each city and county shall remit moneys collected to the state treasury quarterly. No remittance is required until a minimum of \$50.00 has accumulated.

These permit fees are the amounts current in January 2023. Such fees may be changed by the State Legislature.

Opinions: RCW 19.27.031 grants the council authority to render opinions relating to the building code at the request of a local code official. For the purposes of this section, the term "code official" means the local or state official, or their designee, responsible for implementation and enforcement of the specific code provision on which the opinion is requested.

At the request of a code official, the council will issue opinions relating to the codes adopted under chapters 19.27, 19.27A, and 70.92 RCW, and council amendments to the model codes. At the request of a local code official, the council may issue opinions on the applicability of WAC 51-04-030 to a local government ordinance regulating construction. Council related opinions may be developed and approved by a standing committee of the council. Opinions approved by a standing committee may be reviewed and modified by the council.

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**CHAPTER 51-50 WAC
STATE BUILDING CODE ADOPTION AND AMENDMENT
OF THE 2021 EDITION OF THE INTERNATIONAL BUILDING CODE**

WAC 51-50-001 AUTHORITY

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

WAC 51-50-002 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 51-50-003 INTERNATIONAL BUILDING CODE

The 2021 edition of the International Building Code, including Appendix E, published by the International Code Council is hereby adopted by reference with the exceptions noted in this chapter of the Washington Administrative Code.

WAC 51-50-005 INTERNATIONAL BUILDING CODE REQUIREMENTS FOR BARRIER-FREE ACCESSIBILITY

Chapter 11 and other International Building Code requirements for barrier-free access, including ICC A117.1-2017 and Appendix E, are adopted pursuant to Chapters 70.92 and 19.27 RCW.

Pursuant to RCW 19.27.040, Chapter 11 and requirements affecting barrier-free access shall not be amended by local governments.

WAC 51-50-007 EXCEPTIONS

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

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.

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 2021 International Existing Buildings Code is included in the adoption of this code in Section 101.4.7 and amended in WAC 51-50-480000.

WAC 51-50-008 IMPLEMENTATION

The International Building Code adopted under Chapter 51-50 WAC shall become effective in all counties and cities of this state on March 15, 2024.

107.2 Construction documents. Construction documents shall be in accordance with Sections 107.2.1 through 107.2.9.



107.2.9 Nonstructural components. Construction documents shall indicate if structural support and anchoring documentation for nonstructural components is part of the design submittal or a deferred submittal. The construction documents for nonstructural components shall at a minimum identify the following:

1. All nonstructural components required by ASCE 7 Section 13.1.3 to have an importance factor of, I_p , of 1.5.
2. All mechanical equipment, fire sprinkler equipment, electrical equipment, and other nonstructural components required by ASCE 7 Section 13.1.3 Item 1 to be operational following a seismic event that require designated seismic systems per ASCE 7 Section 13.2.2 and special inspections per Section 1705.13.4.

108.1 General. The *building official* is authorized to issue a *permit* for temporary structures and temporary uses. Such permits shall be limited as to time of service but shall not be permitted for more than 180 days. The *building official* is authorized to grant extensions for demonstrated cause.

Exception: The building official may authorize unheated tents and yurts under 500 square feet accommodating an R-1 Occupancy for recreational use as a temporary structure and allow them to be used indefinitely.

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ADULT FAMILY HOME. A dwelling, licensed by the state of Washington department of social and health services, 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. An existing adult family home may provide services to up to eight adults upon approval from the department of social and health services in accordance with RCW [70.128.066](#).

ASSISTED LIVING FACILITY. A home or other institution, licensed by the state of Washington, providing housing, basic services and assuming general responsibility for the safety and well-being of residents under chapters [18.20](#) RCW and 388-78A WAC. These facilities may provide care to residents with symptoms consistent with dementia requiring additional security measures.

AUTOMATIC LOAD MANAGEMENT SYSTEM (ALMS). A system designed to manage electrical load across one or more EV Ready parking spaces.

BOTTLE FILLING STATION. A plumbing fixture connected to the potable water distribution system and sanitary drainage system that is designed and intended for filling personal use drinking water bottles or containers not less than 10 inches (254 mm) in height. Such fixtures can be separate from or integral to a drinking fountain and can incorporate a water filter and a cooling system for chilling the drinking water.

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CHILD CARE. The care of children during any period of a 24-hour day.

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CHILD CARE, FAMILY HOME. A child care facility, licensed by Washington state, located in the dwelling of the person or persons under whose direct care and supervision the child is placed, for the care of twelve or fewer children, including children who reside at the home.

||

CLIMATE ZONE. A geographical region that has been assigned climatic criteria as specified in the Washington State Energy Code.

||

CLUSTER. Clusters are multiple *portable school classrooms* separated by less than the requirements of the building code for separate buildings.

||

COMPOST. Biodegradable solid wastes that are separated for composting such as food waste, food soiled paper, and yard waste.

||

Custodial Care. Assistance with day-to-day living tasks; such as assistance with cooking, taking medication, bathing, using toilet facilities, and other tasks of daily living. Custodial care includes persons receiving care who have the ability to respond to emergency situations and may receive limited verbal or physical assistance. These care recipients may evacuate at a slower rate and/or who may have mental and psychiatric complications.

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EFFICIENCY DWELLING UNIT. A dwelling unit where all permanent provisions for living, sleeping, eating, and cooking are contained in a single room. ||

ELECTRIC VEHICLE (EV) CAPABLE PARKING SPACE. A parking space provided with a conduit, electrical panel, and load capacity to support future installation of EV charging equipment. ||

ELECTRIC VEHICLE (EV) CHARGER. Off-board charging equipment used to charge electric vehicles. ||

ELECTRIC VEHICLE (EV) CHARGING STATION. EV Ready parking space with installed EV charger. ||

ELECTRIC VEHICLE (EV) READY PARKING SPACE. A parking space provided with a receptacle outlet allowing charging of electric vehicles. ||

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). The conductors, including the ungrounded, grounded, and equipment grounding conductors, and the electric vehicle connectors, attachment plugs, personnel protection system, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle. ||

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HIGH-RISE BUILDING. A building with an occupied floor, located more than 75 feet (22,860 mm) above the lowest level of fire department vehicle access.
For the purposes of this definition, an occupied roof with an occupant load of 50 or more is considered to be an occupied floor. ||

HOSPICE CARE CENTER A building or portion thereof used on a 24-hour basis for the provision of hospice services to terminally ill patients. ||

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LIMITED VERBAL OR PHYSICAL ASSISTANCE. Persons who, because of age, physical limitations, cognitive limitations, treatment or chemical dependency, and may not independently recognize, respond, or evacuate without limited verbal or physical assistance during an emergency situation. Verbal assistance includes prompting, giving, and repeating instructions. Physical assistance includes assistance with transfers to walking aids or mobility devices and assistance with egress.

LOFT. A space on an intermediate level or levels between the floor and ceiling of a Group R occupancy dwelling or sleeping unit, open on one or more sides to the room in which the loft is located, and in accordance with Section 420.13.

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NIGHTCLUB. An A-2 Occupancy in which the aggregate area of concentrated use of unfixed chairs and standing space that is specifically designated and primarily used for dancing or viewing performers exceeds 350 square feet, excluding adjacent lobby areas. "Nightclub" does not include theaters with fixed seating, banquet halls, or lodge halls.

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PORTABLE SCHOOL CLASSROOM. A prefabricated structure consisting of one or more rooms with direct exterior egress from the classroom(s). The structure is transportable in one or more sections and is designed to be used as an educational space with or without a permanent foundation. The structure shall be capable of being demounted and relocated to other locations as needs arise.

RECYCLED MATERIALS. Those solid wastes that are separated for recycling or reuse, such as papers, metals, and glass.



RESIDENTIAL SLEEPING SUITES. A unit that provides multiple rooms or spaces for up to five residents, includes provisions for sleeping and can include provisions for living, eating, sanitation, and kitchen facilities.



SMALL BUSINESS. Any business entity (including a sole proprietorship, corporation, partnership, or other legal entity) which is owned and operated independently from all other businesses, which has the purpose of making a profit, and which has 50 or fewer employees.

STAGED EVACUATION. A method of emergency response, that engages building components and trained staff to provide occupant safety during an emergency. Emergency response involves moving or holding certain occupants at temporary locations for a brief period of time before evacuating the building. This response is used by ambulatory surgery facility and assisted living facilities to protect the health and safety of fragile occupants and residents.

303.4 Assembly Group A-3. Group A-3 occupancy includes assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A including, but not limited to:

- Amusement arcades;
- Art galleries more than 3,000 square feet (279 m²);
- Bowling alleys;
- Community halls;
- Courtrooms;
- Dance halls (not including food or drink consumption);
- Exhibition halls;
- Funeral parlors;
- Greenhouses for the conservation and exhibition of plants that provide public access;
- Gymnasiums (without spectator seating);
- Indoor swimming pools (without spectator seating);
- Indoor tennis courts (without spectator seating);
- Lecture halls;
- Libraries;
- Museums;
- Places of religious worship;
- Pool and billiard parlors;
- Waiting areas in transportation terminals.

||

305.2.4 Family home child care. Family home child care licensed by Washington state for the care of 16 or fewer children shall be classified as Group R-3 or shall comply with the *International Residential Code*.

306.2 Moderate-hazard factory industrial, Group F-1. Factory industrial uses that are not classified as factory industrial F-2 low hazard shall be classified as F-1 moderate hazard and shall include, but not be limited to, the following:

repair)	Aircraft (manufacturing, not to include	Hemp products
	Appliances	Jute products
	Athletic equipment	Laundries
	Automobiles and other motor vehicles	Leather products
	Bakeries	Machinery
	Beverages: Over 16 percent alcohol	<u>Marijuana processing</u>
content	Bicycles	Metals
	Boats	Millwork (sash and door)
	Brooms or brushes	Motion pictures and television filming
	Business machines	(without spectators)
	Cameras and photo equipment	Musical instruments
	Canvas or similar fabric	Optical goods
	Carpets and rugs (includes cleaning)	Paper mills or products
	Clothing	Photographic film
	Construction and agricultural machinery	Plastic products
	Disinfectants	Printing or publishing
	Dry cleaning and dyeing	Recreational vehicles
	Electric generation plants	Refuse incineration
	Electronics	Shoes
	Energy storage systems (ESS) in	Soaps and detergents
dedicated use buildings	Engines (including rebuilding)	Textiles
	Food processing establishments and	Tobacco
commercial kitchens not associated with	restaurants, cafeterias, and similar dining facilities	Trailers
more than 2,500 square feet (232m2) in area	Furniture	Upholstering
		Water/sewer treatment facilities
		Wood; distillation
		Woodworking (cabinet)

308.2 Institutional Group I-1. Institutional Group I-1 occupancy shall include buildings, structures, or portions thereof for more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised environment and receive custodial care. Buildings of Group I-1 shall be classified as one of the occupancy conditions specified in Section 308.2.1 or 308.2.2 and shall comply with Section 420. This group shall include, but not be limited to, the following:

Alcohol and drug centers;

Assisted living facilities as licensed by Washington state under chapter 388-78A WAC;

Congregate care facilities;

Group homes;

Halfway houses;

Residential board and care facilities;

Residential treatment facilities as licensed by Washington state under chapter 246-337 WAC.

Social rehabilitation facilities;

308.2.5 Adult family homes. Adult family homes licensed by Washington state shall be classified as Group R-3 or shall comply with the *International Residential Code*.

308.2.6 Assisted living facilities. Assisted living facilities as licensed by Washington state under chapter 388-78A WAC shall be classified as Group I-1, Condition 2.

308.3 Institutional Group I-2. Institutional Group I-2 occupancy shall include buildings and structures used for *medical care* on a 24-hour basis for more than five persons who are *incapable of self-preservation*. This group shall include, but not be limited to, the following:

Foster care facilities.

Detoxification facilities.

Hospice care centers.

Hospitals.

Nursing homes.

Psychiatric hospitals.

308.5.5 Family home child care. Family home child care licensed by Washington state for the care of 16 or fewer children shall be classified as Group R-3 or shall comply with the *International Residential Code*.

309.1 Mercantile Group M. Mercantile Group M occupancy includes, among others, the use of a building or structure or a portion thereof for the display and sale of merchandise, and involves stocks of goods, wares, or merchandise incidental to such purposes and where the public has access. Mercantile occupancies shall include, but not be limited to, the following:

- Art galleries 3,000 square feet or less;
- Department stores;
- Drug stores;
- Markets;
- Greenhouses for display and sale of plants that provide public access;
- Motor fuel-dispensing facilities;
- Retail or wholesale stores;
- Sales rooms.

310.3 Residential Group R-2. Residential occupancies containing *sleeping units* or more than two *dwelling units* where the occupants are primarily permanent in nature, including:

- Apartment houses
- Congregate living facilities* (nontransient) with more than 16 occupants
- Boarding houses (nontransient)
- Convents
- Dormitories*
- Fraternities and sororities
- Monasteries
- Hotels (nontransient)
- Live/work units*
- Motels (nontransient)
- Vacation timeshare properties

310.4.3 Adult family homes, family home child care. Adult family homes and family home child care facilities that are within a single-family home are permitted to comply with the *International Residential Code*.

310.4.4 Foster family care homes. Foster family care homes licensed by Washington state are permitted to comply with the *International Residential Code*, as an accessory use to a dwelling, for six or fewer children including those of the resident family.

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403.4.8.3 Standby power loads. The following are classified as standby power loads:

1. Ventilation and automatic fire detection equipment for smokeproof enclosures.
2. Elevators.
3. Where elevators are provided in a high-rise building for accessible means of egress, fire service access or occupant self-evacuation, the standby power system shall also comply with Sections 1009.4, 3007 or 3008, as applicable.
4. Sump pumps required by ASME A17.1 serving pit drains at the bottom of elevator hoistways of fire service access or occupant evacuation elevators.

403.5.4 Smokeproof enclosures. Every required *interior exit stairway* serving floors more than 75 feet (22,860 mm) above the lowest level of fire department vehicle access shall be a *smokeproof enclosure* in accordance with Sections 909.20 and 1023.12.

Where interior exit stairways and ramps are pressurized in accordance with Section 909.20.5, the smoke control pressurization system shall comply with the requirements specified in Section 909.6.3.



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405.7.2 Smokeproof enclosure. Every required stairway serving floor levels more than 30 feet (9144 mm) below the finished floor of its level of exit discharge shall comply with the requirements for a smokeproof enclosure as provided in Sections 909.20 and 1023.12. Where interior exit stairways and ramps are pressurized in accordance with Section 909.20.5, the smoke control pressurization system shall comply with the requirements specified in Section 909.6.3.

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412.2.2.1 Stairways. Stairways in airport traffic control towers shall be in accordance with Section 1011. Exit stairways shall be smokeproof enclosures complying with one of the alternatives provided in Section 909.20.

Where interior exit stairways and ramps are pressurized in accordance with Section 909.20.5, the smoke control pressurization system shall comply with the requirements specified in Section 909.6.3.

EXCEPTION: Stairways in airport traffic control towers are not required to comply with section 1011.12.



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[F] 412.7.3 Means of egress. The means of egress from heliports, helipads and helistops shall comply with the provisions of Chapter 10. Landing areas located on buildings or structures shall have two or more exits or access to exits. For landing areas less than 60 feet in length or less than 2,000 square feet (186 m²) in area, the second means of egress is permitted to be a fire escape, alternating tread device or ladder leading to the floor below.

On Group I-2 roofs with heliports or helipads and helistops, rooftop structures enclosing exit stair enclosures or elevator shafts shall be enclosed with fire barriers and opening protectives that match the rating of their respective shaft enclosures below.

420.2 Separation walls. Walls separating dwelling units in the same building, walls separating sleeping units in the same building and walls separating dwelling or sleeping units from other occupancies contiguous to them in the same building shall be constructed as fire partitions in accordance with Section 708.

Buildings containing multiple sleeping units with common use or central kitchens shall not be classified as a single dwelling.

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420.12 Adult family homes. This section shall apply to all newly constructed adult family homes and all existing single-family homes being converted to adult family homes. This section shall not apply to those adult family homes licensed by the state of Washington department of social and health services prior to July 1, 2001.

420.12.1 Sleeping room classification. Each sleeping room in an adult family home shall be classified as one of the following:

1. Type S - Where the means of egress contains stairs, elevators, or platform lifts.
2. Type NS1 - Where one means of egress is at grade level or a ramp constructed in accordance with Section 1012 is provided.
3. Type NS2 - Where two means of egress are at grade level or ramps constructed in accordance with Section 1012 are provided.

420.12.2 Types of locking devices and door activation. All bedrooms and bathroom doors shall be openable from the outside when locked.

Every closet door shall be readily openable from the inside.

Operable parts of door handles, pulls, latches, locks, and other devices installed in adult family homes shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. Pocket doors shall have graspable hardware available when in the closed or open position.

The force required to activate operable parts shall be 5.0 pounds (22.2 N) maximum. Required exit door(s) shall have no additional locking devices. Required exit door hardware shall unlock inside and outside mechanisms when exiting the building allowing reentry into the adult family home without the use of a key, tool, or special knowledge.

420.12.3 Smoke and carbon monoxide alarm requirements. Alarms shall be installed in such a manner so that the detection device warning is audible from all areas of the dwelling upon activation of a single alarm.

420.12.4 Escape windows and doors. Every sleeping room shall be provided with emergency escape and rescue windows as required by Section 1030. No alternatives to the sill height such as steps, raised platforms or other devices placed by the openings will be approved as meeting this requirement.

420.12.5 Grab bar general requirements. Where facilities are designated for use by adult family home clients, grab bars for water closets, bathtubs and shower stalls shall be installed according to ICC A117.1.

420.12.6 Shower stalls. Where provided to meet the requirements for bathing facilities, the minimum size of shower stalls for an adult family home shall be 30 inches deep by 48 inches long.

420.13 Licensed care cooking facilities. In Group I-1, Condition 2 assisted living facilities licensed under chapter 388-78A WAC and residential treatment facilities licensed under chapter 246-337 WAC, rooms or spaces that contain a cooking facility with domestic cooking appliances shall be permitted to be open to the corridor where all of the following criteria are met:

1. The number of care recipients housed in the smoke compartment is not greater than 30.
2. The number of care recipients served by the cooking facility is not greater than 30.
3. Only one cooking facility area is permitted in a smoke compartment.

4. The types of domestic cooking appliances permitted are limited to ovens, cooktops, ranges, warmers, and microwaves.
5. The corridor is a clearly identified space delineated by construction or floor pattern, material, or color.
6. The space containing the domestic cooking facility shall be arranged so as not to obstruct access to the required exit.
7. A domestic cooking hood installed and constructed in accordance with Section 505 of the *International Mechanical Code* is provided over the cooktop or range.
8. The domestic cooking hood provided over the cooktop or range shall be equipped with an automatic fire-extinguishing system of a type recognized for protection of domestic cooking equipment. Pre-engineered automatic extinguishing systems shall be tested in accordance with UL 300A and *listed* and *labeled* for the intended application. The system shall be installed in accordance with this code, its listing, and the manufacturer's instructions.
9. A manual actuation device for the hood suppression system shall be installed in accordance with Sections 904.13.1 and 904.13.2.
10. An interlock device shall be provided such that upon activation of the hood suppression system, the power or fuel supply to the cooktop or range will be turned off.
11. A shut-off for the fuel and electrical power supply to the cooking equipment shall be provided in a location that is accessible only to staff.
12. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes.
13. A portable fire extinguisher shall be installed in accordance with Section 906 of the *International Fire Code*.

420.14 Lofts. Where provided in Group R occupancies, *lofts* shall comply with this code as modified by Sections 420.14.1 through 420.14.5. *Lofts* constructed in compliance with this section shall be considered a portion of the story below. Such *lofts* shall not contribute to either the building area or number of stories as regulated by Section 503.1. The loft floor area shall be included in determining the *fire area*.

EXCEPTION: *Lofts* need not comply with Section 420.13 where they meet any of the following conditions:

1. The *loft* has a maximum depth of less than 3 feet (914 mm).
2. The *loft* has a floor area of less than 35 square feet (3.3 m²).
3. The *loft* is not provided with a permanent means of egress.

420.14.1 Loft limitations. *Lofts* shall comply with the following conditions:

1. The *loft* floor area shall be less than 70 square feet (6.5 m²).
 2. The *loft* ceiling height shall not exceed 7 feet (2134 mm) for more than one-half of the *loft* floor area.
- The provisions of Sections 420.14.2 through 420.14.5 shall not apply to *lofts* that do not comply with Items 1 and 2.

420.14.2 Loft ceiling height. The ceiling height below a *loft* shall not be less than 7 feet (2134 mm). The ceiling height above the finished floor of the *loft* shall not be less than 3 feet (914 mm). Portions of the *loft* with a sloped ceiling measuring less than 3 feet (914 mm) from the finished floor to the finished ceiling shall not contribute to the *loft* floor area.

420.14.3 Loft area. The aggregate area of all *lofts* and *mezzanines* within a room shall comply with Section 505.2.1.

EXCEPTION: The area of a single *loft* shall not be greater than two-thirds of the area of the room in which it is located, provided that no other *lofts* or *mezzanines* are open to the room in which the *loft* is located.

420.14.4 Permanent egress for lofts. Where a permanent means of egress is provided for *lofts*, the means of egress shall comply with Chapter 10 as modified by Section 420.14.4.1.

420.14.4.1 Ceiling height at loft means of egress. A minimum ceiling height of 3 feet shall be provided for the entire width of the means of egress from the *loft*.

420.14.5 Smoke alarms. Single- or multiple-station smoke alarms shall be installed in all *lofts* in accordance with Section 907.2.11.1 or 907.2.11.2.

422.3.1 Means of egress. Where ambulatory care facilities require smoke compartmentation in accordance with Section 422.3, the fire safety evacuation plans provided in accordance with Section 1002.2 shall identify the building components necessary to support Sections 403 and 404 of the *International Fire Code*.

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Section 429—Electric vehicle charging infrastructure.

429.1 General. The provisions of this section shall apply to the construction of new buildings and accessory structures, including parking lots and parking garages.

Electric vehicle supply equipment (EVSE) shall be installed in accordance with applicable requirements of chapter [19.28](#) RCW and the National Electrical Code, Article 625.

Exceptions: Electric vehicle charging infrastructure is not required if any of the following conditions are met:

1. There is no public utility or commercial power supply.
2. Dwelling units without garages or other on-site parking.

429.2 Electric vehicle (EV) charging infrastructure. Buildings and accessory structures shall be provided with EV charging stations, EV-Ready parking spaces, and EV-capable parking spaces in accordance with Table 429.2. Calculations shall be rounded up to the nearest whole number. Where a building contains more than one occupancy, the electric vehicle charging infrastructure percentages of Table 429.2 shall be applied to the number of spaces required for each occupancy.

Exceptions:

1. Except for Group A, Group E, and Group M occupancies, on-site parking with less than 10 parking spaces shall not be required to comply with Section 429.2.
2. Group A, Group E, and Group M occupancies shall comply with one of the following, whichever is greater:

2.1 The provisions of Section 429.2 shall apply only to designated employee parking spaces.

2.2 One of each 200 parking spaces or fraction thereof shall be EV Ready. One of each 200 parking spaces or fraction thereof shall be an EV Charging Station.

Table 429.2
Electric Vehicle Charging Infrastructure

Occupancy	Number of EV Charging Stations	Number of EV-Ready Parking Spaces	Number of EV-Capable Parking Spaces
Group A, B, E, F, H, I, M, and S occupancies	10% of total parking spaces	10% of total parking spaces	10% of total parking spaces
Group R occupancies			
Buildings that do not contain more than two dwelling units	Not required	One for each dwelling unit	Not required
Dwelling units with private garages	Not required	One for each dwelling unit	Not required
All other Group R occupancies	10% of total parking spaces	25% of total parking spaces	10% of total parking spaces

429.2.1 EV charging stations and EV-Ready parking spaces. A minimum of 40-ampere dedicated 208/240-volt branch circuit shall be installed for each EV Ready parking space and each EV Charging Station. The branch circuits shall terminate at a receptacle outlet or EV charger in close proximity to the proposed location of the EV Ready parking space or the EV Charging Station.

429.2.2 EV-Capable parking spaces. A listed raceway capable of accommodating a minimum of 40-ampere dedicated 208/240-volt branch circuit shall be installed for each EV-Capable parking space. The raceway shall terminate into a cabinet, box, or other enclosure in close proximity to the proposed location of the EV-Capable parking space. Raceways and related components that are planned to be installed underground, and in enclosed, inaccessible, or concealed areas and spaces, shall be installed at the time of original construction.

429.3 Electrical room(s) and equipment. Electrical room(s) and/or dedicated electrical equipment shall be sized to accommodate the requirements of Section 429.

The electrical service and the electrical system, including any on-site distribution transformer(s), shall have sufficient capacity to simultaneously charge all EVs at all required EV Charging Stations, EV Ready parking spaces, and EV-Capable parking spaces at a minimum of 40-amperes each.

EXCEPTION: Automatic Load Management System (ALMS) may be used to adjust the maximum electrical capacity required for the EV-Ready and EV-Capable parking spaces. The ALMS must be designed to allocate charging capacity among multiple future EV Charging Stations at a minimum of 16 amperes per EV charger.

429.4 Electric vehicle charging infrastructure for accessible parking spaces. Ten percent of the accessible parking spaces, rounded to the next whole number, shall be EV Charging Stations. Additional 10 percent of the accessible parking spaces, rounded to the next whole number, shall be EV Ready. Not fewer than one for each type of EV charging system shall be accessible.

The electric vehicle charging infrastructure may also serve adjacent parking spaces not designated as accessible parking. A maximum of 10 percent of the accessible parking spaces, rounded to the next whole number, are allowed to be included in the total number of electric vehicle parking spaces required under Section 429.2.

430.1 Recyclable materials, compost, and solid waste storage. Space shall be provided for the storage of recycled materials, compost, and solid waste for all new buildings.

EXCEPTION: Group R-3 and Group U Occupancies

The storage area shall be designed to meet the needs of the occupancy, efficiency of pickup, and be available to occupants and haulers.

503.1.4.1 Enclosure of occupied roof areas. Elements or structures enclosing the occupied roof areas shall not extend more than 48 inches (1220 mm) above the surface of the occupied roof.

EXCEPTIONS: 1. Penthouses constructed in accordance with Section 1511.2 and towers, domes, spires, and cupolas constructed in accordance with Section 1511.5.
2. High rise buildings.

503.1.4.2 Guards. Occupied roofs shall have guards in accordance with Section 1015.2.

504.4.1 Stair enclosure pressurization increase. For Group R-1, R-2, and I-1 Condition 2 Assisted living facilities licensed under chapter 388-78A WAC and residential treatment facilities as licensed by Washington state under chapter 246-337 WAC located in buildings of Type VA construction equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the maximum number of stories permitted in Section 504.4 may be increased by one provided the interior exit stairways and ramps are pressurized in accordance with Sections 909.6.3 and 909.20. Legally required standby power shall be provided in accordance with Sections 909.11 and 2702.17 for buildings constructed in compliance with this section and be connected to stairway shaft pressurization equipment, elevators and lifts used for accessible means of egress (if provided), elevator hoistway pressurization equipment (if provided) and other life safety equipment as determined by the authority having jurisdiction. For the purposes of this section, legally required standby power shall comply with 2020 NEC Section 701.12, options (C), (D), (E), (F), (H) or (J) or subsequent revised section number(s).

505.1 General. *Mezzanines* shall comply with Section 505.2. *Equipment platforms* shall comply with Section 505.3.

Exception: Lofts in Group R occupancy dwelling units and sleeping units shall be permitted to comply with Section 420.14, subject to the limitations in Section 420.14.1

Table 504.3
Allowable Building Height in Feet Above Grade Plane^a

Occupancy Classification	Type of Construction												
	See Footnotes	Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B, E, F, M, S, U	NS ^b	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	120	90	65	65	50	40
	S												
H-4	NS ^{c,d}	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1 Condition 1, I-3	NS ^{d,e}	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1 Condition 2, I-2	NS ^{d,e,f}	UL	160	65	55	65	55	65	65	65	65	50	40
	Si	UL	180	85									
I-4	NS ^{d,g}	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R ^h	NS ^d	UL	160	65	55	65	55	65	65	65	65	50	40
	S13D	60	60	60	60	60	60	60	60	60	60	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

For SI: 1 foot = 304.8 mm.

UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.3.

- ^a See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
- ^b See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
- ^c New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
- ^d The NS value is only for use in evaluation of existing building height in accordance with the International Existing Building Code.
- ^e New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
- ^f New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and Section 1103.5 of the *International Fire Code*.
- ^g For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
- ^h New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.
- ⁱ I-1, Condition 2 Assisted living facilities licensed in accordance with chapter 388-78A WAC and residential treatment facilities as licensed by Washington state under chapter 246-337 WAC shall be permitted to use the allowable height above grade plane for Group R-2 occupancies.

Table 504.4
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE _{a, b}

Occupancy Classification	See Footnotes	Type of Construction											
		Type I		Type II		Type III		Type IV				Type V	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NS _{c,d}	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NS _{c,d}	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NS _{c,d}	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NS _{c,d}	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NS _{c,d}	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition 1	NS _{d,e}	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition 2	NS _{d,e}	UL	9	4	3	4	3	3	3	3	4	3	2
	Si	UL	10	5				10	6	4			
I-2	NS _{d,f}	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NS _{d,e}	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2

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TABLE 504.4-continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE ^{a, b}

I-4	NS ^{d,g}	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S	UL	12	5	3	5	3	12	8	6	5	4	2
R-1h	NS ^d	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2h	NS ^d	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3h	NS ^d	UL	11	4	4	4	4	4	4	4	4	3	3
	S13D	4	4									3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4h	NS ^d	UL	11	4	4	4	4	4	4	4	4	3	2
	S13D	4	4									3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	18	12	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	4	4	4	3	1
	S	UL	12	5	4	4	4	10	7	5	5	4	2
S-2	NS	UL	11	5	3	4	3	4	4	4	5	4	2
	S	UL	12	6	4	5	4	12	8	5	6	5	3
U	NS	UL	5	4	2	3	2	4	4	4	4	2	1
	S	UL	6	5	3	4	3	9	6	5	5	3	2

UL = Unlimited; NP = Not permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.3.

- a See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
- b See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
- c New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
- d The NS value is only for use in evaluation of existing building height in accordance with the International Existing Building Code.
- e New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
- f New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and Section 1103.5 of the *International Fire Code*.
- g For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
- h New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.
- i Group I-1, Condition 2 Assisted living facilities licensed in accordance with chapter 388-78A WAC and residential treatment facilities as licensed by Washington state under chapter 246-337 WAC shall be permitted to use the allowable number of stories for Group R-2 occupancies.

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508.5.1 Limitations. The following shall apply to live/work areas:

1. The live/work unit is permitted to be not greater than 3,000 square feet (279 m) in area.
2. The nonresidential area is permitted to be not more than 50 percent of the area of each live/work unit.
3. The nonresidential area function shall be limited to the first or main floor only of the live/work unit.
4. ~~Not more than five nonresidential workers or employees are allowed to occupy the nonresidential area at any one time.~~

||

Table 509.1
Incidental Uses

Room or Area	Separation and/or Protection
Dry type transformers over 112.5 kVA and required to be in a fire-resistant room per NEC (NFPA 70) Section 450.21 (B)1	1 hour or provide automatic sprinkler system
1 Dry type transformers rated over 35,000 volts and oil-insulated transformers shall be installed in a transformer vault complying with NFPA 70.	

(Remainder of table unchanged)

510.2 Horizontal building separation allowance. A building shall be considered as separate and distinct buildings for the purpose of determining area limitations, continuity of fire walls, limitation of number of stories and type of construction where the following conditions are met:

1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than three hours. Where vertical offsets are provided as part of a *horizontal assembly*, the vertical offset and the structure supporting the vertical offset shall have a *fire-resistance rating* of not less than three hours.
2. The building below, including the *horizontal assembly*, is of Type IA construction.
3. *Shaft, stairway, ramp*, and escalator enclosures through the *horizontal assembly* shall have not less than a two-hour *fire-resistance rating* with opening protective in accordance with Section 716.

EXCEPTION: Where the enclosure walls below the *horizontal assembly* have not less than a three-hour *fire-resistance rating* with opening protectives in accordance with Section 716, the enclosure walls extending above the *horizontal assembly* shall be permitted to have a 1-hour *fire-resistance rating* provided that the following conditions are met:

1. The building above the *horizontal assembly* is not required to be of Type I construction.
- || 2. The enclosure connects fewer than four *stories*; and
3. The enclosure opening protective above the *horizontal assembly* have a *fire protection rating* of not less than 1 hour.
4. Interior exit stairways located within the Type IA building are permitted to be of combustible materials where both of the following requirements are met:
 - 4.1. The building above the Type IA building is of Type III, IV, or V construction.
 - 4.2. The stairway located in the Type IA building is enclosed by 3-hour fire-resistance-rated construction with opening protectives in accordance with Section 716.
5. The building or buildings above the horizontal assembly shall be permitted to have Group A, B, M, R, or S occupancies. ||
6. The building below the horizontal assembly shall be protected throughout by an approved automatic sprinkler system in accordance with Section 903.3.1.1, and shall be permitted to be any occupancy allowed by this code except Group H.
7. The maximum building height in feet (mm) shall not exceed the limits set forth in Section 504.3 for the building having the smaller allowable height as measured from the grade plane.

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602.4.2.2.2 Protected area. Interior faces of mass timber elements, including the inside face of exterior mass timber walls and mass timber roofs, shall be protected in accordance with Section 602.4.2.2.1.

EXCEPTIONS: Unprotected portions of mass timber ceilings and walls complying with Section 602.4.2.2.4 and the following:

1 Unprotected portions of mass timber ceilings and walls complying with one of the following:

1.1 Unprotected portions of mass timber ceilings, including attached beams, shall be permitted, and shall be limited to an area less than or equal to 100 percent of the floor area in any dwelling unit or fire area.

1.2 Unprotected portions of mass timber walls, including attached columns, shall be permitted, and shall be limited to an area less than or equal to 40 percent of the floor area in any dwelling unit or fire area.

1.3 Unprotected portions of both walls and ceilings of mass timber, including attached columns and beams, in any dwelling unit or fire area shall be permitted in accordance with Section 602.4.2.2.3.

2 Mass timber columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each dwelling unit or fire area, unprotected portions of mass timber walls and ceilings shall be not less than 15 feet from unprotected portions of other walls ~~and ceilings, measured horizontally along the ceiling and from other unprotected portions of walls measured horizontally along the floor.~~

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch in thickness above the mass timber. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected mass timber ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than building elements and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *International Mechanical Code*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces within the concealed space shall be fully sheathed with not less than 5/8-inch Type X gypsum board.

EXCEPTION: Concealed spaces within interior walls and partitions with a 1-hour or greater fire-resistance rating complying with Section 2304.11.2.2 shall not require additional protection.

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704.6.1 Secondary (nonstructural) attachments to structural members. Where primary and secondary structural steel members require fire protection, any additional structural steel members having direct connection to the primary structural frame or secondary structural members shall be protected with the same *fire-resistive* material and thickness as required for the structural member. The protection shall extend away from the structural member a distance of not less than 12 inches (305 mm) or shall be applied to the entire length where the attachment is less than 12 inches (305 mm) long. Where an attachment is hollow and the ends are open, the *fire-resistive* material and thickness shall be applied to both exterior and interior of the hollow steel attachment.

705.2 Projections. Cornices, roof and eave overhangs, projecting floors above, exterior balconies and similar projections extending beyond the exterior wall shall conform to the requirements of this section and Section 1405. Exterior egress balconies and exterior exit stairways and ramps shall comply with Sections 1021 and 1027, respectively. Projections shall not extend any closer to the line used to determine the fire separation distance than shown in Table 705.2.

EXCEPTIONS: 1. Buildings on the same lot and considered as portions of one building in accordance with Section 705.3 are not required to comply with this section for projections between the buildings.

2. Projecting floors complying with Section 705.2.4 are not required to comply with the projection limitations of Table 705.2.

705.2.5 Projecting floors. Where the fire separation distance on a lower floor is greater than the fire separation distance on the floor immediately above, the projecting floor shall have not less than the *fire-resistance rating* as the exterior wall above based on Table 602. The *fire-resistant rating* of the *horizontal* portion shall be continuous to the lower *vertical* wall.

Table 705.5
Fire-Resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance^{a,d,g,j}

Fire Separation Distance = X (feet)	Type of Construction	Occupancy Group He	Occupancy Group F-1, M, S-1^f	Occupancy Group A, B, E, F-2, I, Ri, S-2, Uh
X < 5 ^b	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b See Section 706.1.1 for party walls.
- c Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e For special requirements for Group H occupancies, see Section 415.6.
- f For special requirements for Group S aircraft hangars, see Section 412.3.1.
- g Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.
- i For a Group R-3 building of Type II-B or Type V-B construction, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.
- j In a mixed occupancy building containing Group R-3 and Group U private garage, the exterior wall fire-resistance rating shall be as required for Group R-3.

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Table 705.8
Maximum Area of Exterior Wall Openings Based on Fire Separation Distance and Degree of Opening Protection¹

Fire Separation Distance (feet)	Degree of Opening Protection	Allowable Areas
0 to less than 3b,c,k	Unprotected, Nonsprinklered (UP, NS)	Not Permittedk
	Unprotected, Sprinklered (UP, S)i	Not Permittedk
	Protected (P)	Not Permittedk
3 to less than 5d,e	Unprotected, Nonsprinklered (UP, NS)	Not Permittedk
	Unprotected, Sprinklered (UP, S)i	15%
	Protected (P)	15%
5 to less than 10e,f,j	Unprotected, Nonsprinklered (UP, NS)	10%h
	Unprotected, Sprinklered (UP, S)i	25%
	Protected (P)	25%
10 to less than 15e,f,g,j	Unprotected, Nonsprinklered (UP, NS)	15%h
	Unprotected, Sprinklered (UP, S)i	45%
	Protected (P)	45%
15 to less than 20f,g,j	Unprotected, Nonsprinklered (UP, NS)	25%
	Unprotected, Sprinklered (UP, S)i	75%
	Protected (P)	75%
20 to less than 25f,g,j	Unprotected, Nonsprinklered (UP, NS)	45%
	Unprotected, Sprinklered (UP, S)i	No Limit
	Protected (P)	No Limit
25 to less than 30f,g,j	Unprotected, Nonsprinklered (UP, NS)	70%
	Unprotected, Sprinklered (UP, S)i	No Limit
	Protected (P)	No Limit
30 or greater	Unprotected, Nonsprinklered (UP, NS)	No Limit
	Unprotected, Sprinklered (UP, S)i	No Limit
	Protected (P)	No Limit

For SI: 1 foot = 304.8 mm.

UP, NS = Unprotected openings in buildings not equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

UP, S = Unprotected openings in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

P = Openings protected with an opening protective assembly in accordance with Section 705.8.2.

- a Values indicated are the percentage of the area of the exterior wall, per story.
- b For the requirements for fire walls of buildings with differing heights, see Section 706.6.1.
- c For openings in a fire wall for buildings on the same lot, see Section 706.8.
- d The maximum percentage of unprotected and protected openings shall be 25 percent for Group R-3 occupancies.
- e Unprotected openings shall not be permitted for openings with a fire separation distance of less than 15 feet for Group H-2 and H-3 occupancies.
- f The area of unprotected and protected openings shall not be limited for Group R-3 occupancies, with a fire separation distance of 5 feet or greater.
- g The area of openings in an open parking structure with a fire separation distance of 10 feet or greater shall not be limited.
- h Includes buildings accessory to Group R-3.
- i Not applicable to Group H-1, H-2, and H-3 occupancies.
- j The area of openings in a building containing only a Group U occupancy private garage or carport with a fire separation distance of 5 feet or greater shall not be limited.
- k For openings between S-2 parking garage and Group R-2 building, see Section 705.3, Exception 2.
- l In a mixed occupancy building containing Group R-3 and Group U private garage, the maximum area of exterior openings shall be as required for Group R-3.

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706.3 Materials. *Fire walls* that separate a building of Type I or II construction from a building of any construction type shall be of any *approved* noncombustible materials. Other *fire walls* shall be built of materials consistent with the types permitted for the type of construction of the building.

706.4 Fire-resistance rating. *Fire walls* shall have a *fire-resistance rating* of not less than that required by Table 706.4.

Table 706.4
Fire Wall Fire-resistance Ratings

GROUP	FIRE-RESISTANCE RATING (hours)
A, B, E, H-4, I, R-1, R-2, U	3a
F-1, H-3b, H-5, M, S-1	3
H-1, H-2	4b
F-2, S-2, R-3	2

- a. In Type II, III, IV, or V construction, walls shall be permitted to have a 2-hour fire-resistance rating.
- b. For Group H-1, H-2, or H-3 buildings, also see Sections 415.7 and 415.8.

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713.13.7 Chute venting and roof termination. The full diameter of waste and linen chutes shall extend a minimum of 3 feet (0.92 m) above the building roof and be gravity vented in accordance with *International Mechanical Code* Section 515.

EXCEPTIONS: 1. Where mechanically ventilated in accordance with *International Mechanical*

Code Section 515 the full diameter of the chute shall extend through the roof a minimum of 3 feet (0.92 m) and terminate at a blast cap. The mechanical exhaust connection shall tap into the side of the blast cap extension above the roof.

2. Where the trash chute does not extend to the upper floor of the building below the roof the trash chute shall be permitted to gravity vent to a sidewall louver termination. The horizontal extension of the trash chute shall be the full diameter of the chute and shall be enclosed in rated construction equal to the rating of the shaft enclosure. Where the chute is mechanically ventilated in accordance with *International Mechanical Code* Section 515 the blast cap shall terminate behind the louver and the exhaust fan and duct connection will be enclosed in the rated shaft.

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716.2.6.1 Door closing. *Fire doors* shall be latching and self- or automatic-closing in accordance with this section.

EXCEPTIONS:

1. *Fire doors* located in common walls separating *sleeping units* in Group R-I shall be permitted without automatic- or *self-closing* devices.
2. The elevator car doors and the associated hoistway enclosure doors at the floor level designated for recall in accordance with Section 3003.2 shall be permitted to remain open during Phase I emergency recall operation.
3. In Group I-1, Condition 2 Assisted living facilities licensed under chapter ~~388-78A~~ WAC and residential treatment facilities licensed under chapter ~~246-337~~ WAC, fire doors in dwelling and sleeping units opening to the corridor shall be permitted without automatic or self-closing devices when all of the following conditions exist:
 - 3.1. Each floor is constantly attended by staff on a 24-hour basis and stationed on that floor;
 - 3.2. The facility is provided with an NFPA 13 sprinkler system throughout;
 - 3.3. Doors shall be equipped with positive latching;
 - 3.4. Dwelling and sleeping units are not equipped with cooking appliances;
 - 3.5. Dwelling and sleeping units shall be equipped with a smoke detection system interconnected with the smoke detection system required by Section 907.2.6.1.

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903.2.1.3 Group A-3. An automatic sprinkler system shall be provided throughout stories containing Group A-3 occupancies and throughout all stories from the Group A-3 occupancy to and including the levels of *exit discharge* serving that occupancy where one of the following conditions exists:

1. The *fire area* exceeds 12,000 square feet (1115 m²).
2. The *fire area* has an occupant load of 300 or more.
3. The *fire area* is located on a floor other than a level of *exit discharge* serving such occupancies.

EXCEPTION: For fixed guideway transit and passenger rail system stations, an automatic sprinkler system shall be provided in accordance with Section 3116.

903.2.1.6 Assembly occupancies on roofs. Where an occupied roof has an assembly occupancy with an *occupant load* exceeding 100 for Group A-2, and 300 for other Group A occupancies, the building shall be equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.

EXCEPTION: Open parking garages of Type I or Type II construction.

903.2.1.8 Nightclub. An *automatic sprinkler system* shall be provided throughout Group A-2 nightclubs as defined in this code.

903.2.3 Group E. An automatic sprinkler system shall be provided for fire areas containing Group E occupancies where the fire area has an occupant load of 51 or more, calculated in accordance with Table 1004.5.

EXCEPTIONS: 1. Portable school classrooms with an occupant load of 50 or less calculated in accordance with Table 1004.5, provided that the aggregate area of any cluster of portable school classrooms does not exceed 6,000 square feet (557 m²); and clusters of portable school classrooms shall be separated as required by the building code; or
2. Portable school classrooms with an occupant load from 51 through 98, calculated in accordance with Table 1004.5, and provided with two means of direct independent exterior egress from each classroom in accordance with Chapter 10, and one exit from each class room shall be accessible, provided that the aggregate area of any cluster of portable classrooms does not exceed 6,000 square feet (557 m²); and clusters of portable school classrooms shall be separated as required by the building code; or
3. Fire areas containing day care and preschool facilities with a total occupant load of 100 or less located at the level of exit discharge where every room in which care is provided has not fewer than one exit discharge door.

903.2.6 Group I. An *automatic sprinkler system* shall be provided throughout buildings with a Group I *fire area*.

EXCEPTIONS:

1. An *automatic sprinkler system* installed in accordance with Section 903.3.1.2 shall be permitted in Group I-1 Condition 1 facilities.
2. Where new construction house 16 persons receiving care, an automatic sprinkler system installed in accordance with Section 903.3.1.2 shall be permitted for Group I-1, Condition 2, assisted living facilities licensed under chapter 388-78A WAC and residential treatment facilities licensed under chapter 246-337 WAC.
3. An automatic sprinkler system installed in accordance with Section 903.3.1.2 shall be permitted in additions to existing buildings where both of the following situations are true:
 - 3.1. The addition is made to a building previously approved as Group LC or Group R-2 that houses either an assisted living facility licensed under chapter 388-78A WAC or residential treatment facility licensed under chapter 246-337 WAC.
 - 3.2. The addition contains spaces for 16 or fewer persons receiving care.

903.2.6.1 Group I-4. An *automatic sprinkler system* shall be provided in fire areas containing Group I-4 occupancies where the *fire area* has an occupant load of 51 or more, calculated in accordance with Table 1004.5.

EXCEPTIONS:

1. An automatic sprinkler system is not required for Group I-4 day care facilities with a total occupant load of 100 or less and located at the level of exit discharge and where every room where care is provided has not fewer than one exterior exit door.
2. In buildings where Group I-4 day care is provided on levels other than the level of exit discharge, an automatic sprinkler system in accordance with Section 903.3.1.1 shall be installed on the entire floor where care is provided, all floors between the level of care and the level of exit discharge and all floors below the level of exit discharge other than areas classified as an open parking garage.

903.2.8 Group R. An *automatic fire 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 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 Specific building areas and hazards. 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 Sections 903.2.11.1 through 903.2.11.7.

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 similar 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*.

903.2.11.7 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.

903.3.1.2 NFPA 13R sprinkler systems. *Automatic sprinkler systems* in Group R occupancies up to and including four stories in height in buildings not exceeding 60 feet (18,288 mm) in height above grade plane shall be *permitted* to be installed throughout in accordance with NFPA 13R.

The number of stories of Group R occupancies constructed in accordance with Sections 510.2 and 510.4 shall be measured from the horizontal assembly creating separate buildings.

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.

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[F] 907.2.3 Group E. Group E occupancies shall be provided with a *manual fire alarm system* that initiates the occupant notification signal utilizing one of the following:

1. An emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6; or
2. A system developed as part of a safe school plan adopted in accordance with RCW [28A.320.125](#) or developed as part of an emergency response system consistent with the provisions of RCW [28A.320.126](#). The system must achieve all of the following performance standards:
 - 2.1 The ability to broadcast voice messages or customized announcements;
 - 2.2 Includes a feature for multiple sounds, including sounds to initiate a lock down;
 - 2.3 The ability to deliver messages to the interior of a building, areas outside of a building as designated pursuant to the safe school plan, and to personnel;
 - 2.4 The ability for two-way communications;
 - 2.5 The ability for individual room calling;
 - 2.6 The ability for a manual override;
 - 2.7 Installation in accordance with NFPA 72;
 - 2.8 Provide 15 minutes of battery backup for alarm and 24 hours of battery backup for standby; and
 - 2.9 Includes a program for annual inspection and maintenance in accordance with NFPA 72.

- EXCEPTIONS:
1. A manual fire alarm system shall not be 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, such as individual portable school classroom buildings; provided that activation of the manual fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5.
 3. Where an existing approved alarm system is in place, an emergency voice/alarm system is not required in any portion of an existing Group E building undergoing any one of the following repairs, alteration or addition:
 - 3.1. Alteration or repair to an existing building including, without limitation, alterations to rooms and systems, and/or corridor configurations, not exceeding 35 percent of the fire area of the building (or the fire area undergoing the alteration or repair if the building is comprised of two or more fire areas); or
 - 3.2. An addition to an existing building, not exceeding 35 percent of the fire area of the building (or the fire area to which the addition is made if the building is comprised of two or more fire areas).
 4. Manual fire alarm boxes shall not be required in Group E occupancies where all of the following apply:
 - 4.1. Interior *corridors* are protected by smoke detectors.
 - 4.2. Auditoriums, cafeterias, gymnasiums, and similar areas are protected by *heat detectors* or other *approved* detection devices.
 - 4.3. Shops and laboratories involving dust or vapors are protected by heat detectors or other approved detection devices.
 - 4.4. Manual activation is provided from a normally occupied location.
 5. Manual fire alarm boxes shall not be required in Group E occupancies where all of the following apply:
 - 5.1. The building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1.
 - 5.2. The emergency voice/alarm communication system will activate on sprinkler waterflow.
 - 5.3. Manual activation is provided from a normally occupied location.

[F] 907.2.3.1 Sprinkler systems or detection. When *automatic sprinkler systems* or *smoke detectors* are installed, such systems or detectors shall be connected to the building *fire alarm system*.

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[F] 907.2.6.4 Group I-4 occupancies. 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 I-4 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 I-4 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 I-4 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.

907.2.11.1 Group R-1. Single- or multiple-station smoke alarms shall be installed in all of the following locations in Group R-1:

1. In sleeping areas.
2. In each *loft* constructed in accordance with Section 420.14.
3. In every room in the path of the means of egress from the sleeping area to the door leading from the sleeping unit.
4. In each story within the sleeping unit, including basements. For sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

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907.2.11.2 Groups R-2, R-3, R-4, and I-1. Single- or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-3, R-4, and I-1 regardless of occupant load at all of the following locations:

1. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.
2. In each room used for sleeping purposes.
3. In each *loft* constructed in accordance with Section 420.14.
4. In each story within a *dwelling unit*, including *basements* but not including crawl spaces and uninhabitable attics. In *dwellings* or *dwelling units* with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

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[F] 907.5.2.1.2 Maximum sound pressure. The total sound pressure level produced by combining the ambient sound pressure level with all audible notification appliances operating shall not exceed 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.

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[F] 907.10 NICET: National Institute for Certification in Engineering Technologies.

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

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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.)

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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.)

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909.21.12 Hoistway venting. Hoistway venting need not be provided for pressurized elevator shafts. ||

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. ||

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

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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 4.14.2.1.2).

915.1.1 Where required. Carbon monoxide detection shall be provided in Group I and R occupancies and in classrooms in Group E occupancies in the locations specified in Section 915.2 where any of the conditions in Sections 915.1.2 through 915.1.6 exist.

EXCEPTIONS: 1. R-2 occupancies, with the exception of R-2 college dormitories, are required to install carbon monoxide detectors without exception.

2. Sleeping units or dwelling units in I and R-1 occupancies and R-2 college dormitories, hotel, DOC prisons and work releases and DSHS licensed boarding home and residential treatment facility occupancies which do not themselves contain a fuel-burning appliance, a fuel-burning fireplace, or have an attached garage, need not be provided with carbon monoxide alarms provided that they comply with the exceptions of 915.1.4.

915.2.3 Group E occupancies. When required by Section 915.1 in new buildings, or by Chapter 11 of the *International Fire Code*, carbon monoxide detection shall be installed in classrooms in Group E occupancies. Carbon monoxide alarm signals shall be automatically transmitted to an on-site location that is staffed by school personnel.

EXCEPTIONS: 1. Carbon monoxide alarm signals shall not be required to be automatically transmitted to an on-site location that is staffed by school personnel in Group E occupancies with an occupant load of 50 or less.

2. Carbon monoxide alarm signals shall not be required to be automatically transmitted to an on-site location that is staffed by school personnel in Group E occupancies where an exception contained in Section 915.1 applies, or in Group E occupancies where signals are transmitted to an off-site service monitored by a third party, such as a service that monitors fire protection systems in the building.

918.1 General. In-building emergency responder communication enhancement system shall be provided in all new buildings in accordance with Section 510 of the *International Fire Code*. ||

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1003.7 Elevators, escalators and moving walks. Elevators, escalators and moving walks shall not be used as a component of a required means of egress from any other part of the building.

EXCEPTIONS: 1. Elevators used as an accessible means of egress in accordance with Section 1009.4.
2. Escalators used as a means of egress for fixed transit and passenger rail system
accordance with Section 3116.



Table 1004.5
Maximum Floor Area Allowance Per Occupant

FUNCTION OF SPACE		OCCUPANT LOAD FACTOR ^a
Accessory storage areas, mechanical equipment room		300 gross
Agricultural building		300 gross
Aircraft hangars		500 gross
Airport terminal	Baggage claim	20 gross
	Baggage handling	300 gross
	Concourse	100 gross
	Waiting areas	15 gross
Assembly	Gaming floors (keno, slots, etc.)	11 gross
	Exhibit gallery and museum	30 net
	<u>Billiard table/game table area</u>	<u>50 gross</u>
Assembly with fixed seats		See Section 1004.6
Assembly without fixed seats	Concentrated (chairs only - not fixed)	7 net
	Standing space	5 net
	Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas		7 net
Business areas	Concentrated business use areas	150 gross (See Section 1004.8)
Courtrooms - Other than fixed seating areas		40 net
Day care		35 net
Dormitories		50 gross
Educational	Classroom area	20 net
	Shops and other vocational room areas	50 net
Exercise rooms		50 gross
<u>Fixed guideway transit and passenger rail systems</u>		<u>100 gross</u>
<u>Platform</u>		<u>(See Section 3116)</u>
<u>Concourse/lobby</u>		
Group H-5 fabrication and manufacturing areas		200 gross
Industrial areas		100 gross
Institutional areas	Inpatient treatment areas	240 gross
	Outpatient areas	100 gross
	Sleeping areas	120 gross
Kitchens, commercial		200 gross
Library	Reading rooms	50 net
	Stack area	100 gross
Locker rooms		50 gross
Mall buildings - Covered and open		See Section 402.8.2
Mercantile	Storage, stock, shipping areas	300 gross
Parking garages		200 gross
Residential		200 gross
Skating rinks, swimming pools	Rink and pool	50 gross
	Decks	15 gross
Stages and platforms		15 net
Warehouses		500 gross

^a Floor area in square feet per occupant.

1005.1 General. All portions of the *means of egress* system shall be sized in accordance with this section.

EXCEPTIONS: 1. Aisles and aisle accessways in rooms or spaces used for assembly purposes complying with Section 1030.
2. The capacity in inches, of means of egress components for fixed guideway transit and passenger rail stations, shall meet the requirements of Section 3116. ||

1006.2.1 Egress based on occupant load and common path of egress travel distance. Two exits or exit access doorways from any space shall be provided where the design occupant load or the common path of egress travel distance exceeds the values listed in Table 1006.2.1. The cumulative occupant load from adjacent rooms, areas or spaces shall be determined in accordance with Section 1004.2.

EXCEPTIONS: 1. The number of exits from foyers, lobbies, vestibules, or similar spaces need not be based on cumulative occupant loads for areas discharging through such spaces, but the capacity of the exits from such spaces shall be based on applicable cumulative occupant loads.
2. Care suites in Group I-2 occupancies complying with Section 407.4.
3. Unoccupied mechanical rooms and penthouses are not required to comply with the common path of egress travel distance measurement.
4. The common path of travel for fixed transit and passenger rail system stations shall be in accordance with Section 3116. ||

1006.2.1.1 Three or more exits or exit access doorways. Three *exits* or *exit access* doorways shall be provided from any space with an *occupant load* of 501 to 1,000. Four *exits* or *exit access* doorways shall be provided from any space with an occupant load greater than 1,000.

EXCEPTION: The number of required exits for fixed transit and passenger rail systems may be reduced by one at open stations. ||

Table 1006.2.1
Spaces with One Exit or Exit Access Doorway

OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)		
		Without Sprinkler System (feet)		
		Occupant Load		
		OL ≤ 30	OL > 30	
Ac, Eh, M	49	75	75	75a
B	49	100	75	100a
F	49	75	75	100a
H-1, H-2, H-3	3	NP	NP	25b
H-4, H-5	10	NP	NP	75b
I-1, I-2d, I-4	10	NP	NP	75b
I-3	10	NP	NP	100a
R-1	10	NP	NP	75a
R-2	20	NP	NP	125a
R-3e	20	NP	NP	125a,g
R-4e	20	NP	NP	125a,g
Sf	29	100	75	100a
U	49	100	75	75a

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

- a Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.
- b Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.
- c For a room or space used for assembly purposes having fixed seating, see Section 1029.8.
- d For the travel distance limitations in Group I-2, see Section 407.4.
- e The common path of egress travel distance shall only apply in a Group R-3 occupancy located in a mixed occupancy building.
- f The length of common path of egress travel distance in a Group S-2 open parking garage shall be not more than 100 feet.
- g For the travel distance limitations in Groups R-3 and R-4 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3, see Section 1006.2.2.6.
- h Day care facilities, rooms, or spaces where care is provided for more than 10 children that are 2 1/2 years of age or less, shall have access to not less than two exits or exit access doorways.

1006.3.4 Single exits. A single *exit* or *access* to a single *exit* shall be permitted from any story or occupied roof where one of the following conditions exists:

1. The *occupant load*, number of *dwelling units* and *exit access* travel distance within the portion of the building served by the single *exit* do not exceed the values in Table 1006.3.4(1) or 1006.3.4(2).
2. Rooms, areas and spaces complying with Section 1006.2.1 with *exits* that discharge directly to the exterior at the level of *exit discharge*, are permitted to have one *exit* or *access* to a single exit.
3. Parking garages where vehicles are mechanically parked shall be permitted to have one exit or access to a single exit.
4. Groups R-3 and R-4 occupancies shall be permitted to have one *exit* or *access* to a single *exit*.
5. Individual single-story or multistory dwelling units shall be permitted to have a single *exit* or *access* to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:
 - 5.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one *means of egress*.
 - 5.2. Either the *exit* from the *dwelling unit* discharges directly to the exterior at the level of *exit discharge*, or the *exit access* outside the dwelling unit's entrance door provides access to not less than two approved independent *exits*.

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1008.2.3 Exit discharge. This subsection not adopted.

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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 any *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. ||

2. One *accessible means of egress* is required from an *accessible mezzanine* level in accordance with Section 1009.3, 1009.4 or 1009.5.

3. In assembly areas with ramped *aisles* or stepped *aisles*, one *accessible means of egress* is permitted where the *common path of egress travel* is *accessible* and meets the requirements in Section 1030.8.

4. In parking garages, *accessible means of egress* are not required to serve parking areas that do not contain accessible parking spaces. ||

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1009.8 Two-way communication. A two-way communication system complying with Sections 1009.8.1 and 1009.8.2 shall be provided at the landing serving each elevator or bank of elevators on each *accessible* floor that is one or more stories above or below the *level of exit discharge*.

EXCEPTIONS:

1. Two-way communication systems are not required at the landing serving each elevator or bank of elevators where the two-way communication system is provided within *areas of refuge* in accordance with Section 1009.6.5.
2. Two-way communication systems are not required on floors provided with *ramps that provide a direct path of egress travel to grade or the level of exit discharge* conforming to the provisions of Section 1012.
3. Two-way communication systems are not required at the landings serving only service elevators that are not designated as part of the accessible *means of egress* or serve as part of the required *accessible route* into a facility.
4. Two-way communication systems are not required at the landings serving only freight elevators.
5. Two-way communication systems are not required at the landing serving a private residence elevator.
6. Two-way communication systems are not required in Group I-2 or I-3 facilities.

1009.8.1 System requirements. Two-way communication systems shall provide communication between each required location and the *fire command center*, or a central control point location *approved* by the fire department. Where the central control point is not a *constantly attended location*, a two-way communication system shall have a timed automatic telephone dial-out capability that provides two-way communication with an approved supervising station. The two-way communication system shall include both audible and visible signals. The two-way communication system shall have a battery backup or an approved alternate source of power that is capable of 90 minutes use upon failure of the normal power source.

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1010.2.4 Locks and latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exists:

1. Places of detention or restraint.
2. Approved, listed locks without delayed egress shall be permitted in Group I-1 condition 2 assisted living facilities licensed by the state of Washington, provided that:
 - 2.1. The clinical needs of one or more patients require specialized security measures for their safety.
 - 2.2. The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.
 - 2.3. The doors unlock upon loss of electrical power controlling the lock or lock mechanism.
 - 2.4. The lock shall be capable of being deactivated by a signal from a switch located in an approved location.
 - 2.5. There is a system, such as a keypad and code, in place that allows visitors, staff persons and appropriate residents to exit. Instructions for exiting shall be posted within six feet of the door.
3. In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side, provided:
 - 3.1. The locking device is readily distinguishable as locked.
 - 3.2. A readily visible and durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
 - 3.3. The use of the key-operated locking device is revocable by the building official for due cause.
4. Where *egress* doors are used in pairs, *approved* automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts has no doorknob or surface-mounted hardware.
5. Doors from individual *dwelling* or *sleeping units* of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt, or security chain, provided such devices are openable from the inside without the use of a key or a tool.
6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with listed fire door test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the building from the roof.
8. Other than *egress* courts, where occupants must *egress* from an exterior space through the building for *means of egress*, *exit access* doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:
 - 8.1. The maximum occupant load shall be posted where required by Section 1004.9. Such signage shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the exit access doorways.
 - 8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required exit access door on the exterior side.
 - 8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.

1010.2.4 Locks and latches (continued)

- 8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m²) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.
- 8.5. A readily visible durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating: THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED. The letters on the sign shall be not less than 1 inch high on a contrasting background.
- 8.6. The *occupant load* of the occupied exterior *area* shall not exceed 300 occupants in accordance with Section 1004.
- 9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual dwelling or sleeping units.
- 10. Locking devices are permitted on doors to balconies, decks, or other exterior spaces of 250 square feet or less, serving a private office space.

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1010.2.14 Controlled egress doors in Groups I-1 and I-2. Electric locking systems, including electromechanical locking systems and electromagnetic locking systems, shall be permitted to be locked in the means of egress in Group I-1 or I-2 occupancies where the clinical needs of persons receiving care require their containment. Controlled egress doors shall be permitted in such occupancies where the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an approved automatic smoke detection system installed in accordance with Section 907, provided that the doors are installed and operate in accordance with all of the following:

1. The door locks shall unlock on actuation of the *automatic sprinkler system* or automatic smoke detection system.
2. The doors locks shall unlock on loss of power controlling the lock or lock mechanism.
3. The door locking system shall be installed to have the capability of being unlocked by a switch located at the *fire command center*, a nursing station or other approved location. The switch shall directly break power to the lock.
4. A building occupant shall not be required to pass through more than one door equipped with a controlled *egress* locking system before entering an *exit*.
5. The procedures for unlocking the doors shall be described and approved as part of the emergency planning and preparedness required by Chapter 4 of the *International Fire Code*.
6. There is a system, such as a keypad and code, in place that allows visitors, staff persons and appropriate residents to exit. Instructions for exiting shall be posted within six feet of the door. All clinical staff shall have the keys, codes, or other means necessary to operate the locking systems.
7. Emergency lighting shall be provided at the door.
8. The door locking system units shall be listed in accordance with UL 294.

EXCEPTIONS: 1. Items 1 through 4, and 6, shall not apply to doors to areas occupied by persons who, because of clinical needs, require restraint or containment as part of the function of a psychiatric or cognitive treatment area, provided that all clinical staff shall have the keys, codes or other means necessary to operate the locking devices.

2. Items 1 through 4, and 6, shall not apply to doors to areas where a listed egress control system is utilized to reduce the risk of child abduction from nursery and obstetric areas of a Group I-2 hospital.

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1010.3.4.1 Fixed transit and passenger rail systems. In fixed transit and passenger rail system stations, horizontal and vertical security grilles are permitted at station entrances as a component in the means of egress when the station is under constant supervision by on-site security personnel and an exit door with panic hardware that swings in the direction of egress, with a minimum clear width of 32 inches, provided within 10 feet of the gate. The security grilles shall remain secured in the full-open position during the period of occupancy by the general public.

1011.1 General. *Stairways* serving occupied portions of a building shall comply with the requirements of Sections 1011.2 through 1011.13. *Alternating tread devices* shall comply with Section 1011.14. Ship's ladders shall comply with Section 1011.15. Ladders shall comply with Section 1011.16.

EXCEPTIONS: 1. Within rooms or spaces used for assembly purposes, stepped aisles shall comply with Section 1029.

2. Stairways, alternating tread devices, ship's ladders, or ladders within an individual dwelling unit or sleeping unit used for egress from areas of 200 square feet (18.6 m²) or less, and not containing the primary bathroom or kitchen, are exempt from the requirements of Section 1011. Such areas shall not be located more than 10 feet (3048 mm) above the finished floor of the space below.

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1012.1 Scope. The provisions of this section shall apply to ramps used as a component of a *means of egress*.

EXCEPTIONS: 1. Ramped *aisles* within assembly rooms or spaces shall comply with the provisions in section 1030.13.

2. Curb ramps shall comply with ICC A117.1.

3. Vehicle ramps in parking garages for pedestrian *exit access* shall not be required to comply with Sections 1012.3 through 1012.10 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 1012.5, 1012.6, and 1012.9. A landing complying with Sections 1012.6.1 and 1012.6.4 shall be provided at any change of direction in the accessible means of egress.

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1014.2 Height and location. Handrails serving flights of stairways, ramps, stepped aisles, and ramped aisles shall comply with the provisions of Sections 1014.2.1 and 1014.2.2. ||

1014.2.1 Height. *Handrail* height, measured above stair tread nosings, or finish surface of ramp slope, shall be uniform, not less than 34 inches (864 mm) and not more than 38 inches (965 mm). Handrail height of alternating tread devices and ships ladders, measured above tread nosings, shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (864 mm).

EXCEPTIONS: 1. Where *handrail* fittings or bendings are used to provide continuous transition between flights, the fittings or bendings shall be permitted to exceed the maximum height.
2. In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies; and in Group U occupancies that are associated with a Group R-3 occupancy or associated with individual *dwelling units* in Group R-2 occupancies; where *handrail* fittings or bendings are used to provide continuous transition between flights, transition at *winder* treads, transition from *handrail* to guard, or where used at the start of a *flight*, the *handrail* height at the fittings or bendings shall be permitted to exceed the maximum height.
3. *Handrails* on top of a *guard* where permitted along stepped *aisles* and ramped *aisles* in accordance with Section 1030.16.

1014.2.2 Lateral location. Handrails located outward from the edge of the walking surface of flights of stairways, ramps, stepped aisles, and ramped aisles shall be located within 6 inches (152.4 mm) measured horizontally from the edge of the walking surface. Handrails projecting into the width of the walking surface shall comply with Section 1014.8. ||

1014.8 Projections. On ramps and on ramped aisles that are part of an accessible route, the clear width between handrails shall be 36 inches (914 mm) minimum. Projections into the required width of stepped and ramped aisles, flights of stairways and ramps at each side shall not exceed 4.5 inches (114 mm) at or below the handrail height. Projections into the required width shall not be limited above the minimum headroom height required in Section 1011.3. Projections due to intermediate handrails shall not constitute a reduction in the egress width. Where a pair of intermediate handrails are provided within the stairway width without a walking surface between the pair of intermediate handrails and the distance between the pair of intermediate handrails is greater than 6 inches (152 mm), the available egress width shall be reduced by the distance between the closest edges of each such intermediate pair of handrails that is greater than 6 inches (152 mm).

1015.2 Where required. *Guards* shall be located along open-sided walking surfaces, including mezzanines, equipment platforms, lofts in accordance with Section 420.14, aisles, stairs, ramps, and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. *Guards shall be provided at the perimeter of the occupied portions of an occupied roof.* *Guards* shall be adequate in strength and attachment in accordance with Section 1607.9.

EXCEPTION: 1. On the loading side of loading docks or piers.
 2. On the audience side of stages and raised platforms, including stairs leading up to the stage and raised platforms.
 3. On raised stage and platform floor areas, such as runways, ramps and side stages used for entertainment or presentations.
 4. At vertical openings in the performance area of stages and platforms.
 5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment.
 6. Along vehicle service pits not accessible to the public.
 7. In assembly seating areas at cross aisles in accordance with Section 1030.17.2.
 8. On the loading side of station platforms on fixed guideway transit or passenger rail stations.
 9. Portions of an occupied roof located less than 30 inches measured vertically to adjacent unoccupied roof areas when approved guards are present at the perimeter of the roof.
 10. At an occupied portion of an occupied roof where a barrier approved by the building official is provided.

1015.3 Height. Required guards shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.
2. On *stairways* and stepped *aisles*, from the line connecting the leading edges of the tread nosings.
3. On *ramps* and ramped *aisles*, from the ramp surface at the *guard*.

EXCEPTIONS: 1. For occupancies in Group R-3 not more than three stories above grade in height and within individual *dwelling units* in occupancies in Group R-2 not more than three stories above grade in height with separate *means of egress*, required *guards* shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces.

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2. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, *guards* on the open sides of *stairs* shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
3. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, where the top of the *guard* serves as a *handrail* on the open sides of *stairs*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
4. In areas with ceiling heights of 7 feet (2134 mm) or less in *lofts* constructed in accordance with Section 420.14, *guards* shall not be less than 36 inches (914 mm) in height or one-half of the clear height from the *loft* floor to the *loft* ceiling, whichever is less.
5. The *guard* height in assembly seating areas shall comply with Section 1030.17 as applicable.
6. Along *alternating tread devices* and ships ladders, *guards* where the top rail serves as a *handrail* shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread nosing.
7. In Group F occupancies where *exit access stairways* serve fewer than three stories and such *stairways* are not open to the public, and where the top of the *guard* also serves as a *handrail*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

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Table 1017.2
Exit Access Travel Distance^a

Occupancy	Without Sprinkler System (feet)	With Sprinkler System (feet)
A, E, F-1, M, R, S-1	200 ^e	250 ^b
I-1	Not Permitted	250 ^b
B	200	300 ^c
F-Z, S-Z, U	300	400 ^c
H-1	Not Permitted	75 ^d
H-Z	Not Permitted	100 ^d
H-3	Not Permitted	150 ^d
H-4	Not Permitted	175 ^d
H-5	Not Permitted	200 ^c
1-Z, 1-3	Not Permitted	200 ^c
I-4	150	200 ^c

For SI: 1 foot = 304.8 mm.

- a See the following sections for modifications to exit access travel distance requirements:
- Section 402.8: For the distance limitation in malls.
 - Section 407.4: For the distance limitation in Group I-2.
 - Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3.
 - Section 411.2: For the distance limitation in special amusement areas.
 - Section 412.6: For the distance limitations in aircraft manufacturing facilities.
 - Section 1006.2.2.2: For the distance limitation in refrigeration machinery rooms.
 - Section 1006.2.2.3: For the distance limitation in refrigerated rooms and spaces.
 - Section 1006.3.4: For buildings with one exit.
 - Section 1017.2.2: For increased distance limitation in Groups F-1 and S-1.
 - Section 1030.7: For increased limitation in assembly seating.
 - Section 3103.4: For temporary structures.
 - Section 3104.9: For pedestrian walkways.
 - Section 3116: For fixed guideway and passenger rail stations.
- B Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.
- c Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
- d. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.1.
- e. Group R-3 and R-4 buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3. See Section 903.2.8 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3.

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1020.6 Air movement in corridors. *Corridors* shall not serve as supply, return, exhaust, relief, or ventilation air ducts.

EXCEPTIONS:

1. Use of a corridor as a source of makeup air for exhaust systems in rooms that open directly onto such corridors, including toilet rooms, bathrooms, dressing rooms, smoking lounges, and janitor closets, shall be permitted provided that each such corridor is directly supplied with outdoor air at a rate greater than the rate of makeup air taken from the corridor.
2. Where located within a dwelling unit, the use of corridors for conveying return air shall not be prohibited.
3. Where located within tenant spaces of 1,000 square feet (93 m²) or less in area, utilization of corridors for conveying return air is permitted.
4. Transfer air movement required to maintain the pressurization difference within health care facilities in accordance with ASHRAE 170.
5. Where such air is part of an engineered smoke control system.
6. Air supplied to corridors serving residential occupancies shall not be considered as providing ventilation air to the dwelling units and sleeping units subject to the following:
 - 6.1 The air supplied to the corridor is 100 percent outside air; and
 - 6.2 The units served by the corridor have conforming ventilation air independent of the air supplied to the corridor; and
 - 6.3 For other than high-rise buildings, the supply fan will automatically shut off upon activation of corridor smoke detectors which shall be spaced at no more than 30 feet (9,144 mm) on center along the corridor; or
 - 6.4 For high-rise buildings, corridor smoke detector activation will close required smoke/fire dampers at the supply inlet to the corridor at the floor receiving the alarm.

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1023.12 Smokeproof enclosures. Where required by Section 403.5.4, 405.7.2 or 412.2.2.1, interior exit stairways and ramps shall be smokeproof enclosures in accordance with Section 909.20. Where interior exit stairways and ramps are pressurized in accordance with Section 909.20.5, the smoke control pressurization system shall comply with the requirements specified in Section 909.6.3.

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1101.2 Design. Buildings and facilities shall be designed and constructed to be accessible in accordance with this code and ICC A117.1, except those portions of ICC A117.1 amended by this section.

1101.2.1 Reserved

1101.2.2 (ICC A117.1 Section 404.2.8) Door-opening force. Fire doors and doors or gates required to be equipped with panic hardware, break away features or other factors requiring higher opening force for safety reasons shall have the minimum opening force allowable in scoping provisions adopted by the appropriate administrative authority. For other doors or gates, the force for pushing or pulling open doors or gates shall be as follows:

1. Interior hinged door: 5.0 pounds (22.2 N) maximum
2. Interior sliding or folding doors: 5.0 pounds (22.2 N) maximum
3. Exterior hinged, sliding, or folding door: 10 pounds (44.4 N) maximum.

EXCEPTION: The force required to retract latch bolts or disengage other devices that hold the door or gate in a closed position shall not apply to panic hardware, delayed egress devices or fire-rated hardware.

1101.2.4 (ICC ANSI A117.1 603.6) Operable parts. Operable parts on drying equipment, towel or cleansing product dispensers, and disposal fixtures shall comply with Table 603.6.

1101.2.5 (ICC A117.1 Section 604.6) Flush controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with Section 309, except the maximum height above the floor shall be 44 inches. Flush controls shall be located on the open side of the water closet.

EXCEPTION: In ambulatory accessible compartments complying with Section 604.10, flush controls shall be permitted to be located on either side of the water closet.

1101.2.6 (ICC A117.1 Section 703.6.3.1) International Symbol of Accessibility. Where the International Symbol of Accessibility is required, it shall be proportioned complying with ICC A117.1 Figure 703.6.3.1. All interior and exterior signs depicting the International Symbol of Accessibility shall be white on a blue background.

1101.2.7 (ICC A117.1 Section 502.2) Vehicle space size. Car and van parking spaces shall be 96 inches (2440 mm) minimum in width.

1101.2.8 (ICC A117.1 Section 502.4.2) Access aisle width. Access aisles serving car parking spaces shall be 60 inches (1525 mm) minimum in width. Access aisles serving van parking spaces shall be 96 inches (2440 mm) minimum in width.

1101.2.9 (ICC A117.1 Section 502.7) Identification. Accessible parking spaces shall be indicated by a vertical sign. The signs shall include the International Symbol of Accessibility complying with section 703.6.3.1. Such symbol shall be white on a blue background. Signs identifying van parking spaces shall contain the designation "van accessible." The sign may include additional language such as, but not limited to, an indication of the amount of the monetary penalty defined in RCW **46.19.050** for parking in the space without a valid permit. A vertical "no parking" sign shall be erected at the head of each access aisle located adjacent to an accessible parking space. The sign may include additional language such as, but not limited to, an indication of any penalty for parking in an access aisle. Such signs shall be 60 inches (1525 mm) minimum above the floor of the parking space, measured to the bottom of the sign.

1106.7 Location. Accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to an accessible building entrance. In parking facilities that do not serve a particular building, accessible parking spaces shall be located on the shortest route to an accessible pedestrian entrance to the parking facility. Where buildings have multiple accessible entrances with adjacent parking, accessible parking spaces shall be dispersed and located near the accessible entrances. Wherever practical, the accessible route shall not cross lanes of vehicular traffic. Where crossing traffic lanes is necessary, the route shall be designated and marked as a crosswalk.

EXCEPTION: 1. In multilevel parking structures, van accessible parking spaces are permitted on one level.
2. Accessible parking spaces shall be permitted to be located in different parking facilities if substantially equivalent or greater accessibility is provided in terms of distance from an accessible entrance or entrances, parking fee and user convenience.

1107.2 Electrical vehicle charging stations. Electrical vehicle charging stations shall comply with Sections 1107.2.1 and 1107.2.2.

EXCEPTION: Electrical vehicle charging stations provided to serve Group R-3 occupancies are not required to comply with this section.

1107.2.1 Number of accessible vehicle spaces. See Section 429.4.

1108.6.2.2.1 Type A units. In Group R-2 Occupancies containing more than 10 dwelling units or sleeping units, at least 5 percent, but not less than one, of the units shall be a Type A unit. All units on a site shall be considered to determine the total number of units and the required number of Type A units. Type A units shall be dispersed among the various classes of units, as described in Section 1108.6. Bedrooms in monasteries and convents shall be counted as *sleeping units* for the purpose of determining the number of units. Where the *sleeping units* are grouped into suites, only one *sleeping unit* in each suite shall count towards the number of required *Type A units*.

EXCEPTIONS: 1. The number of Type A units is permitted to be reduced in accordance with Section 1108.7.
2. Existing structures on a site shall not contribute to the total number of units on a site.

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1110.2 Toilet and bathing facilities. Each toilet room and bathing room shall be accessible. Where a floor level is not required to be connected by an accessible route, the only toilet rooms or bathing rooms provided within the facility shall not be located on the inaccessible floor. Except as provided for in Sections 1110.2.4 and 1110.2.5 at least one of each type of fixture, element, control or dispenser in each accessible toilet room and bathing room shall be accessible.

- EXCEPTIONS:
1. Toilet rooms or bathing rooms accessed only through a private office, not for common or public use and intended for use by a single occupant, shall be permitted to comply with the specific exceptions in ICC A117.1.
 2. This section is not applicable to toilet and bathing rooms that serve dwelling units or sleeping units that are not required to be accessible by Section 1108.
 3. Where multiple single-user all-gender toilet rooms or bathing rooms are clustered at a single location, at least 50 percent shall be accessible.
 4. Where no more than one urinal is provided in a toilet room or bathing room, the urinal is not required to be accessible.
 5. Toilet rooms or bathing rooms that are part of critical care or intensive care patient sleeping rooms serving accessible units are not required to be accessible.
 6. Toilet rooms or bathing rooms designed for bariatrics patients are not required to comply with the toilet room and bathing room requirement in ICC A117.1. The sleeping units served by bariatrics toilet or bathing rooms shall not count toward the required number of accessible sleeping units.
 7. Where permitted in Section 1108, in toilet rooms or bathrooms serving accessible units, water closets designed for assisted toileting shall be permitted to comply with Section 1110.2.2.
 8. Where permitted in Section 1108, in bathrooms serving accessible units, showers designed for assisted bathing shall be permitted to comply with Section 1110.2.3.
 9. Where toilet facilities are primarily for children's use, required accessible water closets, toilet compartments and lavatories shall be permitted to comply with children's provision of ICC A117.1.

1110.5.1 Minimum number. Not fewer than two drinking fountains shall be provided. One drinking fountain shall comply with the requirements for people who use a wheelchair and one drinking fountain shall comply with the requirements for standing persons.

EXCEPTIONS: 1. A single drinking fountain with two separate spouts that complies with the requirements for people who use a wheelchair and standing persons shall be permitted to be substituted for two separate drinking fountains.

2. Where drinking fountains are primarily for children's use, drinking fountains for people using wheelchairs shall be permitted to comply with the children's provisions in ICC A117.1 and drinking fountains for standing children shall be permitted to provide the spout at 30 inches (762 mm) minimum above the floor.

3. In all occupancies that require more than two drinking fountains per floor or secured area, bottle filling stations shall be allowed to be substituted in accordance with Section 2902.5. ||

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1202.1 General. Buildings shall be provided with natural ventilation in accordance with Section 1202.5, or mechanical ventilation in accordance with the *International Mechanical Code*. Ambulatory care facilities and Group I-2 occupancies shall be ventilated by mechanical means in accordance with Section 407 of the *International Mechanical Code*. ||

1202.2.1 Ventilated attics and rafter spaces. Enclosed *attics* and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof framing members shall have cross ventilation for each separate space by ventilation openings protected against the entrance of rain and snow. Blocking and bridging shall be arranged so as not to interfere with the movement of air. An airspace of not less than 1 inch (25 mm) shall be provided between the insulation and the roof sheathing. The net free ventilating area shall not be less than 1/150th of the area of the space ventilated. Ventilators shall be installed in accordance with the manufacturer's installation instructions.

EXCEPTION: The net free cross-ventilation area shall be permitted to be reduced to 1/300 provided both of the following conditions are met:

1. A Class I or II vapor retarder is installed on the warm-in-winter side of the ceiling. ||
2. At least 40 percent and not more than 50 percent of the required venting area is provided by ventilators located in the upper portion of the attic or rafter space. Upper ventilators shall be located not more than 3 feet (914 mm) below the ridge or highest point of the space, measured vertically, with the balance of the ventilation provided by eave or cornice vents. Where the location of wall or roof framing members conflicts with the installation of upper ventilators, installation more than 3 feet (914 mm) below the ridge or highest point of the space shall be permitted.

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1202.4 Under-floor ventilation. The space between the bottom of the floor joists and the earth under any building except spaces occupied by basements or cellars shall be provided with ventilation openings through foundation walls or exterior walls. Such openings shall be placed so as to provide cross ventilation of the under-floor space. A ground cover of six mil (0.006 inch thick) black polyethylene or approved equal shall be laid over the ground within crawl spaces. The ground cover shall be overlapped six inches minimum at the joints and shall extend to the foundation wall.

EXCEPTION: The ground cover may be omitted in crawl spaces if the crawl space has a concrete slab floor with a minimum thickness of two inches.

1202.5 Natural ventilation. For other than Group R Occupancies, natural ventilation of an occupied space shall be through windows, doors, louvers, or other openings to the outdoors. The operating mechanism for such openings shall be provided with ready access so that the openings are readily controllable by the building occupants. Group R Occupancies shall comply with the *International Mechanical Code*.

1202.7 Radon resistive construction standards. The criteria of this section establishes minimum radon resistive construction requirements for Group R Occupancies.

1202.7.1 Application. The requirements of Section 1202.7 shall be adopted and enforced by all jurisdictions of the state according to the following subsections.

1202.7.1.1 All jurisdictions of the state shall comply with Section 1202.7.2.

1202.7.1.2 Clark, Ferry, Okanogan, Pend Oreille, Skamania, Spokane, and Stevens counties shall also comply with Section 1202.7.3.

1202.7.2 State wide radon requirements.

1202.7.2.1 Crawlspace. All crawlspaces shall comply with the requirements of this section.

1202.7.2.2 Ventilation. All crawlspaces shall be ventilated as specified in Section 1202.4.

If the installed ventilation in a crawlspace is less than one square foot for each 300 square feet of crawlspace area, or if the crawlspace vents are equipped with operable louvers, a radon vent shall be installed to originate from a point between the ground cover and soil. The radon vent shall be installed in accordance with Sections 1202.7.3.2.6 and 1202.7.3.2.7.

1202.7.2.3 Crawlspace plenum systems. In crawlspace plenum systems used for providing supply air for an HVAC system, aggregate, a permanently sealed soil gas retarder membrane and a radon vent pipe shall be installed in accordance with Section 1202.7.3.2. Crawlspaces shall not be used for return air plenums.

In addition, an operable radon vent fan shall be installed and activated. The fan shall be located as specified in Section 1202.7.3.2.7. The fan shall be capable of providing at least 100 cfm at 1-inch water column static pressure. The fan shall be controlled by a readily accessible manual switch. The switch shall be labeled "RADON VENT FAN."

1202.7.3 Radon prescriptive requirements.

1202.7.3.1 Scope. This section applies to those counties specified in Section 1202.7.1.2. This section establishes prescriptive construction requirements for reducing the potential for radon entry into all Group R Occupancies, and for preparing the building for future mitigation if desired.

In all crawlspaces, except crawlspace plenums used for providing supply air for an HVAC system, a continuous air barrier shall be installed between the crawlspace area and the occupied area to limit air transport between the areas. If a wood sheet subfloor or other material is utilized as an air barrier, in addition to the requirements of Section 502.1.6.2 of the Washington State Energy Code, all joints between sheets shall be sealed.

1202.7.3.2 Floors in contact with the earth.

1202.7.3.2.1 General. Concrete slabs that are in direct contact with the building envelope shall comply with the requirements of this section.

EXCEPTION: Concrete slabs located under garages or other than Group R Occupancies need not comply with this chapter.

1202.7.3.2.2 Aggregate. A layer of aggregate of 4-inch minimum thickness shall be placed beneath concrete slabs. The aggregate shall be continuous to the extent practical.

1202.7.3.2.3 Gradation. Aggregate shall:

1. Comply with ASTM Standard C-33 Standard Specification for Concrete Aggregate and shall be size No. 8 or larger size aggregate as listed in Table 2, Grading Requirements for Course Aggregate; or

2. Meet the 1988 Washington State Department of Transportation Specification 9-03.1 (3) "Coarse Aggregate for Portland Cement Concrete," or any equivalent successor standards. Aggregate size shall be of Grade 8 or larger as listed in Section 9-03.1 (3) C, "Grading"; or

3. Be screened, washed pea gravel free of deleterious substances in a manner consistent with ASTM Standard C-33 with 100 percent passing a 1/2-inch sieve and less than 5 percent passing a No. 16 sieve. Sieve characteristics shall conform to those acceptable under ASTM Standard C-33.

EXCEPTION: Aggregate shall not be required if a substitute material or system, with sufficient load bearing characteristics, and having approved capability to provide equal or superior air flow, is installed.

1202.7.3.2.4 Soil-gas retarder membrane. A soil-gas retarder membrane, consisting of at least one layer of virgin polyethylene with a thickness of at least 6 mil, or equivalent flexible sheet material, shall be either placed directly under all concrete slabs so that the slab is in direct contact with the membrane, or on top of the aggregate with 2 inches minimum of fine sand or pea gravel installed between the concrete slab and membrane. The flexible sheet shall extend to the foundation wall or to the outside edge of the monolithic slab. Seams shall overlap at least 12 inches. The membrane shall also be fitted tightly to all pipes, wires, and other penetrations of the membrane and sealed with an approved sealant or tape. All punctures or tears shall be repaired with the same or approved material and similarly lapped and sealed.

1202.7.3.2.5 Sealing of penetrations and joints. All penetrations and joints in concrete slabs or other floor systems and walls below grade shall be sealed by an approved sealant to create an air barrier to limit the movement of soil-gas into the indoor air.

Sealants shall be approved by the manufacturer for the intended purpose. Sealant joints shall conform to manufacturer's specifications. The sealant shall be placed and tooled in accordance with manufacturer's specifications. There shall be no gaps or voids after the sealant has cured.

1202.7.3.2.6 Radon vent. One continuous sealed pipe shall run from a point within the aggregate under each concrete slab to a point outside the building. Joints and connections shall be permanently gas tight. The continuous sealed pipe shall interface with the aggregate in the following manner, or by other approved equal method. The pipe shall be permanently connected to a "T" within the aggregate area so that the two end openings of the "T" lie within the aggregate area. A minimum of 5 feet of perforated drain pipe of 3 inches minimum diameter shall join to and extend from the "T." The perforated pipe shall remain in the aggregate area and shall not be capped at the ends. The "T" and its perforated pipe extensions shall be located at least 5 feet horizontally from the exterior perimeter of the aggregate area.

The continuous sealed pipe shall terminate no less than 12 inches above the eave, and more than 10 horizontal feet from a woodstove or fireplace chimney, or operable window. The continuous sealed pipe shall be labeled "radon vent." The label shall be placed so as to remain visible to an occupant.

The minimum pipe diameter shall be 3 inches unless otherwise approved. Acceptable sealed plastic pipe shall be smooth walled and may include either PVC schedule 40 or ABS schedule of equivalent wall thickness.

The entire sealed pipe system shall be sloped to drain to the sub slab aggregate.

The sealed pipe system may pass through an unconditioned attic before exiting the building; but to the extent practicable, the sealed pipe shall be located inside the thermal envelope of the building in order to enhance passive stack venting.

EXCEPTION: A fan for sub slab depressurization system includes the following:

1. Soil-gas retarder membrane as specified in Section 1202.7.3.2.4;
2. Sealing of penetrations and joints as specified in Section 1202.7.3.2.5;
3. A 3-inch continuous sealed radon pipe shall run from a point within the aggregate under each concrete slab to a point outside the building;
4. Joints and connections shall be gas tight, and may be of either PVC schedule 40 or ABS schedule of equivalent in wall thickness;
5. A label of "radon vent" shall be placed on the pipe so as to remain visible to an occupant;
6. Fan circuit and wiring as specified in Section 1202.7.3.2.7 and a fan.

If the sub slab depressurization system is exhausted through the concrete foundation wall or rim joist, the exhaust terminus shall be a minimum of 6 feet from operable windows or outdoor air intake vents and shall be directed away from operable windows and outdoor air intake vents to prevent radon reentrainment.

1202.7.3.2.7 Fan circuit and wiring and location. An area for location of an in-line fan shall be provided. The location shall be as close as practicable to the radon vent pipe's point of exit from the building or shall be outside the building shell; and shall be located so that the fan and all downstream piping is isolated from the indoor air.

Provisions shall be made to allow future activation of an in-line fan on the radon vent pipe without the need to place new wiring. A 110-volt power supply shall be provided at a junction box near the fan location.

1202.7.3.2.8 Separate aggregate areas. If the 4-inch aggregate area underneath the concrete slab is not continuous but is separated into distinct isolated aggregate areas by a footing or other barrier, a minimum of one radon vent pipe shall be installed into each separate aggregate area.

EXCEPTION: Separate aggregate areas may be considered a single area if a minimum 3-inch diameter connection joining the separate areas is provided for every 30 feet of barrier separating those areas.

1202.7.3.2.9 Concrete block walls. Concrete block walls connected to below grade areas shall be considered unsealed surfaces. All openings in concrete block walls that will not remain accessible upon completion of the building shall be sealed at both vertical and horizontal surfaces, in order to create a continuous air barrier to limit the transport of soil-gas into the indoor air.

1203.1 Equipment and systems. Interior spaces intended for human occupancy shall be provided with active or passive space-heating systems capable of maintaining an indoor temperature of not less than 68°F (20°C) at a point 3 feet (914 mm) above the floor on the design heating day.

EXCEPTIONS: 1. Interior spaces where the primary purpose of the space is not associated with human comfort.
2. Group F, H, S, or U occupancies.
3. Group R-1 Occupancies not more than 500 square feet (46 m²).

1203.2 Definitions. For the purposes of this section only, the following definitions apply.

DESIGNATED AREAS are those areas designated by a county to be an urban growth area in chapter [36.70A](#) RCW and those areas designated by the U.S. Environmental Protection Agency as being in nonattainment for particulate matter.

SUBSTANTIALLY REMODELED means any alteration or restoration of a building exceeding 60 percent of the appraised value of such building within a 12-month period. For the purpose of this section, the appraised value is the estimated cost to replace the building and structure in-kind, based on current replacement costs.

1203.3 Primary heating source. Primary heating sources in all new and substantially remodeled buildings in designated areas shall not be dependent upon wood stoves.

1203.4 Solid fuel burning devices. No new or used solid fuel burning device shall be installed in new or existing buildings unless such device is United States Environmental Protection Agency certified or exempt from certification by the United States Environmental Protection Agency and conforms with RCW 70A.15.1005, 70A.15.3500, 70A.15.3510, and 70A.15.3530.

EXCEPTIONS: 1. Wood cook stoves.
2. Antique wood heaters manufactured prior to 1940.

Section 1208 Interior Space Dimensions

1208.3 Dwelling unit size. Dwelling units shall have a minimum of 190 square feet (17.7 m²) of habitable space. ||

1208.4 Room area. Every *dwelling unit* shall have not less than one room that shall have not less than 120 square feet (11.2 m²) of *net floor area*. *Sleeping units* and other habitable rooms of a *dwelling unit* shall have a *net floor area* of not less than 70 square feet (6.5 m²). ||

EXCEPTION: Kitchens are not required to be of a minimum floor area.

1208.5 Efficiency dwelling units. *Efficiency dwelling units* shall conform to the requirements of the code except as modified herein: ||

1. The unit's *habitable space* shall comply with Sections 1208.1 through 1208.4.
2. The unit shall be provided with a separate closet.
3. For other than *accessible*, Type A and Type B dwelling units, the unit shall be provided with a kitchen sink, cooking appliance and refrigerator, each having a clear working space of not less than 30 inches (762 mm) in front. Light and *ventilation* conforming to this code shall be provided.
4. The unit shall be provided with a separate bathroom containing a water closet, lavatory, and bathtub or shower. ||

1210.3.1 Water closet compartment. Each water closet utilized by the public or employees shall occupy a separate compartment with walls or partitions and a door enclosing the fixtures to ensure privacy. Gender-neutral toilet room water closet compartments shall be in accordance with Section 2902.2.2. ||

- EXCEPTIONS:
1. Water closet compartments shall not be required in a single-occupant toilet room with a lockable door.
 2. Toilet rooms located in child day care facilities and containing two or more water closets shall be permitted to have one water closet without an enclosing compartment.
 3. This provision is not applicable to toilet areas located within Group I-3 occupancy housing areas.

1210.3.2 Urinal partitions. Each urinal utilized by the public or employees shall occupy a separate area with walls or partitions to provide privacy. The walls or partitions shall begin at a height not more than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal not less than 18 inches (457 mm) or to a point not less than 6 inches (152 mm) beyond the outermost front lip of the urinal measured from the finished back wall surface, whichever is greater.

EXCEPTIONS: 1. Urinal partitions shall not be required in a single occupant or family or assisted-use toilet room with a lockable door.
2. Toilet rooms located in child day care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.
3. Urinals located in gender-neutral toilet facilities shall be in accordance with Section 2902.2.2. ||

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1402.2 Weather protection. Exterior walls shall provide the building with a weather-resistant exterior wall envelope. The exterior wall envelope shall include flashing as described in Section 1404.4. The exterior wall envelope shall be designed and constructed in such a manner as to prevent the accumulation of water within the wall assembly by providing a water-resistant barrier behind the exterior veneer, as described in Section 1403.2, and a means for draining water that enters the assembly to the exterior. An air space cavity is not required under the exterior cladding for an exterior wall clad with lapped or panel siding made of plywood, engineered wood, hardboard, or fiber cement. Protection against condensation in the exterior wall assembly shall be provided in accordance with Section 1404.3.

EXCEPTIONS: 1. A weather-resistant exterior wall envelope shall not be required over concrete, or masonry walls designed in accordance with Chapters 19 and 21, respectively.

2. Compliance with the requirements for a means of drainage, and the requirements of Sections 1403.2 and 1404.4, shall not be required for an exterior wall envelope that has been demonstrated through testing to resist wind-driven rain, including joints, penetrations, and intersections with dissimilar materials, in accordance with ASTM E 331 under the following conditions:

2.1 Exterior wall envelope test assemblies shall include not fewer than one opening, one control joint, one wall/eave interface and one wall sill. All tested openings and penetrations shall be representative of the intended end-use configuration.

2.2 Exterior wall envelope test assemblies shall be not less than 4 feet by 8 feet (1219 mm by 2438 mm) in size.

2.3 Exterior wall envelope assemblies shall be tested at a minimum differential pressure of 6.24 pounds per square foot (psf) (0.297 kN/m²).

2.4 Exterior wall envelope assemblies shall be subjected to a minimum test exposure duration of 2 hours. The exterior wall envelope design shall be considered to resist wind-driven rain where the results of testing indicate that water did not penetrate control joints in the exterior wall envelope, joints at the perimeter of openings or intersections of terminations with dissimilar materials.

3. Exterior insulation and finish systems (EIFS) complying with Section 1407.4.1.

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1613.4 Amendments to ASCE 7. The provisions of Section 1613.4 shall be permitted as an amendment to the relevant provisions of ASCE 7. The text of ASCE 7 shall be amended as indicated in Sections 1613.4.1 through 1613.4.6.

1613.4.1 ASCE 7 Section 12.2.5.4. Amend ASCE 7 Section 12.2.5.4 as follows:

12.2.5.4 Increased structural height limit for steel eccentrically braced frames, steel special concentrically braced frames, steel buckling-restrained braced frames, steel special plate shear walls, and special reinforced concrete shear walls. The limits on height, h_n , in Table 12.2-1 are permitted to be increased from 160 ft (50 m) to 240 ft (75 m) for structures assigned to Seismic Design Categories D or E and from 100 ft (30 m) to 160 ft (50 m) for structures assigned to Seismic Design Category F, provided that the seismic force-resisting systems are limited to steel eccentrically braced frames, steel special concentrically braced frames, steel buckling-restrained braced frames, steel special plate shear walls, or special reinforced concrete cast-in-place shear walls and all of the following requirements are met:

1. The structure shall not have an extreme torsional irregularity as defined in Table 12.3-1 (horizontal structural irregularity Type 1b).
2. The steel eccentrically braced frames, steel special concentrically braced frames, steel buckling-restrained braced frames, steel special plate shear walls or special reinforced concrete shear walls in any one plane shall resist no more than 60 percent of the total seismic forces in each direction, neglecting accidental torsional effects.
3. Where floor and roof diaphragms transfer forces from the vertical seismic force-resisting elements above the diaphragm to other vertical force-resisting elements below the diaphragm, these in-plane transfer forces shall be amplified by the overstrength factor, Ω_o for the design of the diaphragm flexure, shear, and collectors.
4. The earthquake force demands in foundation mat slabs, grade beams, and pile caps supporting braced frames and/or walls arranged to form a shear-resisting core shall be amplified by 2 for shear and 1.5 for flexure. The redundancy factor, ρ , applies and shall be the same as that used for the structure in accordance with Section 12.3.4.

1613.4.2 ASCE 7 Section 12.6. Amend ASCE 7 Section 12.6 and Table 12.6-1 to read as follows:

12.6 ANALYSIS PROCEDURE SELECTION

12.6.1 Analysis procedure. The structural analysis required by Chapter 12 shall consist of one of the types permitted in Table 12.6-1, based on the structure's seismic design category, structural system, dynamic properties, and regularity, or with the approval of the authority having jurisdiction, an alternative generally accepted procedure is permitted to be used. The analysis procedure selected shall be completed in accordance with the requirements of the corresponding section referenced in Table 12.6-1.

**Table 12.6-1
Permitted Analytical Procedures**

Seismic Design Category	Structural Characteristics	Equivalent Lateral Force Procedure, Section 12.8a	Modal Response Spectrum Analysis, Section 12.9.1, or Linear Response History Analysis, Section 12.9.2	Nonlinear Response History Procedures, Chapter 16a
B, C	All structures	P	P	P
D, E, F	Risk Category I or II buildings not exceeding two stories above the base	P	P	P
	Structures of light frame construction	P	P	P
	Structures with no structural irregularities and not exceeding 160 ft in structural height	P	P	P
	Structures exceeding 160 ft in structural height with no structural irregularities and with $T < 3.5T_s$	P	P	P
	Structures not exceeding 160 ft in structural height and having only horizontal irregularities of Type 2, 3, 4, or 5 in Table 12.3-1 or vertical irregularities of Type 4, 5a, or 5b in Table 12.3-2	P	P	P
	All other structures ≤ 240 ft in height	NP	P	P
	All structures > 240 ft in height	NP	NP	Pc

a P: Permitted; NP: Not Permitted; T_s = SD1/SDS.

1613.4.3 ASCE 7 Section 11.2. Amend ASCE 7 Section 11.2 to include the following definition:

USGS SEISMIC DESIGN GEODATABASE: A U.S. Geological Survey (USGS) database of geocoded values of seismic design parameters and geocoded sets of multiperiod 5%-damped risk-targeted maximum considered earthquake (MCER) response spectra. The parameters obtained from this database may only be used where referenced by Section 11.4.8.1.

User Note: The USGS Seismic Design Geodatabase is intended to be accessed through a USGS Seismic Design web service that allows the user to specify the site location, by latitude and longitude, and the site class to obtain the seismic design data. The USGS web service spatially interpolates between the gridded data of the USGS geodatabase. Both the USGS geodatabase and the USGS web service can be accessed at <https://doi.org/10.5066/F7NK3C76>. The USGS Seismic Design Geodatabase is available at the ASCE 7 Hazard Tool <https://asce7hazardtool.online/> or an approved equivalent.

1613.4.4 ASCE 7 Section 11.4.8. Amend ASCE 7 Section 11.4.8 to include the following section:

11.4.8.1 Multiperiod design response spectrum. As an alternative to the ground motion hazard analysis requirements of Section 11.4.8, and suitable for all structures other than those designated Site Class F (unless exempted in accordance with Section 20.3.1), a multiperiod design response spectrum may be developed as follows:

1. For exclusive use with the USGS Seismic Design Geodatabase in accordance with this section, the site class shall be determined per Section 20.6.
2. Where a multiperiod design response spectrum is developed in accordance with this section, the parameters SM , $SM1$, SD , $SD1$, and TL as obtained by the USGS Seismic Design Geodatabase shall be used for all applications of these parameters in this standard.
3. The SS and $S1$ parameters obtained by the USGS Seismic Design Geodatabase are only permitted to be used in development of the multiperiod design response spectrum and are not permitted to be used in other applications in this standard. The mapped parameters SS and $S1$ as determined by Section 11.4.2 and peak ground acceleration parameter $PGAM$ as determined by Section 11.8.3 shall be used for all other applications in this standard.
4. At discrete values of period, T , equal to 0.0s, 0.01s, 0.02s, 0.03s, 0.05s, 0.075s, 0.1s, 0.15s, 0.2s, 0.25s, 0.3s, 0.4s, 0.5s, 0.75s, 1.0s, 1.5s, 2.0s, 3.0s, 4.0s, 5.0s, 7.5s, and 10.0s, the 5%-damped design spectral response acceleration parameter, S_a , shall be taken as 2/3 of the multiperiod 5%-damped MCER response spectrum from the USGS Seismic Design Geodatabase for the applicable site class.
5. At each response period, T , less than 10.0s and not equal to one of the discrete values of period, T , listed in Item 4 above, S_a , shall be determined by linear interpolation between values of S_a , of Item 4 above.
6. At each response period, T , greater than 10.0s, S_a shall be taken as the value of S_a at the period of 10.0s, factored by $10/T$, where the value of T is less than or equal to that of the long-period transition period, TL , and shall be taken as the value of S_a at the period of 10.0s factored by $10TL/T2$, where the value of T is greater than that of the long-period transition period, TL .
7. Where an MCER response spectrum is required, it shall be determined by multiplying the multiperiod design response spectrum by 1.5.
8. For use with the equivalent lateral force procedure, the spectral acceleration S_a at T shall be permitted to replace $SD1/T$ in Equation (12.8-3) and $SD1TL/T2$ in Equation (12.8-4).

1613.4.5 ASCE 7 Section 20.6. Amend ASCE 7 Chapter 20 to include the following section:

Section 20.6 Site classification procedure for use with Section 11.4.8.1. For exclusive use in determining the multiperiod design response spectrum and associated spectral parameters in accordance with Section 11.4.8.1, the site class shall be determined in accordance with this section. For all other applications in this standard the site class shall be determined per Section 20.1.

20.6.1 Site classification. The site soil shall be classified in accordance with Table 20.6-1 and Section 20.6.2 based on the average shear wave velocity parameter, V_s , which is derived from the measured shear wave velocity profile from the ground surface to a depth of 100 ft (30 m). Where shear wave velocity is not measured, appropriate generalized correlations between shear wave velocity and standard penetration test (SPT) blow counts, cone penetration test (CPT) tip resistance, shear strength, or other geotechnical parameters shall be used to obtain an estimated shear wave velocity profile, as described in Section 20.6.3. Where site-specific data (measured shear wave velocities or other geotechnical data that can be used to estimate shear wave velocity) are available only to a maximum depth less than 100 ft (30 m), V_s shall be estimated as described in Section 20.6.3.

Where the soil properties are not known in sufficient detail to determine the site class, the most critical site conditions of Site Class C, Site Class CD and Site Class D, as defined in Section 20.6.2, shall be used unless the authority having jurisdiction or geotechnical data determine that Site Class DE, E or F soils are present at the site. Site Classes A and B shall not be assigned to a site if there is more than 10 ft (3.1 m) of soil between the rock surface and the bottom of the spread footing or mat foundation.

20.6.2 Site class definitions. Site class types shall be assigned in accordance with the definitions provided in Table 20.6.2-1 and this section.

20.6.2.1 Soft clay Site Class E. Where a site does not qualify under the criteria for Site Class F per Section 20.3.1 and there is a total thickness of soft clay greater than 10 ft (3 m), where a soft clay layer is defined by $su < 500 \text{ psf}$ ($su < 25 \text{ kPa}$), $w \geq 40\%$, and $PI > 20$, it shall be classified as Site Class E. This classification is made regardless of V_s , as computed in Section 20.4.

20.6.2.2 Site Classes C, CD, D, DE and E. The assignment of Site Class C, CD, D, DE and E soils shall be made based on the average shear wave velocity, which is derived from the site shear wave velocity profile from the ground surface to a depth of 100 ft (30 m), as described in Section 20.4.

20.6.2.3 Site Classes B and BC (medium hard and soft rock). Site Class B can only be assigned to a site on the basis of shear wave velocity measured on site. If shear wave velocity data are not available and the site condition is estimated by a geotechnical engineer, engineering geologist, or seismologist as Site Class B or BC on the basis of site geology, consisting of competent rock with moderate fracturing and weathering, the site shall be classified as Site Class BC. Softer and more highly fractured and weathered rock shall either be measured on site for shear wave velocity or classified as Site Class C.

20.6.2.4 Site Class A (hard rock). The hard rock, Site Class A, category shall be supported by shear wave velocity measurement, either on site or on profiles of the same rock type in the same formation with an equal or greater degree of weathering and fracturing. Where hard rock conditions are known to be continuous to a depth of 100 ft (30 m), surficial shear wave velocity measurements to maximum depths less than 100 ft are permitted to be extrapolated to assess V_s .

Table 20.6.2-1 Site Classification

Site Class	V_s Calculated Using Measured or Estimated Shear Wave Velocity Profile (ft/s)
A. Hard Rock	$> 5,000$
B. Medium Hard Rock	$> 3,000$ to $5,000$
BC. Soft Rock	$> 2,100$ to $3,000$
C. Very Dense Sand or Hard Clay	$> 1,450$ to $2,100$
CD. Dense Sand or Very Stiff Clay	$> 1,000$ to $1,450$
D. Medium Dense Sand or Stiff Clay	> 700 to $1,000$
DE. Loose Sand or Medium Stiff Clay	> 500 to 700
E. Very Loose Sand or Soft Clay	≤ 500

20.6.3 Estimation of shear wave velocity profiles. Where measured shear wave velocity data are not available, shear wave velocity shall be estimated as a function of depth using correlations with suitable geotechnical parameters, including standard penetration test (SPT) blow counts, shear strength, overburden pressure, void ratio, or cone penetration test (CPT) tip resistance, measured at the site.

Site class based on estimated values of V_s shall be derived using V_s , $V_s / 1.3$, and $1.3 V_s$ when correlation models are used to derive shear wave velocities. Where correlations derived for specific local regions can be demonstrated to have greater accuracy, factors less than 1.3 can be used if approved by the authority having jurisdiction. If the different average velocities result in different site classes per Table 20.6.2-1, the most critical of the site classes for ground motion analysis at each period shall be used.

Where the available data used to establish the shear wave velocity profile extends to depths less than 100 ft (30 m) but more than 50 ft (15 m), and the site geology is such that soft layers are unlikely to be encountered between 50 and 100 ft, the shear wave velocity of the last layer in the profile shall be extended to 100 ft for the calculation of in Equation (20.4-1). Where the data does not extend to depths of 50 ft (15 m), default site classes, as described in Section 20.6.1, shall be used unless another site class can be justified on the basis of the site geology.

1613.4.6 ASCE 7 Section 21.3.1. Amend ASCE 7 Section 21.3 to include the following section:

Section 21.3.1 Alternate minimum design spectral response accelerations. As an alternate approach to Section 21.3, the lower limit of S_a is permitted to be determined according to this section. The design spectral response acceleration at any period shall not be taken less than 80% of the multiperiod design response spectrum as determined by Section 11.4.8.1.

For sites classified as Site Class F requiring site-specific analysis in accordance with Section 11.4.8, the design spectral response acceleration at any period shall not be less than 80% of S_a determined for Site Class E.

EXCEPTION: Where a different site class can be justified using the site-specific classification procedures in accordance with Section 20.6.2.2, a lower limit of 80% of S_a for the justified site class shall be permitted to be used.

1615.1 General. The design and construction of Risk Category III and IV buildings and structures located in the Tsunami Design Zones shall be in accordance with Chapter 6 of ASCE 7-22, except as modified by this code. Wherever ASCE 7 is referenced herein, it shall refer to ASCE 7-22, within the extent of ASCE 7 Chapter 6 and WAC 51-50-1615.

USER The intent of the Washington state amendments to ASCE 7 Chapter 6 (Tsunami Loads and Effects) is to
NOTE: require use of the Washington Tsunami Design Zone maps to determine inundation limits, i.e., when a site is within a tsunami design zone. The Washington state department of natural resources has parameters for tsunami inundation depth and flow velocity available for all of Washington's coastal waters and tidally influenced riverine systems (WA-TDZ). These parameters are required to be used in lieu of ASCE Tsunami Design Geodatabase, and as a basis for comparison in the probabilistic tsunami hazard analysis in this chapter.

1615.2 Modifications to ASCE 7. The text of Chapter 6 of ASCE 7 shall be modified as indicated in this section.

1615.2.1 ASCE 7 Section 6.1.1. Replace the third paragraph of ASCE 7 Section 6.1.1 with the following and remove the associated exception:

The Tsunami Design Zone shall be determined using the Washington Tsunami Design Zone maps (WA-TDZ). The WA-TDZ maps are available at <https://www.dnr.wa.gov/wa-tdz>.

1615.2.2 ASCE 7 Section 6.1.1. Add new fifth paragraph and user note to ASCE 7 Section 6.1.1 to read as follows:

Whenever a Tsunami Design Zone or Fig. 6.1-1 is referenced in ASCE 7 Chapter 6, the WA-TDZ maps shall be used.

USER Tsunami design zone and design parameters may be obtained from the Washington state department
NOTE: of natural resources. See <https://www.dnr.wa.gov/wa-tdz>.

1615.2.3 ASCE 7 Section 6.2. Modify ASCE 7 Section 6.2 definitions to read as follows:

ASCE TSUNAMI DESIGN GEODATABASE: Not Adopted.

USER NOTE: The ASCE tsunami design geodatabase is not adopted for design purposes in Washington state.

MAXIMUM CONSIDERED TSUNAMI: A probabilistic tsunami having a two percent probability of being exceeded in a 50-year period or a 2,475-year mean recurrence, or a deterministic assessment considering the maximum tsunami that can reasonably be expected to affect a site.

TSUNAMI DESIGN ZONE MAP: The Washington Tsunami Design Zone maps (WA-TDZ) designating the potential horizontal inundation limit of the Maximum Considered Tsunami found at www.dnr.wa.gov/wa-tdz.

1615.2.4 ASCE 7 Section 6.2. Add new definitions to ASCE 7 Section 6.2 to read as follows:

WASHINGTON TSUNAMI DESIGN ZONE MAP (WA-TDZ): The Washington department of natural resources maps of potential tsunami inundation limits for the Maximum Considered Tsunami, designated as follows:

Columbia River	DOGAMI SP-51 (L1 scenario) adopted by WA DNR
Outer Coast and Strait area	MS 2022-01
Port Townsend	MS 2018-03 (partially superseded by MS 2022-01)
Puget Sound	MS 2021-01 (revised 2022)
San Juan Islands	MS 2016-01 (partially superseded on its eastern edge by MS 2021-01)
Southern Washington Coast	MS 2018-01

The Washington state department of natural resources geodatabase of design parameters for tsunami inundation depth, flow velocity, offshore tsunami amplitude, predominant period, and tsunami design zone maps for a maximum considered tsunami is available at the Washington TDZ website (<https://www.dnr.wa.gov/wa-tdz>).

1615.2.5 ASCE 7 Section 6.5.1. Add new second paragraph to ASCE 7 Section 6.5.1 to read as follows:

6.5.1 Tsunami Risk Category II and III buildings and other structures. The Maximum Considered Tsunami inundation depth and tsunami flow velocity characteristics at a Tsunami Risk Category II or III building or other structure shall be determined by the WA-TDZ maps. Those parameters shall be used as the Maximum Considered Tsunami inundation depth and tsunami flow velocity characteristics in lieu of the Energy Grade Line Analysis in Section 6.6.

1615.2.6 ASCE 7 Section 6.5.1.1. Modify the first paragraph of ASCE 7 Section 6.5.1.1 to read as follows:

6.5.1.1 Runup evaluation for areas where no map values are given. For Tsunami Risk Category II and III buildings and other structures where no mapped inundation limit is shown in the Tsunami Design Zone map, the ratio of tsunami runup elevation above Mean High Water Level to Offshore Tsunami Amplitude, R/HT , shall be permitted to be determined using the surf similarity parameter ξ_{100} , according to Eqs. (6.5-2a, b, c, d, or e) and Fig. 6.5-1.

1615.2.7 ASCE 7 Section 6.5.2. Modify the paragraph and the exception, to read as follows:

6.5.2 Tsunami Risk Category IV buildings and other structures. A site-specific Probabilistic Tsunami Hazard Analysis (PTHA) shall be performed for Tsunami Risk Category IV buildings and other structures. Site-specific velocities determined by site-specific PTHA determined to be less than the design flow velocities determined from the WA-TDZ maps shall be subject to the limitation in Section 6.7.6.8. Site-specific velocities determined to be greater than the WA-TDZ map velocities shall be used.

EXCEPTION: For structures other than Tsunami Vertical Evacuation Refuge Structures, a site-specific Probabilistic Tsunami Hazard Analysis need not be performed where the inundation depth determined from the WA-TDZ maps is determined to be less than 12 ft (3.66 m) at any point within the location of the Tsunami Risk Category IV structure.

1615.2.8 ASCE 7 Section 6.6.1. Replace ASCE 7 Section 6.6.1 to read as follows:

6.6.1 Maximum inundation depth and flow velocities. The maximum inundation depths and flow velocities associated with the stages of tsunami flooding are determined by the WA-TDZ maps. Flow velocity for design purposes shall not be taken as less than 10 ft/s (3.0 m/s) and need not be taken as greater than the lesser of $1.5(gh_{max})^{1/2}$ and 50 ft/s (15.2 m/s).

1615.2.9 ASCE 7 Section 6.7. Replace ASCE 7 Section 6.7 with the following and add a user note:

When required by Section 6.5, the inundation depths and flow velocities shall be determined by site-specific inundation studies complying with the requirements of this section. Site-specific analyses shall use an integrated generation, propagation, and inundation model that replicates the given offshore tsunami waveform amplitude and period from the seismic sources given in Section 6.7.2.

USER WA-TDZ maps are based on an integrated generation, propagation, and inundation model replicating

NOTE: waveforms from the seismic sources specific to Washington state. See <https://www.dnr.wa.gov/wa-tdz>.

1615.2.10 ASCE 7 Table 6.7-2. Modify ASCE 7 Table 6.7-2 to read as follows:**Table 6.7-2 Maximum Moment Magnitude**

Subduction Zone	Moment Magnitude MWmax
Alaskan-Aleutian	9.2
Cascadia	9.0
Chile-Peru	9.5
Izu-Bonin-Mariana	9.0
Kamchatka-Kurile and Japan Trench	9.4

1615.2.11 ASCE 7 Section 6.7.5.1. Modify ASCE 7 Section 6.7.5.1 Item 4, Item 5, and Item 6 to read as follows:

6.7.5.1 Offshore tsunami amplitude for distant seismic sources. Offshore tsunami amplitude shall be probabilistically determined in accordance with the following:

4. The extent of offshore tsunami amplitude points considered for the site shall include the following:

(a) For outer coast sites, the extent shall include points within at least 40 mi (64.4 km) but not exceeding 50 mi (80.5 km) of projected length along the coastline, centered on the site within a tolerance of plus or minus 6 mi (9.7 km);

(b) Reserved;

(c) For sites within bays or inland waterways (such as the Strait of Juan de Fuca), the designated center of the computed offshore tsunami amplitude points shall be taken offshore of the mouth of the bay or waterway centered in accordance with criteria (a) above;

(d) For island locations where the projected width of the island is less than 40 mi (64.4 km), it shall be permitted to consider the extent of offshore tsunami amplitude points corresponding to the projected width of the island. Shorter extents of offshore tsunami amplitude points shall be permitted for island locations, but shall not be less than 10 mi (16.1 km);

(e) In addition to the above, the tsunami source development and inundation modeling are subject to an independent peer review by a tsunami modeler approved by the Authority Having Jurisdiction, who shall present a written report to the Authority Having Jurisdiction as to the hazard consistency of the modeling with the requirements of Section 6.7.

5. The mean value of the computed offshore tsunami wave amplitudes shall be not less than 100 percent of the mean value for the coinciding offshore tsunami amplitude data given by the WA-TDZ maps.

6. The individual values of the computed offshore tsunami wave amplitude shall be not less than 80 percent of the coinciding offshore tsunami amplitude values given by the WA-TDZ maps.

1615.2.12 ASCE 7 Section 6.7.5.3. Modify ASCE 7 Section 6.7.5.3.1(b) and (c) to read as follows:

(b) The mean value of the computed offshore tsunami amplitudes is at least 85 percent of the mean value for the coinciding offshore tsunami amplitude data of the WA-TDZ maps.

(c) The values of the computed offshore tsunami wave amplitude are not less than 75 percent of the coinciding offshore tsunami amplitude values of the WA-TDZ maps.

1615.2.13 ASCE 7 Section 6.7.6.2. Modify ASCE 7 Section 6.7.6.2 and add a user note to read as follows:

6.7.6.2 Seismic subsidence before tsunami arrival. Where the seismic source is a local earthquake event, the Maximum Considered Tsunami inundation shall be determined for an overall elevation subsidence value directly computed for the seismic source mechanism.

USER WA-TDZ maps include computed subsidence and uplift (where applicable) in the inundation results.

NOTE: See <https://www.dnr.wa.gov/wa-tdz>.

1615.2.14 ASCE 7 Figure 6.7-3. Remove Figure 6.7-3 and the associated note.

1615.2.15 ASCE 7 Section 6.8.9. Modify the first sentence of ASCE 7 Section 6.8.9 to read as follows:

6.8.9 Seismic effects on the foundations preceding maximum considered tsunami. Where designated in the Tsunami Design Zone map as a site subject to a tsunami from a local earthquake, the structure shall be designed for the preceding coseismic effects.

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1705.13.6 Plumbing, mechanical, and electrical components. Periodic special inspection of plumbing, mechanical and electrical components shall be required for the following:

1. Anchorage of electrical equipment for emergency and standby power systems in structures assigned to Seismic Design Category C, D, E or F.
2. Anchorage of other electrical equipment in structures assigned to Seismic Design Category E or F.
3. Installation and anchorage of piping systems designed to carry hazardous materials and their associated mechanical units in structures assigned to Seismic Design Category C, D, E or F.
4. Installation and anchorage of ductwork designed to carry hazardous materials in structures assigned to Seismic Design Category C, D, E or F.
5. Installation and anchorage of vibration isolation systems in structures assigned to Seismic Design Category C, D, E or F where the approved construction documents require a nominal clearance of .25 inch (6.4 mm) or less between the equipment support frame and restraint.
6. Installation of mechanical and electrical equipment, including ductwork, piping systems and their structural supports, where automatic fire sprinkler systems are installed in Risk Category IV structures assigned to Seismic Design Category C, D, E or F to verify one of the following:
 - 6.1. Minimum clearances have been provided as required by Section 13.2.3 ASCE/SEI 7.
 - 6.2. A nominal clearance of not less than 3 inches (76 mm) has been provided between automatic sprinkler system drops and sprigs and: Structural members not used collectively or independently to support the sprinklers; equipment attached to the building structure; and other systems' piping.

Where flexible sprinkler hose fittings are used, special inspection of minimum clearances is not required.

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1709.5 Exterior window and door assemblies. The design pressure rating of exterior windows and doors in buildings shall be determined in accordance with Section 1709.5.1 or 1709.5.2. For exterior windows and doors tested in accordance with Section 1709.5.1 or 1709.5.2, required design wind pressures determined from ASCE 7 shall be permitted to be converted to allowable stress design by multiplying by 0.6.

EXCEPTIONS: 1. Structural wind load design pressures for window or door assemblies other than the size tested in accordance with Section 1709.5.1 or 1709.5.2 shall be permitted to be different than the design value of the tested assembly, provided that such pressures are determined by accepted engineering analysis or validated by an additional test of the window or door assembly to the alternative allowable design pressure in accordance with Section 1709.5.2. Components of the alternate size assembly shall be the same as the tested or labeled assembly. Where engineering analysis is used, it shall be performed in accordance with the analysis procedures of AAMA 2502.

2. Custom exterior windows and doors manufactured by a small business shall be exempt from all testing requirements in Section 1709 of the *International Building Code* provided they meet the applicable provisions of Chapter 24 of the *International Building Code*.

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1807.2.2 Design lateral soil loads. Retaining walls shall be designed for the lateral soil loads set forth in Section 1610. For structures assigned to Seismic Design Category D, E, or F, the design of retaining walls supporting more than 6 feet (1829 mm) of backfill height measured to the bottom of the footing shall incorporate the additional seismic lateral earth pressure in accordance with the geotechnical investigation where required in Section 1803.2.

Section 2103 Masonry Construction Materials

2103.2.4 Mortar for adhered masonry veneer. Mortar for use with adhered masonry veneer shall conform to ASTM C270 for Type N or S or shall comply with ANSI A118.4 or A118.15 for modified dry-set cement mortar. The cementitious bond coat shall comply with ANSI A118.4 or A118.15.

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2111.8 Fireplaces. Fireplaces shall be provided with each of the following:

1. Tightly fitting flue dampers, operated by a readily accessible manual or approved automatic control.

EXCEPTION: Fireplaces with gas logs shall be installed in accordance with the International Mechanical Code Section 901, except that the standards for liquefied petroleum gas installations shall be NFPA 58 (Liquefied Petroleum Gas Code) and NFPA 54 (National Fuel Gas Code).

2. An outside source for combustion air ducted into the firebox. The duct shall be at least 6 square inches and shall be provided with an operable outside air duct damper.

EXCEPTION: Washington certified fireplaces shall be installed with the combustion air systems necessary for their safe and efficient combustion and specified by the manufacturer in accordance with IBC Section 2115 (WAC 51-50-2115).

3. Site built fireplaces shall have tight fitting glass or metal doors, or a flue draft induction fan or as approved for minimizing back-drafting. Factory built fireplaces shall use doors listed for the installed appliance.

2111.8.1 Lintel and throat. Masonry over a fireplace opening shall be supported by a lintel of noncombustible material. The minimum required bearing length on each end of the fireplace opening shall be 4 inches (102 mm). The fireplace throat or damper shall be located a minimum of 8 inches (203 mm) above the top of the fireplace opening.

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2115.1 Emission standards for factory-built fireplaces. No new or used factory-built fireplace shall be installed in Washington state unless it is certified and labeled in accordance with procedures and criteria specified in ASTM E2558 Standard Test Method for determining particulate matter emission from fires in low mass wood burning fireplaces.

To certify an entire fireplace model line, the internal assembly shall be tested to determine its particulate matter emission performance. Retesting and recertifying is required if the design and construction specifications of the fireplace model line internal assembly change. Testing for certification shall be performed by a Washington state department of ecology (DOE) approved and U.S. Environmental Protection Agency (EPA) accredited laboratory.

2115.2 Emission standards for certified masonry and concrete fireplaces. Masonry and concrete fireplace model lines certified to Washington State Building Code Standard 31-2 prior to July 1, 2013, may retain certification provided the design and construction specifications of the fireplace model line internal assembly do not change.

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2303.1.1.3 Used solid-sawn lumber. Used solid-sawn dimensional lumber in good condition and devoid of areas of decay, not meeting the requirements of Section 2303.1.1, 2303.1.1.1, or 2303.1.1.2, that has a nominal thickness of 2 inches with a nominal width of 6 inches or less, shall be assumed to be spruce-pine-fir stud grade and shall have structural properties assigned in accordance with current adopted standards. All other dimensional lumber shall be assumed to be hem-fir No. 2 grade and shall have structural properties assigned in accordance with current adopted standards.

2303.6 Nails and staples. Nails and staples shall conform to requirements of ASTM F1667, including Supplement 1. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as follows: 80 kips per square inch (ksi) (551 MPa) for shank diameters larger than 0.177 inch (4.50 mm) but not larger than 0.254 inch (6.45 mm), 90 ksi (620 MPa) for shank diameters larger than 0.142 inch (3.61 mm) but not larger than 0.177 inch (4.50 mm) and 100 ksi (689 MPa) for shank diameters of not less than 0.099 inch (2.51 mm) but not larger than 0.142 inch (3.61 mm). Staples used for framing and sheathing connections shall have minimum average bending moments as follows: 3.6 in.-lbs (0.41 N-m) for No. 16 gage staples, 4.0 in.-lbs (0.45 N-m) for No. 15 gage staples, and 4.3 in.-lbs (0.49 N-m) for No. 14 gage staples. Staples allowable bending moments shall be listed on the construction documents.

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2304.11.2.1 Exterior walls. *Exterior walls* shall be permitted to be *cross-laminated timber* not less than 3.5 inches (88 mm) in actual thickness meeting the requirements of Section 2303.1.4.

2304.11.2.2 Interior walls and partitions. Interior walls and partitions shall be of solid wood construction formed by not less than two layers of 1-inch (25 mm) matched boards or laminated construction 3.5 inches (88 mm) in actual thickness, or of 1-hour fire-resistance-rated construction.

2304.11.3.1 Cross-laminated timber floors. *Cross-laminated timber* shall be not less than 3.5 inches (88 mm) in actual thickness. *Cross-laminated timber* shall be continuous from support to support and mechanically fastened to one another. *Cross-laminated timber* shall be permitted to be connected to walls without a shrinkage gap providing swelling or shrinking is considered in the design. Corbelling of masonry walls under the floor shall be permitted to be used.

2304.11.4.1 Cross-laminated timber roofs. *Cross-laminated timber* roofs shall be not less than 2.5 inches (63 mm) in actual thickness and shall be continuous from support to support and mechanically fastened to one another.

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2405.3 Screening. Where used in monolithic glazing systems, annealed, heat strengthened, fully tempered and wired glass shall have broken glass retention screens installed below the glazing material. The screens and their fastenings shall be:

1. Capable of supporting twice the weight of the glazing;
2. Firmly and substantially fastened to the framing members; and
3. Installed within 4 inches (102 mm) of the glass.

The screens shall be constructed of a noncombustible material not thinner than No. 12 B&S gage (0.0808 inch) with mesh not larger than 1 inch by 1 inch (25 mm by 25 mm). In a corrosive atmosphere, structurally equivalent noncorrosive screen materials shall be used. Annealed, heat strengthened, fully tempered and wired glass, when used in multiple-layer glazing systems as the bottom glass layer over the walking surface, shall be equipped with screening that conforms to the requirements for monolithic glazing systems.

EXCEPTION: In monolithic and multiple layer sloped glazing systems, the following applies:

1. Fully tempered glass installed without protective screens where glazed between intervening floors at a slope of 30 degrees (0.52 rad) or less from the vertical plane shall have the highest point of the glass 10 feet (3048 mm) or less above the walking surface.
2. Screens are not required below any glazing material, including annealed glass, where the walking surface below the glazing material is permanently protected from the risk of falling glass or the area below the glazing material is not a walking surface.
3. Any glazing material, including annealed glass, is permitted to be installed without screens in the sloped glazing systems of commercial or detached noncombustible greenhouses used exclusively for growing plants and not open to the public, provided that the height of the greenhouse at the ridge does not exceed 30 feet (9144 mm) above grade.
4. Screens shall not be required within individual dwelling units in Groups R-2, R-3, and R-4 where fully tempered glass is used as single glazing or as both panes in an insulating glass unit, and the following conditions are met:
 - 4.1. Each pane of the glass is 16 square feet (1.5 m²) or less in area.
 - 4.2. The highest point of the glass is 12 feet (3658 mm) or less above any walking surface or other accessible area.
 - 4.3. The glass thickness is 3/16 inch (4.8 mm) or less.
5. Screens shall not be required for laminated glass with a 15 mil (0.38 mm) polyvinyl butyral (or equivalent) interlayer within the following limits:
 - 5.1. Each pane of glass is 16 square feet (1.5 m²) or less in area.
 - 5.2. The highest point of the glass is 12 feet (3658 mm) or less above a walking surface or other accessible area.

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2702.1.5 Load duration. Emergency power systems and standby power systems shall be designed to provide the required power for a minimum duration of 8 hours without being refueled or recharged, unless specified otherwise in this code. ||

EXCEPTION: The minimum duration of all required power loads may be reduced to 2 hours for all systems except for fire pumps that require a minimum duration of 8 hours in accordance with NFPA 20. ||

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2901.1 Scope. The provisions of this chapter and the state plumbing code shall govern the design, construction, erection, and installation of plumbing components, appliances, equipment, and systems used in buildings and structures covered by this code. Toilet and bathing rooms shall be constructed in accordance with Section 1210. The *International Fire Code* and the state plumbing code shall govern the use and maintenance of plumbing components, appliances, equipment, and systems. The International Existing Building Code and the state plumbing code shall govern the alteration, repair, relocation, replacement and addition of plumbing components, appliances, equipment, and systems.

2901.2 Health codes. In food preparation, serving and related storage areas, additional fixture requirements may be dictated by health codes.

2901.3 Fixed guideway transit and passenger rail systems. In construction of a fixed guideway and passenger rail system, subject to Section 3116, public plumbing fixtures are not required.

2902.1 Minimum number of fixtures. Plumbing fixtures shall be provided in the minimum number shown in Table 2902.1. Uses not shown in Table 2902.1 shall be determined individually by the *building official* based on the occupancy which most nearly resembles the proposed occupancy. The number of occupants shall be determined by this code. Plumbing fixtures need not be provided for unoccupied buildings or facilities.

2902.1.1.1 Private offices. Fixtures only accessible to private offices shall not be counted to determine compliance with this section.

2902.1.1.2 Urinals in men's facilities. Where urinals in men's facilities are provided, one water closet less than the number specified may be provided for each urinal installed, except the number of water closets in such cases shall not be reduced to less than one quarter (25 percent) of the minimum specified.

2902.1.1.3 Urinals in all-gender facilities. Where urinals are provided in all-gender facilities, one water closet less than the number specified may be provided for each urinal installed, except the number of water closets in such cases shall not be reduced less than one quarter (25 percent) of the minimum specified.

Table 2902.1
Minimum Number of Required Plumbing Fixtures ^a
(See Sections 2902.2 and 2902.3)

No.	Classification	Occupancy	Description	Water Closets		Lavatories		Bathtubs/ Showers
				Male	Female	Male	Female	
1	Assembly	A-1 d	Theaters and other buildings for the performing arts and motion pictures	1 per 125	1 per 65	1 per 200		—
		A-2 d	Nightclubs, bars, taverns, dance halls and buildings for similar purposes	1 per 40	1 per 40	1 per 75		—
			Restaurants, banquet halls and food courts	1 per 75	1 per 75	1 per 200		—
		A-3 d	Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades, and gymnasiums	1 per 125	1 per 65	1 per 200		—
			Passenger terminals and transportation facilities	1 per 500	1 per 500	1 per 750		—
			Places of worship and other religious services	1 per 150	1 per 75	1 per 200		—
		A-4	Coliseums, arenas, skating rinks, pools, and tennis courts for indoor sporting events and activities	1 per 75 for first 1,500 and 1 per 120 for remainder exceeding 1,500	1 per 40 for first 1,520 and 1 per 60 for remainder exceeding 1,520	1 per 200	1 per 150	—
		A-5	Stadiums, amusement parks, bleachers and grandstands for outdoor sporting events and activities	1 per 75 for first 1,500 and 1 per 120 for remainder exceeding 1,500	1 per 40 for first 1,520 and 1 per 60 for remainder exceeding 1,520	1 per 200	1 per 150	—
2	Business	B	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial and similar uses	1 per 25 for first 50 and 1 per 50 for the remainder exceeding 50		1 per 40 for first 80 and 1 per 80 for remainder exceeding 80		—
3	Educational	E e	Educational facilities	1 per 35	1 per 25	1 per 85	1 per 50	—

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WASHINGTON STATE AMENDMENTS

4	Factory and industrial	F-1 and F-2	Structures in which occupants are engaged in work fabricating, assembling, or processing of products or materials	1 per 100	1 per 100	Check State (UPC)
5	Institutional	I-1	Residential care	1 per 10	1 per 10	1 per 8
		I-2	Hospitals, ambulatory nursing home care recipientb	1 per roomc	1 per roomc	1 per 15
			Employees, other than residential careb	1 per 25	1 per 35	—
			Visitors other than residential care	1 per 75	1 per 100	—
		I-3	Prisonsb	1 per cell	1 per cell	1 per 15
			Reformatories, detention centers and correctional centersb	1 per 15	1 per 15	1 per 15
			Employeesb	1 per 25	1 per 35	—
		I-4	Adult day care and child day care	1 per 15	1 per 15	1
6	Mercantile	M	Retail stores, service stations, shops, salesrooms, markets, and shopping centers	1 per 500	1 per 750	—
7	Residential	R-1	Hotels, motels, boarding houses (transient)	1 per sleeping unit	1 per sleeping unit	1 per sleeping unit
		R-2	Dormitories, fraternities, sororities, and boarding houses (not transient)	1 per 10	1 per 10	1 per 8
			Apartment house	1 per dwelling unit	1 per dwelling unit	1 per dwelling unit
		R-3	One- and two-family dwellings	1 per dwelling unit	1 per 10	1 per dwelling unit
			Congregate living facilities with 16 or fewer persons	1 per 10	1 per 10	1 per 8
		R-4	Congregate living facilities with 16 or fewer persons	1 per 10	1 per 10	1 per 8
8	Storage	S-1 S-2	Structures for the storage of goods, warehouses, storehouses and freight depots, low and moderate hazard	1 per 100	1 per 100	Check State (UPC)

- a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by this code, except with respect to Group E occupancies the provisions of note "e" shall apply.

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- b. Toilet facilities for employees shall be separate from facilities for inmates or care recipients.
- c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted where such room is provided with direct access from each patient sleeping unit and with provisions for privacy. ||
- d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.
- e. For Group E occupancies: The number of occupants shall be determined by using a calculation of 100 square feet gross building area per student for the minimum number of plumbing fixtures. ||

2902.2 Separate facilities. Where plumbing fixtures are required, separate facilities shall be provided for each sex.

- EXCEPTIONS:
1. Separate facilities shall not be required for *dwelling units* and *sleeping units*.
 2. Separate facilities shall not be required in structures or tenant spaces with a total *occupant load*, including both employees and customers, of 15 or fewer.
 3. Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is 100 or fewer.
 4. Separate facilities shall not be required in business occupancies in which the maximum occupant load is 25 or fewer.
 5. Separate facilities shall not be required in spaces primarily used for drinking or dining with a total occupant load, including both employees and customers, of 30 or fewer.
 6. Separate facilities shall not be required when all-gender facilities are provided in accordance with Section 2902.2.2.
 7. Separate facilities shall not be required where rooms having both water closets and lavatory fixtures are designed for use by both sexes and privacy for water closets are installed in accordance with Section 1210.3.1. Urinals shall be located in an area visually separated from the remainder of the facility or each urinal that is provided shall be located in a stall.

2902.2.2 All-gender facilities. All-gender toilet facilities, when provided, shall be in accordance with the following:

1. There is no reduction in the number of fixtures required to be provided for male and female in the type of occupancy and in the minimum number shown in Table 2902.1.
2. All-gender multiuser toilet rooms shall have water closets and urinals located in toilet compartments in accordance with ICC A117.1.
3. All-gender multiuser toilet room water closet and urinal compartments shall have full-height walls and a door enclosing the fixture to ensure privacy.
4. All-gender toilet room water closet and urinal compartment doors shall be securable from within the compartment.
5. All-gender toilet rooms provided for the use of multiple occupants, the egress door from the room shall not be lockable from the inside of the room.
6. Compartments shall not be required in a single-occupant toilet room with a lockable door.

2902.3 Employee and public toilet facilities. For structures and tenant spaces intended for public utilization, customers, patrons, and visitors shall be provided with public toilet facilities. Employees associated with structures and tenant spaces shall be provided with toilet facilities. The number of plumbing fixtures located within the required toilet facilities shall be provided in accordance with Section 2902 for all users. Employee toilet facilities shall be either separate or combined employee and public toilet facilities.

EXCEPTION: Public toilet facilities shall not be required for:

1. Parking garages where operated without parking attendants.
2. Structures and tenant spaces intended for quick transactions, including takeout, pickup and drop-off, having a public access area less than or equal to 300 square feet (28 m²).
3. Fixed guideway transit and passenger rail systems constructed in accordance with Section 3116.

2902.3.3 Location of toilet facilities in occupancies other than malls. In occupancies other than covered and open mall buildings, the required *public* and employee toilet facilities shall be located in each building not more than one story above or below the space required to be provided with toilet facilities, or conveniently in a building adjacent thereto on the same property, and the path of travel to such facilities shall not exceed a distance of 500 feet (152 m).

EXCEPTIONS: 1. The location and maximum distances of travel to required employee facilities in factory and industrial occupancies shall be permitted to exceed that required by this section, provided that the location and maximum distance of travel are *approved*.

2. The location and maximum distances of travel to required public and employee facilities in Group S occupancies shall be permitted to exceed that required by this section, provided that the location and maximum distances of travel are approved.

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2902.5 Drinking fountain location. Drinking fountains shall not be required to be located in individual tenant spaces provided that public drinking fountains are located within a distance of travel of 500 feet of the most remote location in the tenant space and not more than one story above or below the tenant space. Where the tenant space is in a covered or open mall, such distance shall not exceed 300 feet. Drinking fountains shall be located on an accessible route. Drinking fountains shall not be located in toilet rooms.

2902.5.1 Drinking fountain number. Occupant loads over 30 shall have one drinking fountain for the first 150 occupants, then one per each additional 500 occupants.

EXCEPTIONS: 1. Sporting facilities with concessions serving drinks shall have one drinking fountain for each 1000 occupants.

2. A drinking fountain need not be provided in a drinking or dining establishment.

2902.5.2 Multistory buildings. Drinking fountains shall be provided on each floor having more than 30 occupants in schools, dormitories, auditoriums, theaters, offices, and public buildings.

2902.5.3 Penal institutions. Penal institutions shall have one drinking fountain on each cell block floor and one on each exercise floor.

2902.5.4 Bottle filling stations. Bottle filling stations shall be provided in accordance with Sections 2902.5.4.1 through 2902.5.4.3.

2902.5.4.1 Group E occupancies. In Group E occupancies with an occupant load over 30, a minimum of one bottle filling station shall be provided on each floor. This bottle filling station may be integral to a drinking fountain.

2902.5.4.2 Substitution. In all occupancies that require more than two drinking fountains per floor or secured area, *bottle filling stations* shall be permitted to be substituted for up to 50 percent of the required number of drinking fountains.

2902.5.4.3 Accessibility. At least one of the required bottle filling stations shall be located in accordance with Section 309 of ICC A117.1.

2902.6 Small occupancies. This section is not adopted.

2902.8 Dwelling units. Dwelling units shall be provided with a kitchen sink.

2902.9 Water. Each required sink, lavatory, bathtub, and shower stall shall be equipped with hot and cold running water necessary for its normal operation.

3002.4 Elevator car to accommodate ambulance stretcher. In buildings provided with an elevator, at least one elevator shall provide fire department emergency access to all floors served in:

1. Buildings four or more stories above or below grade plane; and
2. Any R-1, R-2 or I occupancy building regardless of the number of stories.

The elevator car shall be of a size and arrangement to accommodate a 24-inch by 84-inch (610 mm by 2134 mm) ambulance stretcher with not less than 5-inch (127 mm) radius corners, in the horizontal, open position. The elevator shall be identified by the international symbol for emergency medical services (star of life). The symbol shall not be less than 3 inches (76 mm) in height and shall be placed inside on both sides of the hoistway door frame on both the designated level and the alternate level.

EXCEPTION: Private residence elevators are not required to comply with this section.

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3005.2 Temperature control. Elevator machine rooms, machinery spaces that contain the driving machine, and control rooms or spaces that contain the operation or motion controller for elevator operation shall be provided with an independent dedicated ventilation or air-conditioning system to control the space temperature to protect against the overheating of the electrical equipment. Ventilation systems shall use outdoor make up air pathway that does not rely on transfer air from other building systems. The system shall service the equipment space only and shall be capable of maintaining the temperature and humidity within the range established by the manufacturer's specifications. Where no manufacturer specifications are available, the equipment space temperature shall be maintained at no less than fifty-five degrees Fahrenheit and no more than ninety degrees Fahrenheit.

The cooling load for the equipment shall include the BTU output of the elevator operation equipment as specified by the manufacturer based on one hour of continuous operation. The outdoor design temperature for ventilation shall be from the 0.5% column for summer from the Puget Sound Chapter of ASHRAE publication "*Recommended Outdoor Design Temperatures, Washington State*." The following formula shall be used to calculate flow rate for ventilation:

$$\text{CFM} = \text{BTU output of elevator machine room equipment} / [1.08 \times (\text{acceptable machine room temp} - \text{make up air temp})]$$

The ventilation or air-conditioning system will be provided with the same source of power (normal, optional standby, legally required standby, or emergency) as the elevator equipment so that the temperature control is available at all times that the elevators have power.

EXCEPTION: For buildings four stories or less, natural, or mechanical means may be used in lieu of an independent ventilation or air-conditioning system to keep the equipment space ambient air temperature and humidity in the range specified by the elevator equipment manufacturer.

3006.3 Hoistway opening protection. Where Section 3006.2 requires protection of the elevator hoistway door opening, the protection shall be provided by one of the following:

1. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway shaft enclosure doors from each floor by fire partitions in accordance with Section 708. In addition, doors protecting openings in the elevator lobby enclosure walls shall comply with Section 716.2.2.1 as required for corridor walls. Penetrations of the enclosed elevator lobby by ducts and air transfer openings shall be protected as required for corridors in accordance with Section 717.5.4.1.
2. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway shaft enclosure doors from each floor by smoke partitions in accordance with Section 710 where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. In addition, doors protecting openings in the smoke partitions shall comply with Sections 710.5.2.2, 710.5.2.3, and 716.2.6.1. Penetrations of the enclosed elevator lobby by ducts and air transfer openings shall be protected as required for corridors in accordance with Section 717.5.4.1.
3. Additional doors shall be provided at each elevator hoistway door opening in accordance with Section 3002.6. Such door shall comply with the smoke and draft control door assembly requirements in Section 716.2.2.1.1 when tested in accordance with UL 1784 without an artificial bottom seal.
4. The elevator hoistway shall be pressurized in accordance with Sections 909.6.3 and 909.21. ||

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3101.1 Scope. The provisions of this chapter shall govern special building construction including membrane structures, temporary structures, pedestrian walkways and tunnels, automatic vehicular gates, awnings and canopies, marquees, signs, towers, antennas, relocatable buildings, swimming pool enclosures and safety devices, solar energy systems and fixed guideway transit and passenger rail systems, public use restroom buildings on publicly owned lands in flood hazard areas, and intermodal shipping containers.

3103.1 General. The provisions of this section shall apply to structures erected for a period of less than 180 days. Special event structures, tents, umbrella structures and other membrane structures erected for a period of less than 180 days shall also comply with the *International Fire Code*. Those erected for a longer period of time shall comply with applicable sections of this code.

EXCEPTION: The building official may authorize unheated tents and yurts under 500 square feet (46 m²) accommodating an R-1 Occupancy for recreational use as a temporary structure and allow them to be used indefinitely.

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3109.1 General. The design and construction of swimming pools, spas and other aquatic recreation facilities shall comply with the *International Swimming Pool and Spa Code*, where the facility is one of the following:

1. For the sole use of residents and invited guests at a single-family dwelling;
2. For the sole use of residents and invited guests of a duplex owned by the residents; or
3. Operated exclusively for physical therapy or rehabilitation and under the supervision of a licensed medical practitioner.

All other "water recreation facilities" as defined in RCW **70.90.110** are regulated under chapters **246-260** and **246-262** WAC.

3116.1 Construction. Construction of fixed guideway transit and passenger rail systems shall be in accordance with NFPA 130-2020, standard for fixed guideway transit and passenger rail systems, as modified in Section 3116.2.

3116.2 Modifications to NFPA 130.

5.2.2.1 Building construction for stations shall be in accordance with Table 5.2.2.1 based upon station configuration.

5.2.2.2 Construction types shall conform to the requirements in IBC Chapter 6, unless otherwise exempted in this section.

Table 5.2.2.1
Minimum Construction Requirements for New Station Structures

Station Configuration	Construction Type†
Stations erected entirely above grade and in a separate building:	
Open stations	Type IIB
Enclosed stations	Type IIA
Stations erected entirely or partially below grade:	
Open above grade portions of below grade structures*	Type IIA
Below grade portions of structures	Type IB
Below grade structures with occupant loads exceeding 1000	Type IA

* Roofs not supporting an occupancy above are not required to have a fire resistance rating.

† Construction types are in accordance with the IBC.

5.2.4.3 Ancillary spaces. Fire resistance ratings of separations between ancillary occupancies shall be established as required for accessory occupancies and incidental uses by the IBC and in accordance with ASTM E119 and ANSI/UL 263.

5.2.5.4 Materials used as interior finish in open stations shall comply with the requirements of IBC, Chapter 8.

5.3.1* General.

5.3.1.1 The provisions for means of egress for a station shall comply with IBC, Chapter 10, except as herein modified.

5.3.2 Occupant load.

5.3.2.1 The occupant load for a station shall be based on the train load of trains simultaneously entering the station on all tracks in normal traffic direction plus the simultaneous entraining load awaiting trains.

1. The train load shall consider only one train at any one track, inside a station.

2. The basis for calculating train and entraining loads shall be the peak period ridership figures as projected for design of a new system or as updated for an operating system.

5.3.2.2* For station(s) servicing areas such as civic centers, sports complexes, and convention centers, the peak ridership figures shall consider events that establish occupant loads not included in normal passenger loads.

5.3.2.2.1 Where station occupancy is anticipated to be greater than design capacity during a major event the operating agency shall initiate approved measures to restrict access to the station, when required by the fire code official, to ensure existing means of egress are adequate as an alternate to account for peak ridership associated with major events.

5.3.2.3 At multilevel, multiline, or multiplatform stations, occupant loads shall be determined as follows:

1. The maximum occupant load for each platform shall be considered separately for the purpose of sizing the means of egress from that platform.

2.* Simultaneous loads shall be considered for all egress routes passing through each level of that station.

5.3.2.4 Where an area within a station is intended for use by other than passengers or employees, the following parameters shall apply:

1. The occupant load for that area shall be determined in accordance with the provisions of the IBC as appropriate for the use.

2. The additional occupant load shall be included in determining the required egress from that area.

3. The additional occupant load shall be permitted to be omitted from the station occupant load where the area has independent means of egress of sufficient number and capacity.

5.3.3.4 Travel distance. For open stations the maximum travel distance on the platform to a point at which a means of egress route leaves the platform shall not exceed 100 m (325 ft). For enclosed stations the travel distance to an exit shall not exceed 76 m (250 ft).

5.3.5 Stairs and escalators.

5.3.5.1 Stairs and escalators permitted by Section 5.2.4.1 to be unenclosed shall be permitted to be counted as contributing to the egress capacity in stations as detailed in Sections 5.2.2 and 5.3.3.

5.3.5.2 Stairs in the means of egress shall be a minimum of 1120 mm (44 in.) wide.

5.3.5.3* Capacity and travel speed for stairs and escalators shall be computed as follows:

1. Capacity - 0.0555 p/mm-min (1.41 p/in.-min)

2.* Travel speed - 14.6 m/min (48 ft/min) (indicates vertical component of travel speed)

5.3.5.4 Escalators shall not account for more than one-half of the egress capacity at any one level.

5.3.5.6* In calculating the egress capacity of escalators, the following criteria shall be met:

1. One escalator at each level shall be considered as being out of service.

2. The escalator chosen shall be the one having the most adverse effect upon egress capacity.

5.3.5.7 Where escalators are permitted as a means of egress in stations, the following criteria shall be met:

1.* The escalators shall be constructed of noncombustible materials.

2.* Escalators running in the direction of egress shall be permitted to remain operating.

3. Escalators running reverse to the direction of egress shall be capable of being stopped locally and remotely as follows:

a. Locally by a manual stopping device at the escalator.

b. Remotely by one of the following:

i. A manual stopping device at a remote location.

ii. As part of a preplanned evacuation response.

4.* Where provision is made for remote stopping of escalators counted as means of egress, one of the following shall apply:

a. The stop shall be delayed until it is preceded by a minimum 15-second audible signal or warning message sounded at the escalator.

b. Where escalators are equipped with the necessary controls to decelerate in a controlled manner under the full rated load, the stop shall be delayed for at least 5 seconds before beginning deceleration, and the deceleration rate shall be no greater than 0.052 m/sec² (0.17 ft/sec²).

5. Where an audible signal or warning message is used, the following shall apply:

a. The signal or message shall have a sound intensity that is at least 15 dBA above the average ambient sound level for the entire length of the escalator.

b. The signal shall be distinct from the fire alarm signal.

c. The warning message shall meet audibility and intelligibility requirements.

5.3.7* Doors, gates, security grilles, and exit hatches.

5.3.7.1 The egress capacity for doors and gates in a means of egress serving public areas shall be computed as follows:

1. Sixty people per minute (p/min) for single leaf doors and gates.

2. * 0.0819 p/mm-min (2.08 p/in.-min) for bi-parting multi-leaf doors and gates measured for the clear width dimension.

5.3.7.2 Gates in a means of egress shall be designed in accordance with the requirements for doors serving as a means of egress.

5.3.7.2.1 Security grilles are allowed when designed and operated in accordance with the IBC.

5.3.7.3 Where used, exit hatches shall comply with the requirements of Sections 6.3.3.15 through 6.3.3.17.

5.3.9* Horizontal exits. Horizontal exits shall comply with IBC Section 1026.

5.3.11 Means of egress lighting.

5.3.11.1 Illumination of the means of egress in stations, including escalators that are considered a means of egress, shall be in accordance with IBC Section 1008.

5.3.11.2 Means of egress, including escalators considered as means of egress, shall be provided with a system of emergency lighting in accordance with IBC Section 1008

5.3.11.3 In addition to the requirements of Sections 5.3.11.1 and 5.3.11.2:

1. Lighting for stairs and escalators shall be designed to emphasize illumination on the top and bottom steps and landings.

2. Where newel- and comb-lighting is provided for escalator steps, such lighting shall be on emergency power circuits.

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3314.1 Fire watch during construction. Where required by the fire code official, a fire watch shall be provided during nonworking hours for new construction that exceeds 40 feet (12,192 mm) in height above the lowest adjacent grade.

EXCEPTIONS: 1. New construction that is built under the IRC.
 2. New construction less than 5 stories and 50,000 square feet (4645 M²) per story.

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Chapter 35—Referenced standards.

Add the reference standards as follows:

Standard reference number	Title	Referenced in code section number
ACI 561-24	Assessment, Repair, and Rehabilitation of Existing Concrete Structures	405.1.1
ASCE/SEI 7-16	Minimum Design Loads and Associated Criteria for Buildings and Other Structures with Supplement No.1, Supplement No. 2, and Supplement No. 3.	No amendments to referenced sections
ASCE/SEI 7-22	Minimum Design Loads and Associated Criteria for Buildings and Other Structures	1615.1
NFPA 130-20	Standard for Fixed Guideway Transit and Passenger Rail Systems	3101.1, 3116
NFPA 13-19	Standard for the Installation of Sprinkler Systems (except 9.3.6.3.5)	403.3.3, 712.1.3.1, 903.3.1.1, 903.3.2, 903.3.8.2, 903.8.5, 904.13, 905.3.4, 907.6.4, 1019.3

Appendix P Construction and demolition material management

P101 General

P101.1 Purpose. The purpose of this code is to increase the *reuse* and *recycling* of construction and *demolition* materials.

P101.2 Scope. This code applies to new *building* construction, *alterations to existing buildings* and the *demolition of existing buildings* having a work area greater than 750 square feet or a project value greater than \$75,000, whichever is more restrictive.

EXCEPTION: Projects determined to be unsafe pursuant to Section 116.

P102 General definitions.

Demolition. The process of razing, relocating, or removing an existing *building or structure*, or a portion thereof.

Divert, diverted, or diversion. The reuse, recycling, or beneficial use of construction and *demolition* materials.

Recycling. The process of transforming or remanufacturing waste materials into useable or marketable materials for use other than landfill disposal, combustion, or incineration.

Reuse. The return of a material into the economic stream for use.

Salvage. The recovery of construction and *demolition building* material and components from a *building or site* in order to increase the reuse or repurpose potential of these materials and decrease the amount of material being sent to the landfill. Salvaged material may be sold, donated, or reused on *site*.

P103 Construction and demolition material management.

P103.1 Collection containers. All *sites* where *recyclable* construction and *demolition* materials are generated and transported for *recycling* must provide a separate container for nonrecyclable materials pursuant to WAC 173-345-040.

P103.2 Salvage assessment. A *salvage* assessment shall be submitted prior to permit issuance. The salvage assessment shall identify the building components of an existing building that, if removed, have the potential to be reused. This assessment shall be signed by the owner and serve as an affidavit stating that the project shall be executed in compliance with the requirements of this code.

EXCEPTION: Projects that include only new construction.

P103.3 Waste diversion report. A waste diversion report shall be submitted prior to issuance of the Certificate of Occupancy. The waste diversion report shall identify the following:

1. Weight or volume of project-generated construction and *demolition* material;
2. Whether the material was disposed in a landfill or *diverted*;
3. The hauler of the material;
4. The receiving facility or location; and
5. The date materials were accepted by the receiving facility or location.

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