

## WSR 23-15-015

## EXPEDITED RULES

## DEPARTMENT OF HEALTH

(Pharmacy Quality Assurance Commission)

[Filed July 7, 2023, 8:14 a.m.]

Title of Rule and Other Identifying Information: Incorporation by reference for sections of Title 21 C.F.R. The pharmacy quality assurance commission (commission) is proposing a revision to WAC 246-945-040 Uniform Controlled Substance Act, to incorporate sections of Title 21 C.F.R. by reference and provide information for acquiring copies of reference material.

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: In 2020, the commission consolidated multiple chapters of rules into chapter 246-945 WAC that covers the practice of pharmacy. This proposed rule making amends WAC 246-945-040(1) to incorporate Title 21 C.F.R. by reference for the purpose of capturing any changes made to Title 21 C.F.R. after WAC 246-945-040 went into effect on July 1, 2020. A new subsection, WAC 246-945-040(2), is also proposed for the purpose of providing individuals directions for acquiring copies of the reference material listed in subsection (1) for public inspection.

Reasons Supporting Proposal: As currently written, WAC 246-945-040 does not account for changes made to Title 21 C.F.R. after the effective date of July 1, 2020. The proposed rule language qualifies for expedited rule making under RCW 34.05.353 (1)(b), as the language would incorporate by reference without material change the federal regulations. The proposed subsection WAC 246-945-040(2) also qualifies for expedited rule making under RCW 34.05.353 (1)(c), as the section adds addresses to clarify the locations by which individuals may acquire copies of the reference material.

Statutory Authority for Adoption: RCW 18.64.005, 34.05.353 (1)(b) and (c), 69.50.201.

Statute Being Implemented: RCW 18.64.005.

Rule is necessary because of federal law, United States Food and Drug Administration (March 28, 2023). *Title 21 C.F.R.* <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/cfrsearch.cfm>.

Name of Proponent: Washington state pharmacy quality assurance commission, governmental.

Name of Agency Personnel Responsible for Drafting and Implementation: Joshua Munroe, 111 Israel Road S.E., Tumwater, WA 98501, 360-502-5058; Enforcement: Marlee O'Neill, 111 Israel Road S.E., Tumwater, WA 98501, 360-480-9108.

This notice meets the following criteria to use the expedited adoption process for these rules:

Adopts or incorporates by reference without material change federal statutes or regulations, Washington state statutes, rules of other Washington state agencies, shoreline master programs other than those programs governing shorelines of statewide significance, or, as referenced by Washington state law, national consensus codes that generally establish industry standards, if the material adopted or incorporated regulates the same subject matter and conduct as the adopting or incorporating rule.

Corrects typographical errors, makes address or name changes, or clarifies language of a rule without changing its effect.

Explanation of the Reason the Agency Believes the Expedited Rule-Making Process is Appropriate: The proposed amending language states that WAC 246-945-040 incorporates Title 21 C.F.R. by reference except in those sections as identified in rule. This clarifies the chapter to acknowledge changes to Title 21 C.F.R. made after the effective date of WAC 246-945-040.

## NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Joshua Munroe, Pharmacy Quality Assurance Commission, P.O. Box 47852, Olympia, WA 98504-7852, phone 360-502-5058, email PharmacyRules@doh.wa.gov, <https://fortress.wa.gov/doh/policyreview>, AND RECEIVED BY September 18, 2023.

July 6, 2023

Kenneth Kenyon, PharmD, MBA  
Pharmacy Quality Assurance Chair

**OTS-4277.3**

AMENDATORY SECTION (Amending WSR 20-12-072, filed 6/1/20, effective 7/1/20)

**WAC 246-945-040 Uniform Controlled Substance Act.** (1) The commission adopts (~~(21 C.F.R. as its own)~~) and incorporates Title 21 of the Code of Federal Regulations in effect as of March 2, 2023, by reference. The following sections of 21 C.F.R. do not apply: (~~Sec. 1301.13, Sec. 1301.33, Sec. 1301.35-.46, Sec. 1303, Sec. 1308.41-.45, and Sec. 1316.31-.67~~) Sec. 6.1 - 6.5, Sec. 58.1 - 58.15, Sec. 83 - 98, Sec. 100 - 199, Sec. 225 - 226, Sec. 291, Sec. 370 - 499, Sec. 501.1 - 501.110, Sec. 502.5 - 502.19, Sec. 505, Sec. 507.1 - 507.215, Sec. 508, Sec. 509.3 - 509.30, Sec. 536, 539, 540, 544, 546, 548, 555, and 564, Sec. 556.1 - 556.770, Sec. 558.3 - 558.665, Sec. 570, 571, and 573, Sec. 579.12 - 579.40, Sec. 584, Sec. 589, Sec. 590 - 599, Sec. 601 - 607, Sec. 620, Sec. 630.1 - 630.40, Sec. 640.1 - 640.130, Sec. 650, Sec. 700 - 799, Sec. 804 - 805, Sec. 813, Sec. 897, Sec. 900, Sec. 1000 - 1050, Sec. 1100 - 1150, Sec. 1210.1 - 1210.31, Sec. 1220, Sec. 1240.3 - 1240.95, Sec. 1250.3 - 1250.96, Sec. 1251 - 1269, Sec. 1270.1 - 1270.43, Sec. 1271.1 - 1271.440, Sec. 1272 - 1299, Sec. 1301.13, Sec. 1301.28, Sec. 1301.33, Sec. 1301.35 - 1301.46, Sec. 1308.41 - 1308.45, Sec. 1316.31 - 1316.67, and Sec. 1400 through 1499. Any inconsistencies between (~~(21 C.F.R. Sec. 1300 through 1321)~~) the material incorporated by reference in this subsection and the remainder of this chapter should be resolved in favor of this chapter. Nothing in this chapter applies to the production, processing, distribution, or possession of marijuana as authorized and regulated by the Washington state liquor and cannabis board.

(2) Copies of the reference material listed in subsection (1) of this section are available for public inspection at the commission's office at Department of Health, Town Center 2, 111 Israel Road S.E., Tumwater, WA 98501. Requestors may also access copies at <https://www.ecfr.gov/current/title-21>.

(3) Registration. A separate registration is required for each place of business, as defined in 21 C.F.R. Sec. 1301.12, where controlled substances are manufactured, distributed, or dispensed. Application for registration must be made on forms supplied by the commission, and all requested information must be supplied unless the information is not applicable, which must be indicated by the applicant. An applicant for registration must hold the appropriate license provided for in chapter 18.64 RCW.

~~((3))~~ (4) Recordkeeping and inventory. Every registrant shall keep and maintain inventory records required by 21 C.F.R. Sec. 1304.04. Registrants are also required to keep a record of receipt and distribution of controlled substances. Records shall include:

(a) Invoices, orders, receipts, or any other document regardless of how titled, establishing the date, supplier, and quantity of drug received, and the name of the drug;

(b) Distribution records, including invoices, or any other document regardless of how titled from wholesalers, manufacturers, or any other entity to which the substances were distributed and prescriptions records for dispensers;

(c) In the event of a significant loss or theft, two copies of DEA 106 (report of theft or loss of controlled substances) must be transmitted to the federal authorities and a copy must be sent to the commission;

(d) For transfers of controlled substances from one dispenser to another, a record of the transfer must be made at the time of transfer indicating the drug, quantity, date of transfer, who it was transferred to, and from whom. Records must be retained by both the transferee and the transferor. These transfers can only be made in emergencies pursuant to 21 C.F.R. Sec. 1307.11.

~~((4))~~ (5) Credential holders and pharmaceutical firms shall maintain records for Schedule II drugs separately from all other records.

~~((5))~~ (6) Credential holders and pharmaceutical firms may maintain records for Schedule III, IV, and V drugs either separately or in a form that is readily retrievable from the business records of the registrant.

~~((6))~~ (7) A federal order form is required for each distribution of a Schedule I or II controlled substance. Credential holders and pharmaceutical firms must keep and make readily available these forms and other records to the commission or its designee.

[Statutory Authority: RCW 18.64.005, 18.64.080, 18.130.075, 18.64.043, 18.64.044, 18.64.045, 18.64.046, 18.64.370, 18.64.460, 69.50.310, 18.64.011, 18.64.245, 18.64.470, 18.64.255, 18.64.205, 18.64.253, 18.64.410, 18.64.500, 18.64.590. WSR 20-12-072, § 246-945-040, filed 6/1/20, effective 7/1/20.]

**WSR 23-15-016**  
**EXPEDITED RULES**  
**BUILDING CODE COUNCIL**  
 [Filed July 7, 2023, 10:21 a.m.]

Title of Rule and Other Identifying Information: Chapter 51-52 WAC editorial modifications to the 2021 International Mechanical Code (IMC) and 2021 International Fuel Gas Code (IFGC).

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: Chapter 51-52 WAC editorial modifications to the 2021 IMC.

Reasons Supporting Proposal: With the exception of the issues noted below, this represents section and reference numbering housekeeping.

WAC	Section	Change	Rationale/Discussion
51-52-003	IMC	The word "Conference" is changed to "council."	Corrects mistake in naming of publishing agency of the model code.
51-52-008	Implementation	Changes the date of implementation from "July 1, 2023" to "October 29, 2023."	Change necessary to align with implementation date change filed previously in WAC. This change aligns the text in WAC with the previous filing.
51-52-0401	IMC Section 401.4 #3	Adds the text "A minimum of 3 feet (914 mm) separation shall be maintained between other environmental air exhaust outlets and other dwelling or sleeping unit factory-built intake/exhaust combination termination fittings." at the end of Section 401.4 #3.	Corrects omission from original filing.
51-52-0403	IMC Table 403.3.1.1	In row "Gym, stadium, arena (play area)" Occupant Density Changes from "-" to "7," People Outdoor Airflow Rate in Breathing Zone R, cfm/Person changes from "-" to "20," and Area Outdoor Airflow Rate in Breathing Zone R, cfm/ft <sup>2</sup> changes from "0.30" to "0.18."	Corrects omission from original filing.
	IMC Section 403.4	Deletes the words "ventilation requirements for."	Editorial. No change in regulatory effect.
51-52-0501	IMC Section 501.3.1 #4	Changes section reference from "1613" to "1612."	Editorial. No change in regulatory effect.
51-52-0602	IMC Section 602	Changes title of Section 602 from "Duct Construction and Installation" to "Plenums."	Corrects omission from original filing.
51-52-1106	IMC Section 1106.4.2	Section "1106.5.2" is renumbered as "1106.4.2."	Change is necessary to place amendment in the correct place within the model code.
	IMC Table 1106.4.2	Table "1106.5.2" is renumbered as "1106.4.2."	
51-52-21409	IFGC Section 409	Changes title of Section 409 from "Drips and Sloped Piping" to "Shut Off Valves."	Corrects omission from original filing.

Statutory Authority for Adoption: RCW 19.27.031, 19.27.074.

Statute Being Implemented: RCW 19.27.031, 19.27.074.

Rule is not necessitated by federal law, federal or state court decision.

Name of Proponent: State building code council, governmental.

Name of Agency Personnel Responsible for Drafting and Implementation: Dustin Curb, 1500 Jefferson Street S.E., Olympia, WA 98504, 360-972-4158; Enforcement: Local jurisdictions having authority.

This notice meets the following criteria to use the expedited adoption process for these rules:

Adopts or incorporates by reference without material change federal statutes or regulations, Washington state statutes, rules of other Washington state agencies, shoreline master programs other than those programs governing shorelines of statewide significance, or, as referenced by Washington state law, national consensus codes that generally establish industry standards, if the material adopted or incorporated regulates the same subject matter and conduct as the adopting or incorporating rule.

Corrects typographical errors, makes address or name changes, or clarifies language of a rule without changing its effect.

Explanation of the Reason the Agency Believes the Expedited Rule-Making Process is Appropriate: This addresses clerical oversight.

#### NOTICE

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July 3, 2023  
Tony Doan  
Chair

#### OTS-4722.2

AMENDATORY SECTION (Amending WSR 23-02-055 and 23-12-106, filed 1/3/23 and 6/7/23, effective 10/29/23)

**WAC 51-52-003 International Mechanical Code.** The 2021 edition of the *International Mechanical Code* published by the International Code ((Conference)) Council is hereby adopted by reference with the exceptions noted in this chapter of the Washington Administrative Code (WAC).

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-055 and 23-12-106, § 51-52-003, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-03-041, § 51-52-003, filed 1/8/20, effective 7/1/20; WSR 16-01-148, § 51-52-003, filed 12/21/15, effective 7/1/16. Statutory Authority: RCW 19.27.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-053, § 51-52-003, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.190, 19.27.074, 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 10-03-099, § 51-52-003, filed 1/20/10, effective

7/1/10. Statutory Authority: RCW 19.27.190, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-092, § 51-52-003, filed 12/19/06, effective 7/1/07. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 04-01-104, § 51-52-003, filed 12/17/03, effective 7/1/04.]

AMENDATORY SECTION (Amending WSR 23-02-055 and 23-12-106, filed 1/3/23 and 6/7/23, effective 10/29/23)

**WAC 51-52-008 Implementation.** The International Mechanical Code adopted by chapter 51-52 WAC shall become effective in all counties and cities of this state on (~~July 1~~) October 29, 2023.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-055 and 23-12-106, § 51-52-008, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 21-11-066, § 51-52-008, filed 5/14/21, effective 6/14/21; WSR 20-03-041, § 51-52-008, filed 1/8/20, effective 7/1/20; WSR 16-01-148, § 51-52-008, filed 12/21/15, effective 7/1/16. Statutory Authority: RCW 19.27.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-053, § 51-52-008, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.190, 19.27.074, 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 10-03-099, § 51-52-008, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.190, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-092, § 51-52-008, filed 12/19/06, effective 7/1/07. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 04-01-104, § 51-52-008, filed 12/17/03, effective 7/1/04.]

AMENDATORY SECTION (Amending WSR 23-02-055 and 23-12-106, filed 1/3/23 and 6/7/23, effective 10/29/23)

**WAC 51-52-0401 Section 401—General.**

**401.2 Ventilation required.** Every occupied space other than enclosed parking garages and buildings used for repair of automobiles shall be ventilated in accordance with Section 401.2.1, 401.2.2 or 401.2.3. Enclosed parking garages and buildings used for repair of automobiles shall be ventilated by mechanical means in accordance with Sections 403 and 404.

**401.2.1 Group R occupancies.** Ventilation in Group R occupancies shall be provided in accordance with Section 403.4.

**401.2.2 Ambulatory care facilities and Group I-2 occupancies.** Ambulatory care facilities and Group I-2 occupancies shall be ventilated by mechanical means in accordance with Section 407.

**401.2.3 All other occupancies.** Ventilation in all other occupancies shall be provided by natural means in accordance with Section 402 or by mechanical means in accordance with Sections 403.1 to 403.7.

**401.3 When required.** Group R occupancies shall be vented continuously or intermittently in accordance with Section 403.4. Ventilation in all other occupancies shall be provided during the periods that the room or space is occupied.

**401.4 Intake opening location.** Air intake openings shall comply with all of the following:

1. Intake openings shall be located not less than 10 feet (3048 mm) from lot lines or buildings on the same lot. Lot lines shall not be defined as a separation from a street or public way.

2. Mechanical and gravity outdoor air intake openings shall be located not less than 10 feet (3048 mm) horizontally from any hazardous or noxious contaminant source, such as vents, streets, alleys, parking lots, and loading docks, except as specified in Item 3 or Section 501.3.1. Outdoor air intake openings shall be permitted to be located less than 10 feet (3048 mm) horizontally from streets, alleys, parking garage entries, parking lots, and loading docks provided that the openings are located not less than 25 feet (7620 mm) vertically above such locations. Where openings front on a street or public way, the distance shall be measured from the closest edge of the street or public way.

EXCEPTIONS:

1. Intake air openings providing less than 500 cfm of outdoor air to Group R occupancies are permitted to be located less than 10 feet (3048 mm) horizontally from parking lots provided that the openings are not less than 15 feet (4572 mm) vertically above the parking lot.
2. Intake air openings providing less than 500 cfm of outdoor air to Group R occupancies are permitted to be located less than 10 feet (3048 mm) horizontally from parking lots provided that the openings are not less than 15 feet (4572 mm) vertically above the clear height for vehicles in the parking garage.

3. Intake openings shall be located not less than 3 feet (914 mm) below contaminant sources where such sources are located within 10 feet (3048 mm) of the opening. Separation is not required between intake air openings, operable openings, and living space exhaust air openings of an individual dwelling unit or sleeping unit where an approved factory-built intake/exhaust combination termination fitting is used to separate the air streams in accordance with the manufacturer's instructions. For these combined terminations, the exhaust air concentration within the intake airflow shall not exceed 10 percent as established by the manufacturer, in accordance with ASHRAE 62.2 Section 6.8, Exception 4. A minimum of three feet (914 mm) separation shall be maintained between other environmental air exhaust outlets and other dwelling or sleeping unit factory-built intake/exhaust combination termination fittings.

4. Intake openings on structures in flood hazard areas shall be at or above the elevation required by Section 1612 of the *International Building Code* for utilities and attendant equipment.

EXCEPTION: Enclosed parking garage and repair garage ventilation air intakes are permitted to be located less than 10 feet horizontally from or 25 feet vertically above a street, alley, parking lot, and loading dock.

**401.7 Testing and balancing.** At the discretion of the building official, flow testing may be required to verify that the mechanical system(s) satisfies the requirements of this chapter. Flow testing may be performed using flow hood measuring at the intake or exhaust points of the system, in-line pitot tube, or pitot-traverse type measurement systems in the duct, short term tracer gas measurements, or other means approved by the code official.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-055 and 23-12-106, § 51-52-0401, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-03-041, § 51-52-0401, filed 1/8/20, effective 7/1/20; WSR 16-01-148, § 51-52-0401, filed 12/21/15, effective 7/1/16. Statutory Authority: RCW 19.27.190, 19.27.074, 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 10-03-099, § 51-52-0401, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.190, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-092, § 51-52-0401, filed 12/19/06, ef-

fective 7/1/07. Statutory Authority: RCW 19.27.020, 19.27.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 05-01-015, § 51-52-0401, filed 12/2/04, effective 7/1/05.]

AMENDATORY SECTION (Amending WSR 23-02-055 and 23-12-106, filed 1/3/23 and 6/7/23, effective 10/29/23)

**WAC 51-52-0403 Section 403—Mechanical ventilation.**

**403.1 Ventilation system.** Mechanical ventilation shall be provided by a method of supply air and return or *exhaust air*. The amount of supply air shall be approximately equal to the amount of return and *exhaust air*. The system shall not be prohibited from producing negative or positive pressure. The system to convey ventilation air shall be designed and installed in accordance with Chapter 6.

**403.2 Outdoor air required.** The minimum *outdoor airflow rate* shall be determined in accordance with Section 403.3.

EXCEPTIONS: 1. Where the registered design professional demonstrates that an engineered ventilation system design will prevent the maximum concentration of contaminants from exceeding that obtainable by the rate of *outdoor air* ventilation determined in accordance with Section 403.3, the minimum required rate of *outdoor air* shall be reduced in accordance with such engineered system design.  
2. Alternate systems designed in accordance with ASHRAE Standard 62.1 Section 6.2, Ventilation Rate Procedure, shall be permitted.

**403.2.1 Recirculation of air.** The air required by Section 403.3 shall not be recirculated. Air in excess of that required by Section 403.3 shall not be prohibited from being recirculated as a component of supply air to building spaces, except that:

1. Ventilation air shall not be recirculated from one dwelling to another or to dissimilar occupancies.

2. Supply air to a swimming pool and associated deck areas shall not be recirculated unless such air is dehumidified to maintain the relative humidity of the area at 60 percent or less. Air from this area shall not be recirculated to other spaces where 10 percent or more of the resulting supply airstream consists of air recirculated from these spaces. The design and installation of dehumidification systems shall comply with ANSI/ACCA 10 Manual SPS.

3. Where mechanical exhaust is required by Note b in Table 403.3.1.1, recirculation of air from such spaces shall be prohibited. All air supplied to such spaces shall be exhausted, including any air in excess of that required by Table 403.3.1.1.

4. Where mechanical exhaust is required by Note g in Table 403.3.1.1, mechanical exhaust is required and recirculation from such spaces is prohibited where more than 10 percent of the resulting supply airstream consists of air recirculated from these spaces. Recirculation of air that is contained completely within such spaces shall not be prohibited.

**403.3 Outdoor air and local exhaust airflow rates.** Group R occupancies shall be provided with outdoor air and local exhaust in accordance with Section 403.4. All other buildings intended to be occupied shall be provided with outdoor air and local exhaust in accordance with Section 403.3.1.

**403.3.1.1 Outdoor airflow rate.** Ventilation systems shall be designed to have the capacity to supply the minimum outdoor airflow rate determined in accordance with this section. In each occupiable space, the ventilation system shall be designed to deliver the required rate of outdoor airflow to the breathing zone. Outdoor air shall be supplied



directly to each occupiable space from an air handling unit through a fully ducted path or ducted to within 12 inches of the return air opening of a fan-powered terminal unit used to transfer the outdoor air to the occupiable space. The occupant load utilized for design of the ventilation system shall not be less than the number determined from the estimated maximum occupant load rate indicated in Table 403.3.1.1. Ventilation rates for occupancies not represented in Table 403.3.1.1 shall be those for a listed occupancy classification that is most similar in terms of occupant density, activities and building construction; or shall be determined by an approved engineering analysis. The ventilation system, including transfer fan-powered terminal units shall be designed to supply the required rate of ventilation air continuously during the period the building is occupied, except as otherwise stated in other provisions of the code.

With the exception of smoking lounges, the ventilation rates in Table 403.3.1.1 are based on the absence of smoking in occupiable spaces. Where smoking is anticipated in a space other than a smoking lounge, the ventilation system serving the space shall be designed to provide ventilation over and above that required by Table 403.3.1.1 in accordance with accepted engineering practice.

EXCEPTION: Where occupancy density is known and documented in the plans, the outside air rate may be based on the design occupant density. Under no circumstance shall the occupancies used result in outside air less than one-half that resulting from application of Table 403.3.1.1 estimated maximum occupancy rates.

**Table 403.3.1.1**

**REQUIRED OUTDOOR VENTILATION AIR**

Occupancy Classification	Occupant Density #/1000 ft <sup>2a</sup>	People Outdoor Airflow Rate in Breathing Zone R <sub>p</sub> cfm/Person	Area Outdoor Airflow Rate in Breathing Zone R <sub>a</sub> cfm/ft <sup>2a</sup>	Exhaust Airflow Rate cfm/ft <sup>2a</sup>
<b>Correctional facilities</b>				
Booking/waiting	50	7.5	0.06	—
Cells				
Without plumbing fixtures	25	5	0.12	—
With plumbing fixtures <sup>g</sup>	25	5	0.12	1.0
Day room	30	5	0.06	—
Dining halls	—	—	—	—
(see "Food and beverage service")	—	—	—	—
Guard stations	15	5	0.06	—
<b>Dry cleaners, laundries</b>				
Coin-operated dry cleaner	20	15	—	—
Coin-operated laundries	20	7.5	0.12	—
Commercial dry cleaner	30	30	—	—
Commercial laundry	10	5	0.12	—
Storage, pick up	30	7.5	0.12	—
<b>Education</b>				
Art classroom <sup>g</sup>	20	10	0.18	0.7
Auditoriums	150	5	0.06	—
Classrooms (ages 5 through 8)	25	10	0.12	—
Classrooms (age 9 plus)	35	10	0.12	—
Computer lab	25	10	0.12	—
Corridors (see "Public spaces")	—	—	—	—
Day care (through age 4)	25	10	0.18	—
Lecture classroom	65	7.5	0.06	—
Lecture hall (fixed seats)	150	7.5	0.06	—
Locker/dressing rooms <sup>g</sup>	—	—	—	0.25
Media center	25	10	0.12	—

Occupancy Classification	Occupant Density #/1000 ft <sup>2a</sup>	People Outdoor Airflow Rate in Breathing Zone $R_p$ cfm/Person	Area Outdoor Airflow Rate in Breathing Zone $R_a$ cfm/ft <sup>2a</sup>	Exhaust Airflow Rate cfm/ft <sup>2a</sup>
Multiuse assembly	100	7.5	0.06	—
Music/theater/dance	35	10	0.06	—
Science laboratories <sup>g</sup>	25	10	0.18	1.0
Smoking lounges <sup>b</sup>	70	60	—	—
Sports locker rooms <sup>g</sup>	—	—	—	0.5
Wood/metal shops <sup>g</sup>	20	10	0.18	0.5
<b>Food and beverage service</b>				
Bars, cocktail lounges	100	7.5	0.18	—
Cafeteria, fast food	100	7.5	0.18	—
Dining rooms	70	7.5	0.18	—
Kitchens (cooking) <sup>b</sup>	20	7.5	0.12	0.7
<b>Hotels, motels, resorts, and dormitories</b>				
Bathrooms/toilets—private <sup>g</sup>	—	—	—	25/50 <sup>f</sup>
Bedroom/living room	10	5	0.06	—
Conference/meeting	50	5	0.06	—
Dormitory sleeping area	20	5	0.06	—
Gambling casinos	120	7.5	0.18	—
Lobbies/prefunction	30	7.5	0.06	—
Multipurpose assembly	120	50	0.06	—
<b>Offices</b>				
Conference rooms	50	5	0.06	—
Kitchenettes <sup>k</sup>	25	5	0.06	0.30
Office spaces	5	5	0.06	—
Reception areas	30	5	0.06	—
Telephone/data entry	60	5	0.06	—
Main entry lobbies	10	5	0.06	—
<b>Private dwellings, single and multiple</b>				
Garages, common for multiple units <sup>b</sup>	—	—	—	0.75
Kitchens <sup>b</sup>	—	—	—	See Table 403.4.7
Living areas <sup>c</sup>	—	See Table 403.4.2	—	—
Toilet rooms and bathrooms <sup>g</sup>	—	—	—	See Table 403.4.7
<b>Public spaces</b>				
Corridors serving other than Group R occupancies	—	—	0.06	—
Corridors serving Group R dwelling or sleeping units with whole house exhaust system	—	—	0.12	—
Corridors serving Group R dwelling or sleeping units with other than whole house exhaust system	—	—	0.06	—
Courtrooms	70	5	0.06	—
Elevator car	—	—	—	((+)) 1.0
Elevator lobbies in parking garage	—	—	1.0	—
Legislative chambers	50	5	0.06	—
Libraries	10	5	0.12	—
Museums (children's)	40	7.5	0.12	—
Museums/galleries	40	7.5	0.06	—
Places of religious worship	120	5	0.06	—
Shower room (per showerhead) <sup>g</sup>	—	—	—	50/20 <sup>f</sup>
Smoking lounges <sup>b</sup>	70	60	—	—
Toilet rooms—Public <sup>g</sup>	—	—	—	50/70 <sup>e</sup>

Occupancy Classification	Occupant Density #/1000 ft <sup>2a</sup>	People Outdoor Airflow Rate in Breathing Zone $R_p$ cfm/Person	Area Outdoor Airflow Rate in Breathing Zone $R_a$ cfm/ft <sup>2a</sup>	Exhaust Airflow Rate cfm/ft <sup>2a</sup>
<b>Retail stores, sales floors, and showroom floors</b>				
Dressing rooms	—	—	—	0.25
Mall common areas	40	7.5	0.06	—
Sales	15	7.5	0.12	—
Shipping and receiving	2	10	0.12	—
Smoking lounges <sup>b</sup>	70	60	—	—
Storage rooms	—	—	0.12	—
Warehouses (see "Storage")	—	10	0.06	—
<b>Specialty shops</b>				
Automotive motor fuel-dispensing stations <sup>b</sup>	—	—	—	1.5
Barber	25	7.5	0.06	0.5
Beauty salons <sup>b</sup>	25	20	0.12	0.6
Embalming rooms <sup>b</sup>	—	—	—	2.0
Nail salons <sup>b,h</sup>	25	20	0.12	0.6
Pet shops (animal areas) <sup>b</sup>	10	7.5	0.18	0.9
Supermarkets	8	7.5	0.06	—
<b>Sports and amusement</b>				
Disco/dance floors	100	20	0.06	—
Bowling alleys (seating areas)	40	10	0.12	—
Game arcades	20	7.5	0.18	—
Ice arenas, without combustion engines <sup>i</sup>	—	—	0.30	0.5
Gym, stadium, arena (play area) <sup>j</sup>	((—)) 7	((—)) 20	((0.30)) 0.18	—
Spectator areas	150	7.5	0.06	—
Swimming pools (pool and deck area)	—	—	0.48	—
Health club/aerobics room	40	20	0.06	—
Health club/weight room	10	20	0.06	—
<b>Storage</b>				
Janitor closets, trash rooms, recycling rooms	—	—	—	1.0
Repair garages, enclosed parking garage <sup>b, d</sup>	—	—	—	0.75
Storage rooms, chemical	—	—	—	1.5
Warehouses	—	—	0.06	—
<b>Theaters</b>				
Auditoriums (see "Education")	—	—	—	—
Lobbies	150	5	0.06	—
Stages, studios	70	10	0.06	—
Ticket booths	60	5	0.06	—
<b>Transportation</b>				
Platforms	100	7.5	0.06	—
Transportation waiting	100	7.5	0.06	—
<b>Workrooms</b>				
Bank vaults/safe deposit	5	5	0.06	—
Darkrooms	—	—	—	1.0
Copy, printing rooms	4	5	0.06	0.5
Freezer and refrigerated spaces (<50°F)	0	10	0	0
Meat processing <sup>c</sup>	10	15	—	—
Pharmacy (prep. area)	10	5	0.18	—
Photo studios	10	5	0.12	—
Computer (without printing)	4	5	0.06	—

For SI: 1 cubic foot per minute = 0.0004719 m<sup>3</sup>/s, 1 ton = 908 kg, 1 cubic foot per minutes per square foot = 0.00508 m<sup>3</sup>/(s•m<sup>2</sup>), °C = [(°F) -32]/1.8, 1 square foot = 0.0929 m<sup>2</sup>.

- a. Based upon *net occupiable floor area*.
- b. Mechanical exhaust required and the recirculation of air from such spaces is prohibited. Recirculation of air that is contained completely within such spaces shall not be prohibited (see Section 403.2.1, Item 3).
- c. Spaces unheated or maintained below 50°F are not covered by these requirements unless the occupancy is continuous.
- d. Ventilation systems in enclosed parking garages shall comply with Section 404.
- e. Rates are per water closet or urinal. The higher rate shall be provided where the exhaust system is designed to operate intermittently. The lower rate shall be permitted only where the exhaust system is designed to operate continuously while occupied.
- f. Rates are per room unless otherwise indicated. The higher rate shall be provided where the exhaust system is designed to operate intermittently. The lower rate shall be permitted only where the exhaust system is designed to operate continuously while occupied.
- g. Mechanical exhaust is required and recirculation from such spaces is prohibited. For occupancies other than science laboratories, where there is a wheel-type energy recovery ventilation (ERV) unit in the exhaust system design, the volume of air leaked from the exhaust airstream into the outdoor airstream within the ERV shall be less than 10 percent of the outdoor air volume. Recirculation of air that is contained completely within such spaces shall not be prohibited (see Section 403.2.1, Items 2 and 4).
- h. For nail salons, each manicure and pedicure station shall be provided with a *source capture system* capable of exhausting not less than 50 cfm per station. Exhaust inlets shall be located in accordance with Section 502.20. Where one or more required source capture systems operate continuously during occupancy, the exhaust rate from such systems shall be permitted to be applied to the exhaust flow rate required by Table 403.3.1.1 for the nail salon.
- i. Reserved.
- j. When combustion equipment is intended to be used on the playing surface, additional dilution ventilation and/or source control shall be provided.
- k. Kitchenettes require exhaust when they contain a domestic cooking appliance range or oven that is installed in accordance with Table 507.1.2. Kitchenettes that only contain a microwave cooking appliance are not required to have exhaust. A kitchenette may not contain commercial cooking appliances that require Type I or Type II exhaust as these occupancies are required to be exhausted to the kitchen category in Table 403.3.1.1.

**403.3.1.1.2.3 Multiple zone recirculating systems.** For ventilation systems wherein one or more air handlers supply a mixture of outdoor air and recirculated air to more than one ventilation zone, the outdoor air intake flow ( $V_{ot}$ ) shall be determined in accordance with Sections 403.3.1.1.2.3.1 through 403.3.1.1.2.3.4.

**403.3.1.1.2.3.1 Uncorrected outdoor air intake.** The uncorrected outdoor air intake flow ( $V_{ot}$ ) shall be determined in accordance with Equation 4-5.

$$V_{ou} = D \sum_{all\ zones} (R_p \times P_z) + \sum_{all\ zones} (R_a \times A_z) \quad \text{(Equation 4-5)}$$

**403.3.1.1.2.3.1.1 Occupant diversity.** The occupant diversity ratio (D) shall be determined in accordance with Equation 4-6 to account for variations in population within the ventilation zones served by the system.

$$D = P_s / \sum_{all\ zones} P_z \quad \text{(Equation 4-6)}$$

where:

$P_s$  = System population: The total population in the area served by the system.

EXCEPTION: Alternative methods to account for occupant diversity shall be permitted, provided the resulting  $V_{ou}$  value is no less than that determined using Equation 4-5.

**403.3.1.1.2.3.1.2 Design system population.** Design system population ( $P_s$ ) shall equal the largest (peak) number of people expected to occupy all ventilation zones served by the ventilation system during use.

Note: Design system population is always equal to or less than the sum of design zone population for all zones in the area served by the system because all zones may or may not be simultaneously occupied at design population.

**403.3.1.1.2.3.2 System ventilation efficiency.** The system ventilation efficiency ( $E_v$ ) shall be determined in accordance with Section 403.3.1.1.2.3.3 for the Simplified Procedure or Appendix A of ASHRAE 62.1 for the Alternative Procedure.

Note: These procedures also establish zone minimum primary air-flow rates for VAV systems.

**403.3.1.1.2.3.3 Simplified procedure.**

**403.3.1.1.2.3.3.1 System ventilation efficiency.** System ventilation efficiency ( $E_v$ ) shall be determined in accordance with Equation 4-6a or 4-6b.

$$E_v = 0.88 \times D + 0.22 \text{ for } D < 0.60 \text{ (Equation 4-6a)}$$

$$E_v = 0.75 \text{ for } D \geq 0.60 \text{ (Equation 4-6b)}$$

**403.3.1.1.2.3.3.2 Zone minimum primary airflow.** For each zone, the minimum primary airflow ( $V_{pz-min}$ ) shall be determined in accordance with Equation 4-7.

$$V_{pz-min} = V_{oz} \times 1.5 \text{ (Equation 4-7)}$$

**403.3.1.1.2.3.4 Outdoor air intake.** The design outdoor air intake flow ( $V_{ot}$ ) shall be determined in accordance with Equation 4-8.

$$V_{ot} = V_{ou}/E_v \text{ (Equation 4-8)}$$

**403.3.2 Group R-2, R-3 and R-4 occupancies.** This section is not adopted. See Section 403.4.

**403.3.2.1 Outdoor air for dwelling units.** This section is not adopted.

**403.3.2.2 Outdoor air for other spaces.** This section is not adopted.

**403.3.2.3 Local exhaust.** This section is not adopted.

**403.4 Group R whole house mechanical ventilation system.** Each dwelling unit or sleeping unit shall be equipped with a whole house mechanical ventilation system that complies with Sections 403.4.1 through 403.4.6. Each dwelling unit or sleeping unit shall be equipped with local exhaust complying with Section 403.4.7. All occupied spaces, including public corridors, other than the Group R dwelling units and/or sleeping units, that support these Group R occupancies shall meet the ((ventilation requirement of)) natural ventilation requirements of Section 402 or the mechanical ventilation requirements of Sections 403.1 through 403.3.

EXCEPTION: Alternate balanced whole house ventilation systems and local exhaust systems subject to the Washington State Energy Code, Residential Provisions serving Group R dwelling units designed and commissioned in accordance with ASHRAE Standard 62.2 are permitted.

**403.4.1 System design.** The whole house ventilation system shall consist of one or more supply fans, one or more exhaust fans, or an ERV/HRV with integral fans; and the associated ducts and controls. Local exhaust fans shall be permitted to serve as part of the whole house ventilation system when provided with the proper controls in accordance with Section 403.4.5. The systems shall be designed and installed to supply and exhaust the minimum outdoor airflow rates in accordance with Section 403.4.2 as corrected by the balanced and/or distributed whole house ventilation system coefficients in accordance with Section 403.4.3 where applicable.

**Table 403.4.2**  
WHOLE HOUSE MECHANICAL VENTILATION AIRFLOW RATE  
(CONTINUOUSLY OPERATING SYSTEMS)

Floor Area (ft <sup>2</sup> )	Bedrooms <sup>(d)</sup> <sup>a</sup>				
	1	2	3	4	>5
<500	30	30	35	45	50
500 - 1000	30	35	40	50	55
1001 - 1500	30	40	45	55	60
1501 - 2000	35	45	50	60	65

Floor Area (ft <sup>2</sup> )	Bedrooms <sup>(1) a</sup>				
	1	2	3	4	>5
2001 - 2500	40	50	55	65	70
2501 - 3000	45	55	60	70	75
3001 - 3500	50	60	65	75	80
3501 - 4000	55	65	70	80	85
4001 - 4500	60	70	75	85	90
4501 - 5000	65	75	80	90	95

<sup>(1) a</sup> Minimum airflow (Q<sub>r</sub>) is set at not less than 30 cfm for each dwelling units.

**403.4.2 Whole house mechanical ventilation rates.** The sleeping unit whole house mechanical ventilation minimum outdoor airflow rate shall be determined in accordance with the breathing zone ventilation rates minimum outdoor airflow rate shall be determined in accordance with the breathing zone ventilation rates requirements of Section 403.3.1.1.1.2 using Equation 4-2. The dwelling unit whole house mechanical ventilation minimum outdoor airflow rate shall be determined in accordance with Equation 4-10 or Table 403.4.2.

$$Q_r = 0.01 * A_{\text{floor}} + 7.5 * (N_{\text{br}} + 1) \quad \text{(Equation 4-10)}$$

where:

- Q<sub>r</sub> = Ventilation airflow rate, cubic feet per minute (cfm) but not less than 30 cfm for each dwelling unit.
- A<sub>floor</sub> = Conditioned floor area, square feet (ft<sup>2</sup>)
- N<sub>br</sub> = Number of bedrooms, not less than one.

**Table 403.4.3**  
SYSTEM COEFFICIENT (C<sub>system</sub>)

System Type	Distributed	Not Distributed
Balanced	1.0	1.25
Not Balanced	1.25	1.5

**403.4.3 Ventilation quality adjustment.** The minimum whole house ventilation rate from Section 403.4.2 shall be adjusted by the system coefficient in Table 403.4.3 based on the system type not meeting the definition of a *balanced whole house ventilation system* and/or not meeting the definition of a *distributed whole house ventilation system*.

$$Q_v = Q_r * C_{\text{system}} \quad \text{(Equation 4-11)}$$

where:

- Q<sub>v</sub> = Quality-adjusted ventilation airflow rate in cubic feet per minute (cfm)
- Q<sub>r</sub> = Ventilation airflow rate, cubic feet per minute (cfm) from Equation 4-10 or Table 403.4.1
- C<sub>system</sub> = System coefficient from Table 403.4.3

**403.4.4 Whole house ventilation residential occupancies.** Residential dwelling and sleeping unit whole house ventilation systems shall meet the requirements of Sections 403.4.4.1 or 403.4.4.2 depending on the occupancy of the residential unit.

**403.4.4.1 Whole house ventilation in Group R-2 occupancies.** Residential dwelling and sleeping units in Group R-2 occupancies system shall

include supply and exhaust fans and be a *balanced whole house ventilation system* in accordance with Section 403.4.6.3. The system shall include a heat or energy recovery ventilator with a sensible heat recovery effectiveness as prescribed in Section C403.3.6 or when selected as an option of R406 of the *Washington State Energy Code*. The whole house ventilation system shall operate continuously at the minimum ventilation rate determined in accordance with Section 403.4. The whole house supply fan shall provide ducted outdoor ventilation air to each habitable space within the residential unit.

EXCEPTIONS: 1. *Interior adjoining spaces* that are ventilated from another habitable space are not required to have outdoor air ducted directly to the adjoining space. These systems are considered *not distributed whole house ventilation systems* and shall use the "not distributed" quality adjustment system coefficient in accordance with Section 403.4.3.  
2. *Interior adjacent rooms* that are ventilated from another habitable space are not required to have outdoor air ducted directly to the *interior adjacent room*. These systems are considered *not distributed whole house ventilation systems* and shall use the "not distributed" quality adjustment system coefficient in accordance with Section 403.4.3. The interior adjacent room shall be provided with a transfer fan with a minimum airflow rate of 30 cfm or with relief air inlet with a minimum airflow of 20 cfm that is connected to the exhaust/relief air inlet of an ERV/HRV whole house ventilation system. Transfer fans that ventilate *interior adjacent rooms* shall meet the same rating in Section 403.3.6 and shall have whole house ventilation controls in accordance with Section 403.4.5.

**403.4.4.2 Whole house ventilation for other than Group R-2 occupancies.** Residential dwelling and sleeping units in other than Group R-2 occupancies, including I-1 condition 2 occupancies, shall have a whole house mechanical ventilation system with supply and exhaust fans in accordance with Section 403.4.6.1, 403.4.6.2, 403.4.6.3, or 403.4.6.4. The whole house ventilation system shall operate continuously at the minimum ventilation rate determined in accordance with Section 403.4.2 unless configured with intermittent off controls in accordance with Section 403.4.6.5. The whole house supply fan shall provide ducted outdoor ventilation air to each habitable space within the residential unit.

EXCEPTIONS: 1. *Interior adjoining spaces* that are ventilated from another habitable space are not required to have outdoor air ducted directly to the adjoining space. These systems are considered *not distributed whole house ventilation systems* and shall use the "not distributed" quality adjustment system coefficient in accordance with Section 403.4.3.  
2. *Interior adjacent rooms* that are ventilated from another habitable space are not required to have outdoor air ducted directly to the *interior adjacent room*. These systems are considered *not distributed whole house ventilation systems* and shall use the "not distributed" quality adjustment system coefficient in accordance with Section 403.4.3. The interior adjacent room shall be provided with a transfer fan with a minimum airflow rate of 30 cfm or with relief air inlet with a minimum airflow of 20 cfm that is connected to the exhaust/relief air inlet of an ERV/HRV whole house ventilation system. Transfer fans that ventilate *interior adjacent rooms* shall meet the same rating in Section 403.4.6 and shall have whole house ventilation controls in accordance with Section 403.4.5.

#### **403.4.5 Whole house ventilation controls.**

1. The whole house ventilation system shall be controlled with manual switches, timers or other means that provide for automatic operation of the ventilation system that are readily accessible by the occupant;

2. Whole house mechanical ventilation system shall be provided with controls that enable manual override off of the system by the occupant during periods of poor outdoor air quality. Controls shall include permanent text or a symbol indicating their function. Recommended control permanent labeling to include text similar to the following: "Leave on unless outdoor air quality is very poor." Manual controls shall be provided with ready access for the occupant.

EXCEPTION: Central whole house mechanical systems with supply air and/or exhaust that serve more than one dwelling or sleep units are not required to have manual override off controls accessible to the occupant.

3. Whole house ventilation systems shall be configured to operating continuously except where intermittent off controls are provided in accordance with Section 403.4.6.5 and allowed by Section 403.4.4.2.

**403.4.6 Whole house ventilation system component requirements.** Whole house ventilation supply and exhaust fans specified in this section shall have a minimum efficacy as prescribed in the *Washington State Energy Code*. The fans shall be rated for sound at a maximum of 1.0

sones at design airflow and static pressure conditions. Design and installation of the system or equipment shall be carried out in accordance with manufacturer's installation instructions.

EXCEPTIONS: 1. Central supply or exhaust fans serving multiple residential units do not need to comply with the maximum fan sone requirements.  
2. Interior joining spaces provided with a 30 cfm transfer fan or a 25 square foot permanent opening do not require supply ventilation air directly to the space. Transfer fans shall meet the sone rating above and have whole house ventilation controls in accordance with Section 403.4.5.

**403.4.6.1 Exhaust fans.** Exhaust fans required shall be ducted directly to the outside in accordance with Section 501.3. Exhaust air outlets shall be designed to limit the pressure difference to the outside to limiting the outlet free area maximum velocity to 500 feet per minute and equipped with backdraft dampers or motorized dampers in accordance with *Washington State Energy Code*. Exhaust fans shall be tested and rated in accordance with HVI 915, HVI 916, and HVI 920. Exhaust fans required in this section may be used to provide local ventilation. Exhaust fans serving spaces other than kitchens that are designed for intermittent exhaust rates in Table 403.4.7 shall be provided with occupancy sensors, humidity sensors, timer controls, or pollutant sensor controls to automatically override the fan to the high speed airflow rate. The exhaust fans shall be tested and the testing results shall be submitted and posted in accordance with Section 403.4.6.7.

EXCEPTIONS: 1. Central exhaust fans serving multiple residential units do not need to comply with the HVI testing requirements.  
2. Inlet free area maximum velocity may exceed 500 feet per minute when a factory-built combined exhaust/intake termination fitting is used.

**403.4.6.2 Supply fans.** Supply fans used in meeting the requirements of this section shall supply outdoor air from intake openings in accordance with Sections 401.4 and 401.5. Intake air openings shall be designed to limit the pressure difference to the outside to limiting the inlet free area maximum velocity to 500 feet per minute and when designed for intermittent off operation shall be equipped with motorized dampers in accordance with the *Washington State Energy Code*. Supply fans shall be tested and rated in accordance with HVI 915, HVI 916, and HVI 920. Where outdoor air is provided to each habitable dwelling unit or sleeping unit by supply fan systems the outdoor air shall be filtered. The filter shall be provided with access for regular maintenance and replacement. The filter shall have a Minimum Efficiency Rating Value (MERV) of at least 8.

EXCEPTION: Central supply fans serving multiple residential units do not need to comply with the HVI testing requirements.

**403.4.6.3 Balanced whole house ventilation system.** A balanced whole house ventilation system shall include both supply and exhaust fans. The supply and exhaust fans shall have airflow that is within 10 percent of each other. The tested and balanced total mechanical exhaust airflow rate is within 10 percent or 5 cfm, whichever is greater, of the total mechanical supply airflow rate. The flow rate test results shall be submitted and posted in accordance with Section 403.4.6.7. The exhaust fan shall meet the requirements of Section 403.4.6.1. The supply fan shall meet the requirements of Section 403.4.6.2. For Group R-2 dwelling and sleeping units, the system is required to have balanced whole house ventilation but is not required to have distributed whole house ventilation where the not distributed system coefficient from Table 403.4.3 is utilized to correct the whole house mechanical ventilation rate. The system shall be designed and balanced to meet the pressure equalization requirements of Section 501.4. Local exhaust systems that are not a component of the whole-house mechanical ventilation system are exempt from the balanced airflow calculation.



**403.4.6.4 Furnace integrated supply.** Systems using space condition heating and/or cooling air handler fans for outdoor air supply air distribution are not permitted.

EXCEPTION: Air handler fans shall be permitted that have multi-speed or variable speed supply airflow control capability with a low speed operation not greater than 25 percent of the rated supply air flow capacity during ventilation only operation. Outdoor air intake openings must meet the provisions of Sections 401.4 and 401.5 and must include a motorized damper that is activated by the whole house ventilation system controller. Intake air openings shall be designed to limit the pressure difference to the outside to limiting the inlet free area maximum velocity to 500 ft per min. The motorized damper must be controlled to maintain the outdoor airflow intake airflow within 10 percent of the whole house mechanical exhaust airflow rate. The supply air handler shall provide supply air to each habitable space in the residential unit. The whole house ventilation system shall include exhaust fans in accordance with Section 403.4.6.1 to meet the pressure equalization requirements of Section 501.4. The flow rate for the outdoor air intake must be tested and verified at the minimum ventilation fan speed and the maximum heating or cooling fan speed. The results of the test shall be submitted and posted in accordance with Section 403.4.6.7.

**403.4.6.5 Intermittent off operation.** Whole house mechanical ventilation systems shall be provided with advanced controls that are configured to operate the system with intermittent off operation and shall operate for a least two hours in each four-hour segment. The whole house ventilation airflow rate determined in accordance with Section 403.4.2 as corrected by Section 403.4.3 shall be multiplied by the factor determined in accordance with Table 403.4.6.5.

**Table 403.4.6.5**  
 INTERMITTENT WHOLE HOUSE MECHANICAL VENTILATION RATE  
 FACTORS<sup>a, b</sup>

Run-time Percentage in Each 4-hour Segment	50%	66%	75%	100%
Factor <sup>a</sup>	2	1.5	1.3	1.0

<sup>a</sup> For ventilation system run-time values between those given, the factors are permitted to be determined by interpolation.

<sup>b</sup> Extrapolation beyond the table is prohibited.

**403.4.6.6 Testing.** Whole house mechanical ventilation systems shall be tested, balanced and verified to provide a flow rate not less than the minimum required by Sections 403.4.2 and 403.4.3. Testing shall be performed according to the ventilation equipment manufacturer's instructions, or by using a flow hood, flow grid, or other airflow measuring device at the mechanical ventilation fan's inlet terminals, outlet terminals or grilles or in the connected ventilation ducts. Where required by the building official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the building official and shall be posted in the residential unit in accordance with Section 403.4.6.7.

**403.4.6.7 Certificate.** A permanent certificate shall be completed by the mechanical contractor, test and balance contractor or other approved party and posted on a wall in the space where the furnace is located, a utility room, or an approved location inside the building. When located on an electrical panel, the certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label, or other required labels. The certificate shall list the flow rate determined from the delivered airflow of the whole house mechanical ventilation system as installed and the type of mechanical whole house ventilation system used to comply with Section 403.4.3.

**403.4.7 Local exhaust.** Bathrooms, toilet rooms and kitchens shall include a local exhaust system. Such local exhaust systems shall have the capacity to exhaust the minimum airflow rate in accordance with Table 403.4.7 and Table 403.3.1.1, including notes. Fans required by this section shall be provided with controls that enable manual override or automatic occupancy sensor, humidity sensor, timer controls, or pollutant sensor controls. An "on/off" switch shall meet this requirement for manual controls. Manual fan controls shall be provided with ready access in the room served by the fan.

**Table 403.4.7**  
MINIMUM EXHAUST RATES

Area to be exhausted	Exhaust Rate	
	Intermittent	Continuous
Open kitchens	In accordance with Section 403.4.7.3	Not permitted
Enclosed kitchens	In accordance with Section 403.4.7.3	5 ACH based on kitchen volume
Bathrooms - Toilet rooms	50 cfm	20 cfm

**403.4.7.1 Whole house exhaust controls.** If the local exhaust fan is included in a whole house ventilation system in accordance with Section 403.4.6, the exhaust fan shall be controlled to operate as specified in Section 403.4.5.

**403.4.7.2 Local exhaust fans.** Exhaust fans shall meet the following criteria.

1. Exhaust fans shall be tested and rated in accordance with HVI 915, HVI 916, and HVI 920 or equivalent.

2. Fan airflow rating and duct system shall be designed and installed to deliver at least the exhaust airflow required by Table 403.4.7. The airflows required refer to the delivered airflow of the system as installed and tested using a flow hood, flow grid, or other airflow measurement device. Local exhaust systems shall be tested and verified to provide a flow rate not less than the minimum required by this section.

3. Design and installation of the system or equipment shall be carried out in accordance with manufacturers' installation instructions.

4. Intermittent local exhaust system serving kitchens shall be rated for sound at a maximum of 3 sones at one or more airflow settings not less than 100 cfm at a static pressure not less than that determined at working speed as specified in HVI 916 Section 7.2.

5. Continuous local exhaust system serving kitchens shall be rated for sound at a maximum of 1 sone at one or more airflow settings not less than 100 cfm at a static pressure not less than that determined at working speed as specified in HVI 916 Section 7.2.

- EXCEPTIONS:
1. The installed airflow is not required to be field-verified where an exhaust airflow rating at a pressure of 0.25 in. w.g. may be used, provided the duct sizing meets the prescriptive requirements of Table 403.4.7.2.
  2. Remote mounted fans need not meet sound requirements. To be considered for this exception, a remote mounted fan shall be mounted outside the kitchen, and there shall be at least 4 feet (1 m) of ductwork between the fan and the intake grille.

**Table 403.4.7.2**  
PRESCRIPTIVE EXHAUST DUCT SIZING

Fan Tested cfm at 0.25 inches w.g.	Minimum Flex Diameter	Maximum Length in Feet	Minimum Smooth Diameter	Maximum Length in Feet	Maximum Elbows <sup>a</sup>
50	4 inches	25	4 inches	70	3
50	5 inches	90	5 inches	100	3
50	6 inches	No Limit	6 inches	No Limit	3
80	4 inches <sup>b</sup>	NA	4 inches	20	3
80	5 inches	15	5 inches	100	3
80	6 inches	90	6 inches	No Limit	3
100	5 inches <sup>b</sup>	NA	5 inches	50	3
100	6 inches	45	6 inches	No Limit	3
125	6 inches	15	6 inches	No Limit	3
125	7 inches	70	7 inches	No Limit	3

- a. For each additional elbow, subtract 10 feet from length.
- b. Flex ducts of this diameter are not permitted with fans of this size.

**403.4.7.3 Local intermittent kitchen exhaust system.** Kitchen range hoods for domestic cooking appliances shall meet or exceed either the minimum airflow or the minimum capture efficiency in accordance with Table 403.4.7.3. Capture efficiency ratings shall be determined in accordance with ASTM E3087.

EXCEPTION: Other intermittent kitchen exhaust fans, including downdraft, shall meet or exceed 300 cfm airflow.

**Table 403.4.7.3  
Kitchen Range Hood Airflow Rates  
(CFM) and ASTM E3087 Capture Efficiency (CE) Ratings According to  
Kitchen Range Fuel Type**

Hood Over Electric Range	Hood Over Combustion Range
65 percent CE or 160 cfm	80 percent CE or 250 cfm

**403.4.7.3.1 Field verification and diagnostic testing for local intermittent kitchen exhaust system.** The local exhaust system for kitchens shall be installed to comply with local mechanical exhaust requirements specified in Section 403.4.7.3 and shall be field verified in accordance with the procedures below to confirm the model is rated by HVI or AHAM to comply with the following requirements:

1. Local intermittent exhaust system for kitchens shall be tested and verified to provide a minimum airflow rate or capture efficiency required by Section 403.4.7.3. Testing shall include verification of the maximum sound rating as specified in Section 403.4.7.2. Testing for the intermittent kitchen exhaust systems shall occur with the whole house ventilation system operating and with all dwelling unit or sleeping unit entry doors closed. Testing for exhaust systems that require mechanical makeup air in accordance with Section 505.4 shall include verifying that the mechanical makeup air opening is open. Testing for exhaust systems that require mechanical makeup air in accordance with Section 505.4 shall include verifying that the mechanical makeup air system is controlled to automatically start. Testing for exhaust systems that do not require mechanical makeup air in accordance with Section 505.4 and that are exempt from pressurize equalization per Section 501.4 shall be tested with operable openings manually opened unless design exhaust airflow can be achieved with all operable openings closed. Where required by the building official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the building official.

EXCEPTION: The installed airflow is not required to be field-verified where an exhaust airflow rating at a pressure of 0.25 in. w.g. is used, provided the duct sizing meets the prescriptive requirements of Table 403.4.7.2.

2. The verification shall utilize certified rating data from *HVI Publication 911, AHAM-Certified Range Hood Directory*, or another directory of certified product performance ratings approved by the code official for determining compliance. The verification procedure shall consist of visual inspection of the local intermittent kitchen exhaust system to verify and record the following information:

2.1. The manufacturer name and model number.

2.2. The model is listed in the HVI, AHAM, or equivalent directory.

2.3. The rated airflow value listed in the HVI, AHAM, or equivalent directory.

2.4. The sound rating value listed in the HVI, AHAM, or equivalent directory.

2.5. If the value for the rated airflow given in the directory is greater than or equal to the airflow requirements specified in Section 403.4.7.3 and if the value for the sone rating given in the directory is less than or equal to the sone rating requirements specified in Section 403.4.7.2, then the local intermittent kitchen exhaust system complies, otherwise the local intermittent kitchen exhaust system does not comply.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-055 and 23-12-106, § 51-52-0403, filed 1/3/23 and 6/7/23, effective 10/29/23. Statutory Authority: RCW 19.27.031, 19.27.074, and chapter 19.27 RCW. WSR 22-09-009, § 51-52-0403, filed 4/8/22, effective 5/9/22. Statutory Authority: RCW 19.27.035 and 19.27.074. WSR 21-05-020, § 51-52-0403, filed 2/8/21, effective 3/11/21. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 20-03-041, § 51-52-0403, filed 1/8/20, effective 7/1/20; WSR 17-10-075, § 51-52-0403, filed 5/3/17, effective 6/3/17; WSR 16-01-148, § 51-52-0403, filed 12/21/15, effective 7/1/16. Statutory Authority: RCW 19.27.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-053, § 51-52-0403, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031, 19.27.035, 19.27.074, and chapters 19.27 and 34.05 RCW. WSR 12-07-020, § 51-52-0403, filed 3/12/12, effective 4/12/12. Statutory Authority: RCW 19.27.190, 19.27.074, 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 10-03-099, § 51-52-0403, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.190, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-092, § 51-52-0403, filed 12/19/06, effective 7/1/07. Statutory Authority: RCW 19.27.020, 19.27.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 05-01-015, § 51-52-0403, filed 12/2/04, effective 7/1/05.]

AMENDATORY SECTION (Amending WSR 23-02-055 and 23-12-106, filed 1/3/23 and 6/7/23, effective 10/29/23)

**WAC 51-52-0501 Section 501—General.**

**501.3.1 Location of exhaust outlets.** The termination point of exhaust outlets and ducts discharging to the outdoors shall be located with the following minimum distances:

1. **For ducts conveying explosive or flammable vapors, fumes or dusts:** 30 feet (9144 mm) from the property line; 10 feet (3048 mm) from operable openings into the building; 6 feet (1829 mm) from exte-

rior walls and roofs; 30 feet (9144 mm) from combustible walls and operable openings into the building which are in the direction of the exhaust discharge; 10 feet (3048 mm) above adjoining grade.

2. **For other product-conveying outlets:** 10 feet (3048 mm) from property lines; 3 feet (914 mm) from exterior walls and roofs; 10 feet (3048 mm) from operable openings into the building; 10 feet (3048 mm) above adjoining grade.

3. **For environmental air exhaust other than enclosed parking garage and transformer vault exhaust:** 3 feet (914 mm) from property lines, 3 feet (914 mm) from operable openings into buildings for all occupancies other than Group U, and 10 feet (3048 mm) from mechanical air intakes. Such exhaust shall not be considered hazardous or noxious. Separation is not required between intake air openings and living space exhaust air openings of an individual dwelling unit or sleeping unit where an approved factory-built intake/exhaust combination termination fitting is used to separate the air streams in accordance with the manufacturer's instructions.

EXCEPTIONS:

1. The separation between an air intake and exhaust outlet on a single listed package HVAC unit.
2. Exhaust from environmental air systems other than garages may be discharged into an open parking garage.
3. Except for Group I occupancies, where ventilation system design circumstances require building HVAC air to be relieved, such as during economizer operation, such air may be relieved into an open or enclosed parking garage within the same building.

4. Exhaust outlets serving structures in flood hazard areas shall be installed at or above the elevation required by Section ((1613)) 1612 of the *International Building Code* for utilities and attendant equipment.

5. For enclosed parking garage exhaust system outlets and transformer vault exhaust system outlets: 10 feet (3048 mm) from property lines which separate one lot from another; 10 feet (3048 mm) from operable openings into buildings; 3 feet (914 mm) horizontally from, 10 feet above, or 10 feet below adjoining finished walkways.

6. For transformer vault exhaust system outlets, subject to the requirements of NFPA 70 Section 450.45: Ten feet (3048 mm) from fire escapes, required means of egress at the exterior of the building, elements of exit discharge, exterior combustible materials, and openings that are not protected in accordance with Section 705.8 of the *International Building Code*; 10 feet (3048 mm) from property lines which separate one lot from another; 10 feet (3048 mm) from operable openings into buildings; 10 feet (3048 mm) above walkways.

7. For elevator machinery rooms in enclosed or open parking garages: Exhaust outlets may discharge air directly into the parking garage.

8. For specific systems see the following sections:

- 8.1. Clothes dryer exhaust, Section 504.4.
- 8.2. Kitchen hoods and other kitchen exhaust equipment, Sections 506.3.13, 506.4 and 506.5.
- 8.3. Dust stock and refuse conveying systems, Section 511.2.
- 8.4. Subslab soil exhaust systems, Section 512.4.
- 8.5. Smoke control systems, Section 513.10.3.
- 8.6. Refrigerant discharge, Section 1105.7.
- 8.7. Machinery room discharge, Section 1105.6.1.

**501.4 Pressure equalization.** Mechanical exhaust systems shall be sized to remove the quantity of air required by this chapter to be exhausted. The system shall operate when air is required to be exhausted. Where mechanical exhaust is required in a room or space, such space shall be maintained with a neutral or negative pressure. If a greater quantity of air is supplied by a mechanical ventilating supply system than is removed by a mechanical exhaust for a room, adequate means

shall be provided for the natural or mechanical exhaust of the excess air supplied. If only a mechanical exhaust system is installed for a room or if a greater quantity of air is removed by a mechanical exhaust system than is supplied by a mechanical ventilating supply system for a room, adequate makeup air consisting of supply air, transfer air or outdoor air shall be provided to satisfy the deficiency. The calculated building infiltration rate shall not be used to satisfy the requirements of this section.

EXCEPTION: Intermittent kitchen exhaust, intermittent domestic dryer exhaust, and intermittent local exhaust systems in R-3 occupancies and dwelling units in R-2 occupancies are excluded from the pressure equalization requirement unless required by Section 504 or Section 505.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-055 and 23-12-106, § 51-52-0501, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-03-041, § 51-52-0501, filed 1/8/20, effective 7/1/20. Statutory Authority: RCW 19.27.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-053, § 51-52-0501, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.190, 19.27.074, 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 10-03-099, § 51-52-0501, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.190, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-092, § 51-52-0501, filed 12/19/06, effective 7/1/07. Statutory Authority: RCW 19.27.020, 19.27.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 05-01-015, § 51-52-0501, filed 12/2/04, effective 7/1/05.]

AMENDATORY SECTION (Amending WSR 16-01-148, filed 12/21/15, effective 7/1/16)

**WAC 51-52-0602 Section 602—(~~Duct construction and installation~~) Plenums.**

**602.1 General.** Supply, return, exhaust, relief and ventilation air plenums shall be limited to uninhabited crawl spaces, areas above a ceiling or below the floor, attic spaces and mechanical equipment rooms. Plenums shall be limited to one fire area. Air systems that serve multiple fire areas shall be ducted from the boundary of the fire area served directly to the air-handling equipment. Fuel-fired appliances shall not be installed within a plenum.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 16-01-148, § 51-52-0602, filed 12/21/15, effective 7/1/16.]

AMENDATORY SECTION (Amending WSR 20-03-041, filed 1/8/20, effective 7/1/20)

**WAC 51-52-1106 Section 1106—Machinery room, special requirements.**

**(~~1106.5.2~~) 1106.4.2 Emergency ventilation system.** An emergency ventilation system shall be provided at the minimum exhaust rate specified in ASHRAE 15 or Table 1106.5.2. Shutdown of the emergency ventilation system shall be by manual means.

**Table (~~1106.5.2~~) 1106.4.2**  
MINIMUM EXHAUST RATES

Refrigerant	Q(m/sec)	Q(cfm)
R32	15.4	32,600
R143A	13.6	28,700
R444A	6.46	13,700
R444B	10.6	22,400
R445A	7.83	16,600
R446A	23.9	50,700
R447A	23.8	50,400
R451A	7.04	15,000
R451B	7.05	15,000
R1234yf	7.80	16,600
R1234ze(E)	5.92	12,600

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 20-03-041, § 51-52-1106, filed 1/8/20, effective 7/1/20.]

AMENDATORY SECTION (Amending WSR 23-02-055 and 23-12-106, filed 1/3/23 and 6/7/23, effective 10/29/23)

**WAC 51-52-21409 Section 409 (IFGC)—(~~Drips and sloped piping~~)  
Shutoff valves.**

**Table 409.1.1  
Natural Gas Valve Standards**

Valve Standards	Appliance Shutoff Valve Application Up to 1/2 psig Pressure	Other Valve Applications			
		Up to 1/2 psig Pressure	Up to 2 psig Pressure	Up to 5 psig Pressure	Up to 125 psig Pressure
ANSI Z21.15/CGA 9.1	X	--	--	--	--
ASME B16.44	X	X	X <sup>a</sup>	X <sup>b</sup>	--
ASME B16.33	X	X	X	X	X
ASME B16.38	--	X	X	X	X

For SI: 1 pound per square inch gauge = 6.895 cPsa  
 a. If labeled 2G.  
 b. If labeled 5G.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-055 and 23-12-106, § 51-52-21409, filed 1/3/23 and 6/7/23, effective 10/29/23.]

**WSR 23-15-020**  
**EXPEDITED RULES**  
**OFFICE OF MINORITY AND**  
**WOMEN'S BUSINESS ENTERPRISES**  
[Filed July 7, 2023, 2:11 p.m.]

Title of Rule and Other Identifying Information: WAC 326-20-087  
Public works small business enterprise.

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: Amends RCW 39.19.030(7) to adopt rules under chapter 34.05 RCW, Administrative Procedure Act, governing a public works small business certification program.

Reasons Supporting Proposal: Passing of SB [2SSB] 5268.

Statutory Authority for Adoption: SB [2SSB] 5268 amends RCW 39.19.030(7).

Statute Being Implemented: WAC 326-20-087 [appears as filed by agency].

Rule is not necessitated by federal law, federal or state court decision.

Name of Proponent: Office of minority and women's business enterprises, governmental.

Name of Agency Personnel Responsible for Drafting, Implementation, and Enforcement: Sharon Harvey, 1110 Capitol Way South, Suite 150, Olympia, 360-704-8437.

This notice meets the following criteria to use the expedited adoption process for these rules:

Content is explicitly and specifically dictated by statute.

NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Julie Bracken, Washington State Office of Minority and Women's Business Enterprises, 1110 Capitol Way South, Suite 150, Olympia, WA 98504, phone 360-664-9750, fax 360-586-7079, email rules@omwbe.wa.gov, AND RECEIVED BY October 3, 2023.

July 7, 2023  
Julie Bracken  
Public Records Officer  
Rules Coordinator  
Records Manager

**OTS-4747.1**

NEW SECTION

**WAC 326-20-087 Public works small business enterprise.** (1) To foster small business participation, a race and gender-neutral certification program is created to eliminate obstacles to small business participation.



(2) Public works small business is a race and gender-neutral certification program that does not require social disadvantage under WAC 326-20-046. Other certification criteria, such as proof of economic disadvantage, ownership, business size, and control are required to be eligible for this program.

(3) Whenever issues arise regarding eligibility based on personal net worth, business size, ownership, and control which cannot be resolved by reference to these regulations, 49 C.F.R. Part 26 shall provide guidance to resolve such issues.

[]

**WSR 23-15-030**  
**EXPEDITED RULES**  
**BUILDING CODE COUNCIL**  
 [Filed July 10, 2023, 1:31 p.m.]

Title of Rule and Other Identifying Information: Chapter 51-51 WAC, Amendments to the 2021 International Residential Code (IRC).

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: Reconciling state amendments with section renumbering and model code modifications in the 2021 IRC; correcting errors and omissions.

Reasons Supporting Proposal:

<b>WAC</b>	<b>Section</b>	<b>Change</b>	<b>Rationale/Discussion</b>
51-51-003	IRC	Modifies the text, replaces Appendix U with Appendix WU.	Currently, there is a model code Appendix U and Washington state Appendix U. This modification is necessary to avoid confusion.
51-51-008	Implementation	Changes the implementation date from "July 1, 2023" to "October 29, 2023."	Change made to correlate with filing which changed the implementation date.
51-51-01010	R101.2	In the exceptions, replaces Appendix U with Appendix WU.	Currently, there is a model code Appendix U and Washington state Appendix U. This modification is necessary to avoid confusion.
51-51-0102	R102.5	<ul style="list-style-type: none"> <li>• In the exceptions, replaces Appendix U with Appendix WU.</li> <li>• Adds Appendix T to Exception 1.</li> <li>• Adds Appendices Y and Z to Exception 1.</li> </ul>	<ul style="list-style-type: none"> <li>• Currently, there is a model code Appendix U and Washington state Appendix U. This modification is necessary to avoid confusion.</li> <li>• Corrects an oversight; the title (solar-ready zone) was included, but Appendix T was omitted.</li> <li>• Appendices Y and Z were adopted by the state building code council (SBCC) in the 2021 IRC; they are not mandatory unless specifically referenced in the adopting ordinance. Nevertheless, Appendices Y and Z were not added to Exception 1 in Section R102.5, as intended.</li> </ul>
51-51-0301	R301.2	Changes table reference from "R301.2(1)" to "R301.2."	Editorial correction with no change in regulatory effect.
	Table R301.5	On the handrail row, relocates "200 <sup>h</sup> " from the "Uniform Load" column to the "Concentrated Load" column. On the "Passenger vehicle garages" row, changes the concentrated load value footnote from "h" to "a."	Editorial correction with no change in regulatory effect. These values were corrected with the International Code Council errata.
	Table R301.5 Footnote g.2.	Changes the word "inches" to "units."	Editorial correction with no change in regulatory effect; intended to align the state amendment with the model code language.

WAC	Section	Change	Rationale/Discussion
51-51-0302	R302.3.1 Exception 1.	Changes reference from "NFPA 13D" to "Section 2904."	Editorial correction with no change in regulatory effect; intended to align the state amendment with the model code language. SBCC adopts Section 2904, which allows residential sprinkler systems to be designed and installed in accordance with NFPA 13D or Section P2904. IRC technical advisory group recommended replacing NFPA 13D with Section P2904; however, this recommendation was inadvertently omitted.
	R302.3.4 Exception.	Adds the word "NFPA" before "13D."	Editorial correction with no change in regulatory effect.
	R302.13 Exception 1.	Changes reference to Appendix "U" to "WU."	Currently, there is a model code Appendix U and Washington state Appendix U. This modification is necessary to avoid confusion.
	R302.13 Exception 4.	Changes the word "dimensional" to "dimension."	Editorial correction with no change in regulatory effect; intended to align the state amendment with the model code language.
51-51-0303	R303.10	Changes Table reference from "R301.2(1)" to "R301.2."	Editorial correction with no change in regulatory effect; intended to provide the correct reference. Table R301.2(1) does not exist.
51-51-0311	R311.4	Adds "a" between the words "by" and "ramp."	Editorial correction with no change in regulatory effect.
	R311.7.12	Adds a metric measurement (508 mm) for 20 inches.	Editorial correction with no change in regulatory effect.
51-51-0312	R312.1.1	Adds the term "floors" to the first sentence.	Editorial modification for consistency with the model code language.
51-51-0314	R314.4	Changes reference "R314.2" to "R314.3."	Editorial correction with no change in regulatory effect.
51-51-03240	R324.3	Changes the word "alternate" with "alternative."	Editorial correction with no change in regulatory effect; intended to align the state amendment with the model code language.
	R324.4 Exceptions.	Adds metric dimensions in Exceptions 2, 3, 4, and 5.	Editorial correction with no change in regulatory effect.
51-51-0326	R326.1	Adds "s" after the word "attic" in the title and changes reference from "R326" to "R326.1."	Editorial corrections with no change in regulatory effect.
51-51-0330	R330.3	Adds the word "section" before reference to "R330.9" in items 2 and 3.	Editorial correction with no change in regulatory effect.
	R330.8.1 R330.8.2 R330.8.3 R330.8.3.1 R330.8.3.2 R330.8.4.1 R330.8.4.2 R330.8.5.1 R330.8.5.2 R330.11	Adds metric measurements.	Editorial correction with no change in regulatory effect.
51-51-0331	R331	Replaces the term "fire-resistant" with "fire-resistive" in the last sentence and last exception.	Editorial modification with no change in regulatory effect; intended to align the state amendment with the model code language.
51-51-0333	R333.5.1	Adds metric measurement (914) for three feet.	Editorial modification with no change in regulatory effect.

WAC	Section	Change	Rationale/Discussion
51-51-0403	Figure R403.1.1 (1), R403.1.1 (2), R403.1.1 (3), R403.1.1 (4) footnote c.	Spells out feet.	Editorial modifications with no change in regulatory effect; intended to align the state amendment with the model code language.
51-51-0408	R408.1	Replaces the word "six" with the number "6" and adds a metric measurement (152 mm) for six inches.	Editorial modifications with no change in regulatory effect; intended to align the state amendment with the model code language.
	R408.1 Exception	Replaces the word "two" with the number "2" and adds a metric measurement (51 mm) for two inches.	
51-51-0507	Table 507.3.1	<ul style="list-style-type: none"> <li>Identifying the applicable cells for the footnotes.</li> <li>Editorial modifications.</li> </ul>	Editorial modifications with no change in regulatory effect; intended to align the state amendment with the model code language.
	Table 507.4	Reformatting Table 507.4.	
	R507.5	Modifications to the second and third sentence.	
	Table 507.6	Identifying the applicable cells for the footnotes.	
	Table 507.9.1.3 (2)	The table number is corrected from R507.9.1 to R507.9.1.3(2).	
	Table 507.9.1.3 (2) footnote a.	Replaces the reference to Figure 507.2.1(1) with reference to Figure R507.9.1.3(1).	
	Table 507.9.1.3 (2) footnote d.	Adds the words "or bolts" to the text and replaces the reference to Figure 507.2.1(1) with reference to Figure R507.9.1.3(1).	
	Table R507.9.3(1)	Deletes entire table.	Table R507.9.3(1) is not referenced anywhere and it is not needed; it duplicates the values in Table 507.9.1.3(1).
51-51-1001	R1001.7.1 #2	Adds metric measurement (3870 mm <sup>2</sup> ) for six square inches.	Editorial modification with no change in regulatory effect; intended to align the state amendment with the model code language.
51-51-1002	R1002.2.1 #2	Replaces "5%" with "5 percent."	Editorial modification with no change in regulatory effect; intended to align the state amendment with the model code language.
51-51-1006	R1006.6	Replaces the phrase "as per" with the phrase "in accordance with" and adds metric measurements for four inches and 20 feet.	Editorial modification with no change in regulatory effect; intended to align the state amendment with the model code language.
51-51-1413	M1413.1	Replaces "of" with "or"; replaces the reference to Section M1305.1.4.1 with Section M1305.1.3.1.	Editorial modification with no change in regulatory effect; intended to align the state amendment with the model code language.

WAC	Section	Change	Rationale/Discussion
51-51-1505	M1505.4.1	Replaces the phrase "as per" with the phrase "in accordance with."	Editorial modifications with no change in regulatory effect; intended to align the state amendment with the model code language.
	M1505.4.1.3	Spells out the International Mechanical Code.	
	M1505.4.2 #3	Replaces the phrase "as per" with the phrase "in accordance with."	
51-51-1600	M1601.1.1 #7.4	<ul style="list-style-type: none"> <li>Replaces the reference to Section R602.8 with Section R302.11.</li> <li>Adds a new sentence.</li> </ul>	Editorial modifications with no change in regulatory effect; intended to align the state amendment with the model code language.
51-51-2000	M2005.1	Replaces the reference to Section M1305.1.3 with Section M1305.1.2.	Editorial modification with no change in regulatory effect; intended to align the state amendment with the model code language.
51-51-2300	M2301.4	Replaces "liquids" with "fluids" in the first sentence.	Editorial modification for consistency with the model code language.
51-51-2904	P2904.1.1	Adds exceptions 3 and 4.	Editorial modification for consistency with the model code and the Washington Appendix U. Exceptions 3 and 4 are part of the model code and Appendix WU.
51-51-4400	ASTM E2556/E2556M	Corrects the adopted version of the standard.	Incorporates an errata item from the model code. There is no change in the referenced standard; only the title is corrected.
51-51-4500	R4502.5.3 R4502.5.5	Replaces the phrase "as per" with the phrase "in accordance with."	Editorial modification with no change in regulatory effect; intended to align the state amendment with the model code language and format.
	R4502.6	Replaces the reference to Section R301.3(1) with R301.2.	Editorial modification with no change in regulatory effect; corrects an oversight.
1-51-60103	AF103.1	Replaces the reference to AF103 with AF103.1.	Editorial modification with no change in regulatory effect; corrects an oversight.
51-51-60104	AQ102	Deletes existing state amendments and refers to Chapter 2 for the new definition of "loft."	SBCC adopted new requirements for lofts in Section R333, defined the term "loft" in Chapter 2, and repealed the defined term "sleeping loft." Nevertheless, the existing amendments in WAC 51-51-60104 were inadvertently readopted, which created a conflict with the new amendments. This proposal corrects the oversight.
	AQ103.1 Exception	Replaces the term "sleeping lofts," which is no longer used in the 2021 IRC, with the newly adopted term "loft." Replaces the reference to Section R326 with a reference to Section R333.	Corrects an oversight; there is no intended change in regulatory effect.
	AQ104.1	In the first sentence, replaces "feet" with "square foot."	Corrects a typo.
	AQ106	Adds text clarifying that Section AQ106 is not adopted.	The modification is necessary to correct an oversight.
51-51-60105	Appendix WU	Replaces Appendix "U" with Appendix "WU" in the title.	Currently, there is a model code Appendix U and Washington state Appendix U. This modification is necessary to avoid confusion.
51-51-60106	AT102.1	Adds Section AT102.1.	Editorial modification for consistency with the model code language and format.

WAC	Section	Change	Rationale/Discussion
51-51-60107	Appendix WV	Replaces Appendix "V" with Appendix "WV" in the title and in Section AV107.1. The section number is also corrected to include W – WAV107.1.	Currently, there is a model code Appendix V and Washington state Appendix V. This modification is necessary to avoid confusion.
51-51-60108	Appendix WY	Replaces Appendix "Y" with Appendix "WY" in the title. The section numbers are also corrected to include W.	Appendix Y is a Washington state amendment adopted by SBCC. Currently, there is no model code Appendix Y. However, the letter "W" is added to the title and the section numbers to clarify that Appendix Y is a state amendment, and to avoid confusions if the model code adds Appendix Y in the future.
	AY101.2	Adds metric measurement (69.68m <sup>2</sup> ) for 750 square feet.	Editorial modification for consistency with the model code language and format.
	AY102.1	Adds Section "AY102.1 General."	
51-51-60109	Appendix WZ	Replaces Appendix "Z" with Appendix "WZ" in the title. The section numbers are also corrected to include W.	Appendix Z is a Washington state amendment adopted by SBCC. Currently, there is no model code Appendix Z. However, the letter "W" is added to the title and the section numbers to clarify that Appendix Z is a state amendment, and to avoid confusions if the model code adds Appendix Z in the future.
	AZ101.2	Adds metric measurement (69.68 m <sup>2</sup> ) for 750 square feet.	Editorial. No change in regulatory effect.
	AZ101.2 Exception 3	Deletes the words "building official."	Editorial modification; corrects an oversight.

Statutory Authority for Adoption: RCW 19.27.031, 19.27.074.

Statute Being Implemented: RCW 19.27.031, 19.27.074.

Rule is not necessitated by federal law, federal or state court decision.

Name of Proponent: SBCC, governmental.

Name of Agency Personnel Responsible for Drafting and Implementation: Stoyan Bumbalov, 1500 Jefferson Street S.E., Olympia, WA 98504, 360-407-9277; Enforcement: Local jurisdictions having authority.

This notice meets the following criteria to use the expedited adoption process for these rules:

Adopts or incorporates by reference without material change federal statutes or regulations, Washington state statutes, rules of other Washington state agencies, shoreline master programs other than those programs governing shorelines of statewide significance, or, as referenced by Washington state law, national consensus codes that generally establish industry standards, if the material adopted or incorporated regulates the same subject matter and conduct as the adopting or incorporating rule.

Corrects typographical errors, makes address or name changes, or clarifies language of a rule without changing its effect.

Explanation of the Reason the Agency Believes the Expedited Rule-Making Process is Appropriate: This addresses clerical oversight.

NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU

OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Stoyan Bumbalov, SBCC, 1500 Jefferson Street S.E., Olympia, WA 98504, phone 360-407-9277, email Stoyan.Bumbalov@des.wa.gov, AND RECEIVED BY September 19, 2023.

July 7, 2023  
Tony Doan  
Chair

## OTS-4745.2

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [20-03-023], filed 1/3/23 and 6/7/23 [1/6/20], effective 10/29/23 [7/1/20])

**WAC 51-51-003 International Residential Code.** The 2021 edition of the *International Residential Code* as published by the International Code Council is hereby adopted by reference with the following additions, deletions, and exceptions: Provided that chapters 11 and 25 through 43 of this code are not adopted. Energy Code is regulated by chapter 51-11R WAC; Plumbing Code is regulated by chapter 51-56 WAC; Electrical Code is regulated by chapter 296-46B WAC or Electrical Code as adopted by the local jurisdiction. Appendix F, Radon Control Methods, Appendix Q, Tiny Homes, and Appendix WU, Dwelling Unit Fire Sprinkler Systems, are included in adoption of the International Residential Code.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-003, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-03-023, § 51-51-003, filed 1/6/20, effective 7/1/20; WSR 16-03-025, § 51-51-003, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-003, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-003, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.074, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-090, § 51-51-003, filed 12/19/06, effective 7/1/07. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 04-01-109, § 51-51-003, filed 12/17/03, effective 7/1/04.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [21-11-066], filed 1/3/23 and 6/7/23 [5/14/21], effective 10/29/23 [6/14/21])

**WAC 51-51-008 Implementation.** The International Residential Code adopted by chapter 51-51 WAC shall become effective in all counties and cities of this state on (~~July 1~~) October 29, 2023.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-008, filed 1/3/23 and 6/7/23, effective 10/29/23;

WSR 21-11-066, § 51-51-008, filed 5/14/21, effective 6/14/21; WSR 20-03-023, § 51-51-008, filed 1/6/20, effective 7/1/20; WSR 16-03-025, § 51-51-008, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-008, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-008, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.074, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-090, § 51-51-008, filed 12/19/06, effective 7/1/07. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 04-01-109, § 51-51-008, filed 12/17/03, effective 7/1/04.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [20-03-023], filed 1/3/23 and 6/7/23 [1/6/20], effective 10/29/23 [7/1/20])

**WAC 51-51-01010 Section R101—Scope and general requirements.**

**R101.2 Scope.** The provisions of the *International Residential Code for One- and Two-Family Dwellings* shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings, adult family homes, and townhouses not more than three stories above grade plane in height with a separate means of egress and their accessory structures not more than three stories above grade plane in height.

EXCEPTIONS:

1. Live/work units located in townhouses and complying with the requirements of Section 508.5 of the *International Building Code* shall be permitted to be constructed in accordance with the *International Residential Code for One- and Two-Family Dwellings*. An automatic sprinkler system required by Section 508.5.7 of the *International Building Code* where constructed under the *International Residential Code for One- and Two-Family Dwellings* shall conform to Appendix WU.
2. Owner-occupied lodging houses with one or two guestrooms shall be permitted to be constructed in accordance with the *International Residential Code for One- and Two-Family Dwellings*.
3. Owner-occupied lodging homes with three to five guestrooms shall be permitted to be constructed in accordance with the *International Residential Code for One- and Two-Family Dwellings* where equipped with an automatic fire sprinkler system in accordance with Appendix WU.
4. A care facility with five or fewer persons receiving custodial care within a dwelling unit shall be permitted to be constructed in accordance with the *International Residential Code for One- and Two-Family Dwellings* where equipped with an automatic fire sprinkler system in accordance with Appendix WU.
5. A care facility with five or fewer persons receiving medical care within a dwelling unit shall be permitted to be constructed in accordance with the *International Residential Code for One- and Two-Family Dwellings* where equipped with an automatic fire sprinkler system in accordance with Appendix WU.
6. A care facility with five or fewer persons receiving care that are within a single-family dwelling shall be permitted to be constructed in accordance with the *International Residential Code for One- and Two-Family Dwellings* where equipped with an automatic fire sprinkler system in accordance with Appendix WU.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-01010, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-03-023, § 51-51-01010, filed 1/6/20, effective 7/1/20; WSR 16-03-025, § 51-51-01010, filed 1/11/16, effective 7/1/16.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [20-21-041], filed 1/3/23 and 6/7/23 [10/13/20], effective 10/29/23 [11/13/20])

**WAC 51-51-0102 Section R102—Applicability.**



**R102.5 Appendices.** Provisions in the appendices shall not apply unless specifically referenced in the adopting ordinance. An appendix adopted by a local jurisdiction shall not be effective unless approved by the state building code council pursuant to RCW 19.27.060 (1) (a).

EXCEPTIONS: 1. The state building code council has determined that a local ordinance providing specifications for light straw-clay or strawbale construction, ~~((or))~~ requiring a solar-ready zone, ~~((or))~~ requiring fire sprinklers, or addressing construction and demolition material management or building deconstruction in accordance with Appendix R, S, ~~((or-V))~~ T, WV, WY, or WZ of this ~~(chapter)~~ code may be adopted by any local government upon notification of the council.  
2. Appendix F, Radon Control Methods, Appendix Q, Tiny Homes, and Appendix WU, Dwelling Unit Fire Sprinkler Systems, are included in adoption of the International Residential Code.

**R102.7.1 Additions, alterations, change of use, repairs, or relocations.** Additions, alterations, repairs, or relocations shall be permitted to conform to the requirements of the provisions of Chapter 45 or shall conform to the requirements for new structure without requiring the existing structure to comply with the requirements of this code, unless otherwise stated. Additions, alterations, repairs, and relocations shall not cause an existing structure to become less compliant with the provisions of this code than the existing building or structure was prior to the addition, alteration, repair, or relocation. Where additions, alterations, or changes of use to an existing structure result in a use or occupancy, height, or means of egress outside the scope of this code, the building shall comply with the *International Existing Building Code*.

EXCEPTIONS: 1. Additions with less than 500 square feet of conditioned floor area are exempt from the requirements for Whole-House Ventilation Systems, Section M1505.4.  
2. Additions or alterations to existing buildings which do not require the construction of foundations, crawlspaces, slabs or basements shall not be required to meet the requirements for radon protection in Section R332.1 and Appendix F.

**R102.7.2 Moved buildings.** Buildings or structures moved into or within a jurisdiction shall comply with the provisions of this code, the *International Building Code* (chapter 51-50 WAC), the International Mechanical Code (chapter 51-52 WAC), the International Fire Code (chapter 51-54A WAC), the Uniform Plumbing Code and Standards (chapter 51-56 WAC), and the Washington State Energy Code (chapter 51-11R WAC) for new buildings or structures.

EXCEPTION: Group R-3 buildings or structures are not required to comply if:  
1. The original occupancy classification is not changed; and  
2. The original building is not substantially remodeled or rehabilitated. For the purposes of this section a building shall be considered to be substantially remodeled when the costs of remodeling exceed 60 percent of the value of the building exclusive of the costs relating to preparation, construction, demolition or renovation of foundations.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-0102, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-21-041, § 51-51-0102, filed 10/13/20, effective 11/13/20; WSR 16-03-025, § 51-51-0102, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-0102, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-0102, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.074, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-090, § 51-51-0102, filed 12/19/06, effective 7/1/07. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 04-01-109, § 51-51-0102, filed 12/17/03, effective 7/1/04.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [21-12-102], filed 1/3/23 and 6/7/23 [6/20/21], effective 10/29/23 [7/3/21])

**WAC 51-51-0202 Section R202—Definitions.**

**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.

**BUILDING.** Any one- or two-family *dwelling* or *townhouse*, or portion thereof used or intended to be used for human habitation, for living, sleeping, cooking or eating purposes, or any combination thereof, or any accessory structure.

**BUILDING, EXISTING.** A *building* or structure erected prior to the adoption of this code, or one that has passed a final inspection.

**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.

**CHILD DAY CARE,** shall, for the purposes of these regulations, mean the care of children during any period of a 24 hour day.

**CONDITIONED SPACE.** An area, room or space that is enclosed within the building thermal envelope and that is directly or indirectly heated or cooled. Spaces are indirectly heated or cooled where they communicate through openings with conditioned spaces, where they are separated from conditioned spaces by uninsulated walls, floors or ceilings, or where they contain uninsulated ducts, piping or other sources of heating or cooling.

**DISTRIBUTED WHOLE-HOUSE VENTILATION.** A whole-house ventilation system shall be considered distributed when it supplies outdoor air directly (not transfer air) to each dwelling or sleeping unit habitable space (living room, den, office, interior adjoining spaces or bedroom), and exhausts air from all kitchens and bathrooms directly outside.

**DWELLING UNIT.** A single unit providing complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation. Dwelling units may also include the following uses:

1. Adult family homes, foster family care homes and family day care homes licensed by the Washington state department of social and health services.

2. Offices, mercantile, food preparation for off-site consumption, personal care salons or similar uses which are conducted primarily by the occupants of the dwelling unit and are secondary to the use of the unit for dwelling purposes, and which do not exceed 500 square feet (46.4 m<sup>2</sup>).

**EGRESS ROOF ACCESS WINDOW.** A skylight or roof window designed and installed to satisfy the *Emergency Escape and Rescue Opening* requirements of Section R310.2.

**ENCLOSED KITCHEN.** A kitchen whose permanent openings to interior adjacent spaces do not exceed a total of 60 square feet (6 m<sup>2</sup>).

**FIRE SEPARATION DISTANCE.** The distance measured from the foundation wall or face of the wall framing, whichever is closer, to one of the following:

1. To the closest interior *lot line*; or
2. To the centerline of a street, an alley or public way; or
3. To an imaginary line between two buildings on the *lot*.

The distance shall be measured at a right angle from the wall.

**FLOOR AREA.** The area within the inside perimeter of exterior walls of the building. The floor area of a building, or portion thereof, not provided with surrounding exterior walls shall be the usable area under the horizontal projection of the roof or floor above.

**LANDING PLATFORM.** A landing provided as the top step of a stairway accessing a *Loft*.

**LOCAL EXHAUST.** An exhaust system that uses one or more fans to exhaust air from a specific room or rooms within a residential dwelling or sleeping unit.

**LOFT.** A space on an intermediate level or levels between the floor and ceiling of a dwelling or sleeping unit, open on one or more sides to the room or space in which the loft is located, and in accordance with Section R333.

**LOT LINE.** The line which bounds a plot of ground described as a *lot* in the title to the property.

**SALT WATER COASTAL AREA.** Those areas designated as salt water coastal areas by the local jurisdiction.

**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 fifty or fewer employees.

**TOWNHOUSE UNIT.** A single-family *dwelling unit* in a *townhouse* that extends from foundation to roof and that has a yard or public way on not less than two sides that extends at least 50 percent of the length of each of these two sides.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-0202, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 21-12-102, § 51-51-0202, filed 6/2/21, effective 7/3/21; WSR 20-21-041, § 51-51-0202, filed 10/13/20, effective 11/13/20; WSR 20-03-023, § 51-51-0202, filed 1/6/20, effective 7/1/20; WSR 16-03-025, § 51-51-0202, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-0202, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-0202, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.190, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 09-04-023, § 51-51-0202, filed 1/27/09, effective 7/1/09; WSR 08-01-102, § 51-51-0202, filed 12/18/07, effective 4/1/08. Statutory Authority: RCW 19.27.074, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-090, § 51-51-0202, filed 12/19/06, effective 7/1/07. Statutory Authority:

RCW 19.27.031 and 19.27.074. WSR 04-01-109, § 51-51-0202, filed 12/17/03, effective 7/1/04.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [20-03-023], filed 1/3/23 and 6/7/23 [1/6/20], effective 10/29/23 [7/1/20])

**WAC 51-51-0301 Section R301—Design criteria.**

**R301.2 Climatic and geographic design criteria.** Buildings shall be constructed in accordance with the provisions of this code as limited by the provisions of this section. Additional criteria shall be established by the local jurisdiction and set forth in Table R301.2(~~(+1)~~). The local jurisdiction shall designate the salt water coastal areas within their jurisdiction.

**R301.2.2.10 Anchorage of water heaters.** In *Seismic Design Categories* D<sub>0</sub>, D<sub>1</sub> and D<sub>2</sub>, and in townhouses in *Seismic Design Category C*, water heaters and thermal storage units shall be anchored against movement and overturning in accordance with Section M1307.2 or the Uniform Plumbing Code Section 507.2.

**R301.5 Live load.** The minimum uniformly distributed live load shall be as provided in Table R301.5.

**TABLE R301.5  
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS  
(in pounds per square foot)**

Use	Uniform Load (psf)	Concentrated Load (lb)
Uninhabitable attics without storage <sup>b</sup>	10	-
Uninhabitable attics with limited storage <sup>b, g</sup>	20	-
Habitable attics and attics served with fixed stairs	30	-
Balconies (exterior) and decks <sup>e</sup>	60 <sup>j</sup>	-
Fire escapes	40	-
Guards	-	200 <sup>h, i</sup>
Guard in-fill components <sup>f</sup>	-	50 <sup>h</sup>
Handrail <sup>d</sup>	((200 <sup>h</sup> )) <sub>-</sub>	((-)) 200 <sup>h</sup>
Passenger vehicle garages <sup>a</sup>	50 <sup>a</sup>	2,000( <sup>h</sup> ) <sub>-</sub> <sup>a</sup>
Areas other than sleeping areas	40	-
Sleeping areas	30	-
Stairs	40 <sup>c</sup>	300 <sup>c</sup>

For SI: 1 pound per square foot = 0.0479 kPa, 1 square inch = 645 mm, 1 pound = 4.45 N

- a. Elevated garage floors shall be capable of supporting the uniformly distributed live load or a 2,000-pound concentrated load applied on an area of 4-1/2 inches by 4-1/2 inches, whichever produces the greater stresses.
- b. Uninhabitable attics without storage are those where the clear height between joists and rafters is not more than 42 inches, or where there are not two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses. This live load need not be assumed to act concurrently with any other live load requirements.

- c. Individual stair treads shall be capable of supporting the uniformly distributed live load or a 300-pound concentrated load applied on an area of 2 inches by 2 inches, whichever produces the greater stresses.
- d. A single concentrated load applied in any direction at any point along the top. For a guard not required to serve as a handrail, the load need not be applied to the top element of the guard in a direction parallel to such element.
- e. See Section R507.1 for decks attached to exterior walls.
- f. Guard in-fill components (all those except the handrail), balusters and panel fillers shall be designed to withstand a horizontally applied normal load of 50 pounds on an area equal to 1 square foot. This load need not be assumed to act concurrently with any other live load requirement.
- g. Uninhabitable attics with limited storage are those where the clear height between joists and rafters is 42 inches or greater, or where there are two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses. The live load need only be applied to those portions of the joists or truss bottom chords where all of the following conditions are met:
  - g.1. The attic area is accessed from an opening not less than 20 inches in width by 30 inches in length that is located where the clear height in the attic is not less than 30 inches.
  - g.2. The slopes of the joists or truss bottom chords are not greater than 2 ((inches)) units vertical to 12 units horizontal.
  - g.3. Required insulation depth is less than the joist or truss bottom chord member depth. The remaining portions of the joists or truss bottom chords shall be designed for a uniformly distributed concurrent live load of not less than 10 pounds per square foot.
- h. Glazing used in handrail assemblies and guards shall be designed with a load adjustment factor of 4. The load adjustment factor shall be applied to each of the concentrated loads applied to the top of the rail, and to the load on the in-fill components. These loads shall be determined independent of one another, and loads are assumed not to occur with any other live load.
- i. Where the top of a guard system is not required to serve as a handrail, the single concentrated load shall be applied at any point along the top, in the vertical downward direction and in the horizontal direction away from the walking surface. Where the top of a guard is also serving as the handrail, a single concentrated load shall be applied in any direction at any point along the top. Concentrated loads shall not be applied concurrently.
- j. Where structural tables in Section R507 only specify snow loads, the values corresponding to 70 psf snow loads shall be used.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-0301, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-03-023, § 51-51-0301, filed 1/6/20, effective 7/1/20; WSR 16-03-025, § 51-51-0301, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-0301, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-0301, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.190, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 08-01-102, § 51-51-0301, filed 12/18/07, effective 4/1/08.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [20-03-023], filed 1/3/23 and 6/7/23 [1/6/20], effective 10/29/23 [7/1/20])

**WAC 51-51-0302 Section R302—Fire-resistant construction.**

**R302.2.2 Common walls.** Common walls separating *townhouse units* shall be assigned a fire resistance rating in accordance with Item 1 or 2 and shall be rated for fire exposure from both sides. Common walls shall extend to and be tight against the exterior sheathing of the exterior walls, or the inside face of exterior walls without stud cavi-

ties, and the underside of the roof sheathing. The common wall shared by two *townhouse units* shall be constructed without plumbing or mechanical equipment, ducts or vents, other than water-filled fire sprinkler piping in the cavity of the common wall. Electrical installations shall be in accordance with chapter 296-46B WAC, Electrical safety standards, administration, and installation. Penetrations of the membrane of common walls for electrical outlet boxes shall be in accordance with Section R302.4.

1. Where an automatic sprinkler system in accordance with Section P2904 is provided, the common wall shall be not less than a 1-hour fire-resistance-rated wall assembly tested in accordance with ASTM E119, UL 263 or Section 703.2.2 of the *International Building Code*.

2. Where an automatic sprinkler system in accordance with Section P2904 is not provided, the common wall shall be not less than a 2-hour fire-resistance-rated wall assembly tested in accordance with ASTM E119, UL 263 or Section 703.2.2 of the *International Building Code*.

EXCEPTION: Common walls are permitted to extend to and be tight against the interior side of the exterior walls if the cavity between the end of the common wall and the exterior sheathing is filled with a minimum of 2-inch nominal thickness wood studs.

**R302.2.3 Continuity.** The fire-resistance-rated wall or assembly separating *townhouse units* shall be continuous from the foundation to the underside of the roof sheathing, deck or slab. The fire-resistance rating shall extend the full length of the wall or assembly, including wall extensions through and separating attached enclosed accessory structures.

Where a story extends beyond the exterior wall of a story below:

1. The fire-resistance-rated wall or assembly shall extend to the outside edge of the upper story (see Figure R302.2(1)); or

2. The underside of the exposed floor-ceiling assembly shall be protected as required for projections in Section R302 (see Figure R302.2(2)).

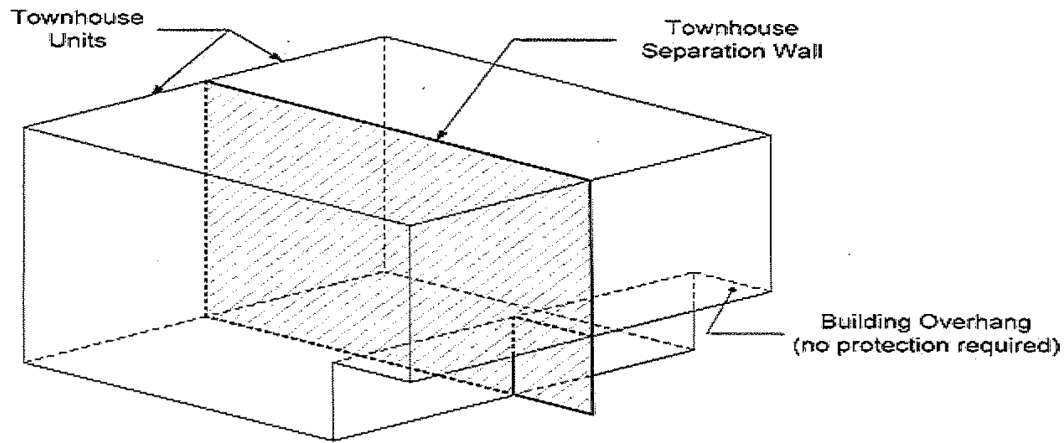


FIGURE R302.2(1)  
EXTENDED TOWNHOUSE SEPARATION WALL

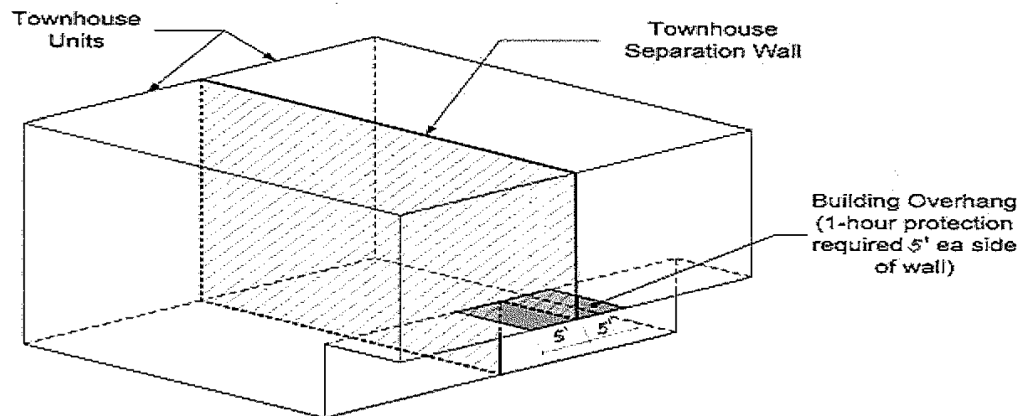


FIGURE R302.2(2)  
TOWNHOUSE SEPARATION OVERHANG PROTECTION

**R302.2.4 Parapets for townhouses.** Parapets constructed in accordance with Section R302.2.5 shall be constructed for *townhouses* as an extension of exterior walls or common walls separating *townhouse units* in accordance with the following:

1. Where roof surfaces adjacent to the wall or walls are at the same elevation, the parapet shall extend not less than 30 inches (762 mm) above the roof surfaces.

2. Where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is not more than 30 inches (762 mm) above the lower roof, the parapet shall extend not less than 30 inches (762 mm) above the lower roof surface.

EXCEPTION: A parapet is not required in the preceding two cases where the roof covering complies with a minimum Class C rating as tested in accordance with ASTM E108 or UL 790 and the roof decking or sheathing is of noncombustible materials or fire retardant-treated wood for a distance of 4 feet (1219 mm) on each side of the wall or walls, or one layer of 5/8-inch (15.9 mm) Type X gypsum board is installed directly beneath the roof decking or sheathing, supported by not less than nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a distance of not less than 4 feet (1219 mm) on each side of the wall or walls and any openings or penetrations in the roof are not within 4 feet (1219 mm) of the common walls. Fire retardant-treated wood shall meet the requirements of Sections R802.1.5 and R803.2.1.2.

3. A parapet is not required where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is more than 30 inches (762 mm) above the lower roof. The common wall construction from the lower roof to the underside of the higher roof deck shall have not less than a 1-hour fire-resistance rating. The wall shall be rated for exposure from both sides.

**TABLE R302.1(1)**  
**EXTERIOR WALLS**

No Change to the Table

- a The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing.
- b The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where ventilation openings are not installed in the rake overhang or in walls that are common to attic areas.

**TABLE R302.1(2)**  
**EXTERIOR WALLS - DWELLINGS WITH FIRE SPRINKLERS**

No Change to the Table

- a For residential subdivisions where all dwellings are equipped throughout with an automatic sprinkler system installed in accordance with Section P2904, the fire separation distance for exterior walls not fire-resistance-rated and for fire-resistance-rated projections shall be permitted to be reduced to 0 feet, and unlimited unprotected openings and penetrations shall be permitted, where the adjoining lot provides an open setback yard that is 6 feet or more in width on the opposite side of the property line.
- b The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing.
- c The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where ventilation openings are not installed in the rake overhang or in walls that are common to attic areas.

**R302.3 Two-family dwellings.** Wall and floor/ceiling assemblies separating *dwelling units* in two-family dwellings shall be constructed in accordance with Section R302.3.1 through R302.3.5. One accessory dwelling unit constructed within an existing *dwelling unit* need not be considered a separated dwelling unit in a two-family dwelling where all required smoke alarms, in the accessory dwelling unit and the primary dwelling unit, are interconnected in such a manner that the actuation of one alarm will activate all alarms in both the primary dwelling unit and the accessory dwelling unit.

**R302.3.1 Separation.** *Dwelling units* in two-family dwellings shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263 or Section 703.2.2 of the *International Building Code*.

EXCEPTIONS: 1. A fire-resistance rating of 1/2 hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with ((NFPA-13D)) Section 2904.  
2. Where an accessory dwelling unit is added within an existing single-family residence to create a two-family dwelling, fire-rated separation between the accessory dwelling unit and the primary dwelling unit is not required when all required smoke alarms are interconnected in such a manner that the actuation of one alarm will activate all alarms in both the primary dwelling unit and the accessory dwelling unit.

**R302.3.2 Continuity.** Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the *exterior wall*, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

EXCEPTION: Wall assemblies need not extend through attic spaces where the ceiling is protected by not less than 5/8-inch (15.9 mm) Type X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the dwellings and the structural framing supporting the ceiling is protected by not less than 1/2-inch (12.7 mm) gypsum board or equivalent.

**R302.3.3 Supporting construction.** Where floor/ceiling assemblies are required to be fire-resistance rated by Section R302.3, the supporting



construction of such assemblies shall have an equal or greater fire-resistance rating.

**R302.3.4 ((-)) Openings protection between two-family dwellings.** Openings in the common fire-resistance-rated wall assembly located between units of a two-family dwelling shall be equipped with not less than a 45-minute fire-rated door assembly equipped with a self-closing or automatic-closing device.

EXCEPTION: A 20-minute fire-rated door assembly is permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904 or NFPA 13D.

**R302.3.5 Shared accessory rooms.** Shared accessory rooms shall be separated from each individual dwelling unit in accordance with Table R302.3.5. Openings between the shared accessory room and the dwelling unit shall comply with Section R302.3.5.1. Attachment of gypsum board shall comply with Table R702.3.5.

**R302.3.5.1 Opening protection.** Openings from a shared accessory room or area directly into a room used for sleeping purposes shall not be permitted. Other openings between the shared accessory room or area shall be equipped with solid wood doors not less than 1 3/8 inches in thickness, solid or honeycomb core steel doors not less than 1 3/8 inches thick, or a fire door assembly with a 20-minute fire-protection rating, equipped with a self-closing or automatic-closing device.

**R302.3.5.2 Duct penetration.** Ducts penetrating the walls or ceilings separating the dwelling from the shared accessory room shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel or other approved material and shall not have openings into the shared accessory room.

**R302.3.5.3 Other penetrations.** Penetrations through the walls, ceiling, and floor level separation required in Section R302.3.5 shall be protected as required by Section R302.11, Item 4.

TABLE R302.3.5  
DWELLING-SHARED ACCESSORY ROOM SEPARATION

SEPARATION	MATERIAL
From the dwelling units and attics.	Not less than 1/2-inch gypsum board or equivalent applied to the accessory room side wall.
From habitable rooms above or below the shared accessory room.	Not less than 5/8-inch Type X gypsum board or equivalent.
Structures supporting floor/ceiling assemblies used for separation required by this section.	Not less than 1/2-inch gypsum board or equivalent.

**R302.13 Fire protection of floors.** Floor assemblies that are not required elsewhere in this code to be fire-resistance rated, shall be provided with a 1/2-inch (12.7 mm) gypsum wallboard membrane, 5/8-inch (16 mm) wood structural panel membrane, or equivalent on the underside of the floor framing member. Penetrations or openings for ducts, vents, electrical outlets, lighting, devices, luminaires, wires, speakers, drainage, piping and similar openings or penetrations shall be permitted.

EXCEPTIONS: 1. Floor assemblies located directly over a space protected by an automatic sprinkler system in accordance with Appendix WU, NFPA 13D, or other approved equivalent sprinkler system.  
2. Floor assemblies located directly over a crawl space not intended for storage or fuel-fired appliances.  
3. Portions of floor assemblies shall be permitted to be unprotected when complying with the following:  
3.1. The aggregate area of the unprotected portions shall not exceed 80 square feet per story.

3.2. Fire blocking in accordance with Section R302.11.1 is installed along the perimeter of the unprotected portion to separate the unprotected portion from the remainder of the floor assembly.

4. Wood floor assemblies using ~~((dimensional))~~ dimension lumber or *structural composite lumber* with a cross sectional area equal to or greater than 2-inch by 10-inch nominal dimension, or other approved floor assemblies demonstrating equivalent fire performance.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-0302, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-03-023, § 51-51-0302, filed 1/6/20, effective 7/1/20; WSR 16-03-025, § 51-51-0302, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.074, 19.27.020, and 19.27.031. WSR 14-24-088, § 51-51-0302, filed 12/1/14, effective 5/1/15. Statutory Authority: Chapters 19.27A and 34.05 RCW. WSR 13-23-084, § 51-51-0302, filed 11/19/13, effective 4/1/14. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-0302, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-0302, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.190, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 09-04-023, § 51-51-0302, filed 1/27/09, effective 7/1/09; WSR 08-01-102, § 51-51-0302, filed 12/18/07, effective 4/1/08.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [20-03-023], filed 1/3/23 and 6/7/23 [1/6/20], effective 10/29/23 [7/1/20])

### **WAC 51-51-0303 Section R303—Light, ventilation and heating.**

**R303.1 Natural light.** All habitable rooms shall have an aggregate glazing area of not less than 8 percent of the floor area of such rooms.

EXCEPTION: The glazed areas need not be installed in rooms where artificial light is provided capable of producing an average illumination of 6 footcandles (65 lux) over the area of the room at a height of 30 inches (762 mm) above the floor level.

**R303.2 Adjoining rooms.** For the purpose of determining light requirements, any room shall be considered as a portion of an adjoining room when at least one-half of the area of the common wall is open and unobstructed and provides an opening of not less than one-tenth of the floor area of the interior room but not less than 25 square feet (2.3 m<sup>2</sup>).

EXCEPTION: Openings required for light shall be permitted to open into a sunroom with thermal isolation or a patio cover, provided there is an openable area between the adjoining room and the sunroom or a patio cover of not less than one-tenth of the floor area of the interior room but not less than 20 square feet (2 m<sup>2</sup>).

**R303.3 Bathrooms.** This section is not adopted.

**R303.4 Minimum ventilation performance.** Dwelling units shall be equipped with local exhaust and whole-house ventilation systems designed and installed as specified in Section M1505.

EXCEPTION: Additions with less than 500 square feet of conditioned floor area are exempt from the requirements in this Code for Whole-House Ventilation Systems.

**R303.5.1 Intake openings.** Mechanical and gravity outdoor air intake openings shall be located a minimum of 10 feet (3048 mm) from any hazardous or noxious contaminant, such as vents, chimneys, plumbing vents, streets, alleys, parking lots and loading docks, except as otherwise specified in this code.

For the purpose of this section, the exhaust from *dwelling unit* toilet rooms, bathrooms and kitchens shall not be considered as hazardous or noxious.

EXCEPTIONS:

1. The 10-foot (3048 mm) separation is not required where the intake opening is located 3 feet (914 mm) or greater below the contaminant source.
2. Vents and chimneys serving fuel-burning appliances shall be terminated in accordance with the applicable provisions of Chapters 18 and 24.
3. Clothes dryer exhaust ducts shall be terminated in accordance with Section M1502.3.

**R303.5.2 Exhaust openings.** Exhaust air shall not be directed onto walkways. All exhaust ducts shall terminate outside the building. Terminal elements shall have at least the equivalent net free area of the duct work.

**R303.5.2.1 Exhaust ducts.** Exhaust ducts shall be equipped with back-draft dampers. All exhaust ducts in unconditioned spaces shall be insulated to a minimum of R-4.

**R303.7 Interior stairway illumination.** Interior stairways shall be provided with an artificial light source to illuminate the landings and treads. Stairway illumination shall receive primary power from the building wiring. The light source shall be capable of illuminating treads and landings to levels not less than 1 foot-candle (11 lux) measured at the center of treads and landings. There shall be a wall switch at each floor level to control the light source where the stairway has six or more risers.

EXCEPTION: A switch is not required where remote, central or automatic control of lighting is provided.

**R303.8 Exterior stairway illumination.** Exterior *stairways* shall be provided with an artificial light source located at the top landing of the *stairway*. *Stairway* illumination shall receive primary power from the building wiring. Exterior *stairways* providing access to a *basement* from the outdoor grade level shall be provided with an artificial light source located at the bottom landing of the *stairway*.

**R303.9 Required glazed openings.** Required glazed openings shall open directly onto a street or public alley, or a yard or court located on the same *lot* as the building.

EXCEPTIONS:

1. Required glazed openings that face into a roofed porch where the porch abuts a street, yard or court are permitted where the longer side of the porch is not less than 65 percent unobstructed and the ceiling height is not less than 7 feet (2134 mm).
2. Eave projections shall not be considered as obstructing the clear open space of a yard or court.
3. Required glazed openings that face into the area under a deck, balcony, bay or floor cantilever are permitted where an unobstructed pathway of not less than 36 inches (914 mm) in height, 36 inches (914 mm) in width, and no greater than 60 inches (1524 mm) in length is provided and opens to a yard or court. The pathway shall be measured from the exterior face of the glazed opening, or if the glazed opening is in a window well, at the window well wall furthest from the exterior face of the glazed opening.

**R303.10 Required heating.** When the winter design temperature in Table R301.2((+1)) is below 60°F (16°C), every *dwelling unit* shall be provided with heating facilities capable of maintaining a minimum room temperature of 68°F (20°C) at a point 3 feet (914 mm) above the floor and 2 feet (610 mm) from exterior walls in all habitable rooms at design temperature. The installation of one or more portable heaters shall not be used to achieve compliance with this section.

EXCEPTION: Unheated recreational tents or yurts not exceeding 500 square feet provided it is not occupied as a permanent dwelling.

**R303.10.1 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.

**R303.10.2 Primary heating source.** Primary heating sources in all new and substantially remodeled buildings in designated areas shall not be dependent upon wood stoves.

**R303.10.3 Solid fuel burning devices.** No new or used solid fuel burning device shall be installed in new or existing buildings unless such device is U.S. 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.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-0303, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-03-023, § 51-51-0303, filed 1/6/20, effective 7/1/20; WSR 16-03-025, § 51-51-0303, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-0303, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-0303, filed 1/20/10, effective 7/1/10; WSR 04-01-109, § 51-51-0303, filed 12/17/03, effective 7/1/04.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [20-03-023], filed 1/3/23 and 6/7/23 [1/6/20], effective 10/29/23 [7/1/20])

**WAC 51-51-0311 Section R311—Means of egress.**

**R311.4 Vertical egress.** Egress from habitable levels including habitable attics and basements not provided with an egress door in accordance with Section R311.2 shall be by a ramp in accordance with Section R311.8 or a stairway in accordance with Section R311.7.

EXCEPTION:      Stairways, alternating tread devices, ship's ladders, or ladders within an individual dwelling unit or sleeping unit used for access to areas of 200 square feet (18.6 m<sup>2</sup>) or less, are exempt from the requirements of Sections R311.4 and R311.7, where such devices do not provide exclusive access to a kitchen or bathroom. Such areas shall not be located more than 10 feet (3048 mm) above the finished floor of the space below.

**R311.7.11 Alternating tread devices.** *Alternating tread devices* shall not be used as an element of a means of egress. *Alternating tread devices* shall be permitted provided that a required means of egress stairway or ramp serves the same space at each adjoining level or where a means of egress is not required. The clear width at and below the handrails shall be not less than 20 inches (508 mm).

EXCEPTION:      Not adopted.

**R311.7.12 Ship's ladders.** Ship's ladders shall not be used as an element of a means of egress. Ship's ladders shall be permitted provided that a required means of egress stairway or ramp serves the same space at each adjoining level or where a means of egress is not required.

The clear width at and below the handrails shall be not less than 20 inches (508 mm).

EXCEPTION: Not adopted.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-0311, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-03-023, § 51-51-0311, filed 1/6/20, effective 7/1/20; WSR 10-03-098, § 51-51-0311, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.074, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-090, § 51-51-0311, filed 12/19/06, effective 7/1/07. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 04-01-109, § 51-51-0311, filed 12/17/03, effective 7/1/04.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104, filed 1/3/23 and 6/7/23, effective 10/29/23)

**WAC 51-51-0312 Section R312—Guards and window fall protection.**

**R312.1.1 Where required.** *Guards* shall be provided for those portions of open-sided walking surfaces, including floors, mezzanines, *lofts* in accordance with Section R333, 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. Insect screening shall not be considered as a *guard*.

**R312.1.2 Height.** Required *guards* at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches (914 mm) in height as measured vertically above the adjacent walking surface or the line connecting the *nosings*.

EXCEPTIONS:

1. *Guards* on the open sides of stairs shall have a height of not less than 34 inches (864 mm) measured vertically from a line connecting the *nosings*.
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) as measured vertically from a line connecting the *nosings*.
3. In areas with ceiling heights of 7 feet (2134 mm) or less in *lofts* constructed in accordance with Section R333, *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.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-0312, filed 1/3/23 and 6/7/23, effective 10/29/23.]

**Reviser's note:** The above section was filed as an amendatory section; however, this section will not come into effect as a new section until October 29, 2023.

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [20-21-041], filed 1/3/23 and 6/7/23 [10/13/20], effective 10/29/23 [11/13/20])

**WAC 51-51-0314 Section R314—Smoke alarms and heat detection.**

**R314.1 General.** Smoke alarms, heat detectors, and heat alarms shall comply with NFPA 72 and this section.

**R314.1.1 Listings.** Smoke alarms shall be listed in accordance with UL 217. Heat detectors and heat alarms shall be listed for the intended application. Combination smoke and carbon monoxide alarms shall be listed in accordance with UL 217 and UL 2034.

**R314.2 Where required.** Smoke alarms, heat detectors, and heat alarms shall be provided in accordance with this section.

**R314.2.1 New construction.** Smoke alarms shall be provided in *dwelling units*. A heat detector or heat alarm shall be provided in new attached garages.

**R314.2.2 Alterations, repairs and additions.** Where *alterations, repairs* or *additions* requiring a permit occur, or where one or more sleeping rooms are added or created in existing dwellings, or where an accessory dwelling unit is created within an existing *dwelling unit*, each *dwelling unit* shall be equipped with smoke alarms as required for new dwellings.

EXCEPTIONS: 1. Work involving the exterior surfaces of *dwellings*, such as the replacement of roofing or siding, the *addition* or replacement of windows or doors, or the addition of a porch or deck are exempt from the requirements of this section.  
2. Installation, *alteration* or repairs of plumbing, electrical or mechanical systems are exempt from the requirements of this section.

**R314.2.3 New attached garages.** A heat detector or heat alarm rated for the ambient outdoor temperatures and humidity shall be installed in new garages that are attached to or located under new and existing dwellings. Heat detectors and heat alarms shall be installed in a central location and in accordance with the manufacturer's instructions.

EXCEPTION: Heat detectors and heat alarms shall not be required in dwellings without commercial power.

**R314.3 Location.** Smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.
3. On each additional story of the dwelling, including basements and habitable attics 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.
4. Smoke alarms shall be installed not less than 3 feet (914 mm) horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by Section R314.3.
5. In napping areas in a family home child care.
6. In the hallway and in the room open to the hallway in dwelling units where the ceiling height of a room open to a hallway serving bedrooms exceeds that of the hallway by 24 inches (610 mm) or more.
7. Within the room to which a loft is open, in the immediate vicinity of the loft.

**R314.4 Interconnection.** Where more than one smoke alarm is required to be installed within an individual *dwelling unit* in accordance with Section ((~~R314.2~~) R314.3), the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual *dwelling unit*. Where an accessory *dwelling unit* is created within an existing *dwelling unit* all required smoke alarms, in the accessory *dwelling unit* and the primary *dwelling unit*, shall be interconnected in such a manner that the actuation of one alarm will activate all alarms in both the primary *dwelling unit* and the accessory *dwelling unit*. Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.

EXCEPTION: Smoke alarms and alarms installed to satisfy Section R314.4.1 shall not be required to be interconnected to existing smoke alarms where such existing smoke alarms are not interconnected or where such new smoke alarm or alarm is not capable of being interconnected to the existing smoke alarms.

**R314.4.1 Heat detection interconnection.** Heat detectors and heat alarms shall be connected to an alarm or a smoke alarm that is installed in the *dwelling*. Alarms and smoke alarms that are installed for this purpose shall be located in a hallway, room, or other location that will provide occupant notification.

**R314.6 Power source.** Smoke alarms, heat alarms, and heat detectors shall receive their primary power from the building wiring where such wiring is served from a commercial source and, where primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

EXCEPTIONS: 1. Smoke alarms shall be permitted to be battery operated where installed in buildings without commercial power.  
2. Smoke alarms installed in accordance with Section R314.2.2 shall be permitted to be battery powered.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-0314, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-21-041, § 51-51-0314, filed 10/13/20, effective 11/13/20; WSR 20-03-023, § 51-51-0314, filed 1/6/20, effective 7/1/20; WSR 16-03-025, § 51-51-0314, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-0314, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-0314, filed 1/20/10, effective 7/1/10.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 20-21-041, filed 10/13/20, effective 11/13/20)

**WAC 51-51-03240 Section R324—Solar energy systems.**

**R324.3 Photovoltaic systems.** Installation, modification, or alteration of solar photovoltaic power systems shall comply with this section and the *International Fire Code*. Section R104.11 (~~(alternate)~~) alternative materials and methods of this code shall be considered when approving the installation of solar photovoltaic power systems. Photovoltaic systems shall be designed and installed in accordance with Sections R324.3.1 through R324.6 and chapter 19.28 RCW. Inverters shall be listed and labeled in accordance with UL 1741. Systems connected to the utility grid shall use inverters listed for utility interaction.

EXCEPTION: Detached, nonhabitable Group U structures shall not be subject to the requirements of this section for structural and fire safety.

**R324.4 Rooftop-mounted photovoltaic systems.** Rooftop-mounted photovoltaic panel systems installed on or above the roof covering shall be designed and installed in accordance with Section R907.

EXCEPTION: The roof structure shall be deemed adequate to support the load of the rooftop solar photovoltaic system if all of the following requirements are met:

1. The solar photovoltaic panel system shall be designed for the wind speed of the local area, and shall be installed per the manufacturer's specifications.
2. The ground snow load does not exceed 70 pounds per square foot (3.35 kPa).
3. The total dead load of modules, supports, mountings, raceways, and all other appurtenances weigh no more than 4 pounds per square foot (19.5 kg/m<sup>2</sup>).
4. Photovoltaic modules are not mounted higher than 18 inches (457 mm) above the surface of the roofing to which they are affixed.
5. Supports for solar modules are to be installed to spread the dead load across as many roof-framing members as needed, so that no point load exceeds 50 pounds (22.7 kg).

**R324.7.1** This section is not adopted.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 20-21-041, § 51-51-03240, filed 10/13/20, effective 11/13/20; WSR 20-03-023, § 51-51-03240, filed 1/6/20, effective 7/1/20; WSR 16-03-025, § 51-51-03240, filed 1/11/16, effective 7/1/16.]

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [20-03-023], filed 1/3/23 and 6/7/23 [1/6/20], effective 10/29/23 [7/1/20])

**WAC 51-51-0326 Section R326—Habitable attics.**

**R326.1 General.** *Habitable attics* shall comply with Sections ((R326)) R326.1 through R326.4.

EXCEPTION: Lofts in dwelling units and sleeping units shall be permitted to comply with Section R333, subject to the limitations in Section R333.1.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-0326, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-03-023, § 51-51-0326, filed 1/6/20, effective 7/1/20. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-0326, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.074, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-090, § 51-51-0326, filed 12/19/06, effective 7/1/07.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 20-03-023, filed 1/6/20, effective 7/1/20)

**WAC 51-51-0330 Section R330—Adult family homes.**

**R330.1 General.** 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.

**R330.2 Reserved.**

**R330.3 Sleeping room classification.** Each sleeping room in an adult family home shall be classified as:

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 R330.9 is provided.
3. Type NS2 - Where two means of egress are at grade level or ramps constructed in accordance with Section R330.9 are provided.

**R330.4 Types of locking devices and door activation.** All bedroom and bathroom doors shall be openable from the outside when locked.

Every closet 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 doors 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.

**R330.5 Smoke and carbon monoxide alarm requirements.** All adult family homes shall be equipped with smoke and carbon monoxide alarms installed as required in Sections R314 and R315.1. 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.

**R330.6 Escape windows and doors.** Every sleeping room shall be provided with emergency escape and rescue windows as required by Section R310. 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.

**R330.7 Fire apparatus access roads and water supply for fire protection.** Adult family homes shall be served by fire apparatus access roads and water supplies meeting the requirements of the local jurisdiction.

**R330.8 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 this section.

**R330.8.1 Grab bar cross section.** Grab bars with a circular cross section shall have an outside diameter of 1 1/4 inch (32 mm) minimum and 2 inches (50 mm) maximum. Grab bars with noncircular cross section shall have a cross section dimension of 2 inches (50 mm) maximum and a perimeter dimension of 4 inches (102 mm) minimum and 4 5/8 inches maximum.

**R330.8.2 Grab bar installation.** Grab bars shall have a spacing of 1 1/2 inch (32 mm) between the wall and the bar. Projecting objects, control valves and bathtub or shower stall enclosure features above, below and at the ends of the grab bar shall have a clear space of 1 1/2 inch (32 mm) to the grab bar.

EXCEPTION: Swing-up grab bars shall not be required to meet the 1 1/2 inch (32 mm) spacing requirement.

Grab bars shall have a structural strength of 250 pounds applied at any point on the grab bar, fastener, mounting device or supporting structural member. Grab bars shall not be supported directly by any residential grade fiberglass bathing or showering unit. Acrylic bars found in bathing units shall be removed.

Fixed position grab bars, when mounted, shall not rotate, spin or move and have a graspable surface finish.

**R330.8.3 Grab bars at water closets.** Water closets shall have grab bars mounted on both sides. Grab bars can be a combination of fixed position and swing-up bars. Grab bars shall meet the requirements of Section R330.8. Grab bars shall mount between 33 inches (838 mm) and 36 inches (914 mm) above floor grade. Centerline distance between grab bars, regardless of type used, shall be between 25 inches (635 mm) minimum and 30 inches (762 mm) maximum.

**R330.8.3.1 Fixed position grab bars.** Fixed position grab bars shall be a minimum of 36 inches (914 mm) in length and start 12 inches (305 mm) from the rear wall.

**R330.8.3.2 Swing-up grab bars.** Swing-up grab bars shall be a minimum of 28 inches (711 mm) in length from the rear wall.

**R330.8.4 Grab bars at bathtubs.** Horizontal and vertical grab bars shall meet the requirements of Section R330.8.

**R330.8.4.1 Vertical grab bars.** Vertical grab bars shall be a minimum of 18 inches (457 mm) long and installed at the control end wall and head end wall. Grab bars shall mount within 4 inches (102 mm) of the exterior of the bathtub edge or within 4 inches (102 mm) within the bathtub. The bottom end of the bar shall start between 36 inches (914 mm) and 42 inches (1067 mm) above floor grade.

EXCEPTION: The required vertical grab bar can be substituted with a floor to ceiling grab bar meeting the requirements of Section R325.8 at the control end and head end entry points.

**R330.8.4.2 Horizontal grab bars.** Horizontal grab bars shall be provided at the control end, head end, and the back wall within the bathtub area. Grab bars shall be mounted between 33 inches (838 mm) and 36 inches (914 mm) above floor grade. Control end and head end grab bars shall be 24 inches (610 mm) minimum in length. Back wall grab bars shall be 36 inches (914 mm) minimum in length.

**R330.8.5 Grab bars at shower stalls.** Where shower stalls are provided to meet the requirements for bathing facilities, grab bars shall meet the requirements of Section R330.8.

EXCEPTION: Shower stalls with permanent built-in seats are not required to have vertical or horizontal grab bars at the seat end wall. A vertical floor to ceiling grab bar shall be installed within 4 inches of the exterior of the shower aligned with the nose of the built-in seat.

**R330.8.5.1 Vertical grab bars.** Vertical grab bars shall be 18 inches (457 mm) minimum in length and installed at the control end wall and head end wall. Vertical bars shall be mounted within 4 inches (102 mm) of the exterior of the shower stall or within 4 inches (102 mm) inside the shower stall. The bottom end of vertical bars mount between 36 inches (914 mm) and 42 inches (1067 mm) above floor grade.

**R330.8.5.2 Horizontal grab bars.** Horizontal grab bars shall be installed on all sides of the shower stall mounted between 33 inches (838 mm) and 36 inches (914 mm) above the floor grade. Horizontal grab bars shall be a maximum of 6 inches (152 mm) from adjacent walls. Horizontal grab bars shall not interfere with shower control valves.

**R330.9 Ramps.** All interior and exterior ramps, when provided, shall be constructed in accordance with Section R311.8 with a maximum slope of 1 vertical to 12 horizontal. The exception to Section R311.8.1 is not allowed for adult family homes. Handrails shall be installed in accordance with Section R330.9.1.

**R330.9.1 Handrails for ramps.** Handrails shall be installed on both sides of ramps between the slope of 1 vertical to 12 horizontal and 1 vertical and 20 horizontal in accordance with Sections R311.8.3.1 through R311.8.3.3.

**R330.10 Stair treads and risers.** Stair treads and risers shall be constructed in accordance with Section R311.7.5. Handrails shall be installed in accordance with Section R330.10.1.

**R330.10.1 Handrails for treads and risers.** Handrails shall be installed on both sides of treads and risers numbering from one riser to

multiple risers. Handrails shall be installed in accordance with Sections R311.7.8.1 through R311.7.8.4.

**R330.11 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 (762 mm) deep by 48 inches (1219 mm) long.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 20-03-023, § 51-51-0330, filed 1/6/20, effective 7/1/20.]

AMENDATORY SECTION (Amending WSR 20-03-023, filed 1/6/20, effective 7/1/20)

**WAC 51-51-0331 Section R331—Family home child care.**

**R331 Family home child care.** For family home child care with more than six children, each floor level used for family child care purposes shall be served by two remote means of egress. Exterior exit doors shall be operable from the inside without the use of keys or any special knowledge or effort.

Basements located more than 4 feet below grade level shall not be used for family home child care unless one of following conditions exist:

1. Stairways from the basement open directly to the exterior of the building without entering the first floor;
2. One of the two required means of egress discharges directly to the exterior from the basement level, and a self-closing door is installed at the top or bottom of the interior stair leading to the floor above;
3. One of the two required means of egress is an operable window or door, approved for emergency escape or rescue, that opens directly to a public street, public alley, yard or exit court; or
4. A residential sprinkler system is provided throughout the entire building in accordance with NFPA 13d.

Floors located more than 4 feet above grade level shall not be occupied by children in family home child care.

EXCEPTIONS:

1. Use of toilet facilities while under supervision of an adult staff person;
2. Family home child care may be allowed on the second story if one of the following conditions exists:
  - 2.1. Stairways from the second story open directly to the exterior of the building without entering the first floor;
  - 2.2. One of the two required means of egress discharges directly to the exterior from the second story level, and a self-closing door is installed at the top or bottom of the interior stair leading to the floor below; or
  - 2.3. A residential sprinkler system is provided throughout the entire building in accordance with NFPA 13d.

Every sleeping or napping room in a family home child care shall have at least one operable window for emergency rescue.

EXCEPTION: Sleeping or napping rooms having doors leading to two separate means of egress, or a door leading directly to the exterior of the building.

Rooms or spaces containing a commercial-type cooking kitchen, boiler, maintenance shop, janitor closet, laundry, woodworking shop, flammable or combustible storage, or painting operation shall be separated from the family home child care area by at least 1-hour (~~fire-resistive~~) fire-resistant construction.

EXCEPTION: A (~~fire-resistive~~) fire-resistant separation shall not be required where the food preparation kitchen contains only a domestic cooking range, and the preparation of food does not result in the production of smoke or grease laden vapors.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 20-03-023, § 51-51-0331, filed 1/6/20, effective 7/1/20.]

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104, filed 1/3/23 and 6/7/23, effective 10/29/23)

**WAC 51-51-0333 Section R333—Lofts.**

**R333.1 General.** Where provided in dwelling units or sleeping units, lofts shall comply with this code as modified by Sections R333.1 through R333.5. Lofts constructed in compliance with this section shall be considered a portion of the story below. Such lofts shall not contribute to the number of stories as regulated by this code.

EXCEPTION: Lofts need not comply with Section R333 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 m<sup>2</sup>).
3. The loft is not provided with a permanent means of egress.

**R333.2 Loft limitations.** Lofts shall comply with the following conditions:

1. The loft floor area shall be less than 70 square feet (6.5 m<sup>2</sup>).
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 R333.3 through R333.5 shall not apply to lofts that do not comply with Items 1 and 2 of this section.

**R333.3 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.

**R333.4 Loft area.** The aggregate area of all lofts and mezzanines within a room shall comply with Section R325.3.

EXCEPTION: The area of a single loft located within a dwelling unit or sleeping unit equipped with an automatic sprinkler system in accordance with Section P2904 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.

**R333.5 Permanent egress for lofts.** Where a permanent means of egress is provided for lofts, the means of egress shall comply with Section R311 as modified by Section R333.5.1.

**R333.5.1 Ceiling height at loft means of egress.** A minimum ceiling height of 3 feet (914 mm) shall be provided for the entire width of the means of egress from the loft.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-0333, filed 1/3/23 and 6/7/23, effective 10/29/23.]

**Reviser's note:** The above section was filed as an amendatory section; however, this section will not come into effect as a new section until October 29, 2023.

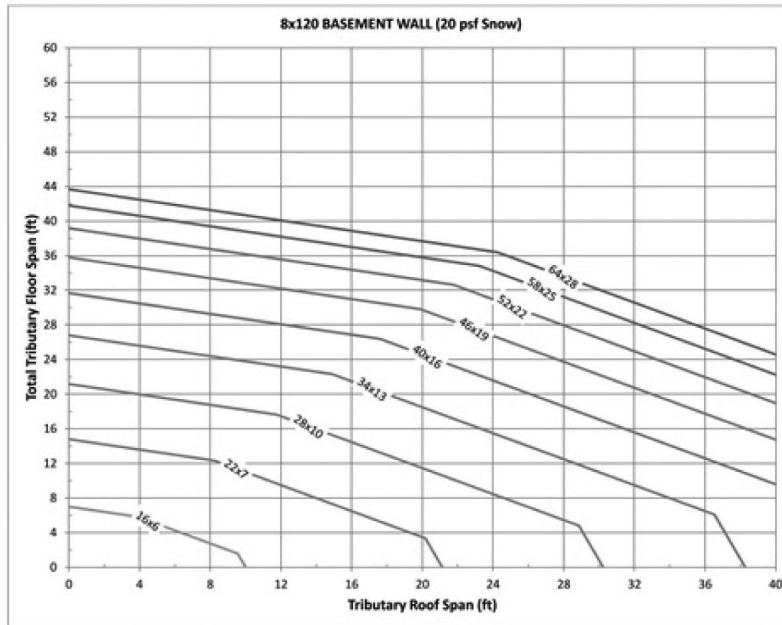
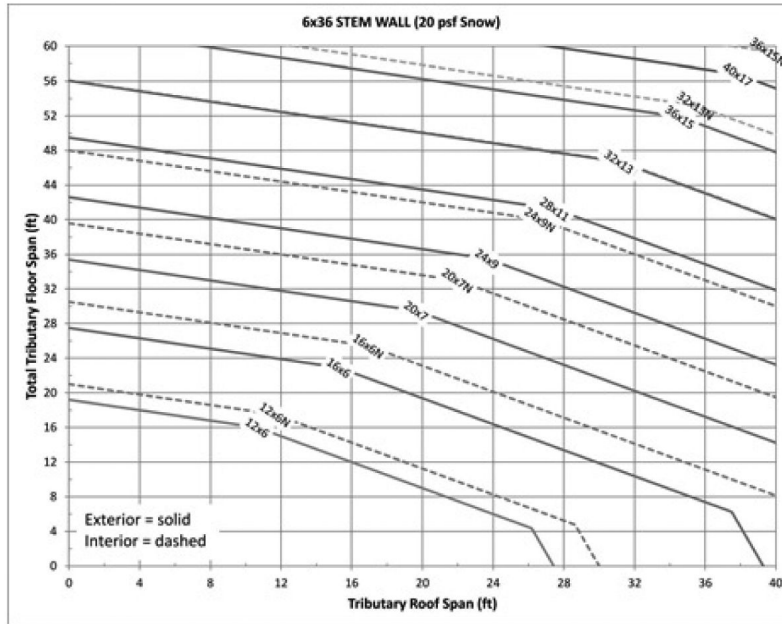
AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [20-03-023], filed 1/3/23 and 6/7/23 [1/6/20], effective 10/29/23 [7/1/20])

**WAC 51-51-0403 Section R403—Footings.**

**R403.1.1 Minimum size.** The minimum width, *W*, and thickness, *T*, for concrete footings shall be in accordance with Tables R403.1(1) through R403.1(3) and Figure R403.1(1) or R403.1.3, as applicable, but not less than 12 inches (305 mm) in width and 6 inches (152 mm) in depth. The footing width shall be based on the load-bearing value of the soil in accordance with Table R401.4.1. Footing projections, *P*, shall be not less than 2 inches (51 mm) and shall not exceed the thickness of the footing. Footing thickness and projection for fireplaces shall be in accordance with Section R1001. The size of footings supporting piers and columns shall be based on the tributary load and allowable soil pressure in accordance with Table R401.4.1. Footings for wood foundations shall be in accordance with the details set forth in Section R403.2, and Figures R403.1(2) and R403.1(3). Footings for precast foundation shall be in accordance with the details set forth in Section R403.4, Table R403.4, and Figures R403.4(1) and R403.4(2).

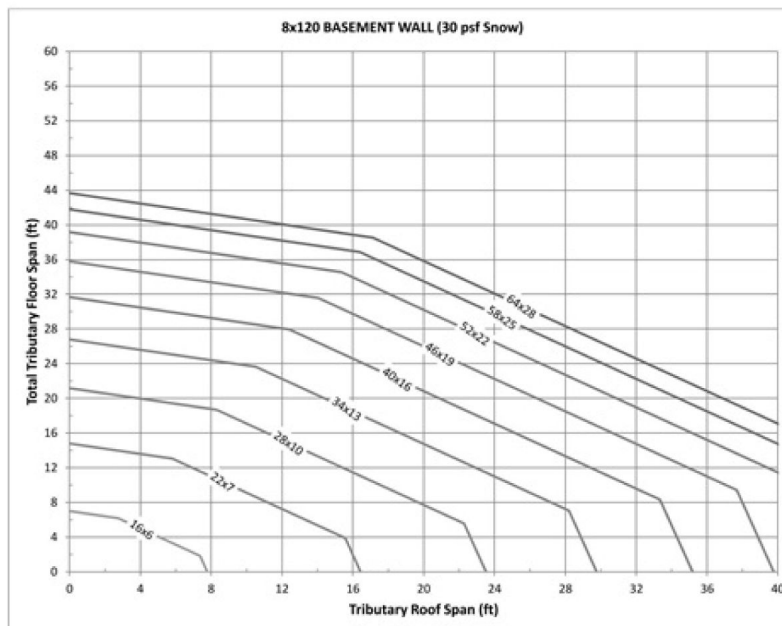
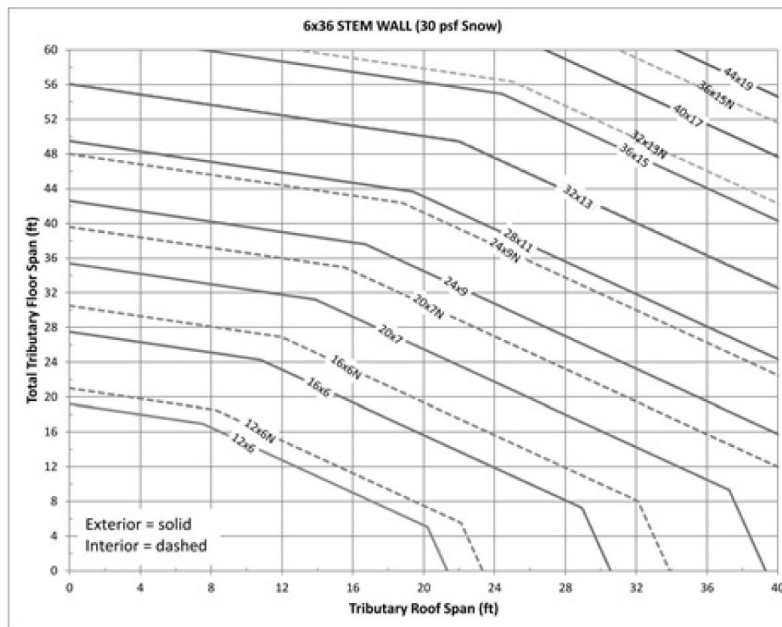
EXCEPTION: Light-frame construction shall be permitted to have minimum footing size in accordance with Figures R403.1.1(1) through R403.1.1(4) in lieu of that determined by Table R403.1(1).

Figure R403.1.1(1)  
 Alternative Minimum Footing Size for Light-Frame Construction  
 a, b, c, d, e, f, g, h, i  
 20 PSF Snow Load



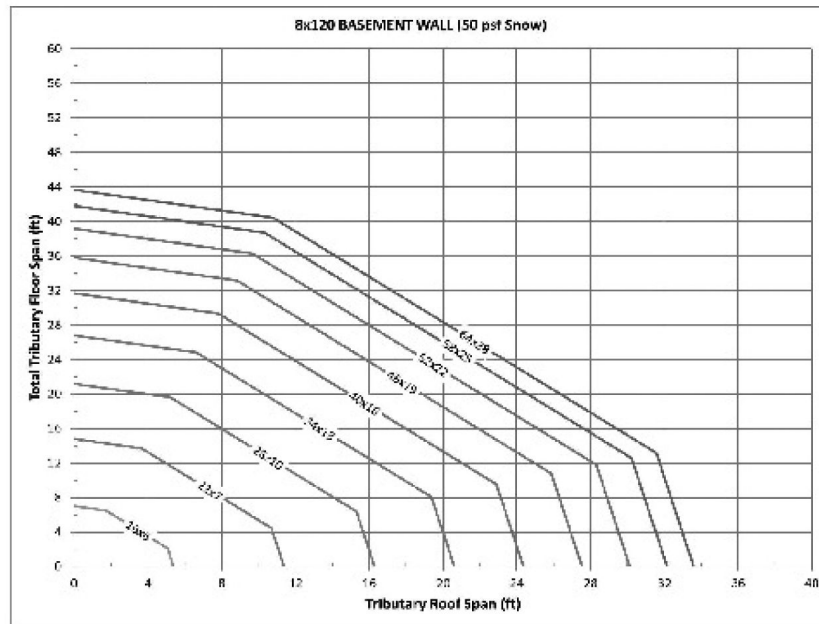
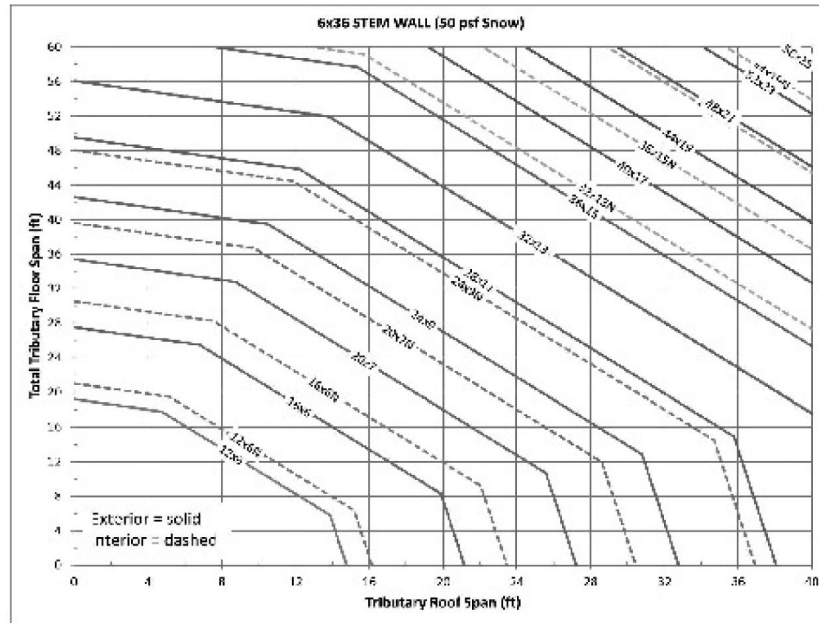
- Notes:
- a The minimum footing size is based on the following assumptions: Material weights per Section R301.2.2.1 and soil density = 120 pcf. Wood-framed walls = 10 foot; crawlspace stem wall = 6 inches × 36 inches; basement wall = 8 inches × 120 inches. Total load (TL) equal to the maximum of three load combinations: LC1=D+L, LC2=D+S and LC3=D=0.75(L+S), where D=dead load, L=live load, S=snow load. TL=max(LC1, LC2, LC3).
  - b Use tributary span of floor and roof. Figure may be used to size exterior and interior footings.
  - c Add 4 feet to tributary floor span for each wood-framed wall above first level (i.e., ((4')) 4 feet for 2-story, ((8')) 8 feet for 3-story).
  - d Multiply floor span by 1.25 for interior footings supporting continuous joists.
  - e Multiply footing width by (1500 psf/capacity) for soil capacity other than 1500 psf. See Section R403.1.1 for thickness.
  - f Dashed line may be used for interior footing size only.
  - g Use footing size indicated on line above the span combination used.
  - h For span combinations above the upper line, a design professional is required.
  - i Interpolation between footing sizes is allowed. Extrapolation is not allowed.

Figure R403.1.1(2)  
 Alternative Minimum Footing Size for Light-Frame Construction  
 a, b, c, d, e, f, g, h, i  
 30 PSF Snow Load



- Notes:
- a The minimum footing size is based on the following assumptions: Material weights per Section R301.2.2.1 and soil density = 120 pcf. Wood-framed walls = 10 foot; crawlspace stem wall = 6 inches × 36 inches; basement wall = 8 inches × 120 inches. Total load (TL) equal to the maximum of three load combinations: LC1=D+L, LC2=D+S and LC3=D=0.75(L+S), where D=dead load, L=live load, S=snow load. TL=max(LC1, LC2, LC3).
  - b Use tributary span of floor and roof. Figure may be used to size exterior and interior footings.
  - c Add 4 feet to tributary floor span for each wood-framed wall above first level (i.e., ((4')) 4 feet for 2-story, ((8')) 8 feet for 3-story).
  - d Multiply floor span by 1.25 for interior footings supporting continuous joists.
  - e Multiply footing width by (1500 psf/capacity) for soil capacity other than 1500 psf. See Section R403.1.1 for thickness.
  - f Dashed line may be used for interior footing size only.
  - g Use footing size indicated on line above the span combination used.
  - h For span combinations above the upper line, a design professional is required.
  - i Interpolation between footing sizes is allowed. Extrapolation is not allowed.

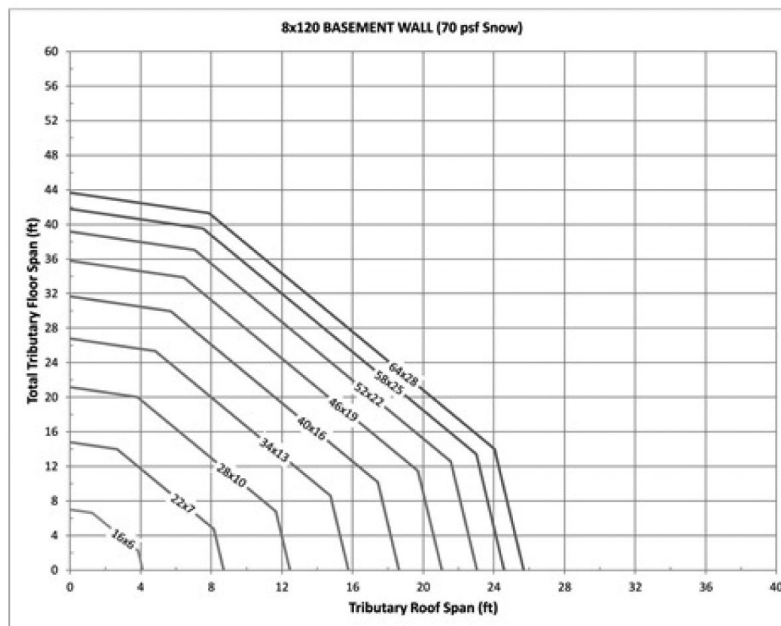
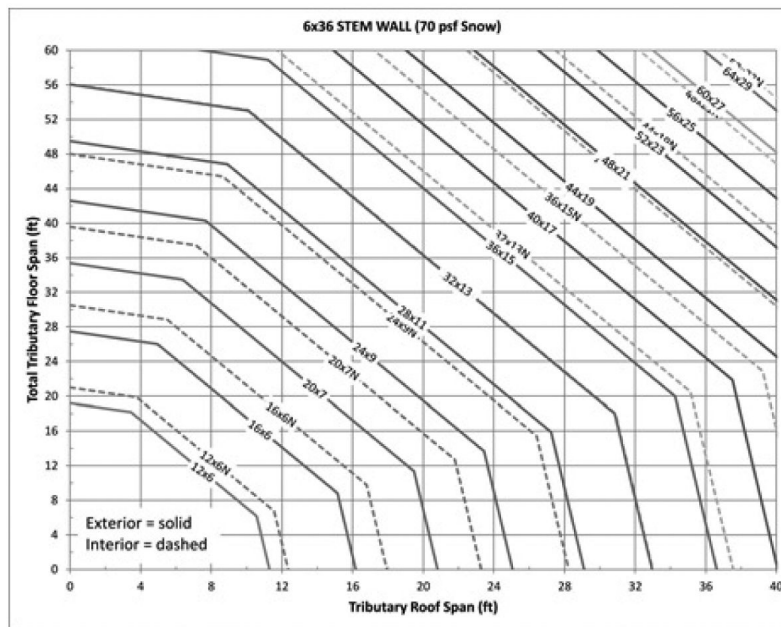
Figure R403.1.1(3)  
 Alternative Minimum Footing Size for Light-Frame Construction  
 a, b, c, d, e, f, g, h, i  
 50 PSF Snow Load



- Notes:
- a The minimum footing size is based on the following assumptions: Material weights per Section R301.2.2.1 and soil density = 120 pcf. Wood-framed walls = 10 foot; crawlspace stem wall = 6 inches × 36 inches; basement wall = 8 inches × 120 inches. Total load (TL) equal to the maximum of three load combinations: LC1=D+L, LC2=D+S and LC3=D+0.75(L+S), where D=dead load, L=live load, S=snow load. TL=max(LC1, LC2, LC3).
  - b Use tributary span of floor and roof. Figure may be used to size exterior and interior footings.
  - c Add 4 feet to tributary floor span for each wood-framed wall above first level (i.e., ((4')) 4 feet for 2-story, ((8')) 8 feet for 3-story).
  - d Multiply floor span by 1.25 for interior footings supporting continuous joists.
  - e Multiply footing width by (1500 psf/capacity) for soil capacity other than 1500 psf. See Section R403.1.1 for thickness.
  - f Dashed line may be used for interior footing size only.
  - g Use footing size indicated on line above the span combination used.
  - h For span combinations above the upper line, a design professional is required.
  - i Interpolation between footing sizes is allowed. Extrapolation is not allowed.



Figure R403.1.1(4)  
 Alternative Minimum Footing Size for Light-Frame Construction  
 a, b, c, d, e, f, g, h, i  
 70 PSF Snow Load



- Notes:
- a The minimum footing size is based on the following assumptions: Material weights per Section R301.2.2.1 and soil density = 120 pcf. Wood-framed walls = 10 foot; crawlspace stem wall = 6 inches × 36 inches; basement wall = 8 inches × 120 inches. Total load (TL) equal to the maximum of three load combinations: LC1=D+L, LC2=D+S and LC3=D+0.75(L+S), where D=dead load, L=live load, S=snow load. TL=max(LC1, LC2, LC3).
  - b Use tributary span of floor and roof. Figure may be used to size exterior and interior footings.
  - c Add 4 feet to tributary floor span for each wood-framed wall above first level (i.e., ((4')) 4 feet for 2-story, ((8')) 8 feet for 3-story).
  - d Multiply floor span by 1.25 for interior footings supporting continuous joists.
  - e Multiply footing width by (1500 psf/capacity) for soil capacity other than 1500 psf. See Section R403.1.1 for thickness.
  - f Dashed line may be used for interior footing size only.
  - g Use footing size indicated on line above the span combination used.
  - h For span combinations above the upper line, a design professional is required.
  - i Interpolation between footing sizes is allowed. Extrapolation is not allowed.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-0403, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-03-023, § 51-51-0403, filed 1/6/20, effective 7/1/20. Statutory Authority: RCW 19.27.031, 19.27.074 and chapter 19.27 RCW. WSR 19-03-036, § 51-51-0403, filed 1/7/19, effective 7/1/19. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 16-03-025, § 51-51-0403, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-0403, filed 2/1/13, effective 7/1/13. Statutory Authority: Chapter 19.27 RCW. WSR 10-24-061, § 51-51-0403, filed 11/29/10, effective 7/1/11. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-0403, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.190, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 08-01-103, § 51-51-0403, filed 12/18/07, effective 4/1/08. Statutory Authority: RCW 19.27.074, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-090, § 51-51-0403, filed 12/19/06, effective 7/1/07.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [14-24-055], filed 1/3/23 and 6/7/23 [11/25/14], effective 10/29/23 [5/1/15])

**WAC 51-51-0408 Section R408—Under-floor space.**

**R408.1 Ventilation.** The under-floor space between the bottom of the floor joists and the earth under any building (except space occupied by a basement) shall have ventilation openings through foundation walls or exterior walls. 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)~~) 6 inches (152 mm) 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)~~) 2 inches (51 mm).

**R408.2 Openings for under-floor ventilation.** The minimum net area of ventilation openings shall not be less than 1 square foot (0.0929 m<sup>2</sup>) for each 300 square feet (28 m<sup>2</sup>) of under-floor area. Required openings shall be evenly placed to provide cross ventilation of the space except one side of the building shall be permitted to have no ventilation openings. Ventilation openings shall be covered for their height and width with any of the following materials provided that the least dimension of the covering shall not exceed 1/4 inch (6.4 mm), and operational louvers are permitted:

1. Perforated sheet metal plates not less than 0.070 inch (1.8 mm) thick.
2. Expanded sheet metal plates not less than 0.047 inch (1.2 mm) thick.
3. Cast-iron grill or grating.
4. Extruded load-bearing brick vents.
5. Hardware cloth of 0.035 inch (0.89 mm) wire or heavier.
6. Corrosion-resistant wire mesh, with the least dimension being 1/8 inch (3.2 mm).

EXCEPTION: The total area of ventilation openings shall be permitted to be reduced to 1/1,500 of the under-floor area where the ground surface is covered with an approved Class I vapor retarder material and the required openings are placed to provide cross ventilation of the space. The installation of operable louvers shall not be prohibited. If the installed ventilation is less than 1/300, or if operable louvers are installed, 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 the requirements of Appendix F (Radon) of this code.

**R408.3 Unvented crawl space.** Ventilation openings in under-floor spaces specified in Section R408.2 shall not be required where:

1. Exposed earth is covered with a continuous Class I vapor retarder. Joints of the vapor retarder shall overlap by 6 inches (152 mm) and shall be sealed or taped. The edges of the vapor retarder shall extend at least 6 inches (152 mm) up the stem wall and shall be attached and sealed to the stem wall; and a radon system shall be installed that meets the requirements of Appendix F (Radon) of this code.

2. Continuously operated mechanical exhaust ventilation is provided at a rate equal to 1 cubic foot per minute (0.47 L/s) for each 50 square feet (4.7 m<sup>2</sup>) of crawlspace floor area. Exhaust ventilation shall terminate to the exterior.

EXCEPTION: Plenum in existing structures complying with Section M1601.5, if under-floor space is used as a plenum.

**R408.8 Under-floor vapor retarder.** This section is not adopted.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-0408, filed 1/3/23 and 6/7/23, effective 10/29/23. Statutory Authority: RCW 19.27.074, 19.27.020, and 19.27.031. WSR 14-24-055, § 51-51-0408, filed 11/25/14, effective 5/1/15. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-0408, filed 2/1/13, effective 7/1/13. Statutory Authority: Chapter 19.27 RCW. WSR 10-18-036, § 51-51-0408, filed 8/25/10, effective 9/25/10. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-0408, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.074, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-090, § 51-51-0408, filed 12/19/06, effective 7/1/07.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [21-16-006], filed 1/3/23 and 6/7/23 [7/22/21], effective 10/29/23 [8/22/21])

**WAC 51-51-0507 Section R507—Decks.**

**TABLE R507.3.1**

**MINIMUM FOOTING SIZE FOR DECKS**

LIVE OR GROUND SNOW LOAD (psf)	TRIBUTARY AREA <sup>(c)</sup> (sq.ft.)	LOAD-BEARING VALUE OF SOILS <sup>a,c,d</sup> (psf)								
		1500 <sup>e</sup> ((psf))			2000 <sup>e</sup> ((psf))			≥ 3000 <sup>e</sup> ((psf))		
		Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness <sup>f</sup> (inches)	Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness <sup>f</sup> (inches)	Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness <sup>f</sup> (inches)
60 Live or 70 Ground Snow Load	5	7	8	6	7	8	6	7	8	6
	20	12	14	6	11	13	6	9	10	6
	40	18	20	6	15	17	6	12	14	6
	60	21	24	8	19	21	6	15	17	6
	80	25	28	9	21	24	8	18	20	6
	100	28	31	11	24	27	9	20	22	7
	120	30	34	12	26	30	10	21	24	8
	140	33	37	13	28	32	11	23	26	9
160	35	40	15	30	34	12	25	28	9	

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m<sup>2</sup>, 1 pound per square foot = 0.0479 kPa.

- a. Interpolation permitted, extrapolation not permitted.
- b. Reserved.
- c. Footing dimensions shall allow complete bearing of the post.
- d. If the support is a brick or CMU pier, the footing shall have a minimum 2-inch projection on all sides.
- e. Area, in square feet, of deck surface supported by post and footings.
- f. Minimum thickness shall only apply to plain concrete footings.

**R507.4 Deck posts.** For single-level decks, wood post size shall be in accordance with Table R507.4.

**TABLE R507.4  
DECK POST HEIGHT**

((LOADS <sup>b</sup> (psf))	POST-SPECIES <sup>c</sup>	POST-SIZE <sup>d</sup>	MAXIMUM DECK POST HEIGHT <sup>a</sup> (feet-inches)							
			Tributary Area <sup>g,h</sup> (sq.-ft.)							
LOADS <sup>b</sup> (psf)	POST SPECIES <sup>c</sup>	POST SIZE <sup>d</sup>	20	40	60	80	100	120	140	160))
			TRIBUTARY AREA <sup>g,h</sup> (sq. ft.)							
LOADS <sup>b</sup> (psf)	POST SPECIES <sup>c</sup>	POST SIZE <sup>d</sup>	20	40	60	80	100	120	140	160
			MAXIMUM DECK POST HEIGHT <sup>a</sup> (feet-inches)							
60 Live Load, ≤60 Ground Snow Load	Douglas Fir <sup>e</sup> , Hem-fir <sup>e</sup> , SPF <sup>e</sup>	4 x 4	14-0	10-10	8-7	7-0	5-8	4-1	NP	NP
		4 x 6	14-0	13-10	11-1	9-5	8-2	7-3	6-4	5-4
		6 x 6	14-0	14-0	14-0	14-0	14-0	13-3	10-9	6-11
		8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0
	Redwood <sup>f</sup> , Western Cedars <sup>f</sup> , Ponderosa Pine <sup>f</sup> , Red Pine <sup>f</sup>	4 x 4	14-0	10-3	7-0	NP	NP	NP	NP	NP
		4 x 6	14-0	13-6	10-6	8-4	5-10	NP	NP	NP
		6 x 6	14-0	14-0	14-0	14-0	11-11	NP	NP	NP
		8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0
70 Ground Snow Load	Douglas Fir <sup>e</sup> , Hem-fir <sup>e</sup> , SPF <sup>e</sup>	4 x 4	14-0	10-1	7-11	6-6	5-3	3-7	NP	NP
		4 x 6	14-0	12-10	10-3	8-9	7-7	6-8	5-10	4-11
		6 x 6	14-0	14-0	14-0	14-0	14-0	12-2	9-9	5-9
		8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0
	Redwood <sup>f</sup> , Western Cedars <sup>f</sup> , Ponderosa Pine <sup>f</sup> , Red Pine <sup>f</sup>	4 x 4	14-0	9-5	6-5	NP	NP	NP	NP	NP
		4 x 6	14-0	12-6	9-8	7-7	5-3	NP	NP	NP
		6 x 6	14-0	14-0	14-0	14-0	10-8	NP	NP	NP
		8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 square foot = 0.0929 m<sup>2</sup>, 1 pound per square foot = 0.0479 kPa, NP = Not permitted.

- a. Measured from the underside of the beam to top of footing or pier.
- b. 10 psf dead load. Snow load not assumed to be concurrent with live load.
- c. No. 2 grade, wet service factor included.
- d. Notched deck posts shall be sized to accommodate beam size ((per)) in accordance with Section R507.5.2.
- e. Includes incising factor.
- f. Incising factor not included.
- g. Area, in square feet, of deck surface supported by post and footing.

h. Interpolation permitted. Extrapolation not permitted.

**R507.5 Deck beams.** Maximum allowable spans for wood deck beams, as shown in Figure R507.5, shall be in accordance with Table R507.5. Beam plies shall be fastened together with two rows of 10d (3-inch × 0.128-inch) nails minimum at 16 inches (406 mm) on center along each edge. Beams shall be permitted to cantilever at each end up to one-fourth of the ((allowable)) actual beam span. Deck beams of other materials shall be permitted where designed in accordance with accepted engineering practices.

Tables R507.5(1) through R507.5(4) are not adopted.

**TABLE R507.5  
MAXIMUM DECK BEAM SPAN - 60 PSF LIVE LOAD or  
70 PSF GROUND SNOW LOAD<sup>c</sup>**

BEAM SPECIES <sup>d</sup>	BEAM SIZE <sup>e</sup>	EFFECTIVE DECK JOIST SPAN LENGTH <sup>a,i</sup> (feet)						
		6	8	10	12	14	16	18
		MAXIMUM DECK BEAM SPAN LENGTH <sup>a,b,f</sup> (feet-inches)						
Douglas fir-larch <sup>g</sup> , Hem-fir <sup>g</sup> , Spruce-pine-fir <sup>g</sup>	1-2×6	3-5	2-10	2-5	2-2	2-0	1-10	1-9
	1-2×8	4-7	3-8	3-2	2-10	2-7	2-5	2-4
	1-2×10	5-8	4-9	4-1	3-8	3-4	3-1	2-11
	1-2×12	6-7	5-8	5-0	4-6	4-1	3-10	3-7
	2-2×6	5-2	4-6	4-0	3-5	3-1	2-10	2-7
	2-2×8	6-11	6-0	5-3	4-7	4-1	3-8	3-5
	2-2×10	8-5	7-4	6-6	5-10	5-2	4-9	4-5
	2-2×12	9-10	8-6	7-7	6-11	6-4	5-9	5-4
	3-2×6	6-6	5-7	5-0	4-7	4-2	3-9	3-5
	3-2×8	8-8	7-6	6-8	6-1	5-6	5-0	4-7
	3-2×10	10-7	9-2	8-2	7-6	6-11	6-4	5-10
3-2×12	12-4	10-8	9-7	8-9	8-1	7-7	7-1	
Redwood <sup>h</sup> , Western Cedars <sup>h</sup> , Ponderosa Pine <sup>h</sup> , Red Pine <sup>h</sup>	1-2×6	3-6	2-11	2-6	2-3	2-0	1-11	1-9
	1-2×8	4-6	3-10	3-3	2-11	2-8	2-6	2-4
	1-2×10	5-6	4-9	4-2	3-9	3-5	3-2	3-0
	1-2×12	6-4	5-6	4-11	4-6	4-2	3-11	3-8
	2-2×6	5-3	4-7	4-1	3-6	3-2	2-11	2-8
	2-2×8	6-8	5-9	5-2	4-8	4-2	3-10	3-6
	2-2×10	8-2	7-1	6-4	5-9	5-4	4-10	4-6
	2-2×12	9-5	8-2	7-4	6-8	6-2	5-9	5-5
	3-2×6	6-4	5-8	5-1	4-8	4-3	3-10	3-6
	3-2×8	8-4	7-3	6-5	5-11	5-5	5-1	4-8
	3-2×10	10-2	8-10	7-11	7-2	6-8	6-3	5-11
3-2×12	11-10	10-3	9-2	8-4	7-9	7-3	6-10	

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

- a. Interpolation allowed. Extrapolation is not allowed.
- b. Beams supporting a single span of joists with or without cantilever.
- c. Dead load = 10 psf, L/Δ = 360 at mainspan, L/Δ = 180 at cantilever. Snow load not assumed to be concurrent with live load.
- d. No. 2 grade, wet service factor included.
- e. Beam depth shall be equal to or greater than the depth of intersecting joist for a flush beam connection.
- f. Beam cantilevers are limited to the adjacent beam's span divided by 4.
- g. Includes incising factor.
- h. Incising factor not included.
- i. Deck joist span as shown in Figure R507.5.
- j. For calculation of effective joist span, the actual joist span length shall be multiplied by the joist span factor in accordance with Table R507.5(5).

**R507.6 Deck joists.** Maximum allowable spans for wood deck joists, as shown in Figure R507.6, shall be in accordance with Table R507.6. The maximum joist spacing shall be limited by the decking materials in accordance with Table R507.7.

TABLE R507.6  
MAXIMUM DECK JOIST SPANS

LOAD <sup>a</sup> (psf)	JOIST SPECIES <sup>b</sup>	JOIST SIZE	ALLOWABLE JOIST SPAN <sup>b,c</sup> (feet-inches)			MAXIMUM CANTILEVER <sup>d,f,(g)</sup> (feet-inches)							
			Joist Spacing (inches)			Adjacent Joist Back Span <sup>g</sup> (feet)							
			12	16	24	4	6	8	10	12	14	16	18
60 Live Load or 70 Ground Snow Load	Douglas fir-larch <sup>e</sup> , Hem-fir <sup>e</sup> , Spruce-pine-fir <sup>e</sup>	2×6	7-11	7-1	5-9	1-0	1-6	NP	NP	NP	NP	NP	NP
		2×8	10-5	9-5	7-8	1-0	1-6	2-0	2-1	NP	NP	NP	NP
		2×10	13-3	11-6	9-5	1-0	1-6	2-0	2-6	2-8	NP	NP	NP
		2×12	15-5	13-4	10-11	1-0	1-6	2-0	2-6	3-0	3-3	NP	NP
	Redwood <sup>f</sup> , Western Cedars <sup>f</sup> , Ponderosa Pine <sup>f</sup> , Red Pine <sup>f</sup>	2×6	7-4	6-8	5-10	1-0	1-4	NP	NP	NP	NP	NP	NP
		2×8	9-8	8-10	7-4	1-0	1-6	1-11	NP	NP	NP	NP	NP
		2×10	12-4	11-0	9-0	1-0	1-6	2-0	2-6	2-6	NP	NP	NP
		2×12	14-9	12-9	10-5	1-0	1-6	2-0	2-6	3-0	3-0	NP	NP

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg, NP = Not permitted.

- a. Dead load = 10 psf dead load. Snow load not assumed to be concurrent with live load.
- b. No. 2 grade, wet service factor included.
- c. L/Δ = 360 at main span.
- d. L/Δ = 180 at cantilever with 220-pound point load applied to end.
- e. Includes incising factor.
- f. Incising factor not included.
- g. Interpolation permitted. Extrapolation not permitted.

**R507.9.1.2 Band joist details.** Band joists supporting a ledger shall be a minimum 2-inch-nominal (51 mm), solid-sawn, spruce-pine-fir or better lumber or minimum 1-inch (25 mm) nominal engineered wood rim boards in accordance with Section R502.1.7. Band joists shall bear fully on the primary structure capable of supporting all required loads.

TABLE R507.9.1.3(1)  
DECK LEDGER CONNECTION TO BAND JOIST

LOAD <sup>c</sup> (psf)	JOIST SPAN <sup>a</sup> (feet)	ON-CENTER SPACING OF FASTENERS <sup>b</sup> (inches)		
		1/2-inch diameter lag screw with 1/2-inch maximum sheathing <sup>d,e</sup>	1/2-inch diameter bolt with 1/2-inch maximum sheathing <sup>e</sup>	1/2-inch diameter bolt with 1-inch maximum sheathing <sup>f</sup>
60 Live Load or 70 Ground Snow Load	6	22	36	35
	8	16	31	26
	10	13	25	21
	12	11	20	17
	14	9	17	15
	16	8	15	13
	18	7	13	11

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa.

- a. Interpolation permitted. Extrapolation is not permitted.
- b. Ledgers shall be flashed in accordance with Section R703.4 to prevent water from contacting the house band joist.
- c. Dead load = 10 psf. Snow load shall not be assumed to act concurrently with live load.
- d. The tip of the lag screw shall fully extend beyond the inside face of the band joist.
- e. Sheathing shall be wood structural panel or solid sawn lumber.
- f. Sheathing shall be permitted to be wood structural panel, gypsum board, fiberboard, lumber or foam sheathing. Up to 1/2-inch thickness of stacked washers shall be permitted to substitute for up to 1/2 inch of allowable sheathing thickness where combined with wood structural panel or lumber sheathing.

**R507.9.2 Deck lateral load connections.** Lateral loads shall be transferred to the ground or to a structure capable of transmitting them to the ground. Where the lateral load connection is provided in accordance with Figure R507.9.2(1), hold-down tension devices shall be installed in not less than two locations per deck, within 24 inches of each end of the deck. Each device shall have an allowable stress design capacity of not less than 1500 pounds (6672 N). Where the lateral load connections are provided in accordance with Figure R507.9.2(2),

the hold-down tension devices shall be installed in not less than four locations per deck, and each device shall have an allowable stress design capacity of not less than 750 pounds (3336 N).

EXCEPTION: Decks not more than 30 inches above grade at any point may be unattached.

**TABLE ((R507.9-1)) R507.9.1.3(2)**  
**PLACEMENT OF LAG SCREWS AND BOLTS IN DECK LEDGERS AND BAND JOISTS**

MINIMUM END AND EDGE DISTANCES AND SPACING BETWEEN ROWS				
	TOP EDGE	BOTTOM EDGE	ENDS	ROW SPACING
Ledger <sup>a</sup>	2 inches <sup>d</sup>	3/4 inch	2 inches <sup>b</sup>	1 5/8 inches <sup>b</sup>
Band joist <sup>c</sup>	3/4 inch	2 inches <sup>e</sup>	2 inches <sup>b</sup>	1 5/8 inches <sup>b</sup>

For SI: 1 inch = 25.4 mm.

- a Lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger in accordance with Figure ((R507.2.1(+))) R507.9.1.3(1).
- b Maximum 5 inches.
- c For engineered rim joists, the manufacturer's recommendations shall govern.
- d The minimum distance from bottom row of lag screws or bolts to the top edge of the ledger shall be in accordance with Figure ((R507.2.1(+))) R507.9.1.3(1).
- e The 2 inches may be reduced to 3/4 inch when the band joist is directly supported by a mudsill, a header or by double top wall plates.

~~(( TABLE R507.9.3(1) DECK LEDGER CONNECTION TO BAND JOIST~~

LOAD <sup>c</sup> (psf)	JOIST SPAN <sup>a</sup> (feet)	1/2-inch diameter leg screw with 1/2-inch maximum sheathing <sup>d,e</sup>	1/2-inch diameter bolt with 1/2-inch maximum sheathing <sup>e</sup>	1/2-inch diameter bolt with 1-inch maximum sheathing <sup>f</sup>
		ON-CENTER SPACING OF FASTENERS <sup>b</sup> (inches)		
60 Ground Snow Load	6	25	36	36
	8	18	35	30
	10	15	28	24
	12	12	23	20
	14	10	20	17
	16	9	17	15
70 Ground Snow Load	6	22	36	35
	8	16	31	26
	10	13	25	21
	12	11	20	17
	14	9	17	15
	16	8	15	13
	18	7	13	11

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa.

- a: Interpolation permitted. Extrapolation not permitted.
- b: Ledgers shall be flashed in accordance with Section R703.4 to prevent water from contacting the house band joist.
- c: Dead Load = 10 psf. Snow load shall not be assumed to act concurrently with live load.
- d: The tip of the lag screw shall fully extend beyond the inside face of the band joist.
- e: Sheathing shall be wood structural panel or solid-sawn lumber.
- f: Sheathing shall be permitted to be wood structural panel, gypsum board, fiberboard, lumber or foam sheathing. Up to 1/2 inch thickness of stacked washers shall be permitted to substitute for up to 1/2 inch of allowable sheathing thickness where combined with wood structural panel or lumber sheathing.)

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-0507, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 21-16-006, § 51-51-0507, filed 7/22/21, effective 8/22/21; WSR 20-21-041, § 51-51-0507, filed 10/13/20, effective 11/13/20; WSR 20-03-023, § 51-51-0507, filed 1/6/20, effective 7/1/20; WSR 16-03-025, § 51-51-0507, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-0507, filed 2/1/13, effective 7/1/13.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 13-04-068, filed 2/1/13, effective 7/1/13)

**WAC 51-51-1001 Section R1001—Masonry fireplaces.**

**R1001.7.1 Damper.** Masonry fireplaces shall be equipped with a ferrous metal damper located at least 8 inches (203 mm) above the top of the fireplace opening. Dampers shall be installed in the fireplace or the chimney venting the fireplace, and shall be operable from the room containing the fireplace.

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 (3870 mm<sup>2</sup>), and shall be provided with an operable outside air duct damper.

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.

[Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-1001, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-1001, filed 1/20/10, effective 7/1/10.]

AMENDATORY SECTION (Amending WSR 16-03-025, filed 1/11/16, effective 7/1/16)

**WAC 51-51-1002 Section R1002—Masonry heaters.**

**R1002.2 Installation.** Masonry heaters shall be installed in accordance with this section and shall be a masonry heater type approved by the department of ecology. Masonry heaters shall comply with one of the following:

1. Masonry heaters shall comply with the requirements of ASTM E 1602; or



2. Masonry heaters shall be *listed* and *labeled* in accordance with UL 1482 or CEN 15250 and installed in accordance with the manufacturer's installation instructions.

**R1002.2.1 Combustion air and doors.** Masonry heaters shall be provided with both of the following:

1. Primary combustion air ducted from the outside of the structure to the appliance.
2. Tight-fitting ceramic glass or metal doors. Flue dampers, when provided, shall have an external control and when in the closed position shall have a net free area of not less than ((5%)) 5 percent of the flue cross sectional area.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 16-03-025, § 51-51-1002, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-1002, filed 2/1/13, effective 7/1/13.]

AMENDATORY SECTION (Amending WSR 20-03-023, filed 1/6/20, effective 7/1/20)

**WAC 51-51-1006 Section R1006—Exterior air supply.**

**R1006.4 Passageway.** This section is not adopted.

**R1006.6 Solid fuel-burning appliances and fireplaces.** Solid fuel-burning appliances and fireplaces shall be provided with tight-fitting metal or ceramic glass doors, and:

1. A source from outside the structure of primary combustion air, connected to the appliance ((as per)) in accordance with manufacturer's specification. The air inlet shall originate at a point below the fire box. The duct shall be 4 inches (102 mm) or greater in diameter, not exceed 20 feet (6096 mm) in length, and be installed ((as per)) in accordance with manufacturer's instructions; or

2. The appliance and manufacturer's recommended combustion air supply, as an installed unit, shall be certified by an independent testing laboratory to have passed Test No. 11-Negative Pressure Test, Section 12.3, of ULC S627-M1984 "Space Heaters for Use with Solid Fuels," modified as follows:

Negative pressure of 8 Pascal shall be initially established with the chamber sealed and the air supply, if not directly connected to the appliance, closed off.

The air supply if not directly connected to the appliance, shall then be opened.

The maximum allowable air exchange rate from chamber leakage and intentional air supply for the unit (appliance with combustion air supply) in the test chamber is 3.5 air changes per hour, or 28 cfm (cubic feet of air per minute), whichever is less.

EXCEPTION: Combustion air may be supplied to the room in which the solid fuel burning appliance is located in lieu of direct ducting, provided that one of the following conditions is met:

1. The solid fuel-burning appliance is part of a central heating plant and installed in an unconditioned space in conformance with the International Mechanical Code; or
2. The solid fuel-burning appliance is installed in existing construction directly on a concrete floor or surrounded by masonry materials as in a fireplace. The combustion air terminus shall be located as close to the solid fuel-burning appliance as possible and shall be provided with a barometric damper or equivalent. The combustion air source shall be specified by the manufacturer or no less than 4 inches (102 mm) in diameter or the equivalent in area or as approved.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 20-03-023, § 51-51-1006, filed 1/6/20, effective 7/1/20. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-1006, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-1006, filed 1/20/10, effective 7/1/10.]

AMENDATORY SECTION (Amending WSR 13-04-068, filed 2/1/13, effective 7/1/13)

**WAC 51-51-1201 Section M1201—General.**

**M1201.1 Scope.** The provisions of Chapters 12 through 24 shall regulate the design, installation, maintenance, alteration and inspection of mechanical systems that are permanently installed and utilized to provide control of environmental conditions within buildings. These chapters shall also regulate those mechanical systems, system components, equipment and appliances specifically addressed in this code.

EXCEPTION: The standards for liquefied petroleum gas installations shall be the 2011 Edition of NFPA 58 (Liquefied Petroleum Gas Code) and the 2012 Edition of ANSI Z223.1/NFPA 54 (National Fuel Gas Code).

**M1201.3 Construction documents.** The plans and specifications shall show in sufficient detail pertinent data and features of the materials, equipment and systems as herein governed including, but not limited to: Design criteria, size and type of apparatus and equipment, systems and equipment controls, provisions for combustion air to fuel-burning appliances, and other pertinent data to indicate conformance with the requirements of this code.

**M1201.4 Testing.** At the discretion of the building official, flow testing may be required to verify that the mechanical system(s) satisfies the requirements of this code. Specific testing required by other sections of this code shall be performed. Flow testing may be performed using flow hoods measuring at the intake or exhaust points of the system, in-line pitot tube, or pitot-traverse type measurement systems in the duct, short-term tracer gas measurements, or other means approved by the building official.

[Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-1201, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.074, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-090, § 51-51-1201, filed 12/19/06, effective 7/1/07.]

AMENDATORY SECTION (Amending WSR 16-03-025, filed 1/11/16, effective 7/1/16)

**WAC 51-51-1413 Section M1413—Evaporative cooling equipment.**

**M1413.1 General.** Evaporative cooling equipment and appliances shall comply with UL 1995 ((~~ef~~)) or UL/CSA/ANCE 60335-2-40 and shall be installed:

1. In accordance with the manufacturer's instructions.
2. On level platforms in accordance with ((~~M1305.1.4.1~~))

M1305.1.3.1.

3. So that openings in exterior walls are flashed in accordance with Section R703.4.

4. So as to protect the potable water supply in accordance with Section 603 of the state plumbing code.

5. So that air intake opening locations are in accordance with Section R303.5.1.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 16-03-025, § 51-51-1413, filed 1/11/16, effective 7/1/16.]

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [20-12-027], filed 1/3/23 and 6/7/23 [5/27/20], effective 10/29/23 [7/1/20])

**WAC 51-51-1505 Section M1505—Mechanical ventilation.**

**M1505.1 General.** Where local exhaust or whole-house mechanical *ventilation* is provided, the ventilation system shall be designed in accordance with this section.

EXCEPTION: Alternate balanced whole-house *ventilation* systems and local exhaust systems designed and commissioned in accordance with ASHRAE 62.2 are permitted.

**M1505.4 Whole-house mechanical ventilation system.** Each dwelling unit shall be equipped with a ventilation system. The whole-house mechanical ventilation systems shall be designed in accordance with Sections M1505.4.1 through M1505.4.4.

**M1505.4.1 System design.** The whole-house ventilation system shall consist of one or more supply fans, one or more exhaust fans, or an ERV/HRV with integral fans, associated ducts and controls. Whole-house mechanical ventilation system supply and exhaust fans shall meet the requirements of Sections M1505.4.1.2, M1505.4.1.3, M1505.4.1.4, and M1505.4.1.5. Local exhaust fans are permitted to serve as part of the whole-house ventilation system when provided with the proper controls in accordance with Section M1505.4.2. The systems shall be designed and installed to exhaust and/or supply the minimum outdoor airflow rates required by Section M1505.4.3 as modified by whole-house ventilation system coefficients in Section M1505.4.3.1 where applicable. The whole-house ventilation system shall operate continuously at the minimum ventilation rate required by Section M1505.4.2 unless configured with intermittent off controls (~~(per)~~) in accordance with Section M1505.4.3.2.

**M1505.4.1.1 Whole-house system component requirements.** Whole-house ventilation supply and exhaust fans specified in this section shall have a minimum efficacy as prescribed in the Washington State Energy Code. Design and installation of the system or equipment shall be carried out in accordance with manufacturers' installation instructions. Whole-house ventilation fans shall be rated for sound at no less than the minimum airflow rate required by Section M1505.4.3.1. Ventilation fans shall be rated for sound at a maximum of 1.0 sone. This sound rating shall be at a minimum of 0.1 in. w.c. (25 Pa) static pressure in accordance with HVI procedures specified in Sections M1505.4.1.2 and M1505.4.1.3.

EXCEPTION: HVAC air handlers, ERV/HRV units, and remote mounted fans need not meet the sound requirements. To be considered for this exception, a remote mounted fan must be mounted outside the habitable spaces, bathrooms, toilets, and hallways, and there must be at least 4 (~~(#)~~) feet (1.3 m) of ductwork between the fan and the intake grille.

The whole-house supply fan shall provide ducted outdoor ventilation air to each habitable space within the residential unit.

EXCEPTION: Interior joining spaces provided with a 30 cfm whole-house transfer fan or a permanent opening with an area of not less than 8 percent of the floor area of the interior adjoining space but not less than 25 square feet do not require ducted outdoor ventilation air to be supplied directly to the space. Whole-house transfer fans shall meet the sone rating of Section M1505.4.1.1 and shall have whole-house ventilation controls that comply with Section M1505.4.2.

**M1505.4.1.2 Exhaust fans.** Exhaust fans required shall be ducted directly to the outside. Exhaust air outlets shall be designed to limit the pressure difference to the outside and equipped with backdraft dampers or motorized dampers in accordance with the Washington State Energy Code. Exhaust fans shall be tested and rated in accordance with the airflow and sound rating procedures of the Home Ventilating Institute (HVI 915, HVI Loudness Testing and Rating Procedure, HVI 916, HVI Airflow Test Procedure, and HVI 920, HVI Product Performance Certification Procedure, as applicable). Exhaust fans required in this section may be used to provide local ventilation. Bathroom exhaust fans that are designed for intermittent exhaust airflow rates higher than the continuous exhaust airflow rates in Table M1505.4.3.2 shall be provided with occupancy sensors or humidity sensors to automatically override the fan to the high speed airflow rate. The exhaust fans shall be tested and the testing results shall be submitted and posted in accordance with Section M1505.4.1.6.

**M1505.4.1.3 Supply fans.** Supply fans used in meeting the requirements of this section shall supply outdoor air from intake openings in accordance with ((IMC)) the International Mechanical Code Sections 401.4 and 401.5. When designed for intermittent off operation, supply systems shall be equipped with motorized dampers in accordance with the Washington State Energy Code. Supply fans shall be tested and rated in accordance with the airflow and sound rating procedures of the Home Ventilating Institute (HVI 915, HVI Loudness Testing and Rating Procedure, HVI 916, HVI Airflow Test Procedure, and HVI 920, HVI Product Performance Certification Procedure, as applicable). Where outdoor air is provided by supply fan systems the outdoor air shall be filtered. The filter shall be accessible for regular maintenance and replacement. The filter shall have a Minimum Efficiency Rating Value (MERV) of at least 8.

**M1505.4.1.4 Balanced whole-house ventilation system.** A balanced whole-house ventilation system shall include both supply and exhaust fans. The supply and exhaust fans shall have airflow that is within 10 percent of each other. The tested and balanced total mechanical exhaust airflow rate is within 10 percent or 5 cfm, whichever is greater, of the total mechanical supply airflow rate. The flow rate test results shall be submitted and posted in accordance with Section M1505.4.1.7. The exhaust fan shall meet the requirements of Section M1505.4.1.2. The supply fan shall meet the requirements of Section M1505.4.1.3. Balanced ventilation systems with both supply and exhaust fans in a packaged product, such as an ERV/HRV shall meet the requirements of HVI 920, as applicable. Local exhaust systems that are not a component of the whole-house mechanical ventilation system are exempt from the balanced airflow calculation.

**M1505.4.1.5 Furnace integrated supply.** Systems using space heating and/or cooling air handler fans for outdoor air supply distribution are not permitted.

EXCEPTION: Air handler fans shall have multispeed or variable speed supply airflow control capability with a low speed operation not greater than 25 percent of the rated supply airflow capacity during ventilation only operation. Outdoor air intake openings must meet the provisions of Sections R303.5 and R303.6 and must include a motorized damper that is activated by the whole-house ventilation system controller. The motorized damper must be controlled to maintain the outdoor airflow intake airflow within 10 percent of the whole-house mechanical exhaust airflow rate. The flow rate for the outdoor air intake must be tested and verified at the minimum ventilation fan speed and the maximum heating or cooling fan speed. The results of the test shall be submitted and posted in accordance with Section M1505.4.1.7.

**M1505.4.1.6 Testing.** Whole-house mechanical ventilation systems shall be tested, balanced and verified to provide a flow rate not less than the minimum required by Sections M1505.4.3 and M1505.4.4.1. Testing shall be performed according to the ventilation equipment manufacturer's instructions, or by using a flow hood, flow grid, or other airflow measuring device at the mechanical ventilation fan's inlet terminals, outlet terminals or grilles or in the connected ventilation ducts. Where required by the building official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the building official and be posted in the dwelling unit per Section M1505.4.1.7.

**M1505.4.1.7 Certificate.** A permanent certificate shall be completed by the mechanical contractor, test and balance contractor or other approved party and posted on a wall in the space where the furnace is located, a utility room, or an approved location inside the building. When located on an electrical panel, the certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label, or other required labels. The certificate shall list the flow rate determined from the delivered airflow of the whole-house mechanical ventilation system as installed and the type of mechanical whole-house ventilation system used to comply with Section M1505.4.3.1.

**M1505.4.2 System controls.** The whole-house mechanical ventilation system shall be provided with controls that comply with the following:

1. The whole-house ventilation system shall be controlled with manual switches, timers or other means that provide for automatic operation of the ventilation system that are readily accessible by the occupant;
2. Whole-house mechanical ventilation system shall be provided with controls that enable manual override off of the system by the occupant during periods of poor outdoor air quality. Controls shall include permanent text or a symbol indicating their function. Recommended control permanent labeling to include text similar to the following: "Leave on unless outdoor air quality is very poor." Manual controls shall be readily accessible by the occupant;
3. Whole-house ventilation systems shall be configured to operate continuously except where intermittent off controls and sizing are provided (~~per~~) in accordance with Section M1505.4.3.2.

**M1505.4.3 Mechanical ventilation rate.** The whole-house mechanical ventilation system shall provide outdoor air at a continuous rate as determined in accordance with Table M1505.4.3(1) or Equation 15-1.

#### Equation 15-1

Ventilation rate in cubic feet per minute =  $(0.01 \times \text{total square foot area of house}) + [7.5 \times (\text{number of bedrooms} + 1)]$  but not less than 30 cfm for each dwelling unit

#### Table M1505.4.3(1) Whole-House Mechanical Ventilation Airflow Rate

Dwelling Unit Floor Area (square feet)	Number of Bedrooms				
	0 - 1	2	3	4	5 or more
	Airflow in cfm				
< 500	30	30	35	45	50
501 - 1,000	30	35	40	50	55
1,001 - 1,500	30	40	45	55	60
1,501 - 2,000	35	45	50	60	65
2,001 - 2,500	40	50	55	65	70
2,501 - 3,000	45	55	60	70	75
3,001 - 3,500	50	60	65	75	80
3,501 - 4,000	55	65	70	80	85
4,001 - 4,500	60	70	75	85	90
4,501 - 5,000	65	75	80	90	95

**M1505.4.3.1 Ventilation quality adjustment.** The minimum whole-house ventilation rate from Section 1505.4.3 shall be adjusted by the system coefficient in Table M1505.4.3(2) based on the system type not meeting the definition of a *balanced whole-house ventilation system* and/or not meeting the definition of a *distributed whole-house ventilation system*.

$$Q_v = Q_r * C_{system}$$

**(Equation 15-2)**

Where:

$Q_v$  = Quality-adjusted ventilation airflow rate in cubic feet per minute (cfm).

$Q_r$  = Ventilation airflow rate, cubic feet per minute (cfm) from Equation 15-1 or Table M1505.4.3(1).

$C_{system}$  = System coefficient from Table 1505.4.3(2).

**Table M1505.4.3(2)  
System Coefficient ( $C_{system}$ )**

System Type	Distributed	Not Distributed
Balanced	1.0	1.25
Not balanced	1.25	1.5

**M1505.4.3.2 Intermittent off operation.** Whole-house mechanical ventilation systems shall be provided with advanced controls that are configured to operate the system with intermittent off operation shall operate for a least two hours in each four-hour segment. The whole-house ventilation airflow rate determined in accordance with Section M1505.4.3 as corrected by Section M1505.4.3.1 is multiplied by the factor determined in accordance with Table M1505.4.3.2.

**Table M1505.4.3.2  
Intermittent Off Whole-House (-)  
Mechanical Ventilation Rate Factors<sup>a,b</sup>**

Run-time % in Each 4-hour Segment	50%	66%	75%	100%

Factor <sup>a</sup>	2	1.5	1.3	1.0
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a. For ventilation system run-time values between those given, the factors are permitted to be determined by interpolation.

b. Extrapolation beyond the table is prohibited.

**M1505.4.4 Local exhaust rates.** Local exhaust systems shall be designed to have the capacity to exhaust the minimum airflow rate determined in accordance with Table M1505.4.4.1. If the local exhaust fan is included in the whole-house ventilation system, in accordance with Section 1505.4.1, then the exhaust fan shall be controlled to operate as specified in Section M1505.4.2.

**M1505.4.4.1 Local exhaust.** Bathrooms, toilet rooms, and kitchens shall include a local exhaust system. Such local exhaust systems shall have the capacity to exhaust the minimum airflow rate in accordance with Table M1505.4.4.1. Fans required by this section shall be provided with controls that enable manual override or automatic occupancy sensor, humidity sensor, timer controls, or pollutant sensor controls. An "on/off" switch shall meet this requirement for manual controls. Manual fan controls shall be readily accessible in the room served by the fan.

**Table M1505.4.4.1  
Minimum Local Exhaust Rates**

Area to Be Exhausted	Exhaust Rates	
	Intermittent	Continuous
Open Kitchens	In accordance with Section M1505.4.4.3	Not Permitted
Enclosed Kitchens	In accordance with Section M1505.4.4.3	5 ACH based on kitchen volume
Bathrooms - Toilet rooms	50 cfm	20 cfm

**M1505.4.4.2 Local exhaust fans.** Exhaust fans shall meet the following criteria:

1. Exhaust fans shall be tested and rated in accordance with the airflow and sound rating procedures of the Home Ventilating Institute (HVI 915, HVI Loudness Testing and Rating Procedure, HVI 916, HVI Airflow Test Procedure, and HVI 920, HVI Product Performance Certification Procedure).

2. Fan airflow rating and duct system shall be designed and installed to deliver at least the exhaust airflow required by Table M1505.4.4.1. The airflows required refer to the delivered airflow of the system as installed and tested using a flow hood, flow grid, or other airflow measurement device. Local exhaust systems shall be tested, balanced, and verified to provide a flow rate not less than the minimum required by this section.

3. Design and installation of the system or equipment shall be carried out in accordance with manufacturers' installation instructions.

4. Intermittent local exhaust systems serving kitchens shall be rated for sound at a maximum of 3 sones at one or more airflow settings not less than 100 cfm at a static pressure not less than that determined at working speed as specified in HVI 916 Section 7.2.

5. Continuous local exhaust systems serving kitchens shall be rated for sound at a maximum of 1 sone((s)) at one or more airflow settings not less than 100 cfm at a static pressure not less than that determined at working speed as specified in HVI 916 Section 7.2.

EXCEPTIONS: 1. The installed airflow is not required to be field-verified where an exhaust airflow rating at a pressure of 0.25 in. w.g. is used, provided the duct sizing meets the prescriptive requirements of Table M1505.4.4.2.  
 2. Remote mounted fans need not meet sound requirements. To be considered for this exception, a remote mounted fan shall be mounted outside the kitchen, and there shall be at least 4 feet (1 m) of ductwork between the fan and the intake grille.

**Table M1505.4.4.2  
 Prescriptive Exhaust Duct Sizing**

Fan Tested cfm at 0.25 inches w.g.	Minimum Flex Diameter	Maximum Length in Feet	Minimum Smooth Diameter	Maximum Length in Feet	Maximum Elbows <sup>a</sup>
50	4 inches	25	4 inches	70	3
50	5 inches	90	5 inches	100	3
50	6 inches	No Limit	6 inches	No Limit	3
80	4 inches <sup>b</sup>	NA	4 inches	20	3
80	5 inches	15	5 inches	100	3
80	6 inches	90	6 inches	No Limit	3
100	5 inches <sup>b</sup>	NA	5 inches	50	3
100	6 inches	45	6 inches	No Limit	3
125	6 inches	15	6 inches	No Limit	3
125	7 inches	70	7 inches	No Limit	3

a. For each additional elbow, subtract 10 feet from length.

b. Flex ducts of this diameter are not permitted with fans of this size.

**M1505.4.4.3 Local intermittent kitchen exhaust system.** Kitchen range hoods for domestic cooking appliances shall meet or exceed either the minimum airflow or the minimum capture efficiency in accordance with Table M1505.4.4.3. Capture efficiency ratings shall be determined in accordance with ASTM E3087.

EXCEPTION: Other intermittent kitchen exhaust fans, including downdraft, shall meet or exceed 300 cfm airflow.

**Table M1505.4.4.3  
 Kitchen Range Hood Airflow Rates (cfm) and ASTM E3087 Capture Efficiency (CE) Ratings According to Kitchen Range Fuel Type**

Hood Over Electric Range	Hood Over Combustion Range
60% CE or 160 cfm	80% CE or 250 cfm

**M1505.4.4.3.1 Field verification and diagnostic testing for local intermittent kitchen exhaust system.** The local exhaust system for kitchens shall be installed to comply with local mechanical exhaust requirements specified in Section M1505.4.4.3 and shall be field verified in accordance with the procedures below to confirm the model is rated by HVI or AHAM to comply with the following requirements:



1. Local intermittent exhaust systems for kitchens shall be tested and verified to provide a minimum airflow rate or capture efficiency required by Table M1505.4.4.3. Testing shall include verification of the maximum sound rating as specified in Section M1505.4.4.3.2. Testing for the intermittent kitchen exhaust systems shall occur with the whole-house ventilation system operating and with all dwelling unit or sleeping unit entry doors closed. Testing for exhaust systems that require makeup air in accordance with Section M1503.6 shall include verifying that the mechanical makeup air system is controlled to automatically start. Testing for exhaust systems that do not require mechanical makeup air in accordance with Section M1503.6 and that are exempt from pressurize equalization shall be tested with operable openings manually opened unless design exhaust airflow can be achieved with all operable openings closed. Testing shall be performed according to the ventilation equipment manufacturer's instructions, or by using a flow hood, flow grid, or other airflow measuring device. Where required by the building official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the building official.

**EXCEPTION:** The installed airflow is not required to be field-verified where an exhaust airflow rating at a pressure of 0.25 in. w.g. is used, provided the duct sizing meets the prescriptive requirements of Table M1505.4.4.2.

2. The verification shall utilize certified rating data from the HVI Publication 911, AHAM-Certified Range Hood Directory, or another directory of certified product performance ratings approved by the code official for determining compliance. The verification procedure shall consist of visual inspection of the local intermittent kitchen exhaust system to verify and record the following information:

2.1. The manufacturer name and model number.

2.2. The model is listed in the HVI, AHAM, or equivalent directory.

2.3. The rated airflow value listed in the HVI, AHAM, or equivalent directory.

2.4. The sound rating value listed in the HVI, AHAM, or equivalent directory.

2.5. If the value for the rated airflow given in the directory is greater than or equal to the airflow requirements specified in Section M1505.4.4.3 and if the value for the sound rating given in the directory is less than or equal to the sound rating requirements specified in Section M1505.4.4.2, then the local intermittent kitchen exhaust system complies, otherwise the local intermittent kitchen exhaust system does not comply.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-1505, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-12-027, § 51-51-1505, filed 5/27/20, effective 7/1/20. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 16-03-025, § 51-51-1505, filed 1/11/16, effective 7/1/16.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

**Reviser's note:** The brackets and enclosed material in the text of the above section occurred in the copy filed by the agency and appear in the Register pursuant to the requirements of RCW 34.08.040.

AMENDATORY SECTION (Amending WSR 16-03-025, filed 1/11/16, effective 7/1/16)

**WAC 51-51-1600 Chapter 16—Duct systems.**

**M1601.1.1 Above-ground duct systems.** Above-ground duct systems shall conform to the following:

1. Equipment connected to duct systems shall be designed to limit discharge air temperature to a maximum of 250°F (121°C).

2. Factory-made ducts shall be listed and labeled in accordance with UL 181 and installed in accordance with the manufacturer's instructions.

3. Fibrous duct construction shall conform to the SMACNA Fibrous Glass Duct Construction Standards or NAIMA Fibrous Glass Duct Construction Standards.

4. Field-fabricated and shop-fabricated metal and flexible duct constructions shall conform to the SMACNA HVAC Duct Construction Standards—Metal and Flexible, except as allowed by Table M1601.1.1. Galvanized steel shall conform to ASTM A 653.

5. Use of gypsum products to construct return air ducts or plenums is permitted, provided that the air temperature does not exceed 125°F (52°C) and exposed surfaces are not subject to condensation.

6. Duct systems shall be constructed of materials having a flame spread index not greater than 200.

7. Stud wall cavities and the spaces between solid floor joists shall not be used as a duct or an air plenum in new construction. For existing systems, stud wall cavities and the spaces between solid floor joists to be used as air plenums shall comply with the following:

7.1. These cavities or spaces shall not be used as a plenum for supply air.

7.2. These cavities or spaces shall not be part of a required fire-resistance-rated assembly.

7.3. Stud wall cavities shall not convey air from more than one floor level.

7.4. Stud wall cavities and joist-space plenums shall be isolated from adjacent concealed spaces by tight-fitting fire blocking in accordance with Section ~~((R602.8))~~ R302.11. Fireblocking materials used for isolation shall comply with Section R302.11.1.

7.5. Stud wall cavities in the outside walls of building envelope assemblies shall not be utilized as air plenums.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 16-03-025, § 51-51-1600, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-1600, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-1600, filed 1/20/10, effective 7/1/10.]

AMENDATORY SECTION (Amending WSR 16-03-025, filed 1/11/16, effective 7/1/16)

**WAC 51-51-2000 Chapter 20—Boilers and water heaters.** Informational Note: Boilers, water heaters and pressure vessels are regulated

by chapter 70.79 RCW and chapter 296-104 WAC in addition to the requirements of this code.

**Section M2005.1 General.** Water heaters shall be installed in accordance with Chapter 5 of the state plumbing code, the manufacturer's instructions and the requirements of this code. Water heaters installed in an attic shall comply with the requirements of Section ((M1305.1.3)) M1305.1.2. Gas-fired water heaters shall comply with the requirements in Chapter 24. Domestic electric water heaters shall comply with UL 174. Oil-fired water heaters shall comply with UL 732. Thermal solar water heaters shall comply with Chapter 23 and UL 174. Solid fuel-fired water heaters shall comply with UL 2523.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 16-03-025, § 51-51-2000, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-2000, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 04-01-109, § 51-51-2000, filed 12/17/03, effective 7/1/04.]

AMENDATORY SECTION (Amending WSR 16-03-025, filed 1/11/16, effective 7/1/16)

**WAC 51-51-2300 Section M2301—Solar thermal energy systems.**

**M2301.2.3 Pressure and temperature relief valves and system components.** System components containing fluids shall be protected with temperature and pressure relief valves or pressure relief valves. Relief devices shall be installed in sections of the system so that a section cannot be valved off or isolated from a relief device. Direct systems and the potable water portion of indirect systems shall be equipped with a relief valve in accordance with Section 504 of the state plumbing code. For indirect systems, pressure relief valves in solar loops shall comply with SRCC 300. System components shall have a working pressure rating of not less than the setting of the pressure relief device.

**M2301.2.5 Piping insulation.** Piping shall be insulated in accordance with the requirements of the state energy code. Exterior insulation shall be protected from ultraviolet degradation. The entire solar loop shall be insulated. Where split-style insulation is used, the seam shall be sealed. Fittings shall be fully insulated.

**M2301.4 Heat transfer gasses or liquids and heat exchangers.** Essentially toxic transfer ((~~liquids~~)) fluids, ethylene glycol, flammable gasses and flammable liquids shall not be used as heat transfer fluids. Heat transfer gasses and liquids shall be rated to withstand the system's maximum design temperature under operating conditions without degradation. Heat exchangers used in solar thermal systems shall comply with Section 603.5.4 of the state plumbing code and SRCC 300.

Heat transfer fluids shall be in accordance with SRCC 300. The flash point of the heat transfer fluids utilized in solar thermal systems shall be not less than 50 degrees F above the design maximum non-operating or no-flow temperature attained by the fluid in the collector.

**M2301.7 Solar thermal systems for heating potable water.** Where a solar thermal system heats potable water to supply a potable hot water distribution system, the solar thermal system shall be in accordance with Sections M2301.7.1, M2301.7.2 and the state plumbing code.

**M2301.7.1 Indirect systems.** Heat exchangers that are components of indirect solar thermal heating systems shall comply with the state plumbing code.

**M2301.7.2 Direct systems.** Where potable water is directly heated by a solar thermal system, the pipe, fittings, valves and other components that are in contact with the potable water in the solar heating system shall comply with the requirements of Chapter 6 of the state plumbing code.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 16-03-025, § 51-51-2300, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.074, 19.27.020, and 19.27.031. WSR 14-24-092, § 51-51-2300, filed 12/1/14, effective 5/1/15.]

AMENDATORY SECTION (Amending WSR 20-12-027, filed 5/27/20, effective 7/1/20)

**WAC 51-51-2904 Section 2904—Dwelling unit fire-sprinkler systems.**

**P2904.1.1 Required sprinkler locations.** Sprinklers shall be installed to protect all areas of a *dwelling unit*.

EXCEPTIONS:

1. Uninhabitable attics, crawl spaces and normally unoccupied concealed spaces that do not contain fuel-fired appliances do not require sprinklers. In uninhabitable attics, crawl spaces and normally unoccupied concealed spaces that contain fuel-fired equipment, a sprinkler shall be installed above the equipment; however, sprinklers shall not be required in the remainder of the space.
2. Clothes closets, linen closets and pantries not exceeding 24 square feet (2.2 m<sup>2</sup>) in area, with the smallest dimension not greater than 3 feet (915 mm) and having wall and ceiling surfaces of gypsum board.
3. Bathrooms not more than 55 square feet (5.1 m<sup>2</sup>) in area.
4. Garages; carports; exterior porches; unheated entry areas, such as mud rooms, that are adjacent to an exterior door; and similar areas.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 20-12-027, § 51-51-2904, filed 5/27/20, effective 7/1/20.]

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [20-21-041], filed 1/3/23 and 6/7/23 [10/13/20], effective 10/29/23 [11/13/20])

**WAC 51-51-4400 Referenced standards.**

**AHAM**

Association of Home Appliance Manufacturers  
1111 19th St N.W., #402  
Washington D.C. 20036

**HRH-2-2019: Household Range Hoods.**

M1505.4.4.2

**Certified Range Hood Directory**

M1505.4.4.3.1

**ANCE**

**NMX-J-521/2-40-ANCE—2019/CAN/CSA-22.2 No. 60335-2-40—19/UL  
60335-2-40-2019 Household and Similar Electrical Appliances - Safety-  
Part 2-40: Particular Requirements for Electric Heat Pumps, Air-Conditioners and Dehumidifiers.**

M1403.1, M1412.1, M1413.1

#### **ANSI**

**LC 1/CSA 6.26—18: Fuel Gas Piping Systems Using Corrugated Stainless Steel Tubing (CSST).**

G2414.5.4, G2411.3, G2415.5  
403.5.5

#### **ASHRAE**

**34—2019: Designation and Safety Classification of Refrigerants.**

M1411.1

**62.2-2019: Ventilation and Acceptable Indoor Air Quality in Residential Buildings.**

M1505.1

#### **ASTM**

**E2556/((E2556M-10)) E2556M-2010 (2016): Standard Specification for Vapor Permeable Flexible Sheet Water-Resistive Barriers Intended for Mechanical Attachment.**

M1411.1

**E2558-2013: Standard Test Method for Determining Particulate Matter Emissions from Fires in Wood-burning Fireplaces.**

R1004.1.1

**E3087—18: Standard Test Method for Measuring Capture Efficiency of Domestic Range Hoods.**

M1505.4.4.3.2, Table M1505.4.4.3

#### **CSA**

**CAN/CSA/C22.2 No. 60335-2-40—2012 60335-2-40—2019**

**NMX-J-521/2-40-ANCE—2019/CAN/CSA-C22.2 No. 60335-2-40—19/UL  
60335-2-40-2019 Household and Similar Electric Appliances, Part 2-40-Safety: Particular Requirements for Electric Heat Pumps, Air-Conditioners and Dehumidifiers.**

M2006.1

#### **HVI**

**HVI Publication 911: Certified Home Ventilation Products Directory.**

M1505.4.4.3.1

**HVI Publication 915 (2016 with 2020 Update): Procedure for Loudness Rating of Residential Fan Products.**

M1505.4.1.2, M1505.4.1.3, M1505.4.4.2

**HVI Publication 916 (2015 with 2020 Update): Air Flow Test Procedure.**

M1505.4.1.2, M1505.4.1.3, M1505.4.4.2

**HVI Publication 920 (2020): Product Performance Certification Procedure Including Verification and Challenge.**

M1505.4.1.2, M1505.4.1.3, M1505.4.1.5, M1505.4.4.2

#### **UL**

**UL/CSA/ANCE 60335-2-40—2019 Household and Similar Electrical Appliances Safety-Part 2-40: Particular Requirements for Electrical Heat Pumps, Air Conditioners and Dehumidifiers.**

M1403.1, M1412.1, M1413.1

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-4400, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-21-041, § 51-51-4400, filed 10/13/20, effective 11/13/20; WSR 20-03-023, § 51-51-4400, filed 1/6/20, effective 7/1/20; WSR 16-03-025, § 51-51-4400, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-4400, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, amended and recodified as § 51-51-4400, filed 1/20/10, effective 7/1/10. Statutory Authority: RCW 19.27.074, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-090, § 51-51-4300, filed 12/19/06, effective 7/1/07. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 04-01-109, § 51-51-4300, filed 12/17/03, effective 7/1/04.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104, filed 1/3/23 and 6/7/23, effective 10/29/23)

**WAC 51-51-4502 Section R4502—Compliance.**

**R4502.1 General.** The work shall not cause the building or structure to become unsafe or adversely affect the performance of the building; shall not cause an existing mechanical or plumbing system to become unsafe, hazardous, insanitary, or overloaded; and unless expressly permitted by these provisions, shall not make the building any less compliant with this code or to any previously approved alternative arrangements than it was before the work was undertaken.

**R4502.2 Structural.** Structural elements and systems that are altered, repaired, or replaced shall comply with the structural provisions of this chapter and of Chapter 3 through Chapter 10 of the *International Residential Code* unless noted otherwise.

**R4502.2.1 Minimum design loads.** The minimum design loads for the structure shall be the loads applicable at the time the building was constructed. The minimum design loads for the structural components shall comply with the *International Residential Code*. Structural elements that are uncovered during the course of the alteration and that are found to be unsafe shall be repaired in accordance with Section R102.7.1.

**R4502.2.2 Unreinforced masonry parapet bracing.** Unreinforced masonry buildings located in Seismic Design Category D<sub>0</sub>, D<sub>1</sub>, or D<sub>2</sub> shall have parapet bracing and wall anchors installed at the roofline whenever a reroofing permit is issued. Such parapet bracing and wall anchors shall be of an approved design unless an evaluation demonstrates compliance of the existing bracing and anchorage.

**R4502.3 Smoke alarms.** Smoke alarms shall be provided in accordance with Section R314.2.2.

**R4502.4 Carbon monoxide alarms.** Carbon monoxide alarms shall be provided in accordance with Section R315.2.2.

**R4502.5 Replacement windows.** Where an existing window, including the sash and glazed portion, or safety glazing is replaced, the replacement window or safety glazing shall comply with the requirements of Sections 4502.5.1 through 4502.5.5 as applicable.

**R4502.5.1 Energy efficiency.** Replacement windows shall comply with the requirements of the Washington State Energy Code-Residential.

**R4502.5.2 Safety glazing.** Replacement glazing in hazardous locations shall comply with the safety glazing requirements of Section R308.

**R4502.5.3 Window fall protection.** Window fall protection shall be installed ((per)) in accordance with Section R312.2.

EXCEPTION: Where only the window glazing is being replaced.

**R4502.5.4 Replacement windows for emergency escape and rescue openings.** Replacement windows shall be exempt from Sections R310.2 and R310.4.4, provided that the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window is of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.

2. The replacement window is not part of a change of use.

**R4502.5.5 Window opening control device and fall protection device height.** Window opening control devices or fall protection device shall be located at a height ((per)) in accordance with Section R310.1.1 or at as low a height as can be installed within the existing clear opening.

**R4502.6 Flood hazard areas.** Work performed in existing buildings located in a flood hazard area as established by Table R301.2((+)) shall be subject to the provisions of Section R105.3.1.1.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-4502, filed 1/3/23 and 6/7/23, effective 10/29/23.]

**Reviser's note:** The above section was filed as an amendatory section; however, this section will not come into effect as a new section until October 29, 2023.

AMENDATORY SECTION (Amending WSR 20-03-023, filed 1/6/20, effective 7/1/20)

**WAC 51-51-60103 Section AF103—Requirements.**

**AF103.1 General.** The following construction techniques are intended to resist radon entry and prepare the building for post-construction radon mitigation, if necessary (see Figure ((AF103)) AF103.1). These techniques are required in high radon potential counties designated in Table AF101(1).

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 20-03-023, § 51-51-60103, filed 1/6/20, effective 7/1/20. Statutory Authority: RCW

19.27.074, 19.27.020, and chapters 19.27 and 34.05 RCW. WSR 07-01-090, § 51-51-60103, filed 12/19/06, effective 7/1/07.]

AMENDATORY SECTION (Amending WSR 20-21-041, filed 10/13/20, effective 11/13/20)

**WAC 51-51-60104 Appendix Q—Tiny houses.**

**AQ102 Definitions.**

**EGRESS ROOF ACCESS WINDOW.** See Chapter 2.

**LANDING PLATFORM.** See Chapter 2.

**LOFT.** (~~This definition is not adopted.~~

~~SLEEPING LOFT.~~) See Chapter 2.

**TINY HOUSE.** A dwelling unit that is 400 square feet (37 m<sup>2</sup>) or less in floor area excluding sleeping lofts.

**AQ103.1 Minimum ceiling height.** Habitable space in tiny houses shall have a ceiling height of not less than 6 feet 8 inches (2032 mm). Bathrooms, toilet rooms and kitchens shall have a ceiling height of not less than 6 feet 4 inches (1930 mm). Obstructions including, but not limited to, beams, girders, ducts and lighting, shall not extend below these minimum ceiling heights.

EXCEPTION: Ceiling heights in (*sleeping*) lofts shall be in accordance with Section ((R326)) R333.

**AQ104 Energy conservation.**

**AQ104.1 Air leakage testing.** The air leakage rate for tiny houses shall not exceed 0.30 cfm at 50 Pascals of pressure per (~~feet~~) square foot of the dwelling unit enclosure area. Testing shall be conducted in accordance with RESNET/ICC 380, ASTM E 779 or ASTM E 1827 and reported at a pressure of 0.2 inch w.g. (50 Pascals). Where required by the code official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official. Testing shall be performed after the continuous air barrier, including all penetrations, is completed and sealed.

During testing:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weather stripping or other infiltration control measures.

2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.

3. Interior doors, if installed at the time of the test, shall be open.

4. Exterior louvers for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.

5. Heating and cooling systems, if installed at the time of the test, shall be turned off.

6. Supply and return registers, if installed at the time of the test, shall be fully open.

**AQ104.1.1 Whole-house mechanical ventilation.** Where an air leakage rate not exceeding 0.30 cfm per ft of the dwelling unit enclosure area in accordance with Section AQ106.1 is provided, the tiny house shall



be provided with whole-house mechanical ventilation in accordance with Section M1505.4.

**AQ105 Emergency escape and rescue openings.** This section is not adopted.

**AQ106 Energy conservation.** This section is not adopted.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 20-21-041, § 51-51-60104, filed 10/13/20, effective 11/13/20; WSR 20-03-023, § 51-51-60104, filed 1/6/20, effective 7/1/20.]

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [20-21-041], filed 1/3/23 and 6/7/23 [10/13/20], effective 10/29/23 [11/13/20])

**WAC 51-51-60105 Appendix WU—Dwelling unit fire sprinkler systems.** The design and installation of residential fire sprinkler systems shall be in accordance with the International Residential Code Section P2904 Dwelling Unit Fire Sprinkler Systems.

**P2904.1.1 Required sprinkler locations.** Sprinklers shall be installed to protect all areas of a dwelling unit.

EXCEPTIONS:

1. Uninhabitable attics, crawl spaces and normally unoccupied concealed spaces that do not contain fuel-fired appliances do not require sprinklers. In uninhabitable attics, crawl spaces and normally unoccupied concealed spaces that contain fuel-fired equipment, a sprinkler shall be installed above the equipment; however, sprinklers shall not be required in the remainder of the space.
2. Clothes closets, linen closets and pantries not exceeding 24 square feet (2.2 m<sup>2</sup>) in area, with the smallest dimension not greater than 3 feet (915 mm) and having wall and ceiling surfaces of gypsum board.
3. Bathrooms not more than 55 square feet (5.1 m<sup>2</sup>) in area.
4. Garages; carports; exterior porches; unheated entry areas, such as mud rooms, that are adjacent to an exterior door; and similar areas.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-60105, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-21-041, § 51-51-60105, filed 10/13/20, effective 11/13/20; WSR 20-03-023, § 51-51-60105, filed 1/6/20, effective 7/1/20; WSR 16-03-025, § 51-51-60105, filed 1/11/16, effective 7/1/16. Statutory Authority: RCW 19.27.031 and chapters 19.27 and 34.05 RCW. WSR 13-04-068, § 51-51-60105, filed 2/1/13, effective 7/1/13. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 10-03-098, § 51-51-60105, filed 1/20/10, effective 7/1/10.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104 [20-21-041], filed 1/3/23 and 6/7/23 [10/13/20], effective 10/29/23 [11/13/20])

**WAC 51-51-60106 Appendix T—Solar-ready provisions-detached one- and two-family dwellings and townhouses.** The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

**AT101 Scope.**

**AT102 General definitions.**

**AT102.1 General.** The following term shall, for the purpose of this appendix, have the meaning shown herein.

**Solar-ready zone.** A section or sections of the roof or building overhang designated and reserved for the future installation of a solar photovoltaic or solar water-heating system.

**AT103 Solar ready zone.**

**AT103.3 Solar-ready zone area.** The total solar-ready zone area shall be not less than 300 square feet (27.87 m<sup>2</sup>) exclusive of mandatory access or set back areas as required by this code. New townhouses three stories or less in height above grade plane and with a total floor area less than or equal to 2,000 square feet (185.8 m<sup>2</sup>) per dwelling shall have a solar-ready zone area of not less than 150 square feet (13.94 m<sup>2</sup>). The solar-ready zone shall be composed of areas not less than 5 feet (1.52 m) in width and not less than 80 square feet (7.44 m<sup>2</sup>) exclusive of access or set back areas as required in this code or the applicable provisions of the *International Fire Code*. No portion of the solar zone shall be located on a roof slope greater than 2:12 that faces within 45 degrees of true north.

**AT103.6 Capped roof penetration sleeve.** A capped roof penetration sleeve shall be provided adjacent to a solar-ready zone when the solar-ready zone has a roof slope of 2:12 or less. The capped roof penetration sleeve shall be sized to accommodate the future photovoltaic system conduit, but shall have an inside diameter not less than 1 1/4 inches.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-60106, filed 1/3/23 and 6/7/23, effective 10/29/23; WSR 20-21-041, § 51-51-60106, filed 10/13/20, effective 11/13/20; WSR 16-03-025, § 51-51-60106, filed 1/11/16, effective 7/1/16.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 20-03-023, filed 1/6/20, effective 7/1/20)

**WAC 51-51-60107 Appendix WV—Fire sprinklers.** The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

**WAV107.1 Fire sprinklers.** An approved automatic fire sprinkler system shall be installed in new one-family and two-family dwellings and townhouses in accordance with Appendix WU.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 20-03-023, § 51-51-60107, filed 1/6/20, effective 7/1/20; WSR 16-03-025, § 51-51-60107, filed 1/11/16, effective 7/1/16; WSR 10-03-098, § 51-51-60107, filed 1/20/10, effective 7/1/10.]

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104, filed 1/3/23 and 6/7/23, effective 10/29/23)

**WAC 51-51-60108 Appendix WY—Construction and demolition material management.** The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

**WAY101 General.**

**WAY101.1 Purpose.** The purpose of this code section is to increase the reuse and recycling of construction and demolition materials.

**WAY101.2 Scope.** This code section applies to new *buildings* and *structures* construction, *alterations* to existing *buildings* and *structures* and the *demolition* of existing *buildings* and *structures* having a work area greater than 750 square feet (69.68 m<sup>2</sup>) or with a project value greater than \$75,000, whichever is more restrictive.

EXCEPTION: Projects determined to be unsafe.

**WAY102 General definitions.**

**WAY102.1 General.** The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of this code for 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 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.

**WAY103 Construction and demolition material management.**

**WAY103.1 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.

**WAY103.2 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.

**WAY103.3 Waste diversion report.** A waste diversion report shall be submitted prior to issuance of the Certificate of Occupancy or approval of final inspection. 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.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-60108, filed 1/3/23 and 6/7/23, effective 10/29/23.]

**Reviser's note:** The above section was filed as an amendatory section; however, this section will not come into effect as a new section until October 29, 2023.

AMENDATORY SECTION (Amending WSR 23-02-058 and 23-12-104, filed 1/3/23 and 6/7/23, effective 10/29/23)

**WAC 51-51-60109 Appendix WZ—Building deconstruction.** The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

**WAZ101 General.**

**WAZ101.1 Purpose.** The purpose of this section is to increase the amount of material *salvaged for reuse* through the act of *deconstruction* when a *building or structure* is *demolished*. Used sawn lumber is permitted to be *reused* in accordance with Section R602.1.1.1.

**WAZ101.2 Scope.** This section applies to existing dwellings, townhouses, and accessory structures permitted to be demolished that are greater than 750 square feet (69.68 m<sup>2</sup>) and meet one of the following:

1. The structure has been identified as a historic building; or
2. The structure was built 90, or more, years ago.

EXCEPTIONS:

1. The structure is determined to be unsafe by the engineer of record;
2. The structure shall be relocated;
3. The engineer of ((~~record building official~~) record) determines that 50 percent, by weight, of the material in the structure that is not concrete, is not suitable for reuse.

**WAZ102 General definitions.**

**WAZ102.1 General.** The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of this code for general definitions.

**Deconstruction.** The systematic disassembly of a *structure*, in order to *salvage building materials* or components for the primary purpose of *reusing materials* to the maximum extent possible, with a secondary purpose of *recycling* the remaining materials.

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

**Heavy machinery.** Heavy machinery includes, but is not limited to, track hoes, excavators, skid steer loaders, or forklifts.

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

**WAZ103 Deconstruction.**

**WAZ103.1 Deconstruction.** Buildings and structures meeting the requirements of Section AZ101.2 shall be deconstructed.

**WAZ103.2 Heavy machinery.** Heavy machinery may not be used in deconstruction to remove or dismantle components of buildings and structures in ways that render the components unsuitable for salvage.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 23-02-058 and 23-12-104, § 51-51-60109, filed 1/3/23 and 6/7/23, effective 10/29/23.]

**Reviser's note:** The above section was filed as an amendatory section; however, this section will not come into effect as a new section until October 29, 2023.

**WSR 23-15-044**  
**EXPEDITED RULES**  
**DEPARTMENT OF**  
**SOCIAL AND HEALTH SERVICES**  
(Division of Vocational Rehabilitation)  
[Filed July 12, 2023, 2:43 p.m.]

Title of Rule and Other Identifying Information: Amending references in WAC 388-891A-0610 and 388-891A-0890 addressing post-employment services.

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: The division of vocational rehabilitation (DVR) received recent guidance from the rehabilitation services administration (RSA) that clarifies RSA's interpretation of when vocational rehabilitation agencies may provide post-employment services under the Rehabilitation Act. RSA's interpretation is inconsistent with how DVR was providing post-employment services prior to filing emergency rule WSR 23-10-044, which modified how the service is defined in WAC. Provision of post-employment services is subject to receipt of federal funding and continuing to apply WAC as written will place DVR out of compliance with federal guidance and could jeopardize its ability to receive federal funding. DVR is pursuing a rule change to stay in compliance with RCW 74.29.050. The attorney general's office, client assistance program, and the Washington state rehabilitation council have been consulted and support DVR's reasons for the rule making.

Reasons Supporting Proposal: Updating the rule will ensure DVR is in compliance with the RSA's guidance regarding the provision of post-employment services after employment has been achieved but before the individual is reported as having exited the vocational rehabilitation program.

Statutory Authority for Adoption: RCW 34.05.350 (1)(b), 74.29.020(8), and 74.29.050.

Statute Being Implemented: 34 C.F.R. 361.5 (c)(41).

Rule is necessary because of federal law, [no further information supplied by agency].

Name of Proponent: Department of social and health services, governmental.

Name of Agency Personnel Responsible for Drafting: Mari Heusman, 4565 7th Avenue S.E., Lacey, WA 98504, 360-280-2044; Implementation and Enforcement: Cassi Villegas, 4565 7th Avenue S.E., Lacey, WA 98504, 360-764-0731.

This notice meets the following criteria to use the expedited adoption process for these rules:

Content is explicitly and specifically dictated by statute.

Explanation of the Reason the Agency Believes the Expedited Rule-Making Process is Appropriate: Amendments to WAC 388-891A-0610 and 388-891A-0890 incorporate language interpreted from explicit federal guidance, which falls under RCW 34.05.353(4), thus DVR believes the expedited rule-making process is appropriate.

NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EX-

PRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Katherine I. Vasquez, Rules Coordinator, Department of Social and Health Services, 1115 Washington Street S.E., Olympia, WA 98504, phone 360-664-6097, fax 360-664-6185, email DSHSRPAURulesCoordinator@dshs.wa.gov, AND RECEIVED BY 5:00 p.m. on September 18, 2023.

July 12, 2023  
Katherine I. Vasquez  
Rules Coordinator

## SHS-4925.1

AMENDATORY SECTION (Amending WSR 18-12-035, filed 5/29/18, effective 6/30/18)

**WAC 388-891A-0610 How are individuals selected for services when DVR is operating under an order of selection?** When DVR is operating under an order of selection, individuals are selected for services as follows:

(1) At the time you are determined eligible for VR services, a DVR counselor assigns you to a priority category based on the severity of your disability.

(2) The priority categories are defined in WAC 388-891A-0620 through 388-891A-0660.

(3) As resources become available for DVR to serve additional individuals, DVR selects names from the waiting list in the priority category being served at that time.

(4) Within a priority category, the date you applied for VR services determines the order in which you are selected from the waiting list.

(5) DVR may provide you specific services or equipment without requiring that you wait for services under an order of selection if:

(a) You are at immediate risk of losing your job in a competitive integrated setting for reasons related to your disability; and

(b) You require specific services or equipment in the very near future that will enable you to keep your job.

~~((6) If you have successfully achieved an employment outcome as described in WAC 388-891A-1310, are currently employed, and require post-employment services, you are not required to wait for services under an order of selection.))~~

[Statutory Authority: RCW 74.29.020(8) and 34 C.F.R., Parts 361, 363, 397. WSR 18-12-035, § 388-891A-0610, filed 5/29/18, effective 6/30/18.]

AMENDATORY SECTION (Amending WSR 18-12-035, filed 5/29/18, effective 6/30/18)

**WAC 388-891A-0890 What are post-employment services?** Post-employment services include one or more vocational rehabilitation services provided if:

- (1) ~~((Your case was closed because y))~~ You achieved ~~((an))~~ employment ~~((outcome))~~;
- (2) Your rehabilitation needs are limited in scope and duration;  
and
- (3) You need post-employment services to maintain, advance in, or regain employment that is consistent with your unique strengths, resources, priorities, concerns, abilities, capabilities, interests, and informed choice.

[Statutory Authority: RCW 74.29.020(8) and 34 C.F.R., Parts 361, 363, 397. WSR 18-12-035, § 388-891A-0890, filed 5/29/18, effective 6/30/18.]



**WSR 23-15-050**  
**EXPEDITED RULES**  
**BUILDING CODE COUNCIL**  
 [Filed July 13, 2023, 12:55 p.m.]

Title of Rule and Other Identifying Information: Chapter 51-54A WAC, Amendments to the 2021 International Fire Code (IFC).

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: Reconciling state amendments with section renumbering and model code modifications in the 2021 IFC; correcting errors and omissions.

Reasons Supporting Proposal: With the exception of the issues noted below, this represents section and reference numbering housekeeping.

WAC	Section	Change	Rationale/Discussion
51-54A-008	Implementation	Changes the date of implementation from "July 1, 2023" to "October 29, 2023."	Change necessary to align with implementation date change filed previously in WAC. This change aligns the text in WAC with the previous filing.
55-54A-0105	2021 IFC Section 105.14.1	Relocate section that is out of order to proper location.	Editorial, no change in regulatory effect.
55-54A-0202	2021 IFC Section 202	Amend definition of "nightclub" removing the words "under the 2006 International Building Code."	Editorial, no change in regulatory effect.
		Amend definition of "Residential Group R" R-2. Removes the words "with more than 16 occupants" after "boarding houses (nontransient)" and moves line item to grouping beneath "Congregate Living Facilities (nontransient) with more than 16 occupants."	Editorial, no change in regulatory effect.
		Amend definition of "Residential Group R" R-2. Adds line item "Monasteries" to group under "Congregate Living Facilities (nontransient) with more than 16 occupants."	Editorial, no change in regulatory effect.
		Amend definition of "Residential Group R" R-3. Adds the term "R-4" to occupancies listed.	Change necessary because of rule adopting the R-4 occupancy classification in the International Building Code.
		Amend definition of "Residential Group R" R-3. Moves words "Boarding houses (nontransient) with 16 or fewer occupants" to group below "congregate living facilities (nontransient) with 16 or fewer occupants."	Editorial, no change in regulatory effect.
		Amend definition of "Residential Group R" R-3. Moves words "Boarding houses (transient) with 10 or fewer occupants" to below "Congregate living facilities (transient) with 10 or fewer occupants."	Editorial, no change in regulatory effect.
		Amend definition of "Residential Group R" R-3. Adds words "convents; Dormitories; Fraternities and Sororities; and Monasteries" to group below "congregate living facilities (nontransient) with 16 or fewer occupants."	Adds model code language missed in original drafting.
		Deletes amendment "R-4 Classification is not adopted. Any reference in this code to R-4 does not apply."	Change necessary because of rule adopting the R-4 occupancy classification in the International Building Code.
51-54A-0322	2021 IFC Section 322	Changes Title of WAC section from "General" to "Lithium Batteries."	Editorial, no change in regulatory effect.
51-54A-0403	2021 IFC Section 403.10.3	Deletes amendment "403.10.3 Group R-4 occupancies. This section not adopted."	Change necessary because of rule adopting the R-4 occupancy classification in the International Building Code.
51-54A-0406	2021 IFC Section 406.1	Changes section reference from "406.3.4" to "406.3.5."	Editorial, no change in regulatory effect.
51-54A-0406	2021 IFC Section 406.3	Extends additional section references from "406.3.4" to "406.3.5."	Editorial, no change in regulatory effect.
51-54A-0501	2021 IFC Section 501.3.1	Removes amendment and reserves WAC numbering.	Model code errata has made the adopted amendment null.

WAC	Section	Change	Rationale/Discussion
51-54A-0510	2021 IFC Section 510.5	Removes duplicated Section 510.5 that was placed after 510.5.4 and before 510.5.5. Section is intact in the appropriate location.	Editorial, no change in regulatory effect.
51-54A-0903	2021 IFC Section 903.2.6	Adds exceptions: 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.	Exceptions added for clarity and to align with amendments in the 2021 International Building Code, which supersedes this code.
	2021 IFC Table 903.2.11.6	Corrects reference from "321.1" to "322.4.2.3."	Editorial, no change in regulatory effect.
51-54A-0904	2021 IFC Section 904.1.1	Inserts language from 2018 IFC that is still in effect. "904.1.1 Certification of service personnel for fire-extinguishing equipment."	Editorial, no change in regulatory effect.
	2021 IFC Section 904.1.1.1	Inserts language from 2018 IFC that is still in effect. "904.1.1.1 Preengineered kitchen fire-extinguishing systems."	Editorial, no change in regulatory effect.
	2021 IFC Section 904.1.1.2	Inserts language from 2018 IFC that is still in effect. "904.1.1.2 Engineered fire suppression systems."	Editorial, no change in regulatory effect.
	2021 IFC Section 904.1.1.3	Inserts language from 2018 IFC that is still in effect. "904.1.1.3 Preengineered industrial fire-extinguishing system."	Editorial, no change in regulatory effect.
	2021 IFC Section 904.1.1	Adds language indicating additional section 904.1.1 is effective July 1, 2024.	Editorial, no change in regulatory effect.
	2021 IFC Section 904.1.1.1	Adds language indicating additional section 904.1.1.1 is effective July 1, 2024.	Editorial, no change in regulatory effect.
	2021 IFC Section 904.1.1.2	Adds language indicating additional section 904.1.1.2 is effective July 1, 2024.	Editorial, no change in regulatory effect.
	2021 IFC Section 904.1.1.3	Adds language indicating additional section 904.1.1.3 is effective July 1, 2024.	Editorial, no change in regulatory effect.
51-54A-0907	2021 IFC Section 907.2.11.2	Adds the words "of the International Building Code" to the end of the sentence in location number 3.	Editorial, no change in regulatory effect.
51-54A-1006	2021 IFC Section 1006.3.4	Adds new amendment section: "1006.3.4 Single exits."	Section is added for consistency with the 2021 International Building Code amendments.
51-54A-1014	2021 IFC Section 1014.2	Adds new amendment section: "1014.2 Height and Location."	Section is added for consistency with the 2021 International Building Code amendments.
	2021 IFC Section 1014.2.1	Adds new amendment section: "1014.2.1 Height."	Section is added for consistency with the 2021 International Building Code amendments.
	2021 IFC Section 1014.2.2	Adds new amendment section: "1014.2.2 Lateral Location."	Section is added for consistency with the 2021 International Building Code amendments.
	2021 IFC Section 1014.8	Adds new amendment section: "1014.8 Projections."	Section is added for consistency with the 2021 International Building Code amendments.
51-54A-1015	2021 IFC Section 1015.2	Adds new amendment section: "1015.2 Where Required."	Section is added for consistency with the 2021 International Building Code amendments.
	2021 IFC Section 1015.3	Adds new amendment section: "1015.3 Height."	Section is added for consistency with the 2021 International Building Code amendments.
51-54A-1017	2021 IFC Table 1017.2	Corrects Occupancy "I-Z" to "I-2."	Editorial, no change in regulatory effect.
51-54A-1104	2021 IFC Section 1104.1	Corrects reference from "1031" to "1032."	Editorial, no change in regulatory effect.
51-54A-1205	2021 IFC Section 1205.2.1	Corrects reference to "1205.2.1.3" to "1205.2.3."	Change is made to be consistent with model code.
51-54A-3305	2021 IFC Section 3303.5.1	Corrects typo "M2" to "M <sup>2</sup> ."	Editorial, no change in regulatory effect.
51-54A-3304	2021 IFC Section 3304	Changes WAC title from "Precautions against fire" to "Protection of Combustible Materials."	Editorial, no change in regulatory effect.

WAC	Section	Change	Rationale/Discussion
51-54A-3305	2021 IFC Section 3305.7	Formats sign lettering examples to all capital letters.	Editorial, no change in regulatory effect.
	2021 IFC Section 3305.8	Changes title of section from "General" to "Portable Generators."	Editorial, no change in regulatory effect.
51-54A-3307	2021 IFC Section 3307	Adds the word "access" to the WAC title.	Editorial, no change in regulatory effect.
	2021 IFC Section 3307.1.2	Renumbers section from "3301.1.2" to "3307.1.1."	Editorial, no change in regulatory effect.
	2021 IFC Section 3307.1.3	Renumbers section from "3307.1.3" to "3307.1.2."	Editorial, no change in regulatory effect.
	2021 IFC Section 3307.1.4	Renumbers section from "3307.1.4" to "3307.1.3."	Editorial, no change in regulatory effect.
51-54A-3313	2021 IFC Section 3313	Section added to clarify which sections are not adopted.	Editorial, no change in regulatory effect.
51-54A-3314	2021 IFC Section 3314	Section added to clarify which sections are not adopted.	Editorial, no change in regulatory effect.
51-54A-3315	2021 IFC Section 3315	Section added to clarify which sections are not adopted.	Editorial, no change in regulatory effect.
51-54A-3316	2021 IFC Section 3316	Section added to clarify which sections are not adopted.	Editorial, no change in regulatory effect.
51-54A-3317	2021 IFC Section 3317	Section added to clarify which sections are not adopted.	Editorial, no change in regulatory effect.
51-54A-3318	2021 IFC Section 3318	Section added to clarify which sections are not adopted.	Editorial, no change in regulatory effect.
51-54A-4900	2021 IFC Section 4901	Corrects numbering in the section from "4901.1" to "4901."	Editorial, no change in regulatory effect.
	2021 IFC Section 4901.1	Adds numbering in Section 4901.1 , and corrects typo in NFPA reference from "NFPA 13" to "NFPA 130."	Editorial, no change in regulatory effect.
	2021 IFC Section 4901.6	Removes duplicate Section 4901.6 and moves it to 4901.18. NFPA sections cited are out of order with surrounding sections.	Editorial, no change in regulatory effect.
	2021 IFC Section 4901.13	Adds sections that should have been included in the modifications to NFPA 130.	Editorial, no change in regulatory effect.
	2021 IFC Section 4901.15	Adds sections that should have been included in the modifications to NFPA 130.	Editorial, no change in regulatory effect.
51-54A-5306	2021 IFC Section 5306.1	Corrects reference from "5306.4" to "5306.5."	Editorial, no change in regulatory effect.
51-54A-5707	2021 IFC Section 5707	Corrects numbering error from "5705" to "5707."	Editorial, no change in regulatory effect.
51-54A-8000	2021 IFC Chapter 80	Corrects references in this section: Adds "-18" to "NFPA 33." Adds reference to section "323.2" for "UL 2272-2016 and UL 2849-2020."	Editorial, no change in regulatory effect.

Statutory Authority for Adoption: RCW 19.27.031, 19.27.074.

Statute Being Implemented: RCW 19.27.031, 19.27.074.

Rule is not necessitated by federal law, federal or state court decision.

Name of Proponent: State building code council, governmental.

Name of Agency Personnel Responsible for Drafting and Implementation: Dustin Curb, 1500 Jefferson Street S.E., Olympia, WA 98504, 360-972-4158; Enforcement: Local jurisdictions having authority.

This notice meets the following criteria to use the expedited adoption process for these rules:

Adopts or incorporates by reference without material change federal statutes or regulations, Washington state statutes, rules of other Washington state agencies, shoreline master programs other than those programs governing shorelines of statewide significance, or, as referenced by Washington state law, national consensus codes that generally establish industry standards, if the material adopted or incorporated

regulates the same subject matter and conduct as the adopting or incorporating rule.

Corrects typographical errors, makes address or name changes, or clarifies language of a rule without changing its effect.

Explanation of the Reason the Agency Believes the Expedited Rule-Making Process is Appropriate: This addresses clerical oversight.

#### NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Dustin Curb, State Building Code Council, 1500 Jefferson Street S.E., Olympia, WA 98504, phone 360-972-4158, email Dustin.Curb@des.wa.gov, AND RECEIVED BY September 19, 2023.

July 5, 2023  
Tony Doan  
Council Chair

#### OTS-4757.2

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107 [21-11-066], filed 6/14/22 and 6/7/23 [5/14/21], effective 10/29/23 [6/14/21])

**WAC 51-54A-008 Implementation.** The *International Fire Code* adopted by chapter 51-54A WAC shall become effective in all counties and cities of this state on (~~July 1~~) October 29, 2023.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-008, filed 6/14/22 and 6/7/23, effective 10/29/23; WSR 21-11-066, § 51-54A-008, filed 5/14/21, effective 6/14/21; WSR 19-24-058, § 51-54A-008, filed 11/27/19, effective 7/1/20; WSR 16-03-055, § 51-54A-008, filed 1/16/16, effective 7/1/16. Statutory Authority: RCW 19.27A.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-063, § 51-54A-008, filed 2/1/13, effective 7/1/13.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107 [21-04-003], filed 6/14/22 and 6/7/23 [1/20/21], effective 10/29/23 [2/20/21])

#### WAC 51-54A-0105 Permits.

105.5.14.1 Lithium batteries. An operational permit is required for an accumulation of more than 15 cubic feet (0.42 m) of lithium-ion and lithium metal batteries, where required by Section 322.1.

**105.5.32 Mobile food preparation vehicles.** A permit is required for mobile preparation vehicles equipped with appliances that produce smoke or grease-laden vapors or utilize LP-gas systems or CNG systems.

**105.6.25 Underground supply piping for automatic sprinkler system.** A construction permit is required for the installation of the portion of the underground water supply piping, public or private, supplying a water-based fire protection system. The permit shall apply to all underground piping and appurtenances downstream of the first control valve on the lateral piping or service line from the distribution main to ~~((one))~~ 1 foot above finished floor of the facility with the fire protection system. Maintenance performed in accordance with this code is not considered to be a modification and does not require a permit.

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

~~((105.5.14.1 Lithium batteries. An operational permit is required for an accumulation of more than 15 cubic feet (0.42 m) of lithium-ion and lithium metal batteries, where required by Section 322.1.))~~

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-0105, filed 6/14/22 and 6/7/23, effective 10/29/23; WSR 21-04-003, § 51-54A-0105, filed 1/20/21, effective 2/20/21; WSR 19-24-058, § 51-54A-0105, filed 11/27/19, effective 7/1/20. Statutory Authority: Chapter 19.27 RCW and RCW 19.27.031. WSR 17-10-028, § 51-54A-0105, filed 4/25/17, effective 5/26/17. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 16-03-055, § 51-54A-0105, filed 1/16/16, effective 7/1/16. Statutory Authority: RCW 19.27A.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-063, § 51-54A-0105, filed 2/1/13, effective 7/1/13.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107 [21-04-003], filed 6/14/22 and 6/7/23 [1/20/21], effective 10/29/23 [2/20/21])

## **WAC 51-54A-0202 General definitions.**

### **SECTION 202 GENERAL DEFINITIONS**

**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 under RCW 70.128.066 and in accordance with Section 903.

**ALERT SIGNAL.** A distinctive signal indicating the need for trained personnel and occupants to initiate a specific action, such as shelter-in-place.

**ALERT SYSTEM.** Approved devices, equipment and systems or combinations of systems used to transmit or broadcast an alert signal.

**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.

**CHILD CARE.** For the purposes of these regulations, child care is the care of children during any period of a 24-hour day.

**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 12 or fewer children, including children who reside at the home.

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

**COVERED BOAT MOORAGE.** A pier or system of floating or fixed access ways to which vessels on water may be secured and any portion of which are covered by a roof.

**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 have mental and psychiatric complications.

**ELECTRICAL CODE.** The National Electrical Code, promulgated by the National Fire Protection Association, as adopted by rule or local ordinance under the authority of chapter 19.28 RCW.

**EMERGENCY RESPONDER COMMUNICATIONS ENHANCEMENT SYSTEM (ERCES).** An infrastructure solution installed within a building to enhance the communications capabilities for first responders that utilizes solutions such as a signal booster, voting receiver, base station, or other technology capable of enhancing the radio frequency (RF) to ensure effective public safety communications.

**FREQUENCY.** The particular waveband at which a communications system broadcasts or transmits.

**FREQUENCY LICENSE HOLDER(S).** The person(s) or entity(s) that are issued the license from the frequency licensing authority of United States or other country of jurisdiction for the frequencies being used by both the in-building emergency responder communications enhancement system and the emergency services communications system that it enhances.

**FREQUENCY LICENSING AUTHORITY.** The government authority in a country or territory that issues frequency licenses for the use of communications frequencies by authorized entities and individuals.

**GRAVITY-OPERATED DROP OUT VENTS.** Automatic smoke and heat vents containing heat-sensitive glazing designed to shrink and drop out of the vent openings when exposed to fire.

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

**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.

**MOBILE FOOD PREPARATION VEHICLE.** Mobile food preparation vehicles that are equipped with appliances that produce smoke or grease-laden vapors or utilize LP-gas systems or CNG systems for the purpose of preparing and serving food to the public. Vehicles intended for private recreation shall not be considered mobile food preparation vehicles.

**MOTOR VEHICLE.** Includes, but not limited to, a vehicle, machine, tractor, trailer or semitrailer, or any combination thereof, propelled or drawn by mechanical power and designed for use upon the highways in the transportation of passengers or property. It does not include a vehicle, locomotive or car operated exclusively on a rail or rails, or a trolley bus operated by electric power derived from a fixed overhead wire, furnishing local passenger transportation similar to street-railway service. The term "motor vehicle" also includes freight containers or cargo tanks used, or intended for use, in connection with motor vehicles.

**NIGHTCLUB.** An A-2 Occupancy use (~~(under the 2006 International Building Code)~~) 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.

**OCCUPANCY CLASSIFICATION.** For the purposes of this code, certain occupancies are defined as follows:

**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 indicated below. This group shall include, but not be limited to, the following: Assisted living facilities licensed under chapter 388-78A WAC and residential treatment facilities licensed under chapter 246-337 WAC shall be classified as Group I-1, Condition 2.

**Group I-2.** This 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

**Five or fewer persons receiving care.** A facility such as the above with five or fewer persons receiving such care shall be classified as Group R-3 or shall comply with the *International Residential Code* provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or with Section P2904 of the *International Residential Code*.

**Family home child care.** Family home child care licensed by Washington state for the care of 12 or fewer children shall be classified as Group R-3 or shall comply with the *International Residential Code*.

**Adult care facility.** A facility that provides accommodations for less than 24 hours for more than 5 unrelated adults and provides supervision and personal care services shall be classified as Group I-4.

EXCEPTION: Where the occupants are capable of responding to an emergency situation without physical assistance from the staff, the facility shall be classified as Group R-3.

**Child care facility.** Child care facilities that provide supervision and personal care on a less than 24-hour basis for more than 5 children 2 1/2 years of age or less shall be classified as Group I-4.

EXCEPTIONS: 1. A child day care facility that provides care for more than five but no more than 100 children 2 1/2 years or less of age, where the rooms in which the children are cared for are located on a level of exit discharge serving such rooms and each of these child care rooms has an exit door directly to the exterior, shall be classified as Group E.

2. Family child care homes licensed by Washington state for the care of 12 or fewer children shall be classified as Group R-3.

**Residential Group R.** Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I or when not regulated by the *International Residential Code*. This group shall include:

**R-1** Residential occupancies containing sleeping units where the occupants are primarily transient in nature, including:

Boarding houses (transient) with more than 10 occupants

Congregate living facilities (transient) with more than 10 occupants

Hotels (transient)

Motels (transient)

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

Apartment houses

~~((Boarding houses (nontransient) with more than 16 occupants))~~

Congregate living facilities (nontransient) with more than 16 occupants

Boarding houses (nontransient)

Convents

Dormitories

Fraternities and sororities

Monasteries

Hotels (nontransient)

Live/work units

~~((Monasteries))~~

Motels (nontransient)

Vacation timeshare properties

**R-3** Residential occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4, or I, including:

Buildings that do not contain more than two dwelling units.

~~((Boarding houses (nontransient) with 16 or fewer occupants.~~

~~Boarding houses (transient) with 10 or fewer occupants.))~~

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

Congregate living facilities (nontransient) with 16 or fewer occupants.

Boarding houses (nontransient) with 16 or fewer occupants

Convents



DormitoriesFraternalities and sororitiesMonasteries

Congregate living facilities (transient) with 10 or fewer occupants.

Boarding houses (transient)

Lodging houses (transient) with five or fewer guestrooms and 10 or fewer occupants

**Care facilities within a dwelling.** Care facilities for five or fewer persons receiving care that are within a single-family dwelling are permitted to comply with the *International Residential Code* provided an automatic sprinkler system is installed in accordance with Section 903.3.1.3 or with Section P2904 of the *International Residential Code*.

**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*.

**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.

(~~R-4 Classification is not adopted. Any reference in this code to R-4 does not apply.~~)

**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.

**POWERED MICROMOBILITY DEVICES.** Motorized bicycles, motorized scooters, and other personal mobility devices powered by a rechargeable battery. The term does not include motor vehicles that are required to be registered with the department of motor vehicles for the state or jurisdiction.

**RECALL SIGNAL.** An electrically or mechanically operated signal used to recall occupants after an emergency drill or to terminate a shelter-in-place event that shall be distinct from any alarm or alert signal used to initiate an emergency plan, or other signals.

**SHELTER-IN-PLACE.** An emergency response used to minimize exposure of facility occupants to chemical or environmental hazards by taking refuge in predetermined interior rooms or areas where actions are taken to isolate the interior environment from the exterior hazard.

**SPECIAL HAZARDS SUPPRESSION SYSTEMS.** Wet-chemical systems (NFPA 17A), Dry-chemical systems (NFPA 17), Foam systems (NFPA 11), Carbon dioxide systems (NFPA 12), Halon systems (NFPA 12A), Clean-agent systems (NFPA 2001), Automatic water mist systems (NFPA 750), Aerosol fire-extinguishing systems (NFPA 2010), and Explosion prevention systems (NFPA 69).

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-0202, filed 6/14/22 and 6/7/23, effective 10/29/23; WSR 21-04-003, § 51-54A-0202, filed 1/20/21, effective 2/20/21; WSR 19-24-058, § 51-54A-0202, filed 11/27/19, effective 7/1/20; WSR 16-03-055, § 51-54A-0202, filed 1/16/16, effective 7/1/16. Statutory Authority: RCW 19.27.074, 19.27.020, and 19.27.031. WSR 14-24-090, § 51-54A-0202, filed 12/1/14, effective 5/1/15. Statutory

Authority: RCW 19.27A.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-063, § 51-54A-0202, filed 2/1/13, effective 7/1/13.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107 [21-04-003], filed 6/14/22 and 6/7/23 [1/20/21], effective 10/29/23 [2/20/21])

**WAC 51-54A-0314 Indoor displays.**

**314.4 Vehicles.** Liquid- or gas-fueled vehicles, boats, aircraft or other motorcraft shall not be located indoors except as follows:

1. The engine starting system is made inoperable or ignition batteries are disconnected except where the fire code official requires that the batteries remain connected to maintain safety features.
2. Fuel in fuel tanks does not exceed any of the following:
  - 2.1. Class I, II, and III liquid fuel does not exceed one-quarter tank or 5 gallons (19 L), whichever is less.
  - 2.2. LP gas does not exceed one-quarter tank or 6.6 gallons (25 L), whichever is less.
  - 2.3. CNG does not exceed one-quarter tank or 630 cubic feet (17.8 m<sup>3</sup>), whichever is less.
  - 2.4. Hydrogen does not exceed one-quarter tank or 2,000 cubic feet (0.57 m<sup>3</sup>), whichever is less.
3. Fuel tanks and fill openings are closed and sealed to prevent tampering.
4. Vehicles, aircraft, boats or other motorcraft equipment are not fueled or defueled within the building.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-0314, filed 6/14/22 and 6/7/23, effective 10/29/23; WSR 21-04-003, § 51-54A-0314, filed 1/20/21, effective 2/20/21; WSR 19-24-058, § 51-54A-0314, filed 11/27/19, effective 7/1/20.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107, filed 6/14/22 and 6/7/23, effective 10/29/23)

**WAC 51-54A-0322 (~~General~~) Lithium batteries.**

**322.1 General.** The storage of lithium-ion and lithium metal batteries shall comply with Section 322.

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

**322.2 Permits.** Permits shall be required for an accumulation of more than 15 cubic feet (0.42 m<sup>3</sup>) of lithium-ion and lithium metal batteries, other than batteries listed in the exceptions to Section 322.1, as set forth in Section 105.5.14.1.

**322.3 Fire safety plan.** A fire safety plan shall be provided in accordance with Section 403.10.6. In addition, the fire safety plan shall include emergency response actions to be taken upon detection of a fire or possible fire involving lithium-ion or lithium metal battery storage.

**322.4 Storage requirements.** Lithium-ion and lithium metal batteries shall be stored in accordance with Section 322.4.1, 322.4.2, or 322.4.3, as applicable.

**322.4.1 Limited indoor storage in containers.** Not more than 15 cubic feet (0.42 m<sup>3</sup>) of lithium-ion or lithium metal batteries shall be permitted to be stored in containers in accordance with the following:

1. Containers shall be open-top and constructed of noncombustible materials or shall be approved for battery collection.

2. Individual containers and groups of containers shall not exceed a capacity of 7.5 cubic feet (0.21 m<sup>3</sup>).

3. A second container or group of containers shall be separated by not less than 3 feet (914 mm) of open space, or 10 feet (3048 mm) of space that contains combustible materials.

4. Containers shall be located not less than 5 feet (1524 mm) from exits or exit access doors.

**322.4.2 Indoor storage areas.** Indoor storage areas for lithium-ion and lithium metal batteries, other than those complying with Section 322.4.1, shall comply with Sections 322.4.2.1 through 322.4.2.6.

**322.4.2.1 Technical opinion and report.** Where required by the *fire code official* a technical opinion and report complying with Section 104.8.2 shall be prepared to evaluate the fire and explosion risks associated with the indoor storage area and to make recommendations for fire and explosion protection. The report shall be submitted to the fire code official and shall require the fire code official's approval prior to issuance of a permit. In addition to the requirements of Section 104.8.2, the technical opinion and report shall specifically evaluate the following:

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

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

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

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

**322.4.2.3 Fire protection systems.** Indoor storage areas for lithium-ion and lithium metal batteries shall be protected by an automatic sprinkler system complying with Section 903.3.1.1 or an approved al-

ternative fire suppression system. The system design shall be based on recommendations in the approved technical opinion and report required by Section 322.4.2.1.

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

**322.4.2.5 Explosion control.** Where the approved technical opinion and report required by Section 322.4.2.1 recommends explosion control, explosion control complying with Section 911 shall be provided.

**322.4.2.6 Reduced requirements for storage of partially charged batteries.** Indoor storage areas for lithium-ion and lithium metal batteries with a demonstrated state of charge not exceeding 30 percent shall not be required to comply with Section 322.4.2.1, 322.4.2.2, or 322.4.2.5, provided that procedures for limiting and verifying that the state of charge will not exceed 30 percent have been approved.

**322.4.3 Outdoor storage.** Outdoor storage of lithium-ion or lithium metal batteries shall comply with Sections 322.4.3.1 through 322.4.3.3.

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

1. Battery storage shall be located not less than 20 feet (6096 mm) from any building, lot line, public street, public alley, public way, or means of egress.

2. Battery storage shall be located not less than 3 feet (914 mm) from any building, lot line, public street, public alley, public way, or means of egress, where the battery storage is separated by a 2-hour fire-resistance rated assembly without openings or penetrations and extending 5 feet (1524 mm) above and to the sides of the battery storage area.

3. Battery storage shall be located not less than 3 feet (914 mm) from any building, lot line, public street, public alley, public way, or means of egress, where batteries are contained in approved prefabricated portable structures providing a complete 2-hour fire-resistance rated enclosure.

**322.4.3.2 Storage area size limits and separation.** Outdoor storage areas for lithium-ion or lithium metal batteries, including storage beneath weather-protection in accordance with Section 414.6.1 of the International Building Code, shall not exceed 900 sq. ft. (83.6 m<sup>2</sup>). The height of battery storage in such areas shall not exceed 10 feet (3048 mm). Multiple battery storage areas shall be separated from each other by not less than 10 feet (3048 mm) of open space.

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

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-0322, filed 6/14/22 and 6/7/23, effective 10/29/23.]

**Reviser's note:** The above section was filed as a new section; however, this section will not come into effect as a new section until October 29, 2023.

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107 [16-03-055], filed 6/14/22 and 6/7/23 [1/16/16], effective 10/29/23 [7/1/16])

**WAC 51-54A-0403 Emergency preparedness requirements.**

**403.4.3 Assembly points and fire operations.** Assembly points shall not be in areas likely to be utilized for fire service operations.

**403.9.2 Group R-2 occupancies.** Group R-2 occupancies shall comply with Sections 403.9.2.1 through 403.9.2.4.

**403.9.2.4 Group R-2 assisted living and residential care facilities.** Assisted living and residential care facilities licensed by the state of Washington shall comply with Section 403.7.1 as required for Group I-1 Condition 2 occupancies.

~~((403.9.3 Group R-4 occupancies. This section not adopted.))~~

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

**403.11.3 Crowd managers for gatherings exceeding 1,000 people.** Where facilities or events involve a gathering of more than 1,000 people, or as required by the fire code official, crowd managers shall be provided in accordance with Sections 403.11.3.1 through 403.11.3.3.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-0403, filed 6/14/22 and 6/7/23, effective 10/29/23; WSR 16-03-055, § 51-54A-0403, filed 1/16/16, effective 7/1/16.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107 [21-04-003], filed 6/14/22 and 6/7/23 [1/20/21], effective 10/29/23 [2/20/21])

**WAC 51-54A-0406 Employee training and response procedures.**

**406.1 General.** Employees in the occupancies listed in Section 403 shall be trained in the emergency procedures described in their emergency plans. Training shall be based on these plans and as described in Sections 406.2 through ~~((406.3.4))~~ 406.3.5.

**406.2 Frequency.** Employees shall receive training in the contents of the emergency plans and their duties as part of new employee orientation and at least annually thereafter. Records shall be kept and made available to the fire code official upon request.

**406.3 Employee training program.** Employees shall be trained in fire prevention, evacuation, sheltering-in-place, and fire safety in accordance with Sections 406.3.1 through ~~((406.3.4))~~ 406.3.5.

**406.3.4 Emergency lockdown training.** This section is not adopted.

**406.3.5 Emergency shelter-in-place training.** Where a facility has a shelter-in-place plan, employees shall be trained on the alert and recall signals, communication system, location of emergency supplies, the use of the incident notification and alarm system, and their assigned duties and procedures in the event of an alarm or emergency.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-0406, filed 6/14/22 and 6/7/23, effective 10/29/23; WSR 21-04-003, § 51-54A-0406, filed 1/20/21, effective 2/20/21. Statutory Authority: RCW 19.27.035 and 19.27.074. WSR 21-02-059, § 51-54A-0406, filed 1/4/21, effective 2/4/21. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 20-01-162, § 51-54A-0406, filed 12/18/19, effective 7/1/20; WSR 16-03-055, § 51-54A-0406, filed 1/16/16, effective 7/1/16. Statutory Authority: RCW 19.27A.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-063, § 51-54A-0406, filed 2/1/13, effective 7/1/13.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107, filed 6/14/22 and 6/7/23, effective 10/29/23)

**WAC 51-54A-0501 ~~((General.))~~ Reserved.**

~~((501.3.1 Site safety plan. The owner or owner's authorized agent shall be responsible for the development, implementation, and maintenance of an approved written site safety plan in accordance with Section 3303.))~~

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-0501, filed 6/14/22 and 6/7/23, effective 10/29/23.]

**Reviser's note:** The above section was filed as a new section; however, this section will not come into effect as a new section until October 29, 2023.

AMENDATORY SECTION (Amending WSR 13-04-063, filed 2/1/13, effective 7/1/13)

**WAC 51-54A-0503 Fire apparatus access roads.**

**503.1 Where required.** Fire apparatus access roads shall be provided and maintained in accordance with locally adopted street, road, and access standards.

**503.1.1 Buildings and facilities~~((τ))~~.** This section is not adopted.

**503.1.2 Additional access~~((τ))~~.** This section is not adopted.

**503.1.3 High-piled storage~~((τ))~~.** This section is not adopted.

**503.2 Specifications.** This section is not adopted.

**503.3 Marking.** This section is not adopted.

**503.4 Obstruction of fire apparatus access roads.** This section is not adopted.

**503.4.1 Traffic calming devices.** This section is not adopted.

[Statutory Authority: RCW 19.27A.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-063, § 51-54A-0503, filed 2/1/13, effective 7/1/13.]

AMENDATORY SECTION (Amending WSR 16-03-055, filed 1/16/16, effective 7/1/16)

**WAC 51-54A-0507 Fire protection water supplies.**

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

EXCEPTIONS:

1. Fire flow is not required for structures under 500 square feet (46 m<sup>2</sup>) with a B, U or R-I occupancy where structures are at least 30 feet (9144 mm) from any other structure and are used only for recreation.
2. In rural and suburban areas in which adequate and reliable water supply systems do not exist, the fire code official is authorized to utilize NFPA 1142 or the *International Wildland-Urban Interface Code*.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 16-03-055, § 51-54A-0507, filed 1/16/16, effective 7/1/16. Statutory Authority: RCW 19.27A.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-063, § 51-54A-0507, filed 2/1/13, effective 7/1/13.]

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107 [21-04-003], filed 6/14/22 and 6/7/23 [1/20/21], effective 10/29/23 [2/20/21])

**WAC 51-54A-0510 Emergency responder communication coverage.**

**510.1 Emergency responder communication coverage in new buildings.** Approved in-building, emergency responder communications enhancement system (ERCES) for emergency responders shall be provided in all new buildings. In-building ERCES within the building shall be based on the existing coverage levels of the public safety communication systems utilized by the jurisdiction, measured at the exterior of the building. The two-way emergency responder communications coverage system, where required, shall be of a type determined by the fire code official and the frequency license holder(s). This section shall not require improvement of the existing public safety communication systems.

EXCEPTIONS:

1. Where approved by the building official and the fire code official, a wired communication system in accordance with Section 907.2.13.2 shall be permitted to be installed or maintained instead of an approved communication coverage system.
2. Where it is determined by the fire code official that the communication coverage system is not needed.
3. In facilities where emergency responder communication coverage is required and such systems, components or equipment required could have a negative impact on the normal operations of that facility, the fire code official shall have the authority to accept an automatically activated emergency responder communication coverage system.

**510.2 Emergency responder communication enhancement system in existing buildings.** Existing buildings shall be provided with approved in-building, emergency responder communications enhancement system for emergency responders as required in Chapter 11.

**510.3 Permit required.** A construction permit for the installation of or modification to in-building, emergency responder communication en-

enhancement systems and related equipment is required as specified in Section 105.6.4. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

**510.4 Technical requirements.** Equipment required to provide in-building, emergency responder communication enhancement system shall be *listed* in accordance with UL 2524. Systems, components and equipment required to provide the in-building, emergency responder communication enhancement system shall comply with Sections 510.4.1 through 510.4.2.8.

**510.4.1 Emergency responder communication enhancement system signal strength.** The building shall be considered to have an acceptable in-building, emergency responder communication enhancement system where signal strength measurements in 95 percent of all areas and 99 percent of areas designated as critical areas by the fire code official on each floor of the building meet the signal strength requirements in Sections 510.4.1.1 through 510.4.1.3.

**510.4.1.1 Minimum signal strength into building.** The minimum inbound signal strength shall be sufficient to provide usable voice communications throughout the coverage area as specified by the *fire code official*. The inbound signal level shall be a minimum of -95 dBm in 95 percent of the coverage area and 99 percent in *critical areas* and sufficient to provide not less than a delivered audio quality (DAQ) of 3.0 or an equivalent signal-to-interference-plus-noise ratio (SINR) applicable to the technology for either analog or digital signals.

**510.4.2 System design.** The in-building, *emergency responder communication enhancement system* shall be designed in accordance with Sections 510.4.2.1 through 510.4.2.8 and NFPA 1221.

**510.4.2.1 Amplification systems and components.** Buildings and structures that cannot support the required level of in-building, *emergency responder communication system* shall be equipped with systems and components to enhance the radio signals and achieve the required level of in-building, *emergency responder communication enhancement system* specified in Sections 510.4.1 through 510.4.1.3. In-building, *emergency responder communication enhancement systems* utilizing radio-frequency-emitting devices and cabling shall be approved by the *fire code official*. Prior to installation, all RF-emitting devices shall have the certification of the radio licensing authority and be suitable for public safety use.

**510.4.2.2 Technical criteria.** The fire code official shall maintain a document providing the specific technical information and requirements for the in-building, emergency responder communication enhancement system. This document shall contain, but not be limited to, the various frequencies required, the location of radio sites, the effective radiated power of radio sites, the maximum propagation delay in microseconds, the applications being used and other supporting technical information necessary for system design.

**510.4.2.3 Standby power.** In-building, emergency responder communication enhancement systems coverage systems shall be provided with dedicated standby batteries or provided with 2-hour standby batteries and connected to the facility generator power system in accordance with Section 1203. The standby power supply shall be capable of operating the in-building, *emergency responder communication enhancement system*



at 100 percent system capacity for a duration of not less than 12 hours.

**510.4.2.4 Signal booster requirements.** If used, signal boosters shall meet the following requirements:

1. All signal booster components shall be a National Electrical Manufacturer's Association (NEMA) 4, IP66-type waterproof cabinet or equivalent.

EXCEPTION: Listed battery systems that are contained in integrated battery cabinets.

2. Battery systems used for the emergency power source shall be contained in a NEMA 3R or higher-rated cabinet, IP65-type waterproof cabinet or equivalent.

EXCEPTION: Listed battery systems that are contained in integrated battery cabinets.

3. Equipment shall have FCC or other radio licensing authority certification and be suitable for public safety use prior to installation.

4. Where a donor antenna exists, isolation shall be maintained between the donor antenna and all inside antennas to not less than 20 dB greater than the system gain under all operating conditions.

5. Bi-directional amplifiers (BDA) used for in-building, emergency responder communication enhancement systems shall be fitted with anti-oscillation detection and control circuitry and per-channel AGC.

6. The installation of amplification systems or enhancement systems that operate on or provide the means to cause interference on any in-building, *emergency responder communication enhancement system* network shall be coordinated and approved by the fire code official.

7. Only channelized signal boosters shall be permitted.

EXCEPTION: Broadband BDAs may be utilized when specifically authorized in writing by the *frequency license holder*.

**510.4.2.5 System monitoring.** The in-building, *emergency responder communication enhancement system* shall include automatic supervisory and trouble signals that are monitored by a supervisory service and are annunciated by the *fire alarm system* in accordance with NFPA 72. The following conditions shall be separately annunciated by the *fire alarm system*, or, if the status of each of the following conditions is individually displayed on a dedicated panel on the in-building, *emergency responder communication enhancement system*, a single automatic supervisory signal may be annunciated on the *fire alarm system* indicating deficiencies of the in-building, *emergency responder communication enhancement system*:

1. Loss of normal AC power supply.
2. System battery charger(s) failure.
3. Malfunction of the donor antenna(s).
4. Failure of active RF-emitting device(s).
5. Low-battery capacity at 70 percent reduction of operating capacity.
6. Active system component malfunction.
7. Malfunction of the communications link between the *fire alarm system* and the in-building, *emergency responder communication enhancement system*.
8. Oscillation of active RF-emitting device(s).

**510.4.2.6 Additional frequencies and change of frequencies.** The in-building, *emergency responder communication coverage enhancement system* shall be capable of modification or expansion in the event frequency changes are required by the FCC or other radio licensing au-

thority, or additional frequencies are made available by the FCC or other radio licensing authority.

**510.4.2.7 Design documents.** The *fire code official* shall have the authority to require "as-built" design documents and specifications for in-building, *emergency responder communication enhancement systems*. The documents shall be in a format acceptable to the *fire code official*.

**510.4.2.8 Radio communication antenna density.** Systems shall be engineered to minimize the near-far effect. In-building, emergency responder communication enhancement system designs shall include sufficient antenna density to address reduced gain conditions.

EXCEPTION: Systems where all portable devices within the same band use active power control features.

**510.5 Installation requirements.** The installation of the in-building, emergency responder communication enhancement system shall be in accordance with NFPA 1221 and Sections 510.5.1 through 510.5.7.

**510.5.1 Mounting of the donor antenna(s).** To maintain proper alignment with the system designed donor site, donor antennas shall be permanently affixed on the highest possible position on the building or where *approved* by the *fire code official*. A clearly visible sign stating "MOVEMENT OR REPOSITIONING OF THIS ANTENNA IS PROHIBITED WITHOUT APPROVAL FROM THE FIRE CODE OFFICIAL." shall be posted. The antenna installation shall be in accordance with the applicable requirements in the *International Building Code* for weather protection of the building envelope.

**510.5.3 Minimum qualifications of personnel.** The minimum qualifications of the system designer and lead acceptance test personnel shall include both of the following:

1. A valid FCC-issued general radio telephone operators license.
2. Certification of in-building system training issued by an *approved* organization or *approved* school, or a certificate issued by the manufacturer of the equipment being installed.

**510.5.4 Acceptance test procedure.** Where an in-building *emergency responder communication enhancement system* is required, and upon completion of installation, the building owner shall have the radio system tested to verify that two-way coverage on each floor of the building is in accordance with Section 510.4.1. The test procedure shall be conducted as follows:

1. Each floor of the building shall be divided into a grid of 20 approximately equal test areas, with a maximum test area size of 6,400 square feet (595 m<sup>2</sup>). Where the floor area exceeds 128,000 square feet (11,904 m<sup>2</sup>), the floor shall be divided into as many approximately equal test areas as needed, such that no test area exceeds the maximum square footage allowed for a test area.

2. The test shall be conducted using a calibrated portable radio of the latest brand and model used by the agency talking through the agency's radio communications system or equipment approved by the *fire code official*.

3. Coverage testing of signal strength shall be conducted using a calibrated spectrum analyzer for each of the test grids. A diagram of this testing shall be created for each floor where coverage is provided, indicating the testing grid used for the test in Section 510.5.4(1), and including signal strengths and frequencies for each test area. Indicate all critical areas.

4. Functional talk-back testing shall be conducted using two calibrated portable radios of the latest brand and model used by the agency's radio communications system or other equipment approved by the *fire code official*. Testing shall use digital audible quality (DAQ) metrics, where a passing result is a DAQ of 3 or higher. Communications between handsets shall be tested and recorded in the grid square diagram required by Section 510.5.3(2); each grid square on each floor; between each critical area and a radio outside the building; between each critical area and the fire command center or fire alarm control panel; between each landing in each stairwell and the fire command center or fire alarm panel.

5. Failure of more than 5 percent of the test areas on any floor shall result in failure of the test.

EXCEPTION: Critical areas shall be provided with 99 percent floor area coverage.

6. In the event that two of the test areas fail the test, in order to be more statistically accurate, the floor shall be permitted to be divided into 40 equal test areas. Failure of not more than two non-adjacent test areas shall not result in failure of the test. If the system fails the 40 area test, the system shall be altered to meet the 95 percent coverage requirement.

7. A test location approximately in the center of each test area shall be selected for the test, with the radio enabled to verify two-way communications to and from the outside of the building through the public agency's radio communications system. Once the test location has been selected, that location shall represent the entire test area. Failure in the selected test location shall be considered to be a failure of that test area. Additional test locations shall not be permitted.

8. The gain values of all amplifiers shall be measured and the test measurement results shall be kept on file with the building owner so that the measurements can be verified during annual tests. In the event that the measurement results become lost, the building owner shall be required to rerun the acceptance test to reestablish the gain values.

9. As part of the installation, a spectrum analyzer or other suitable test equipment shall be utilized to ensure spurious oscillations are not being generated by the subject signal booster. This test shall be conducted at the time of installation and at subsequent annual inspections.

10. Systems shall be tested using two portable radios simultaneously conducting subjective voice quality checks. One portable radio shall be positioned not greater than 10 feet (3048 mm) from the indoor antenna. The second portable radio shall be positioned at a distance that represents the farthest distance from any indoor antenna. With both portable radios simultaneously keyed up on different frequencies within the same band, subjective audio testing shall be conducted and comply with DAQ levels as specified in Sections 510.4.1.1 and 510.4.1.2.

11. **Documentation maintained on premises.** At the conclusion of the testing, and prior to issuance of the building certificate of occupancy, the building owner or owner's representative shall place a copy of the following records in the Distributed Antenna System enclosure or the building engineer's office. The records shall be available to the fire code official and maintained by the building owner for the life of the system:

- a. A certification letter stating that the *emergency responder enhancement coverage system* has been installed and tested in accordance with this code, and that the system is complete and fully functional.
- b. The grid square diagram created as part of testing in Sections 510.5.3(2) and 510.5.3(3).
- c. Data sheets and/or manufacturer specifications for the *emergency responder enhancement coverage system* equipment; back up battery; and charging system (if utilized).
- d. A diagram showing device locations and wiring schematic.
- e. A copy of the electrical permit.

~~((510.5 Installation requirements. The installation of the public safety radio coverage system shall be in accordance with NFPA 1221 and Sections 510.5.1 through 510.5.7.))~~

**510.5.5 FCC compliance.** The in-building, *emergency responder communication enhancement system* installation and components shall comply with all applicable federal regulations including, but not limited to, FCC 47 C.F.R. Part 90.219.

**510.5.6 Wiring.** The backbone, antenna distribution, radiating, or any fiber optic cables shall be rated as plenum cables. The backbone cables shall be connected to the antenna distribution, radiating, or copper cables using hybrid coupler devices of a value determined by the overall design. Backbone cables shall be routed through an enclosure that matches the building's required fire-resistance rating for shafts or interior exit stairways. The connection between the backbone cable and the antenna cables shall be made within an enclosure that matches the building's fire-resistance rating for shafts or interior exit stairways, and passage of the antenna distribution cable in and out of the enclosure shall be protected as a penetration per the *International Building Code*.

**510.5.7 Identification signs.** *Emergency responder enhancement systems* shall be identified by an approved sign located on or near the fire alarm control panel or other approved location stating "This building is equipped with an *Emergency Responder Enhancement Coverage System*. Control Equipment located in ..... or as approved by the *Fire Code Official*." A sign stating "*Emergency Responder Enhancement Coverage System Equipment*" shall be placed on or adjacent to the door of the room containing the main system components.

**510.6 Maintenance.** The in-building, *emergency responder communication enhancement system* shall be maintained operational at all times in accordance with Sections 510.6.1 through 510.6.4.

**510.6.1 Testing and proof of compliance.** The owner of the building or owner's authorized agent shall have the in-building, two-way *emergency responder communication coverage system* inspected and tested annually or where structural changes occur including additions or remodels that could materially change the original field performance tests. Testing shall consist of the following items 1. through 7.:

1. In-building coverage test as required by the *fire code official* as described in Section 510.5.4 or 510.6.1.1.

EXCEPTION: Group R Occupancy annual testing is not required within dwelling units.

2. Signal boosters shall be tested to verify that the gain/output level is the same as it was upon initial installation and acceptance or set to optimize the performance of the system.

3. Backup batteries and power supplies shall be tested under load of a period of 1 hour to verify that they will properly operate during an actual power outage. If within the 1-hour test period the battery exhibits symptoms of failure, the test shall be extended for additional 1-hour periods until the integrity of the battery can be determined.

4. All other active components shall be checked to verify operation within the manufacturers specification.

5. If a fire alarm system is present in the building, a test shall be conducted to verify that the fire alarm system is properly supervising the emergency responder communication coverage system as required in Section 510.4.2.5. The test is performed by simulating alarms to the fire alarm control panel. The certifications in Section 510.5.2 are sufficient for the personnel performing this testing.

6. At the conclusion of testing, a record of the inspection and maintenance along with an updated grid diagram of each floor showing tested strengths in each grid square and each critical area shall be added to the documentation maintained on the premises in accordance with Section 510.5.3.

7. At the conclusion of the testing, a report, which shall verify compliance with Section 510.6.1, shall be submitted to the *fire code official*.

**510.6.1.1 Alternative in-building coverage test.** When the comprehensive test documentation required by Section 510.5.3 is available, or the most recent full five-year test results are available if the system is older than six years, the in-building coverage test required by the fire code official in Section 510.6.1(1), may be conducted as follows:

1. Functional talk-back testing shall be conducted using two calibrated portable radios of the latest brand and model used by the agency's radio communications system or other equipment approved by the fire code official. Testing shall use digital audible quality (DAQ) metrics, where a passing result is a DAQ of 3 or higher. Communications between handsets in the following locations shall be tested: Between the fire command center or fire alarm control panel and a location outside the building((+)) and between the fire alarm control panel and each landing in each stairwell.

2. Coverage testing of signal strength shall be conducted using a calibrated spectrum analyzer for:

a. Three grid areas per floor. The three grid areas to be tested on each floor are the three grid areas with poorest performance in the acceptance test or the most recent annual test, whichever is more recent;

b. Each of the critical areas identified in acceptance test documentation required by Section 510.5.3, or as modified by the fire code official; and

c. One grid square per serving antenna.

3. The test area boundaries shall not deviate from the areas established at the time of the acceptance test, or as modified by the *fire code official*. The building shall be considered to have acceptable emergency responder communication coverage when the required signal strength requirements in Sections 510.4.1.1 and 510.4.1.2 are located in 95 percent of all areas on each floor of the building and 99 percent in critical areas, and any nonfunctional serving antenna are repaired to function within normal ranges. If the documentation of the acceptance test or most recent previous annual test results are not

available or acceptable to the fire code official, the radio coverage verification testing described in Section 510.5.3 shall be conducted.

**510.6.2 Additional frequencies.** The building owner shall modify or expand the in-building, *emergency responder communication enhancement system* at their expense in the event frequency changes are required by the FCC or other radio licensing authority, or additional frequencies are made available by the FCC or other radio licensing authority. Prior approval of an in-building, *emergency responder communication enhancement system* on previous frequencies does not exempt this section.

**510.6.3 Nonpublic safety system.** Where other nonpublic safety amplification systems installed in buildings reduce the performance or cause interference with the in-building, *emergency responder communication enhancement system*, the nonpublic safety amplification system shall be corrected or removed.

**510.6.4 Field testing.** Agency personnel shall have the right to enter onto the property at any reasonable time to conduct field testing to verify the required level of radio coverage or to disable a system adversely impacting the *emergency responder communication enhancement system* in the region.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-0510, filed 6/14/22 and 6/7/23, effective 10/29/23; WSR 21-04-003, § 51-54A-0510, filed 1/20/21, effective 2/20/21; WSR 19-24-058, § 51-54A-0510, filed 11/27/19, effective 7/1/20.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107 [16-03-055], filed 6/14/22 and 6/7/23 [1/16/16], effective 10/29/23 [7/1/16])

**WAC 51-54A-0901 General.**

**901.4.2 Nonrequired fire protection systems and life safety systems.** A *fire protection* and *life safety system* or portion thereof not required by this code or the *International Building Code* shall be allowed to be furnished for partial or complete protection provided such installed system meets the applicable requirements of this code and the *International Building Code*. Such systems or portion of system shall be provided with signage stating "NON-REQUIRED SYSTEM." Signage shall be durable and permanent in nature, with contrasting color and background, and with lettering of not less than 1 inch (25 mm) in height. Location of such signage shall be approved.

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

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

[Statutory Authority: RCW 19.27.031 and RCW 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-0901, filed 6/14/22 and 6/7/23, effective 10/29/23; WSR 16-03-055, § 51-54A-0901, filed 1/16/16, effective 7/1/16.]

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AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107 [21-04-003], filed 6/14/22 and 6/7/23 [1/20/21], effective 10/29/23 [2/20/21])

**WAC 51-54A-0903 Automatic sprinkler systems.**

**903.2 Where required.** Approved automatic sprinkler systems in new buildings and structures shall be provided in the locations described in Sections 903.2.1 through 903.2.12.

EXCEPTIONS: 1. Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided that those spaces or areas are equipped throughout with an automatic smoke detection system in accordance with Section 907.2 and are separated from the remainder of the building by not less than 1-hour *fire barriers* constructed in accordance with Section 707 of the *International Building Code* or not less than 2-hour *horizontal assemblies* constructed in accordance with Section 711 of the *International Building Code*, or both.  
2. Bottom of the elevator hoistway in an enclosed and noncombustible elevator shaft.

**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 m<sup>2</sup>).
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 4901.

**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 classrooms does not exceed 6,000 square feet (557 m<sup>2</sup>); 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 classroom shall be accessible, provided that the aggregate area of any cluster of portable classrooms does not exceed 6,000 square feet (557 m<sup>2</sup>); 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 or additions house less than 16 persons receiving care, an automatic sprinkler system installed in accordance with Section 903.2.8.3 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 where 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 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 (46 m<sup>2</sup>) and is used for recreational use only.
  - 2. The Group R fire area is on only one story.
  - 3. The Group R fire area does not include a basement.
  - 4. The Group R fire area is no closer than 30 feet (9144 mm) 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 eight.
  - 7. A hand-held (portable) fire extinguisher is in every Group R fire area.

**903.2.8.5 Adult family home.** An adult family home with a capacity of seven or eight that serves residents who require assistance during an evacuation must install an automatic sprinkler system that meets the requirements of NFPA 13D.

**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 (22,860 mm), the basement shall be equipped throughout with an approved automatic sprinkler system.

**903.2.11.5 Commercial cooking operations.** An automatic sprinkler system shall be installed in commercial kitchen exhaust hood and duct systems where an automatic sprinkler system is used to comply with Section 904.

- EXCEPTION:
- An automatic fire sprinkler system is not required to protect the ductwork that is in excess of 75 feet (22,860 mm) when the commercial kitchen exhaust hood is protected by a system listed per UL 300.

**Table 903.2.11.6  
Additional Required Fire Protection  
Systems**

Note: Add section and subject to existing model code table.

Section	Subject
((321-2)) 322.4.2.3	Lithium-ion and lithium metal battery storage

**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 (1219 mm) 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 of the *International Building Code* shall be measured from the horizontal assembly creating separate buildings.

**903.3.5.3 Underground portions of fire protection system water supply piping.** The portion of the installation or modification of an underground water main, public or private, dedicated to 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))~~ 1 foot (305 mm) 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.

- EXCEPTIONS:
1. Portions of underground piping supplying automatic sprinkler systems installed in accordance with Section 903.3.1.3.
  2. Portions of underground water mains serving sprinkler systems that are designed and installed in accordance with Section 903.3.1.2 and are less than ~~((four))~~ 4 inches (100 mm) in nominal diameter.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-0903, filed 6/14/22 and 6/7/23, effective 10/29/23; WSR 21-04-003, § 51-54A-0903, filed 1/20/21, effective 2/20/21; WSR 19-24-058, § 51-54A-0903, filed 11/27/19, effective 7/1/20. Statutory Authority: Chapter 19.27 RCW and RCW 19.27.031. WSR 17-10-028, § 51-54A-0903, filed 4/25/17, effective 5/26/17. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 16-03-055, § 51-54A-0903, filed 1/16/16, effective 7/1/16. Statutory Authority: RCW 19.27.074, 19.27.020, and 19.27.031. WSR 14-24-090, § 51-54A-0903, filed 12/1/14, effective 5/1/15. Statutory Authority: RCW 19.27A.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-063, § 51-54A-0903, filed 2/1/13, effective 7/1/13.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107 [19-24-058], filed 6/14/22 and 6/7/23 [11/27/18], effective 10/29/23 [7/1/20])

**WAC 51-54A-0904 Alternative automatic fire-extinguishing systems.**

~~((Effective July 1, 2024.))~~

**904.1.1 Certification of service personnel for fire-extinguishing equipment.** Service personnel performing system design, installation, or conducting system maintenance or testing on automatic fire-extinguishing systems, other than automatic sprinkler systems, shall possess the appropriate ICC/NAFED certification.

**904.1.1.1 Preengineered kitchen fire-extinguishing systems.** A current ICC/NAFED certification for preengineered kitchen fire-extinguishing systems is required when performing design, installation, inspection/testing or maintenance on kitchen suppression systems.

**904.1.1.2 Engineered fire suppression systems.** A current ICC/NAFED certification for engineered fire suppression systems is required when performing design, installation, inspection/testing or maintenance on kitchen suppression systems.

**904.1.1.3 Preengineered industrial fire-extinguishing system.** A current ICC/NAFED certification for preengineered industrial fire-extinguishing system is required when performing design, installation, inspection/testing or maintenance on kitchen suppression systems.

**904.1.1 (Effective July 1, 2024) Certification of personnel for alternative fire-extinguishing equipment.** Personnel performing system design, installation, maintenance, programming or testing on automatic fire-extinguishing systems, other than automatic sprinkler systems, shall possess the appropriate National Institute for Certification in Engineering Technologies (NICET) *Special Hazards Suppression Systems* certification.

EXCEPTION: A current ICC/NAFED certification for preengineered kitchen fire extinguishing system technician is allowed in lieu of NICET Level II or higher in *Special Hazards Suppression Systems* for the design, installation, inspection/testing or maintenance on preengineered kitchen suppression systems.

**904.1.1.1 (Effective July 1, 2024) Design.** All construction documents shall be reviewed by a NICET Level III in special hazard suppression systems or a licensed professional engineer (PE) in the state of 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 *fire code official* indicating the system has been reviewed and meets or exceeds the design requirements of the state of Washington and the local jurisdiction.

**904.1.1.2 (Effective July 1, 2024) Installation.** Installation not defined as "electrical construction trade" by chapter 19.28 RCW or "Fire Protection Sprinkler Fitting" by chapter 18.270 RCW, shall be completed by or directly supervised by a NICET Level II or higher in *special hazards suppression systems*. Supervision shall consist of a person being on the same job site and under the control of a NICET Level II or higher in *special hazards suppression systems*.

**904.1.1.3 (Effective July 1, 2024) Testing/maintenance.** Inspection, testing, commissioning, maintenance, and programming not defined as "electrical construction trade" by chapter 19.28 RCW or "Fire Protection Sprinkler Fitting" by chapter 18.270 RCW, shall be completed by a NICET Level II or higher in *special hazards suppression systems*.

**904.13 Commercial cooking systems.** The automatic fire-extinguishing system for commercial cooking systems shall be of a type recognized for protection of commercial cooking equipment and exhaust systems of the type and arrangement protected. Preengineered automatic dry- and wet-chemical extinguishing systems shall be tested in accordance with UL 300 and *listed* and *labeled* for the intended application. Other types of automatic fire-extinguishing systems shall be *listed* and *labeled* for specific use as protection for commercial cooking operations. The system shall be installed in accordance with this code, NFPA 96, its listing and the manufacturer's installation instructions. Additional protection is not required for ductwork beyond 75 feet

(22,860 mm) when hood suppression system complies with UL 300. Signage shall be provided on the exhaust hood or system cabinet, indicating the type and arrangement of cooking appliances protected by the automatic fire-extinguishing system. Signage shall indicate appliances from left to right, be durable, and the size, color, and lettering shall be approved. Automatic fire-extinguishing systems of the following types shall be installed in accordance with the referenced standard indicated, as follows:

1. Carbon dioxide extinguishing systems, NFPA 12.
2. Automatic sprinkler systems, NFPA 13.
3. Automatic water mist systems, NFPA 750.
4. Foam-water sprinkler system or foam-water spray systems, NFPA 16.
5. Dry-chemical extinguishing systems, NFPA 17.
6. Wet-chemical extinguishing systems, NFPA 17A.

EXCEPTIONS:

1. Factory-built commercial cooking recirculating systems that are tested in accordance with UL 710B and listed, labeled and installed in accordance with Section 304.1 of the *International Mechanical Code*.
2. Protection of duct systems beyond 75 feet (22,860 mm) when the commercial kitchen exhaust hood is protected by a system listed in accordance with UL 300.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-0904, filed 6/14/22 and 6/7/23, effective 10/29/23; WSR 19-24-058, § 51-54A-0904, filed 11/27/19, effective 7/1/20; WSR 16-03-055, § 51-54A-0904, filed 1/16/16, effective 7/1/16.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107 [21-04-003], filed 6/14/22 and 6/7/23 [1/20/21], effective 10/29/23 [2/20/21])

**WAC 51-54A-0907 Fire alarm and detection systems.**

**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 is not required in Group E occupancies with an occupant load of 50 or less.
2. Emergency voice/alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be required in Group E occupancies with occupant loads of 100 or less, 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 are not 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 dusts or vapors are protected by heat detectors or other approved detection devices.
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.

**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.

**907.2.6.1 Group I-1.** An automatic smoke detection system shall be installed in *corridors*, waiting areas open to *corridors* and *habitable spaces* other than *sleeping units* and kitchens. The system shall be activated in accordance with Section 907.4.

## EXCEPTIONS:

1. For Group I-1 Condition 1 occupancies, smoke detection in *habitable spaces* is not required where the facility is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1.
2. Smoke detection is not required for exterior balconies.

**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 420.13 of the *International Building Code*.
  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.

**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 420.13 of the International Building Code.

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.

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

**907.8.4.1 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 or ESA/NTS Certified Fire Alarm Technician (CFAT) Level II Fire in fire alarms (effective July 1, 2018).

**907.11 NICET: National Institute for Certification in Engineering Technologies and ESA/NTS: Electronic Security Association/National Training School.**

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

**907.11.2 Design review:** All construction documents shall be reviewed by a NICET III, an ESA/NTS Certified Fire Alarm Designer (CFAD) Level III Fire 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).

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-0907, filed 6/14/22 and 6/7/23, effective 10/29/23; WSR 21-04-003, § 51-54A-0907, filed 1/20/21, effective 2/20/21; WSR 20-01-162, § 51-54A-0907, filed 12/18/19, effective 7/1/20. Statutory Authority: RCW 19.27.031, 19.27.074 and chapter 19.27 RCW. WSR 19-02-086, § 51-54A-0907, filed 1/2/19, effective 7/1/19. Statutory Authority: RCW 19.27.074 and 19.27.550. WSR 18-01-104, § 51-54A-0907, filed 12/19/17, effective 7/1/18. Statutory Authority: Chapter 19.27 RCW and RCW 19.27.031. WSR 17-10-028, § 51-54A-0907, filed 4/25/17, effective 5/26/17. Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 16-03-055, § 51-54A-0907, filed 1/16/16, effective 7/1/16. Statutory Authority: RCW 19.27.074, 19.27.020, and 19.27.031. WSR 14-24-091, § 51-54A-0907, filed 12/1/14, effective 5/1/15. Statutory Authority: RCW 19.27A.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-063, § 51-54A-0907, filed 2/1/13, effective 7/1/13.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107, filed 6/14/22 and 6/7/23, effective 10/29/23)

**WAC 51-54A-1003 General means of egress.**

**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 systems in accordance with Section 4901.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-1003, filed 6/14/22 and 6/7/23, effective 10/29/23.]

**Reviser's note:** The above section was filed as a new section; however, this section will not come into effect as a new section until October 29, 2023.

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107, filed 6/14/22 and 6/7/23, effective 10/29/23)

**WAC 51-54A-1006 Number of exits and exit access doorways.**

**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 of the *International Building Code*.  
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 4901.

**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.

**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.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-1006, filed 6/14/22 and 6/7/23, effective 10/29/23.]

**Reviser's note:** The above section was filed as a new section; however, this section will not come into effect as a new section until October 29, 2023.

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107 [21-04-003], filed 6/14/22 and 6/7/23 [1/20/21], effective 10/29/23 [2/20/21])

**WAC 51-54A-1010 Doors, gates and turnstiles.**

**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. 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:
  - 2.1. The locking device is readily distinguishable as locked;
  - 2.2. A readily visible sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background; and
  - 2.3. The use of the key-operated locking device is revocable by the building official for due cause.
3. 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.
4. 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.
5. Fire doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with listed fire door test procedures.
6. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the building from the roof.
7. Approved, listed locks without delayed egress shall be permitted in Group I-1 condition 2 assisted living facilities licensed under chapter 388-78A WAC and Group I-1 Condition 2 residential treatment facilities licensed under chapter 246-337 WAC by the state of Washington, provided that:
  - 7.1. The clinical needs of one or more patients require specialized security measures for their safety.
  - 7.2. The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.

7.3. The doors unlock upon loss of electrical power controlling the lock or lock mechanism.

7.4. The lock shall be capable of being deactivated by a signal from a switch located in an approved location.

7.5. 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~~) 6 feet of the door.

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 occupant load of the occupied exterior area shall not exceed 300 as determined by IBC Section 1004.

8.2. The maximum occupant load shall be posted where required by Section 1004.9. Such sign shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the exit access doorways.

8.3. 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.

8.4. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.

8.5. A clear window or glazed door opening, not less than 5 square feet (0.46 m<sup>2</sup>) (~~sq. ft.~~) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.

8.6. 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.

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.

**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 or heat 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 doors shall unlock on actuation of the automatic sprinkler system or automatic smoke detection system.

2. The door 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 cen-



ter, 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)~~) 6 feet of the door.

7. All clinical staff shall have the keys, codes or other means necessary to operate the locking systems.

8. Emergency lighting shall be provided at the door.

9. 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 where persons, which because of clinical needs, require restraint or containment as part of the function of a psychiatric treatment area.
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.

**1010.3.4 Security grilles.** In Groups B, F, M and S, horizontal sliding or vertical security grilles are permitted at the main exit and shall be openable from the inside without the use of a key or special knowledge or effort during periods that the space is occupied. The grilles shall remain secured in the full-open position during the period of occupancy by the general public. Where two or more exits or access to exits are required, not more than one-half of the exits or exit access doorways shall be equipped with horizontal sliding or vertical security grilles.

**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 (813 mm), 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.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-1010, filed 6/14/22 and 6/7/23, effective 10/29/23; WSR 21-04-003, § 51-54A-1010, filed 1/20/21, effective 2/20/21; WSR 19-24-058, § 51-54A-1010, filed 11/27/19, effective 7/1/20; WSR 16-03-055, § 51-54A-1010, filed 1/16/16, effective 7/1/16. Statutory Authority: RCW 19.27A.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-063, § 51-54A-1010, filed 2/1/13, effective 7/1/13.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

NEW SECTION

**WAC 51-54A-1014 Section 1014—Handrails.**

**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).

[ ]

NEW SECTION

**WAC 51-54A-1015 Section 1015—Guards.**

**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:

- Guards* are not required for the following locations:
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.
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.

[ ]

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107, filed 6/14/22 and 6/7/23, effective 10/29/23)

**WAC 51-54A-1017 Exit access travel distance.**

**Table 1017.2  
Exit Access Travel Distance<sup>a</sup>**

Occupancy	Without Sprinkler System (feet)	With Sprinkler System (feet)
A, E, F-1, M, R, S-1	200 <sup>c</sup>	250 <sup>b</sup>
I-1	Not Permitted	250 <sup>b</sup>
B	200	300 <sup>c</sup>
F-2, S-2, U	300	400 <sup>c</sup>
H-1	Not Permitted	75 <sup>d</sup>
H-2	Not Permitted	100 <sup>d</sup>
H-3	Not Permitted	150 <sup>d</sup>
H-4	Not Permitted	175 <sup>d</sup>
H-5	Not Permitted	200 <sup>c</sup>
<del>(I-Z)</del> I-2, I-3	Not Permitted	200 <sup>c</sup>
I-4	150	200 <sup>c</sup>

For SI: 1 foot = 304.8 mm.

<sup>a</sup> See the following sections for modifications to exit access travel distance requirements:

- Section 402.8 of the *International Building Code*: For the distance limitation in malls.

- Section 407.4 of the *International Building Code*: For the distance limitation in Group I-2.
- Sections 408.6.1 and 408.8.1 of the *International Building Code*: For the distance limitations in Group I-3.
- Section 411.2 of the *International Building Code*: For the distance limitation in special amusement areas.
- Section 412.6 of the *International Building Code*: 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 of the *International Building Code*: For temporary structures.
- Section 3104.9 of the *International Building Code*: For pedestrian walkways.
- Section 4901: 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.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-1017, filed 6/14/22 and 6/7/23, effective 10/29/23.]

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AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107, filed 6/14/22 and 6/7/23, effective 10/29/23)

**WAC 51-54A-1019 ((Section 1019 Exit access stairways and ramps-)) Reserved.**

~~((1019.3 Occupancies other than Groups I-2 and I-3. In other than Groups I-2 and I-3 occupancies, floor openings containing exit access stairways or ramps shall be enclosed with a shaft enclosure constructed in accordance with Section 713 of the *International Building Code*.~~

EXCEPTIONS:

1. Exit access stairways and ramps that serve or atmospherically communicate between only two stories. Such interconnected stories shall not be open to other stories.
2. In Group R-1, R-2, or R-3 occupancies, exit access stairways and ramps connecting four stories or less serving and contained within an individual dwelling unit or sleeping unit or live/work unit.
3. Exit access stairways serving and contained within a Group R-3 congregate residence are not required to be enclosed.
4. Exit access stairways and ramps in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, where the area of the vertical opening between stories does not exceed twice the horizontal projected area of the stairway or ramp and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Group B and M occupancies, this provision is limited to openings that do not connect more than four stories.
5. Exit access stairways and ramps within an atrium complying with the provisions of Section 404 of the *International Building Code*.
6. Exit access stairways and ramps in open parking garages that serve only the parking garage.
7. Exit access stairways and ramps serving smoke-protected or open-air assembly seating complying with the exit access travel distance requirements of Section 1030.7.
8. Exit access stairways and ramps between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, places of religious worship, auditoriums, and sports facilities.
9. Exterior exit access stairways or ramps between occupied roofs.)

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-1019, filed 6/14/22 and 6/7/23, effective 10/29/23.]

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**WAC 51-54A-1104 Means of egress for existing buildings.**

**1104.1 General.** Means of egress in existing buildings shall comply with Section ((1031)) 1032 and 1104.2 through 1104.25.

EXCEPTION: Means of egress conforming to the requirements of the building code under which they were constructed and Section ((1031)) 1032 shall not be required to comply with 1104.2 through 1104.22 and 1104.25.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-1104, filed 6/14/22 and 6/7/23, effective 10/29/23; WSR 16-05-065, § 51-54A-1104, filed 2/12/16, effective 7/1/16. Statutory Authority: RCW 19.27A.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-063, § 51-54A-1104, filed 2/1/13, effective 7/1/13.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107, filed 6/14/22 and 6/7/23, effective 10/29/23)

**WAC 51-54A-1205 Section 1205—Solar photovoltaic power systems.**

**1205.1 General.** Installation, modification, or alteration of solar photovoltaic power systems shall comply with this section. Due to the emerging technologies in the solar photovoltaic industry, it is understood fire code officials may need to amend prescriptive requirements of this section to meet the requirements for firefighter access and product installations. Section 104.10 Alternative materials and methods of this code shall be considered when approving the installation of solar photovoltaic power systems. Solar photovoltaic power systems shall be installed in accordance with Sections 1205.2.1 through 1205.6, the *International Building Code*, and chapter 19.28 RCW.

**1205.2.1 Solar photovoltaic systems for Group R-3 residential and buildings built under the *International Residential Code*.** Solar photovoltaic systems for Group R-3 residential and buildings built under the *International Residential Code* shall comply with Sections 1205.2.1.1 through ((1205.2.1.3)) 1205.2.3.

EXCEPTIONS:

1. Residential dwellings with an approved automatic fire sprinkler system installed.
2. Residential dwellings with approved mechanical or passive ventilation systems.
3. Where the fire code official determines that the slope of the roof is too steep for emergency access.
4. Where the fire code official determines that vertical ventilation tactics will not be utilized.
5. These requirements shall not apply to roofs where the total combined area of the solar array does not exceed 33 percent as measured in plan view of the total roof area of the structure, where the solar array will measure 1,000 sq. ft. or less in area, and where a minimum 18 inches unobstructed pathway shall be maintained along each side of any horizontal ridge.

**1205.6 Size of solar photovoltaic array.**

1. Each photovoltaic array shall be limited to 150 feet (45,720 mm) by 150 feet (45,720 mm). Multiple arrays shall be separated by a 3-foot wide (914 mm) clear access pathway.

2. Panels/modules shall be located up to the roof ridge where an alternative ventilation method approved by the fire code official has determined vertical ventilation techniques will not be employed.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-1205, filed 6/14/22 and 6/7/23, effective 10/29/23.]

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AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107, filed 6/14/22 and 6/7/23, effective 10/29/23)

**WAC 51-54A-3303 Administrative safety controls.**

**3303.1.1 Components of site safety plans.** Site safety plans shall include the following as applicable:

1. Name and contact information of site safety director.
2. Documentation of the training of the site safety director and fire watch personnel.
3. Procedures for reporting emergencies.
4. Fire department vehicle access routes.
5. Location of fire protection equipment, including portable fire extinguishers, standpipes, fire department connections, and fire hydrants.
6. Smoking and cooking policies, designated areas to be used where approved, and signage locations in accordance with Section 3305.7.
7. Location and safety considerations for temporary heating equipment.
8. Hot work permit plan.
9. Plans for control of combustible waste material.
10. Locations and methods for storage and use of flammable and combustible liquids and other hazardous materials.
11. Provisions for site security.
12. Changes that affect this plan.
13. Other site-specific information required by the fire code official.

**3303.2.1 Training.** Training of fire watch and other responsible personnel in the use of fire protection equipment shall be the responsibility of the site safety director. Records of training shall be kept and made a part of the written plan for the site safety plan.

**3303.3 Daily fire safety inspection.** The site safety director shall be responsible for completion of a daily fire safety inspection at the project site. Each day, all building and outdoor areas shall be inspected to ensure compliance with the inspection list in this section. The results of each inspection shall be documented and maintained on-site until a certificate of occupancy has been issued. Documentation shall be immediately available on-site for presentation to the fire code official upon request.

1. Any contractors entering the site to perform hot work each day have been instructed in the hot work safety requirements in Chapter 35, and hot work is performed only in areas approved by the site safety director.
2. Temporary heating equipment is maintained away from combustible materials in accordance with the equipment manufacturer's instructions.
3. Combustible debris, rubbish and waste material is removed from the building in areas where work is not being performed.
4. Temporary wiring does not have exposed conductors.
5. Flammable liquids and other hazardous materials are stored in locations that have been approved by the site safety director when not involved in work that is being performed.
6. Fire apparatus access roads required by Section 3307 are maintained clear of obstructions that reduce the width of the usable roadway to less than 20 feet (6096 mm).

7. Fire hydrants are clearly visible from access roads and are not obstructed.

8. The location of fire department connections to standpipe and in-service sprinkler systems are clearly identifiable from the access road and such connections are not obstructed.

9. Standpipe systems are in service and continuous to the highest work floor, as specified in Section 3307.5.

10. Portable fire extinguishers are available in locations required by Sections 3306.6 and 3305.10.2.

**3303.5 Fire watch.** Where required by the *fire code official* or the site safety plan established in accordance with Section 3303.1, a fire watch shall be provided for building demolition and for building construction.

EXCEPTION: New construction that is built under the IRC.

**3303.5.1 Fire watch during construction.** 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 at any point along the building perimeter, for new multistory construction with an aggregate area exceeding 50,000 square feet (4645 m<sup>2</sup>) per story or as required by the fire code official.

**3303.5.2 Fire watch personnel.** Fire watch personnel shall be provided in accordance with this section.

**3303.5.2.1 Duties.** The primary duty of fire watch personnel shall be to perform constant patrols and watch for the occurrence of fire. The combination of fire watch duties and site security duties is acceptable.

**3303.5.2.2 Training.** Personnel shall be trained to serve as an on-site fire watch. Training shall include the use of portable fire extinguishers. Fire extinguishers and fire reporting shall be in accordance with Sections 3303.6 and 3306.6.

**3303.5.2.3 Means of notification.** Fire watch personnel shall be provided with not fewer than one approved means for notifying the fire department.

**3303.5.3 Fire watch location and records.** The fire watch shall include areas specified by the site safety plan established in accordance with Section 3303.

**3303.5.4 Fire watch records.** Fire watch personnel shall keep a record of all time periods of duty, including the log entry for each time the site was patrolled and each time a structure was entered and inspected. Records shall be made available for review by the fire code official upon request.

**3303.6 Emergency telephone.** Emergency telephone facilities with ready access shall be provided in an approved location at the construction site, or an approved equivalent means of communication shall be provided. The street address of the construction site and the emergency telephone number of the fire department shall be posted adjacent to the telephone. Alternatively, where an equivalent means of communication has been approved, the site address and fire department emergency telephone number shall be posted at the main entrance to the site, in guard shacks, and in the construction site office.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-3303, filed 6/14/22 and 6/7/23, effective 10/29/23.]

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AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107 [19-24-058], filed 6/14/22 and 6/7/23 [11/27/19], effective 10/29/23 [7/1/20])

**WAC 51-54A-3304 ((Precautions against fire.)) Protection of combustible materials.**

**3304.1 Combustible debris, rubbish, and waste.** Combustible debris, rubbish, and waste material shall comply with the requirements of Sections 3304.1.1 through 3304.2.

**3304.1.1 Combustible waste material accumulation.** Combustible debris, rubbish, and waste material shall not be accumulated within buildings.

**3304.1.2 Combustible waste material removal.** Combustible debris, rubbish, and waste material shall be removed from buildings at the end of each shift of work.

**3304.1.3 Rubbish containers.** Where rubbish containers with a capacity exceeding 5.33 cubic feet (40 gallons) (0.15 m) are used for temporary storage of combustible debris, rubbish, and waste material, they shall have tight-fitting or self-closing lids. Such rubbish containers shall be constructed entirely of materials that comply with either of the following:

1. Noncombustible materials.
2. Materials that meet a peak rate of heat release not exceeding 300 kW/m when tested in accordance with ASTM E1354 at an incident heat flux of 50 kW/m in the horizontal orientation.

**3304.2 Spontaneous ignition.** Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in a listed disposal container.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-3304, filed 6/14/22 and 6/7/23, effective 10/29/23; WSR 19-24-058, § 51-54A-3304, filed 11/27/19, effective 7/1/20.]

**Reviser's note:** The bracketed material preceding the section above was supplied by the code reviser's office.

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107, filed 6/14/22 and 6/7/23, effective 10/29/23)

**WAC 51-54A-3305 Ignition source controls.**

**3305.1 Listed.** Temporary heating devices shall be listed and labeled. The installation, maintenance and use of temporary heating devices shall be in accordance with the listing and the manufacturer's instructions.



**3305.1.1 Oil-fired heaters.** Oil-fired heaters shall comply with Section 605.

**3305.1.2 LP-gas heaters.** Fuel supplies for liquefied-petroleum gas-fired heaters shall comply with Chapter 61 and the International Fuel Gas Code.

**3305.1.3 Refueling.** Refueling operations for liquid-fueled equipment or appliances shall be conducted in accordance with Section 5705. The equipment or appliance shall be allowed to cool prior to refueling.

**3305.1.4 Installation.** Clearance to combustibles from temporary heating devices shall be maintained in accordance with the labeled equipment. When in operation, temporary heating devices shall be fixed in place and protected from damage, dislodgement or overturning in accordance with the manufacturer's instructions.

**3305.1.5 Supervision.** The use of temporary heating devices shall be supervised and maintained only by competent personnel.

**3305.2 Smoking.** Smoking shall be prohibited except in approved areas. Signs shall be posted in accordance with Section 310. In approved areas where smoking is permitted, approved ashtrays shall be provided in accordance with Section 310.

**3305.5 Cutting and welding.** Welding, cutting, open torches and other hot work operations and equipment shall comply with Chapter 35.

**3305.6 Electrical.** Temporary wiring for electrical power and lighting installations used in connection with the construction, alteration or demolition of buildings, structures, equipment or similar activities shall comply with NFPA 70.

**3305.7 Cooking.** Cooking shall be prohibited except in approved designated cooking areas separated from combustible materials by a minimum of 10 feet (3048 mm). Signs with a minimum letter height of 3 inches (76 mm) and a minimum brush stroke of ~~((one-half))~~ 1/2 inch (13 mm) shall be posted in conspicuous locations in designated cooking areas and state:

~~((Designated cooking area;  
Cooking outside of a designated area;  
Cooking area is prohibited.))~~

DESIGNATED COOKING AREA  
COOKING OUTSIDE OF A DESIGNATED  
COOKING AREA IS PROHIBITED

**3305.8 ((General)) Portable generators.** Portable generators used at construction and demolition sites shall comply with Section 1204.

**3305.9 Hot work operations.** The site safety director shall ensure hot work operations and permit procedures are in accordance with Chapter 35.

**3305.10 Safeguarding roof operations general.** Roofing operations utilizing heat-producing systems or other ignition sources shall be conducted in accordance with Sections 3305.10.1 and 3305.10.2 and Chapter 35.

**3305.10.1 Asphalt and tar kettles.** Asphalt and tar kettles shall be operated in accordance with Section 303.

**3305.10.2 Fire extinguishers for roofing operations.** Fire extinguishers shall comply with Section 906. There shall be not less than one multiple-purpose portable fire extinguisher with a minimum 3-A 40-B:C rating on the roof being covered or repaired.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-3305, filed 6/14/22 and 6/7/23, effective 10/29/23.]

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AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107, filed 6/14/22 and 6/7/23, effective 10/29/23)

**WAC 51-54A-3307 Fire department site access and water supply.**

**3307.1 Required access.** Approved vehicle access for fire fighting shall be provided to all construction or demolition sites. Vehicle access shall be provided to within 100 feet (30,480 mm) of temporary or permanent fire department connections. Vehicle access shall be provided by either temporary or permanent roads, capable of supporting vehicle loading under all weather conditions. Vehicle access shall be maintained until permanent fire apparatus access roads are available.

~~((3307.1.2))~~ **3307.1.1 Key boxes.** Key boxes shall be provided as required by Chapter 5.

~~((3307.1.3))~~ **3307.1.2 Stairways required.** Where building construction exceeds 40 feet (12,192 mm) in height above the lowest level of fire department vehicle access, a temporary or permanent stairway shall be provided. As construction progresses, such stairway shall be extended to within one floor of the highest point of construction having secured decking or flooring.

~~((3307.1.4))~~ **3307.1.3 Maintenance.** Required means of egress and required accessible means of egress shall be maintained during construction and demolition, remodeling or alterations and additions to any building.

EXEMPTION: Approved temporary means of egress and accessible means of egress systems and facilities.

**3307.2 Water supply for fire protection.** An approved water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible building materials arrive on the site, on commencement of vertical combustible construction and on installation of a standpipe system in buildings under construction, in accordance with Sections 3307.2.1 through 3307.4.

EXCEPTION: The fire code official is authorized to reduce the fire-flow requirements for isolated buildings or a group of buildings in rural areas or small communities where the development of full fire-flow requirements is impractical.

**3307.2.1 Combustible building materials.** When combustible building materials of the building under construction are delivered to a site, a minimum fire flow of 500 gallons per minute (1893 L/m) shall be provided. The fire hydrant used to provide this fire-flow supply shall be within 500 feet (152 m) of the combustible building materials, as measured along an approved fire apparatus access lane. Where the site configuration is such that one fire hydrant cannot be located within 500 feet (152 m) of all combustible building materials, additional

fire hydrants shall be required to provide coverage in accordance with this section.

**3307.2.2 Vertical construction of Types III, IV, and V construction.**

Prior to commencement of vertical construction of Type III, IV, or V buildings that utilize any combustible building materials, the fire flow required by Sections 3307.2.2.1 through 3307.2.2.3 shall be provided, accompanied by fire hydrants in sufficient quantity to deliver the required fire flow and proper coverage.

**3307.2.2.1 Fire separation up to 30 feet.** Where a building of Type III, IV, or V construction has a fire separation distance of less than 30 feet (9144 mm) from property lot lines, and an adjacent property has an existing structure or otherwise can be built on, the water supply shall provide either a minimum of 500 gallons per minute (1893 L/m) or the entire fire flow required for the building when constructed, whichever is greater.

**3307.2.2.2 Fire separation of 30 feet up to 60 feet.** Where a building of Type III, IV, or V construction has a fire separation distance of 30 feet (9144 mm) up to 60 feet (18,288 mm) from property lot lines, and an adjacent property has an existing structure or otherwise can be built on, the water supply shall provide a minimum of 500 gallons per minute (1893 L/m) or 50 percent of the fire flow required for the building when constructed, whichever is greater.

**3307.2.2.3 Fire separation of 60 feet or greater.** Where a building of Type III, IV, or V construction has a fire separation of 60 feet (18,288 mm) or greater from a property lot line, a water supply of 500 gallons per minute (1893 L/m) shall be provided.

**3307.3 Vertical construction, Type I and II construction.** If combustible building materials are delivered to the construction site, water supply in accordance with Section 3307.2.1 shall be provided. Additional water supply for fire flow is not required prior to commencing vertical construction of Type I and II buildings.

**3307.4 Standpipe supply.** Regardless of the presence of combustible building materials, the construction type or the fire separation distance, where a standpipe is required in accordance with Section 3307, a water supply providing a minimum flow of 500 gallons per minute (1893 L/m) shall be provided. The fire hydrant used for this water supply shall be located within 100 feet (30,480 mm) of the fire department connection supplying the standpipe.

**3307.5 Standpipes.** In buildings required to have standpipes by Section 905.3.1, not less than one standpipe shall be provided for use during construction. Such standpipes shall be installed prior to construction exceeding 40 feet (12,192 mm) in height above the lowest level of fire department vehicle access. Such standpipes shall be provided with fire department hose connections at locations adjacent to stairways complying with Section 3307.1.3. As construction progresses, such standpipes shall be extended to within one floor of the highest point of construction having secured decking or flooring.

**3307.5.1 Buildings being demolished.** Where a building is being demolished and a standpipe is existing within such a building, such standpipe shall be maintained in an operable condition so as to be available for use by the fire department. Such standpipe shall be demolished with the building but shall not be demolished more than one floor below the floor being demolished.

**3307.5.2 Detailed requirements.** Standpipes shall be installed in accordance with the provisions of Section 905.

EXCEPTION: Standpipes shall be either temporary or permanent in nature, and with or without a water supply, provided that such standpipes comply with the requirements of Section 905 as to capacity, outlets, and materials.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-3307, filed 6/14/22 and 6/7/23, effective 10/29/23.]

**Reviser's note:** The above section was filed as a new section; however, this section will not come into effect as a new section until October 29, 2023.

NEW SECTION

**WAC 51-54A-3313 Water supply for fire protection.** This section is not adopted.

[]

NEW SECTION

**WAC 51-54A-3314 Standpipes.** This section is not adopted.

[]

NEW SECTION

**WAC 51-54A-3315 Automatic sprinkler system.** This section is not adopted.

[]

NEW SECTION

**WAC 51-54A-3316 Portable fire extinguishers.** This section is not adopted.

[]

NEW SECTION

**WAC 51-54A-3317 Motorized construction equipment.** This section is not adopted.

[]

NEW SECTION

**WAC 51-54A-3318 Safeguarding roofing operations.** This section is not adopted.

[ ]

AMENDATORY SECTION (Amending WSR 22-13-093 and 23-12-107, filed 6/14/22 and 6/7/23, effective 10/29/23)

**WAC 51-54A-4900 Fixed guideway transit and passenger rail systems.**

**((4901.1)) 4901 Scope NFPA 130.**

**4901.1 General.** Fixed guideway transit and passenger rail systems shall be in accordance with NFPA 130, as modified below.

**4901.2 NFPA 130 Section 3.3.44.2.** Add new definition as follows:

**3.3.44.2 Traction power sub station (TPSS):** A TPSS is an electrical substation consisting of switchgear transformers/rectifiers, emergency trip equipment, and other systems that converts AC electric power provided by the electrical power industry for public utility service to DC voltage to supply light rail vehicles with traction current.

**4901.3 NFPA 130 Section 5.4.4** Modify NFPA 130 Sections 5.4.4.1 and 5.4.4.1.1 to read as follows:

**5.4.4.1** An automatic sprinkler system shall be provided throughout enclosed stations.

EXCEPTIONS:

1. Traction power substation (TPSS) when located in a transformer vault designed in accordance with the NFPA 70.
2. Other high voltage equipment located in a transformer vault designed in accordance with the NFPA 70 when approved by the fire code official.
3. Fire command centers, communication room(s), and signal rooms when protected with clean agent fire suppression and separated from other spaces with ~~((two))~~ 2-hour fire rated construction.
4. Other operational critical rooms when protected with clean agent fire suppression and separated from other spaces with ~~((two))~~ 2-hour fire rated construction, when approved by the fire code official.

**5.4.4.1.1** An automatic sprinkler system shall be provided in areas of open stations used for concessions, markets, storage areas and similar areas with combustible loadings, and in trash rooms, electrical rooms, mechanical rooms, machinery rooms, communication rooms, and other enclosed rooms.

EXCEPTIONS:

1. Stations at grade with less than 1,500 sq. ft. of ancillary area/ancillary space.
2. Fire command centers, communication room(s), and signal rooms when protected with clean agent fire suppression and separated from other spaces with ~~((two))~~ 2-hour fire rated construction.
3. Other operational critical rooms when protected with clean agent fire suppression and separated from other spaces with ~~((two))~~ 2-hour fire rated construction, when approved by the fire code official.

**5.4.4.2** Sprinkler protection shall be permitted to be omitted in areas of open stations separated from the station by a distance of 20 feet.

**4901.4 NFPA 130 Section 5.4.5.** Modify NFPA 130 Sections 5.4.5.1 as follows:

**5.4.5.1** Class I standpipes shall be installed in enclosed stations in accordance with International Fire Code Section 905 except as modified herein.

**4901.5 NFPA 130 Section 5.4.6.** Modify NFPA 130 Sections 5.4.6 as follows:

**5.4.6** Portable fire extinguishers in such number, size, type, and location in accordance with the International Fire Code Section 906.

**5.4.6.1** Portable fire extinguishers are not required in public areas of at-grade stations.

~~((**4901.6 NFPA 130 Section 5.4.7.** Modify NFPA 130 Section 5.4.7 as follows:~~

~~**5.4.7** Emergency ventilation shall be provided in enclosed stations in accordance with Chapter 7 and the International Building Code Section 909.))~~

**4901.6 NFPA 130 Section 5.2.2.** Modify NFPA 130 Section 5.2.2.2 as follows:

**5.2.2.2** Construction types shall conform to the requirements in the International Building Code, 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 International Building Code.

**4901.7 NFPA 130 Section 5.2.2.** Modify NFPA 130 Section 5.2.4.3 as follows:

**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 International Building Code and in accordance with ASTM E119 and ANSI/UL 263.

**4901.8 NFPA 130 Section 5.2.5.** Modify NFPA 130 Section 5.2.5.4 as follows:

**5.2.5.4** Materials used as interior finish in open stations shall comply with the requirements of the International Building Code, Chapter 8.

**4901.9 NFPA 130 Section 5.3.1.** Modify NFPA 130 Section 5.3.1.1 as follows:

**5.3.1.1** The provisions for means of egress for a station shall comply with the International Building Code, Chapter 10, except as herein modified.

**4901.10 NFPA 130 Section 5.3.2.** Add a New Section to NFPA 130 Section 5.3.2.2.1 as follows:

**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)) alternative to account for peak ridership associated with major events.

**4901.11 NFPA 130 Section 5.3.4.** Modify NFPA 130 Section 5.3.2.4(1) as follows:

(1) The occupant load for that area shall be determined in accordance with the provisions of the International Building Code as appropriate for the use.

**4901.12 NFPA 130 Section 5.3.3.** Modify NFPA 130 Section 5.3.3.4 as follows:

**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.).

**4901.13 NFPA 130 Section 5.3.5.** Modify NFPA 130 Section 5.3.5.3(2) as follows:

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

**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 NFPA 101 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.).

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

**4901.14 NFPA 130 Section 5.3.5.** Delete NFPA 130 Section 5.3.5.5.

**4901.15 NFPA 130 Section 5.3.7.** Modify NFPA 130 Section 5.3.7 as follows:

**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 biparting multileaf doors and gates measured for the clear width dimension.

**5.3.7.2.1** Security grilles are allowed when designed and operated in accordance with the International Building Code.

**4901.16 NFPA 130 Section 5.3.9.** Modify NFPA 130 Section 5.3.9 as follows:

**5.3.9\* Horizontal exits.** Horizontal exits shall comply with the International Building Code Section 1026.

**4901.17 NFPA 130 Section 5.3.11.** Modify NFPA 130 Section 5.3.11 as follows:

**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 the International Building Code 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 the International Building Code Section 1008.

**4901.18 NFPA 130 Section 5.4.7.** Modify NFPA 130 Section 5.4.7 as follows:

**5.4.7** Emergency ventilation shall be provided in enclosed stations in accordance with Chapter 7 and the International Building Code Section 909.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 22-13-093 and 23-12-107, § 51-54A-4900, filed 6/14/22 and 6/7/23, effective 10/29/23.]

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AMENDATORY SECTION (Amending WSR 20-01-162, filed 12/18/19, effective 7/1/20)

**WAC 51-54A-5306 Medical gas systems.**

**5306.1 General.** Compressed gases at hospitals and similar facilities intended for inhalation or sedation including, but not limited to, analgesia systems for dentistry, podiatry, veterinary and similar uses shall comply with Sections 5306.2 through (~~5306.4~~) 5306.5 in addition to other requirements of this chapter.

EXCEPTION: All new distribution piping, supply manifolds, connections, regulators, valves, alarms, sensors and associated equipment shall be in accordance with the Plumbing Code.

**5306.5 Medical gas systems.** The maintenance and testing of medical gas systems including, but not limited to, distribution piping, supply manifolds, connections, pressure regulators and relief devices and valves, shall comply with the maintenance and testing requirements of NFPA 99 and the general provisions of this chapter.

[Statutory Authority: RCW 19.27.031 and 19.27.074. WSR 20-01-162, § 51-54A-5306, filed 12/18/19, effective 7/1/20. Statutory Authority: RCW 19.27A.031, 19.27.074 and chapters 19.27 and 34.05 RCW. WSR 13-04-063, § 51-54A-5306, filed 2/1/13, effective 7/1/13.]



AMENDATORY SECTION (Amending WSR 21-13-023, filed 6/9/21, effective 7/10/21)

**WAC 51-54A-5707 Section ((5705)) 5707—On-demand mobile fueling operations.**

**5707.1 General.** On-demand mobile fueling operations that dispense Class I, II and III liquids into the fuel tanks of motor vehicles shall comply with Sections 5707.1 through 5707.6.6.

EXCEPTION: Fueling from an *approved* portable container in cases of an emergency or for personal use.

**5707.1.1 Approval required.** Mobile fueling operations shall not be conducted without first obtaining a *permit* and approval from the fire code official. Mobile fueling operations shall occur only at *approved* locations. The fire code official is authorized to *approve* individual locations or geographic areas where mobile fueling is allowed.

**5707.1.2 Coordination of permits.** *Permits* across multiple authorities having jurisdiction shall be coordinated in accordance with Sections 5707.1.2.1 through 5707.1.2.4.

**5707.1.2.1 Acceptance of permits issued by other authorities having jurisdiction.** Local authorities having jurisdiction that allow mobile on demand fueling trucks may accept conforming *permits* issued and/or inspections performed by any other local authorities having jurisdiction in Washington state. Local authorities having jurisdiction that choose to accept conforming *permits* issued by other local authorities having jurisdiction in Washington state retain the right to enforce the provisions of this section.

**5707.1.2.2 Local authorities having jurisdiction not offering operator or truck certification.** A conforming operator or vehicle *permit* issued by one local authority having jurisdiction shall be recognized and accepted by all local authorities having jurisdiction in Washington state, if those local authority having jurisdictions allow mobile on-demand fueling and do not offer such operator or truck certification. Under no circumstances will an issuing local authority having jurisdiction be expected to perform permissive inspections beyond their jurisdiction.

**5707.1.2.3 Commencing permit issuance.** When a local authority having jurisdiction that has previously authorized mobile fueling operations but not issued their own *permits* commences *permit* issuance for mobile fueling operations or vehicles, that local authority having jurisdiction shall continue to accept *permits* previously issued by another local authority having jurisdiction in Washington state for three months or until their expiration date, whichever is sooner.

**5707.1.2.4 Permit record maintenance.** Issuing local authorities having jurisdiction shall maintain a publicly available list of current *permits* or other information source to enable all parties to have information about whether *permits* are in good standing.

**5707.2 Mobile fueling vehicle.** An on-demand mobile fueling vehicle shall be utilized in on-demand fueling operations for the dispensing of Class I, II or III liquids into the fuel tanks of motor vehicles and shall comply with Sections 5707.2.1 and 5707.2.2.

**5707.2.1 Mobile fueling vehicle classifications.** An on-demand mobile fueling vehicle shall be classified as one of the following:

1. **Type 1 Mobile Fueling Vehicle** - A tank vehicle that complies with NFPA 385 and that has chassis-mounted tanks where the aggregate capacity does not exceed 1600 gallons (6057 L).

2. **Type 2 Mobile Fueling Vehicle** - A vehicle with one or more chassis-mounted tanks or chassis-mounted containers, not to exceed 110 gallons (415 L) capacity for each tank or container and having an aggregate capacity not exceeding 800 gallons (3028 L) or the weight capacity of the vehicle in accordance with DOTn.

3. **Type 3 Mobile Fueling Vehicle** - A vehicle that carries a maximum aggregate capacity of 60 gallons (227 L) of motor fuel in metal safety cans listed in accordance with UL 30 or other approved metal containers, each not to exceed 5 gallons (19 L) in capacity.

**5707.2.2 Mobile fueling vehicle requirements.** Each mobile fueling vehicle shall comply with all local, state and federal requirements, and the following:

1. Mobile fueling vehicles with a chassis-mounted tank in excess of 110 gallons (415 L) shall also comply with the requirements of Section 5706.6 and NFPA 385.

2. The mobile fueling vehicle and its equipment shall be maintained in good repair.

3. Safety cans and approved metal containers shall be secured to the mobile fueling vehicle except when in use.

4. Fueling a motor vehicle from tanks or containers mounted in a trailer connected to a mobile fueling vehicle shall be prohibited.

**5707.3 Required documents.** Documents developed to comply with Sections 5707.3.1 through 5707.3.3 shall be updated as necessary by the owner of the mobile fueling operation and shall be maintained in compliance with Section 108.3.

**5707.3.1 Safety and emergency response plan.** Mobile fueling operators shall have an approved written safety and emergency response plan that establishes policies and procedures for fire safety, spill prevention and control, personnel training and compliance with other applicable requirements of this code. The safety and emergency response plan shall specifically address and require that all operators assess surroundings prior to fueling to consider the presence of items listed in Section 5707.3.3.

**5707.3.2 Training records.** Mobile fueling vehicles shall be operated only by designated personnel who are trained on proper fueling procedures and the safety and emergency response plan. Training records of operators shall be maintained.

**5707.3.3 Site plan.** Where required by the fire code official, a site plan shall be developed for each location or area at which mobile fueling occurs. The site plan shall be in sufficient detail to indicate but not be limited to the following:

1. All buildings, structures.

2. Lot lines or property lines.

3. Electric car chargers.

4. Solar photovoltaic parking lot canopies.

5. Appurtenances on-site and their use or function.

6. All uses adjacent to the lot lines of the site.

7. Fueling locations.

8. Locations of all storm drain openings and adjacent waterways or wetlands.

9. Information regarding slope, natural drainage, curbing, and impounding.

10. How a spill will be kept on the site property.

11. Scale of the site plan.

**5707.3.4 Tiered sites.** Where a site permitting process is required by the local jurisdiction, a site shall be designated by the fire code official to be one of the following and based on local provisions as necessitated by zoning laws, environmental laws, public safety, and other characteristics.

**5707.3.4.1 Tier 1 sites.** Sites that do not present atypical geographic, safety or environmental concerns shall be provided expedited permitting review and shall allow *permit* issuance prior to site inspection. The fire code official may impose additional conditions and may perform a site inspection during the period of *permit* validity.

**5707.3.4.2 Tier 2 sites.** Sites that require an inspection shall be approved by the fire code official prior to *permit* issuance.

**5707.4 Mobile fueling areas.** During fueling, the mobile fueling vehicle and point of connection of the vehicle being fueled shall not be located on public streets, public ways or inside buildings. Fueling on the roof level of parking structures or other buildings is prohibited.

**5707.4.1 Separation.** During fueling, the point of connection of the vehicle being fueled shall not take place within 25 feet (7620 mm) of buildings, lot lines, property lines or combustible storage. Mobile fueling vehicles shall not park within 10 feet (3048 mm) of buildings, lot lines, property lines or combustible storage.

EXCEPTIONS:

1. The fire code official shall be authorized to decrease the separation distance for dispensing from metal safety cans or other *approved* metal containers in accordance with Section 5707.2.
2. The point of fueling shall not take place within 10 feet (3048 mm) of buildings, lot lines, property lines or combustible storage when the mobile fueling vehicle has an approved vapor recovery system or is servicing vehicles with on board refueling vapor recovery.

Where dispensing operations occur within 15 feet (4572 mm) of a storm drain, an *approved* storm drain cover or an *approved* equivalent method that will prevent any fuel from reaching the drain shall be used.

**5707.4.2 Sources of ignition.** Smoking, open flames and other sources of ignition shall be prohibited within 25 feet (7620 mm) of fuel dispensing activities. Signs prohibiting smoking or open flames within 25 feet (7620 mm) of the vehicle or the point of fueling shall be prominently posted on the mobile fueling vehicle. The engines of vehicles being fueled shall be shut off during fueling.

**5707.4.3 Electrical equipment.** Mobile fueling shall not occur within 20 feet of electrical equipment located within 18 inches of the ground unless such electrical equipment is rated for Class 1, Division 2 hazardous locations in accordance with NFPA 70.

**5707.5 Equipment.** Mobile fueling equipment shall comply with Sections 5707.5.1 through 5707.5.5.

**5707.5.1 Dispensing hoses and nozzles.** Where equipped, the dispensing hose shall not exceed 50 feet (15240 mm) in length. The dispensing nozzles and hoses shall be of an *approved* and *listed* type. Where metal-to-metal contact cannot be made between the nozzle and the fuel fill opening, then a means for bonding the mobile fueling vehicle to the motor vehicle shall be provided and employed during fueling operations.

**5707.5.2 Break-away device.** A listed break-away device shall be provided at the nozzle.

EXCEPTION: Mobile fueling vehicles equipped with an approved brake interlock tied to the nozzle holder that prohibits movement of the mobile fueling vehicle when the nozzle is removed from its holder or tied to the delivery of fuel that prevents activation of the pumping system.

**5707.5.3 Shut-off valve and fuel limit.** Mobile fueling vehicles shall be equipped with a *listed* shut-off valve assembly and a fuel limit switch set to a maximum of 30 gallons (116 L).

**5707.5.4 Fire extinguisher.** An *approved* portable fire extinguisher complying with Section 906 with a minimum rating of 4A:80-B:C shall be provided on the mobile fueling vehicle with signage clearly indicating its location.

**5707.5.5 Spill kit.** Mobile fueling vehicles shall contain a minimum 5 gallon (19 L) spill kit of an *approved* type.

**5707.6 Operations.** Mobile fueling vehicles shall be constantly attended during fueling operations with brakes set and warning lights in operation. Mobile fueling vehicles shall not obstruct emergency vehicle access roads.

**5707.6.1 Dispensing hose.** Where equipped, mobile fueling vehicles shall be positioned in a manner to preclude traffic from driving over the dispensing hose. The dispensing hose shall be properly placed on an *approved* reel or in an *approved* compartment prior to moving the mobile fueling vehicle.

**5707.6.2 Drip control.** Operators shall place a drip pan or an absorbent pillow under the nozzle and each fuel fill opening prior to and during dispensing operations to catch drips.

**5707.6.3 Safety cones.** Safety cones or other visual barriers shall be employed as warning devices to highlight the vehicle fueling area. Signs prohibiting smoking or open flames within 25 feet (7620 mm) shall be prominently posted in the vehicle fueling area.

**5707.6.4 Vehicle lights.** The mobile fueling vehicle flasher lights shall be in operation while dispensing operations are in progress.

**5707.6.5 Nighttime deliveries.** Nighttime deliveries shall only be made in areas adequately lighted per WAC 296-800-21005.

**5707.6.6 Spill reporting.** Spills shall be reported in accordance with Section 5003.3.1.

[Statutory Authority: RCW 19.27.077, 19.27.031 and 19.27.074. WSR 21-13-023, § 51-54A-5707, filed 6/9/21, effective 7/10/21.]

**WSR 23-15-059**  
**EXPEDITED RULES**  
**UTILITIES AND TRANSPORTATION**  
**COMMISSION**

[Filed July 14, 2023, 11:01 a.m.]

Title of Rule and Other Identifying Information: Expedited amendment of WAC 480-93-240.

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: Rule making to permanently amend WAC 480-93-240, amended by emergency rule making under WSR 23-15-057, effective July 14, 2023. The proposed amendment would allow the commission to continue to fund the pipeline safety program through accurate calculation of pipeline safety program fees without an offset in conflict with the relevant statutory authority.

Reasons Supporting Proposal: Prior to emergency amendment, WAC 480-93-240 conflicted with statutes prescribing the method of calculation of pipeline safety fees, resulting in underfunding of the pipeline safety fee program. The rule required the commission to offset pipeline safety fees by the total amount of penalties collected under RCW 19.122.055, but RCW 19.122.170 directs the commission to spend those penalty funds on education, not to fund the pipeline safety program. This rule making will allow the commission to continue to correctly calculate pipeline safety program fees.

Statutory Authority for Adoption: RCW 80.01.040, 81.01.010, 81.04.160, and 80.24.020.

Statute Being Implemented: Chapter 19.122 RCW.

Rule is not necessitated by federal law, federal or state court decision.

Name of Proponent: Washington utilities and transportation commission, governmental.

Name of Agency Personnel Responsible for Drafting: Gregory J. Kopta, 621 Woodland Square Loop S.E., Lacey, WA 98503, 360-664-1355; Implementation and Enforcement: Amanda Maxwell, 621 Woodland Square Loop S.E., Lacey, WA 98503, 360-664-1115.

This notice meets the following criteria to use the expedited adoption process for these rules:

Relates only to internal governmental operations that are not subject to violation by a person.

Corrects typographical errors, makes address or name changes, or clarifies language of a rule without changing its effect.

Content is explicitly and specifically dictated by statute.

Explanation of the Reason the Agency Believes the Expedited Rule-Making Process is Appropriate: The amended rule relates purely to the commission's internal calculations of regulatory fees, and is prescribed by statute. While the calculation will affect companies' financial liabilities for fees, it is consistent with the statutory requirements and comports with commission practice. Further, the pipeline safety program provides for essential services that are necessary for the preservation of the public safety and therefore ensuring adequate funding is necessary.

NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU

OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Amanda Maxwell, Washington Utility and Transportation Commission, P.O. Box 47250, Olympia, WA 98504-7250, phone 360-664-1160, email records@utc.wa.gov, AND RECEIVED BY September 18, 2023.

July 14, 2023  
Amanda Maxwell  
Executive Directory and Secretary

## OTS-4768.1

AMENDATORY SECTION (Amending WSR 08-12-046, filed 5/30/08, effective 6/30/08)

**WAC 480-93-240 Annual pipeline safety fee methodology.** (1) This rule sets forth the commission's fee methodology for the annual regulatory fee paid by a gas pipeline company as that term is defined in RCW 81.88.010. For the purposes of this section, a gas pipeline company is called "company" or "companies" and the "commission's pipeline safety program" means the pipeline safety program that includes each company.

(2) Each company will pay an annual pipeline safety fee as established in the methodology set forth in subsection (3) of this section.

(3) The fee will be set by general order of the commission entered before September 1 of each year and will be collected in four equal installments payable on the first day of each quarter as listed below:

- 1st quarter fee installment due September 1;
- 2nd quarter fee installment due December 1;
- 3rd quarter fee installment due March 1;
- 4th quarter fee installment due June 1.

(a) The total of pipeline safety fees will be calculated to recover no more than the costs of the legislatively authorized workload represented by current appropriations for the commission's pipeline safety program, less the amount received in total base grants through the Federal Department of Transportation (~~and less any amount received from penalties collected under RCW 19.122.050~~). Federal grants, other than the federal base grant, received by the commission for additional activities not included or anticipated in the legislatively directed workload will not be credited against company pipeline safety fees, nor will the work supported by grants be considered a cost for purposes of calculating such fees. To the extent that the actual base grant proceeds are different than the amount credited, the difference will be applied in the following year.

(b) Total pipeline safety fees as determined in (a) of this subsection will be calculated in two parts:

(i) The commission's annual overhead charge to the pipeline safety program will be allocated among companies according to each gas pipeline company's share of the total of all pipeline miles within Washington as reported by companies in their annual reports to the commission.

(ii) After deducting the commission's annual overhead charge, the remainder of the total pipeline safety fee commission's annual pipeline safety program allotment will be allocated among companies in proportion to each company's share of the program staff hours that are directly attributable to particular companies. The commission will determine each company's share by dividing the total hours directly attributable to the company during the two preceding calendar years (as reflected in the program's timekeeping system) by the total of directly attributable hours for all companies over the same period.

(iii) For fee setting purposes, any program hours related to a commission investigation of an incident attributed to third-party damage that results in penalties collected under RCW 19.122.055 will not be directly attributed to the owner of the damaged gas pipeline.

(c) The commission general order setting fees pursuant to this rule will detail the specific calculation of each company's pipeline safety fee including the allocations set forth in (b) of this subsection.

(4) By August 1 of each year the commission staff will mail an invoice to each company .

(5) All funds received by the commission for the pipeline safety program will be deposited to the pipeline safety account. For each gas pipeline company subject to RCW 80.24.010, their portion of the company's total regulatory fee applicable to pipeline safety will be transferred from the public service revolving fund to the pipeline safety account.

(6) Any company wishing to contest the amount of the fee imposed under this section must pay the fee when due and, within 6 months after the due date of the fee, file a petition in writing with the commission requesting a refund. The petition must state the name of the petitioner; the date and the amount paid, including a copy of any receipt, if available; the amount of the fee that is contested; all reasons why the commission may not impose the fee in that amount; and a calculation and explanation of the fee amount the petitioner contends is appropriate, if any. The commission may grant the petition administratively or may set the petition for adjudication or for brief adjudication.

[Statutory Authority: RCW 80.01.040, 80.04.060 and 81.88.040. WSR 08-12-046 (Docket PG-070975, General Order R-549), § 480-93-240, filed 5/30/08, effective 6/30/08. Statutory Authority: RCW 80.01.040, 80.04.160, 81.04.160, 80.24.060, and 81.24.090. WSR 05-17-017 (Docket No. P-041344, General Order No. R-523), § 480-93-240, filed 8/4/05, effective 7/1/06. Statutory Authority: RCW 80.01.040, 80.04.160, 81.04.160 and 2001 c 238 § 2. WSR 02-03-016 (Docket No. UG-010522, General Order No. R-497), § 480-93-240, filed 1/4/02, effective 2/4/02.]

**WSR 23-15-109**  
**EXPEDITED RULES**  
**OFFICE OF THE**  
**INSURANCE COMMISSIONER**

[Insurance Commissioner Matter R 2023-03—Filed July 19, 2023, 8:18 a.m.]

Title of Rule and Other Identifying Information: Removing language referencing commercial property insurers and the commissioner's authority to increase the value of mitigation goods and services.

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: Recent passage of SSB 5720 (2023) amends RCW 48.18.558 and 48.19.530 to no longer exclude commercial property insurers from providing goods and services intended to reduce the probability of loss as part of an insurance policy. Additionally, SSB 5720 amends RCW 48.18.559 to remove the commissioner's rule-making authority to increase the value of risk mitigation goods and services.

The purpose of this rule is to align existing rule language including WAC 284-33-005, 284-33-010, and 284-33-030 with newly amended RCW 48.18.558, 48.18.559, and 48.19.530.

Updating existing rule language will clarify that commercial property insurers can provide up to \$7,500.00, or 10 percent of the annual policy premium, whichever is greater, per 12-month period in certain goods and services to reduce the probability of loss.

There are no anticipated effects due to the changes to existing rules.

Reasons Supporting Proposal: Currently, WAC 284-33-005, 284-33-010, and 284-33-030 are not aligned with newly amended RCW 48.18.558, 48.18.559, and 48.19.530. Washington state insurance statutes allow for commercial property insurers to provide risk mitigation goods and services as part of property insurance policies while Washington state regulations do not. This rule proposal will clarify [clarify] that commercial property insurers can provide risk mitigation goods and services as part of a property insurance policy.

Statutory Authority for Adoption: RCW 48.02.060, 48.18.559.

Statute Being Implemented: RCW 48.18.558, 48.18.559, and 48.19.530.

Rule is not necessitated by federal law, federal or state court decision.

Name of Proponent: Mike Kreidler, insurance commissioner, governmental.

Name of Agency Personnel Responsible for Drafting: Andrew Davis, Insurance Building, Capitol Campus, 360-725-7170; Implementation: Ned Gaines, 5000 Building, Tumwater, 360-725-7117; and Enforcement: Charles Malone, 5000 Building, Tumwater, 360-725-7050.

This notice meets the following criteria to use the expedited adoption process for these rules:

Content is explicitly and specifically dictated by statute.

Explanation of the Reason the Agency Believes the Expedited Rule-Making Process is Appropriate: Expedited adoption of WAC 284-33-005, 284-33-010, and 284-33-030 is appropriate because the content of the rule is explicitly and specifically dictated by statute.

RCW 48.18.558 and 48.19.530 both provide that all property insurers are permitted to provide risk mitigation goods and services as part of property insurance policies because there is no longer an explicit exclusion for commercial property insurers. Additionally, RCW 48.18.559 describes in detail when the commissioner has rule-making authority necessary to implement RCW 48.18.588 [48.18.558] and



48.19.530. The commissioner no longer has authority to increase the value of goods and services because prior language referencing this authority has been removed from RCW 48.18.559.

## NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Andrew Davis, Office of the Insurance Commissioner, 302 Sid Snyder Avenue S.W., Olympia, WA 98504, phone 360-725-7036, fax 360-586-3109, email rulescoordinator@oic.wa.gov, www.insurance.wa.gov, AND RECEIVED BY October 2, 2023.

July 19, 2023  
Mike Kreidler  
Insurance Commissioner

**OTS-4749.1**

AMENDATORY SECTION (Amending WSR 18-24-084, filed 12/3/18, effective 1/3/19)

**WAC 284-33-005 Definition((s)).** The definition((s)) in this section apply throughout this chapter unless the context clearly requires otherwise:

~~((1))~~ A "risk reduction program" means a program by a property insurance company to reduce either the probability of loss or extent of loss, or both, from a covered event as described in RCW 48.18.558(1) by supplying its named insured with either goods or services, or both, as described in WAC 284-33-030(1).

~~((2) "Commercial property insurance" means insurance pertaining to a business, profession, occupation, nonprofit organization, or public entity for the line of property insurance as defined in RCW 48.11.040.)~~

[Statutory Authority: RCW 48.02.60 [48.02.060] and 48.18.559. WSR 18-24-084 (R 2018-11), § 284-33-005, filed 12/3/18, effective 1/3/19.]

AMENDATORY SECTION (Amending WSR 18-24-084, filed 12/3/18, effective 1/3/19)

**WAC 284-33-010 Purpose and scope.** The purpose of this chapter is to implement RCW 48.18.558, 48.18.559, and 48.19.530 for property insurance by establishing rules:

(1) For property insurers' risk reduction programs for covered events ~~((, except commercial property insurance))~~;

(2) For property insurers' pilot risk reduction programs for covered events ~~((, except commercial property insurance))~~; and

(3) To identify which property insurers' disaster or emergency response activities for covered events are exempt from RCW 48.18.558, 48.19.530, 48.30.140, and 48.30.150.

[Statutory Authority: RCW 48.02.60 [48.02.060] and 48.18.559. WSR 18-24-084 (R 2018-11), § 284-33-010, filed 12/3/18, effective 1/3/19.]

AMENDATORY SECTION (Amending WSR 20-23-004, filed 11/5/20, effective 1/1/21)

**WAC 284-33-030 Goods and services.** (1) All goods or services, or both, that are approved by the commissioner to be included within a property insurer's risk reduction program, or pilot risk reduction program, or both, must be implemented by the insurer to reduce either the probability of damage or extent of damage, or both, by a peril covered under the property policy, and may include:

- (a) Smoke alarms;
- (b) Fire extinguishers;
- (c) Natural gas detectors;
- (d) Brush and other wildfire fuel source removal services;
- (e) Water monitors;
- (f) Water shut off systems;
- (g) Earthquake strapping;
- (h) Locking mechanisms to secure property;
- (i) Lightning protection devices;
- (j) Security lighting;
- (k) Security camera systems;
- (l) Home safety monitoring systems; and
- (m) Other goods or services, or both, the commissioner may approve through a form filing.

(2) A voucher provided from the insurer to the insured for either goods or services, or both, is only permissible for those items as described in subsection (1) of this section and must fully redeem either the goods or services, or both, being used in the risk reduction program.

~~((3) Under RCW 48.18.559, the commissioner may increase the value of goods and services permitted under RCW 48.18.558. The limit to the value of goods and services to be provided is increased to seven thousand five hundred dollars in value in aggregate in any twelve-month period if the insurer:~~

~~(a) Submits a rate filing with the information required by RCW 48.19.530; and~~

~~(b) Includes an explanation and exhibit in the filing showing that the present value of the expected reduction in claims costs arising from the goods and services, over the service life of the goods and services, is greater than, or equal to, the total cost to the insurer of the goods and services.)~~

[Statutory Authority: RCW 48.02.060(3) and 48.18.559. WSR 20-23-004 (R 2020-01), § 284-33-030, filed 11/5/20, effective 1/1/21. Statutory Authority: RCW 48.02.60 [48.02.060] and 48.18.559. WSR 18-24-084 (R 2018-11), § 284-33-030, filed 12/3/18, effective 1/3/19.]

**WSR 23-15-120**  
**EXPEDITED RULES**  
**DEPARTMENT OF LICENSING**  
[Filed July 19, 2023, 10:36 a.m.]

Title of Rule and Other Identifying Information: WAC 308-47-090 Operator licensure for those who conduct cremations, alkaline hydrolysis, or natural organic reduction, 308-47A-030 Final disposition permit application procedure, and 308-48-180 Renewal of licenses—Funeral directors, embalmers, funeral director interns and embalmer interns.

Purpose of the Proposal and Its Anticipated Effects, Including Any Changes in Existing Rules: The department of licensing is updating WAC to align with current statute per SSB 5261 passed during the 2023 legislative session, which changes renewal dates for cemetery certificates, prearrangement sales licenses, funeral directors, embalmers, and reduction facility operators.

Reasons Supporting Proposal: These updates align rule with statute following the adoption of SSB 5261.

Statutory Authority for Adoption: RCW 68.05.100 Rules, 68.05.105 Authority of the board, 18.39.175 Board—Duties and responsibilities—Rules, and 46.01.110.

Statute Being Implemented: SSB 5261; RCW 68.05.215, 68.05.225, 68.05.245, and 18.39.020.

Rule is not necessitated by federal law, federal or state court decision.

Name of Agency Personnel Responsible for Drafting, Implementation, and Enforcement: Tanya Hessler, 405 Black Lake Boulevard S.W., Olympia, WA 98502, 360-968-4048.

This notice meets the following criteria to use the expedited adoption process for these rules:

Adopts or incorporates by reference without material change federal statutes or regulations, Washington state statutes, rules of other Washington state agencies, shoreline master programs other than those programs governing shorelines of statewide significance, or, as referenced by Washington state law, national consensus codes that generally establish industry standards, if the material adopted or incorporated regulates the same subject matter and conduct as the adopting or incorporating rule.

Content is explicitly and specifically dictated by statute.

Explanation of the Reason the Agency Believes the Expedited Rule-Making Process is Appropriate: This rule making is to incorporate new explicit laws passed by the 2023 state legislature to change renewal dates for cemetery certificates, prearrangement sales licenses, funeral directors, embalmers, and reduction facility operators.

NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO Kelsey Stone, Department of Licensing, 1125 Washington Street S.E., Olympia, WA 98504, phone 360-902-0131, email rulescoordinator@dol.wa.gov, AND RECEIVED BY September 19, 2023.

July 19, 2023  
Ellis Starrett  
Rules and Policy Manager

**OTS-4760.1**

AMENDATORY SECTION (Amending WSR 20-09-031, filed 4/6/20, effective 5/7/20)

**WAC 308-47-090 Operator licensure for those who conduct cremations, alkaline hydrolysis, or natural organic reduction.** (1) Licenses are required for operators of each method of reduction. In order to operate a crematory, a hydrolysis facility, or a natural organic reduction facility, applicants must submit:

(a) An application on a form prescribed by the board;

(b) A nonrefundable application fee as defined in WAC 308-48-800; and

(c) A certificate of completion of operator training provided by the equipment manufacturer, or other provider generally accepted by the death care profession, or as approved by the board.

(2) Each operator license will expire annually on the (~~operator's birth date~~) 31st day of January and may be renewed by paying the renewal fee.

(3) Operators of equipment used to perform cremation, alkaline hydrolysis, or natural organic reduction must provide proof of current operator training every five years at the time of the license renewal.

(4) All licenses must be posted at the reduction facility.

[Statutory Authority: RCW 68.05.105 and 18.39.175. WSR 20-09-031, § 308-47-090, filed 4/6/20, effective 5/7/20.]

**OTS-4761.1**

AMENDATORY SECTION (Amending WSR 20-09-031, filed 4/6/20, effective 5/7/20)

**WAC 308-47A-030 Final disposition permit application procedure.**

(1) Designees who regularly or occasionally dispose of reduced human remains must submit an application for a final disposition permit on a form prescribed by the board and pay the application fee.

(2) All final disposition permits issued under this rule shall be issued for the calendar year and shall expire at midnight, the (~~thirty-first day of January~~) 31st day of March of each year, or at whatever time during any year that ownership or control of any permit holder is transferred or sold.

(3) The final disposition permit fees shall be as set forth in chapter 308-48 WAC and the department shall collect in advance the fees required for licensing.

[Statutory Authority: RCW 68.05.105 and 18.39.175. WSR 20-09-031, § 308-47A-030, filed 4/6/20, effective 5/7/20.]

### OTS-4762.1

AMENDATORY SECTION (Amending WSR 20-09-031, filed 4/6/20, effective 5/7/20)

**WAC 308-48-180 Renewal of licenses—Funeral directors, embalmers, funeral director interns and embalmer interns.** (1) The annual license renewal date for embalmers(~~(r)~~) and funeral directors (~~(and)~~) is the 31st day of January of each year. The annual renewal license date for embalmer interns and funeral director interns is the licensee's birth date. ((Individuals)) Interns making application and fulfilling requirements for (~~(initial)~~) their first license (~~(and examination)~~) will be issued a license, which will expire on their next birth date.

(2) All licensees, with the exception of academic intern, must renew annually.

(3) Before the expiration date of the license, the director will mail a notice of renewal. The licensee must return such notice along with current renewal fees prior to the expiration of the license. Failure to renew the license prior to the expiration date will require payment of a late fee.

[Statutory Authority: RCW 68.05.105 and 18.39.175. WSR 20-09-031, § 308-48-180, filed 4/6/20, effective 5/7/20. Statutory Authority: RCW 18.39.175 and chapter 34.05 RCW. WSR 07-03-027, § 308-48-180, filed 1/5/07, effective 2/5/07. Statutory Authority: RCW 18.39.175(4). WSR 02-19-019, § 308-48-180, filed 9/9/02, effective 10/10/02; Order PL 207, § 308-48-180, filed 11/5/75; Order PL 171, § 308-48-180, filed 5/20/74.]