Ordinance No. 122533

Council Bill No. 116036

An ordinance relating to the Seattle Residential Code, amending Section 22.150.010, and adopting by reference Chapters 2 through 10, 12 through 24, 43, and Appendices F and G of the 2006 International Residential Code with errata published by the International Code Council, and amending certain of those chapters; adopting a new Chapter 1 for the Seattle Residential Code related to administration, permitting and enforcement; and repealing Sections 2 -27 of Ordinance 121521 and Sections 1-5 and 7-11 of Ordinance 122047.

CF No. 308941

Date Introduced: Sept. 24, 2007		
Date 1st Referred:	To: (committee) Urban Development and Planning	
Date Re - Referred:	To: (committee)	
Date Re - Referred:	To: (committee)	
Date of Final Passage: 10-1-07	Full Council Vote: 8-0	
Date Presented to Mayor: 10-2-07	Date Approved: 10.11.07	
Date Returned to City Clerk: 10.11.07	Date Published: 127	T.O. F.T. X
Date Vetoed by Mayor:	Date Veto Published:	
Date Passed Over Veto:	Veto Sustained:	

The City of Seattle - Legislative Department

Council Bill/Ordinance sponsored by: Peter Steinbrueck
Councilmember

Committee Action: Pass 3-0 PS, TR, RG

10-1-07 Passed 8-0 (Excused: McIver)

This file is complete and ready for presentation to Full Council. Committee: _____ (initial/date)

Law Department

Law Dept. Review	OMP Review	City Clerk Review	Electronic Copy Loaded	Indexed

Maureen Traxler/mt
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ORDINANCE 122533

AN ORDINANCE relating to the Seattle Residential Code, amending Section 22.150.010, and adopting by reference Chapters 2 through 10, 12 through 24, 43, and Appendices F and G of the 2006 International Residential Code with errata published by the International Code Council, and amending certain of those chapters; adopting a new Chapter 1 for the Seattle Residential Code related to administration, permitting and enforcement; and repealing Sections 2 -27 of Ordinance 121521 and Sections 1-5 and 7-11 of Ordinance 122047.

BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:

Section 1. Section 22.150.010 of the Seattle Municipal Code is amended as follows:

22.150.010 Adoption of International Residential Code.

The Seattle Residential Code ((~~shall consist~~)) consists of: 1) the following portions of the ((~~2003~~)) 2006 edition of the International Residential Code ((~~as~~)) published by the International Code Council, as amended by City Council by ordinance: Chapters 2 through 10, Chapters 12 through ((~~19, Chapters 22 through~~)) 24, ((~~and~~)) Chapter 43, Appendices F and G, together with the adopted amendments and additions and all errata published by the International Code Council after February 1, 2006, and 2) Chapter 1 relating to administration, permitting and enforcement adopted by City Council by ordinance. One copy of the ((~~2003~~)) 2006 International Residential Code is filed with the City Clerk in C.F. ((~~306759~~)) 308941.

Section 2. The following chapter is adopted as Chapter 1 of the Seattle Residential Code, to read as follows:

Chapter 1

ADMINISTRATION

SECTION R101

TITLE, PURPOSE AND SCOPE

TITLE, PURPOSE AND SCOPE

R101.1 Title. This subtitle shall be known as the "Seattle Residential Code" and may be so cited, and is referred to herein as "this code."

R101.2 Scope. The provisions of this code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one– and two–family dwellings and townhouses not more than three stories above grade in height with a separate means of egress, and their accessory structures, including adult family homes, foster family care homes and family day care homes licensed by the Washington State Department of Social and Health Services.

Note: The seismic design for wood-frame buildings with more than two stories above grade shall comply with the Seattle Building Code or other standards referenced in Section R301.1. See Sections R301.2.2.4 and Table R602.10.1.
Interpretation R101.2a: Buildings with mixed occupancies, other than residences with home occupations, are not within the scope of the Seattle Residential Code and shall comply with the Seattle Building Code.
Interpretation R101.2b: Dwellings located above a common garage or other common space are not within the scope of the Seattle Residential Code, and shall comply with the Seattle Building Code. Units in detached two-family dwellings that share a garage are within the scope of this code.
Note: If a structure is constructed and maintained in compliance with standards and procedures of the Seattle Residential Code currently in effect, as well as the Seattle Building,

Mechanical, Fire, Electrical and Plumbing Codes currently in effect, the Seattle Housing and Building Maintenance Code, SMC 22.200-22.208 does not apply.

R101.3 Purpose. The purpose of this code is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, quality of materials, occupancy, location and maintenance of buildings and structures within the City and certain equipment specifically regulated herein.

The purpose of this code is to provide for and promote the health, safety and welfare of the general public, and not to create or otherwise establish or designate any particular class or group of persons who will or should be especially protected or benefited by the terms of this code.

R101.4 Internal consistency. Where in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive governs.

R101.5 Referenced codes and standards. The codes and standards referenced in this code are part of the requirements of this code to the extent prescribed by each such reference. Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code apply.

Exception: Where enforcement of a code provision would violate the conditions of the listing of the equipment or appliance, the conditions of the listing and manufacturer's instructions apply.

R101.6 Appendices. Provisions in the *International Residential Code* appendices do not apply unless specifically adopted.

[W][1] R101.7 Conflict with Ventilation Code. In the case of conflict between the ventilation requirements of this code and the ventilation requirements of Washington Administrative Code Chapter 51-13 the Washington State Ventilation and Indoor Air Quality Code (VIAQ), the provisions of the VIAQ govern.

R101.8 Metric units. Wherever in this ordinance there is a conflict between metric units of measurement and English units, the English units govern.

SECTION R102

UNSAFE BUILDINGS, STRUCTURES OR PREMISES

R102.1 Definition. For the purpose of this section, "unsafe buildings, structures or premises" include all buildings or structures and all premises immediately surrounding such buildings or structures, whether erected before or after the effective date of this code, that are structurally unsound or unsafe or not provided with adequate egress, or that constitute a fire hazard, or are otherwise dangerous to human life, or that, in relation to existing occupancy, constitute a hazard to safety, health or public welfare by reason of inadequate maintenance, deterioration, instability, dilapidation, obsolescence, damage by fire or other causes or abandonment as specified in this code or any other effective ordinance.

R102.2 Emergency orders. Whenever the building official finds that any building or structure, or portion thereof is in such a dangerous and unsafe condition as to constitute an imminent hazard to life or limb, the building official may issue an emergency order directing that the building or structure, or portion thereof be restored to a safe condition by a date certain. The order shall be posted on the premises or personally served on the owner of the building or

[1] [W] preceding a section number indicates that the section incorporates a provision of the Washington State

premises and /or any person responsible for the condition and shall specify the time for compliance. The order may also require that the building or structure, or portion thereof, be vacated within a reasonable time to be specified in the order. In the case of extreme danger, the order may specify immediate vacation of the building or structure, or may authorize immediate disconnection of the utilities or energy source. No person may occupy a building or structure, or portion thereof, after the date on which the building is required to be vacated until the building or structure, or portion thereof, is restored to a safe condition as required by the order and this code. It is a violation for any person to fail to comply with an emergency order issued by the building official.

R102.3 Hazard correction order. Whenever the building official finds that an unsafe building, structure or premises exists, the building official may issue a hazard correction order specifying the conditions causing the building, structure or premises to be unsafe and directing the owner or other person responsible for the unsafe building, structure or premises to correct the condition by a date certain. In lieu of correction, the owner may submit a report or analysis to the building official analyzing said conditions and establishing that the building, structure or premises is, in fact, safe. The building official may require that the report or analysis be prepared by a licensed engineer and may require compliance with Seattle Building Code Chapter 34. It is a violation of this code for any person to fail to comply with a hazard correction order as specified in this subsection.

Residential Code.

SECTION R103

VIOLATIONS AND PENALTIES

R103.1 Violations. It is a violation of this code for any person to:

1. erect, construct, enlarge, repair, move, improve, remove, convert, demolish, equip, occupy, inspect or maintain any building or structure in the City, contrary to or in violation of any of the provisions of this code.

2. knowingly aid, abet, counsel, encourage, hire, induce or otherwise procure another to violate or fail to comply with this code.

3. use any material or to install any device, appliance or equipment that is subject to this code and that has not been approved by the building official.

4. violate or fail to comply with any requirements of this code or with any final order issued by the building official pursuant to the provisions of this code.

5. remove, mutilate, destroy or conceal any notice or order issued or posted by the building official pursuant to the provisions of this code, or any notice or order issued or posted by the building official in response to a natural disaster or other emergency.

R103.2 Notice of violation. If, after investigation, the building official determines that standards or requirements of this code have been violated or that orders or requirements have not been complied with, the building official may serve a notice of violation upon the owner, agent, or other person responsible for the action or condition. The notice of violation shall state the standards or requirements violated, shall state what corrective action, if any, is necessary to comply with the standards or requirements, and shall set a reasonable time for compliance. The notice shall be served upon the owner, agent or other responsible person by

personal service or regular first class mail addressed to the last known address of such person, or if no address is available after reasonable inquiry, the notice may be served by posting it in a conspicuous place on the premises. The notice may also be posted if served by personal service or first class mail. The notice of violation shall be considered an order of the building official if no request for review before the building official is made pursuant to Section R103.3. Nothing in this section limits or precludes any action or proceeding to enforce this chapter, and nothing obligates or requires the building official to issue a notice of violation prior to the imposition of civil or criminal penalties.

R103.3 Review by the building official for notice of violation

R103.3.1 Any person affected by a notice of violation issued pursuant to Section R103.2 may obtain a review of the notice by making a request in writing within ten days after service of the notice. When the last day of the period computed is a Saturday, Sunday, federal or City holiday, the period runs until 5:00 p.m. of the next business day. The review shall occur not less than ten nor more than twenty days after the request is received by the building official unless otherwise agreed by the person requesting the review. Any person aggrieved by or interested in the notice of violation may submit additional information to the building official.

R103.3.2 The review shall be made by a representative of the building official who will review any additional information that is submitted and the basis for issuance of the notice of violation. The reviewer may request clarification of the information received and a site visit. After the review, the building official shall:

1. Sustain the notice; or

2. Withdraw the notice; or

3. Continue the review to a date certain; or

4. Amend the notice.

R103.3.3 The building official shall issue an order containing the decision within 15 days of the date that the review is completed and shall cause the order to be mailed by regular first class mail to the persons requesting the review and the persons named on the notice of violation, addressed to their last known address.

R103.4 Because civil actions to enforce Title 22 SMC are brought in Seattle Municipal Court pursuant to Section R103.5.2, orders of the building official issued under this chapter are not subject to judicial review pursuant to chapter 36.70C RCW.

R103.5 Civil penalties.

R103.5.1. Any person violating or failing to comply with the provisions of this code shall be subject to a cumulative civil penalty in an amount not to exceed $500 per day for each violation from the date the violation occurs or begins until compliance is achieved. In cases where the building official has issued a notice of violation, the violation will be deemed to begin, for purposes of determining the number of days of violation, on the date compliance is required by the notice of violation.

R103.5.2. Civil actions to enforce this chapter shall be brought exclusively in Seattle Municipal Court, except as otherwise required by law or court rule. In any civil action for a penalty, the City has the burden of proving by a preponderance of the evidence that a violation exists or existed; the issuance of the notice of violation or of an order following a review by the building official is not itself evidence that a violation exists.

R103.6 Alternative criminal penalty. Anyone who violates or fails to comply with any order issued by the building official pursuant to this code or who removes, mutilates, destroys or conceals a notice issued or posted by the building official shall, upon conviction thereof, be punished by a fine of not more than $5000 or by imprisonment for not more than 365 days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.

R103.7 Additional relief. The building official may seek legal or equitable relief to enjoin any acts or practices and abate any condition when necessary to achieve compliance.

R103.8 Recording of notices. The building official may record a copy of any order or notice with the Department of Records and Elections of King County. The building official may record with the Department of Records and Elections of King County a notice that a permit has expired without a final inspection after reasonable efforts have been made to provide a final inspection.

SECTION R104

ORGANIZATION AND ENFORCEMENT

R104.1 Jurisdiction of Department of Planning and Development. The Department of Planning and Development is authorized to administer and enforce this code. The Department of Planning and Development is under the administrative and operational control of the Director, who is the building official.

R104.2 Deputies. The building official may appoint such officers, inspectors, assistants and other employees as are authorized from time to time. The building official may authorize such employees as may be necessary to carry out the functions of the building official.

R104.3 Right of entry. With the consent of the owner or occupier of a building or premises, or pursuant to a lawfully issued warrant, the building official may enter a building or premises at any reasonable time to perform the duties imposed by this code.

R104.4 Stop work orders. The building official may issue a stop work order whenever any work is being done contrary to the provisions of this code, or in the event of dangerous or unsafe conditions related to construction or demolition. The stop work order shall identify the violation and may prohibit work or other activity on the site.

R104.4.1 Service of stop work order. The building official may serve the stop work order by posting it in a conspicuous place at the site, if posting is physically possible. If posting is not physically possible, then the stop work order may be served in the manner set forth in RCW 4.28.080 for service of a summons or by sending it by first class mail to the last known address of: the property owner, the person doing or causing the work to be done, and the holder of a permit if work is being stopped on a permit. For purposes of this section, service is complete at the time of posting or of personal service, or if mailed, three days after the date of mailing. When the last day of the period so computed is a Saturday, Sunday or city holiday, the period runs until 5:00 p.m. on the next business day.

R104.4.2 Effective date of stop work order. Stop work orders are effective when posted, or if posting is not physically possible, when one of the persons identified in Section R104.4.1 is served.

R104.4.3 Review by the building official for stop work orders. Any person aggrieved by a stop work order may obtain a review of the order by delivering to the building official a request in writing within 2 business days of the date of service of the stop work order.

The review shall occur within 2 business days after receipt by the building official of the request for review unless the requestor agrees to a longer time.

Any person aggrieved by or interested in the stop work order may submit additional information to the building official for consideration as part of the review at any time prior to the review.

The review will be made by a representative of the building official who will review all additional information received and may also request a site visit. After the review, the building official may:

a. Sustain the stop work order;

b. Withdraw the stop work order;

c. Modify the stop work order; or

d. Continue the review to a date certain for receipt of additional information.

R104.4.4 Order of the building official. The building official shall issue an order of the building official containing the decision within 2 business days after the review and shall cause the order to be sent by first class mail to the person or persons requesting the review, any person on whom the stop work order was served, and any other person who requested a copy before issuance of the order. The City and all parties shall be bound by the order.

R104.5 Occupancy violations. Whenever any building or structure is being occupied contrary to the provisions of this code, the building official may order such occupancy discontinued and the building or structure, or portion thereof, vacated by notice. The notice shall be served by personal service or regular first class mail addressed to the last known address of the occupant of the premises or any person causing such occupancy. If no address is available after

reasonable inquiry, the notice may be served by posting it in a conspicuous place on the premises.

Any person occupying the building or structure shall discontinue the occupancy by the date specified in the notice of the building official, or shall make the building or structure, or portion thereof, comply with the requirements of this code; provided, however, that in the event of an unsafe building, Section R102 may apply.

R104.6 Liability. Nothing in this code is intended to be nor shall be construed to create or form the basis for any liability on the part of the City, or its officers, employees or agents, for any injury or damage resulting from the failure of a building to conform to the provisions of this code, or by reason or as a consequence of any inspection, notice, order, certificate, permission or approval authorized or issued or done in connection with the implementation or enforcement of this code, or by reason of any action or inaction on the part of the City related in any manner to the enforcement of this code by its officers, employees or agents.

This code shall not be construed to lessen or relieve the responsibility of any person owning, operating or controlling any building or structure for any damages to persons or property caused by defects, nor shall the Department of Planning and Development or the City of Seattle be held to have assumed any such liability by reason of the inspections authorized by this code or any permits or certificates issued under this code.

R104.7 Responsibilities of parties.

R104.7.1 Responsibility for compliance. Compliance with the requirements of this code is the obligation of the owner of the building, structure, or premises, the duly authorized agent of

the owner, and other persons responsible for the condition or work, and not of the City or any of its officers or employees.

R104.7.2 Responsibility of design professional, contractor, plans examiner and inspector. The responsibilities of the design professional in responsible charge, contractor, plans examiner, and field inspector are as provided in the Seattle Building Code.

R104.8 Modifications. The building official may modify the requirements of this code for individual cases provided the building official finds: (1) there are practical difficulties involved in carrying out the provisions of this code; (2) the modification is in conformity with the intent and purpose of this code; and (3) the modification will provide a reasonable level of fire protection and structural integrity when considered together with other safety features of the building or other relevant circumstances. The building official may, but is not required, to record the approval of modifications and any relevant information in the files of the building official or on the approved permit plans.

R104.9 Alternate materials, methods of construction and design. This code does not prevent the use of any material, design or method of construction not specifically allowed or prohibited by this code, provided the alternate has been approved and its use authorized by the building official. The building official may approve an alternate, provided the building official finds that the proposed alternate complies with the provisions of this code and that the alternate, when considered together with other safety features of the building or other relevant circumstances, will provide at least an equivalent level of strength, effectiveness, fire resistance, durability, safety and sanitation. Certain code alternates have been pre-approved by the building official and are identified in this code as code alternates. The building official may

require that sufficient evidence or proof be submitted to reasonably substantiate any claims regarding the use or suitability of the alternate. The building official may, but is not required, to record the approval of alternates and any relevant information in the files of the building official or on the approved permit plans.

R104.10 Tests. Whenever there is insufficient evidence of compliance with any of the provisions of this code or evidence that any material or construction does not conform to the requirements of this code, the building official may require tests as proof of compliance to be made at no expense to the City. Test methods shall be specified by this code or by other recognized test standards. If there are no recognized and accepted test methods for the proposed alternate, the building official shall determine the test procedures. All tests shall be made by an approved agency. Reports of such tests shall be retained by the building official.

R104.11 Rules of the building official.

R104.11.1 Authority of building official. The building official has authority to issue interpretations of this code and to adopt and enforce rules and regulations supplemental to this code as may be deemed necessary in order to clarify the application of the provisions of this code. Such interpretations, rules and regulations shall be in conformity with the intent and purpose of this code.

R104.11.2 Procedure for adoption of rules. The building official shall promulgate, adopt and issue rules according to the procedures specified in the Administrative Code, Chapter 3.02 of the Seattle Municipal Code.

R104.12 Appeals. Except for building official reviews, appeals from decisions or actions pertaining to the administration and enforcement of this code shall be addressed to the building official according to Seattle Building Code Section 104.13.

SECTION R105

BUILDING PERMITS

R105.1 Permits required. Except as otherwise specifically provided in this code, a building permit shall be obtained from the building official for each building, structure or mechanical system prior to erecting, constructing, enlarging, altering, repairing, moving, improving, removing, changing the occupancy of, or demolishing such building, structure or mechanical system, or allowing the same to be done. All work shall comply with this code, even where no permit is required.

R105.2 Work exempt from permit. A building permit is not required for the work listed below. Exemption from the permit requirements of this code does not grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of the City.

1. Minor repairs or alterations that, as determined by the building official, cost the owner $4,000 or less in any 6-month period. Such repairs and alterations shall not include the removal, reduction, alteration, or relocation of any loadbearing support. Egress, light, ventilation, and fire-resistance shall not be reduced without a permit.
2. Minor work including the following, provided no changes are made to the building envelope: patio and concrete slabs on grade, painting or cleaning a building, repointing a chimney, installing kitchen cabinets, paneling or other surface finishes over existing

wall and ceiling systems, insulating existing buildings, abatement of hazardous materials, and in-kind or similar replacement or repair of deteriorated members of a structure.

3. One-story detached accessory buildings used for greenhouse, tool or storage shed, playhouse, or similar uses, if:

   3.1 The projected roof area does not exceed 120 square feet; and

   3.2 The building is not placed on a concrete foundation other than a slab on grade.

4. Fences not over 8 feet high that do not have masonry or concrete elements above 6 feet.

5. Arbors and other open-framed landscape structures not exceeding 120 square feet in projected area.

6. Retaining walls and rockeries not over 4 feet in height measured from the bottom of the footing to the top of the wall, if:

   6.1 There is no surcharge or impoundment of Class I, II or III-A liquids.

   6.2 Construction does not support soils in a steep slope area, potential landslide area or known slide area as identified in the Seattle Environmentally Critical Areas Ordinance, Section 25.09.020 of the Seattle Municipal Code.

   6.3 Possible failure would likely cause no damage to adjoining property or structures.

7. Platforms, walks and driveways not more than 18 inches above grade and not over any basement or story below.

8. Window awnings supported by an exterior wall when projecting not more than 54 inches.

9. Prefabricated swimming pools, spas and similar equipment accessory to a building subject to this code in which the pool walls are entirely above the adjacent grade and if the capacity does not exceed 5,000 gallons.

10. Replacement of roofing materials and siding. This does not include structural changes, replacement of sheathing or alterations to doors and windows. See Energy Code Sections 101.3.2.5 and 1132.1 for insulation requirements for existing buildings.

    Exception: In detached one- and two- family dwellings, the existing roof sheathing may be replaced and roof structure may be repaired without permit if no changes are made to the building envelope other than adding or replacing insulation, and the work is equivalent to or better than the existing structure.

11. Private playground equipment including tree houses.

12. Removal and/or replacement of underground storage tanks that are subject to regulation by a state or federal agency.

    Note: A Fire Department permit is required for removal, replacement and decommissioning of underground storage tanks.

13. Installation of dish and panel antennas 6.56 feet (2 m) or less in diameter or diagonal measurement.

14. Portable heating appliances, portable ventilating equipment, and portable cooling units, provided that the total capacity of these portable appliances do not exceed 40 percent of the cumulative heating, cooling or ventilating requirements of a building or dwelling unit and do not exceed 3 kW or 10,000 Btu input.

15. Any closed system of steam, hot or chilled water piping within heating or cooling equipment regulated by this code.

16. Minor work or the replacement of any component part of a mechanical system that does not alter its original approval and complies with other applicable requirements of this code.

R105.3 Other permits required. Unless otherwise exempted by this or other pertinent codes, master use, plumbing, electrical, mechanical and other permits may be required for the above exempted items.

R105.4 Flood hazard areas. In addition to the permit required by this section, all work to be performed in areas of special flood hazard, identified in the report entitled "Flood Insurance Study for King County, Washington and Incorporated Areas" and the accompanying Flood Insurance Rate Maps and filed in C.F. 296948, is subject to additional standards and requirements, including floodplain development approval or a Floodplain Development License, as set forth in Chapter 25.06, the Seattle Floodplain Development Ordinance.

R105.5 Application for permit

R105.5.1 Application. To obtain a permit, the applicant shall first file an application in writing on a form furnished by the Department of Planning and Development for that purpose. Every such application shall:

1. Identify and describe the work to be covered by the permit for which application is made.

2. Describe the land on which the proposed work is to be done by legal description, property address or similar description that will readily identify and definitely locate the proposed building or work.
3. Provide the contractor's business name, address, phone number and current contractor registration number (required if contractor has been selected).
4. Be accompanied by plans and other data required in Section R105.5.2.
5. State the valuation of any new building or structure or any addition, remodeling or alteration to an existing building, including cost breakdown between additions and alterations.
6. Be signed by the owner of the property or building, or the owner's authorized agent, who may be required to submit evidence to indicate such authority.
7. Give such other data and information as may be required by the building official, including, but not limited to, master use and shoreline permits and building identification plans.
8. Indicate the name of the owner and contractor and the name, address and phone number of a contact person.
9. Substantially conform with the Land Use Code, critical areas regulations and Seattle Residential Code in effect on the date that the application is submitted.

R105.5.2 Plans and specifications.

R105.5.2.1 General. Plans, engineering calculations, diagrams and other data shall be submitted in two or more sets with each application for a permit.

Exception: An engineer's stamp or submission of plans, calculations or other data is not required if the building official finds that the nature of the work applied for is such that review of plans is not necessary to obtain compliance with this code.

R105.5.2.2 Preparation by registered design professionals. Plans, computations and specifications for all work shall be prepared and designed by or under the direct supervision of an architect or structural engineer licensed to practice under the laws of the State of Washington. Each sheet of plans shall bear the seal and the signature of the registered design professional.

Exception: When authorized by the building official, plans and specifications need not be prepared by an engineer or architect licensed by the State of Washington for the following:

1. One- and two-family detached dwellings and accessory structures constructed of light-frame wood or cold-formed steel construction with a shear wall lateral-force-resisting system.

Interpretation R105.5.2: Steel moment frames or extensive or more complex concrete structures such as concrete frame, mild reinforced or post-tensioned floor slabs, shall be designed by a licensed structural engineer.

2. New construction, additions, alterations or repairs of conventional light-frame construction, and nonstructural alterations having a total valuation of less than $30,000 excluding the value of electrical and mechanical systems, fixtures, equipment, interior finish and millwork.

3. The building official may accept the design of a licensed professional engineer for assembly line products or designed specialty structural products.

4. Other work specified in rules promulgated by the building official.

R105.5.2.3 Clarity of plans. Plans shall be drawn to a clearly indicated and commonly accepted scale upon substantial paper such as blueprint quality or standard drafting paper. Tissue paper, posterboard or cardboard will not be accepted. The plans shall be of microfilm quality and limited to a minimum size of 18 inches by 18 inches and a maximum size of 41 inches by 54 inches.

Exception: The plans for metal plate connected wood trusses may be not less than 8-1/2 inches by 11 inches for detached single family structures and no less than 11 inches by 17 inches for all other structures.

R105.5.2.4 Information required on plans. Plans shall include the following, as applicable:

1. A plot plan showing the width of streets, alleys, yards and courts.
2. The location, floor area, story, height, and use defined by the Land Use Code of the proposed building and of every existing building on the property.
3. Types of heating and air conditioning systems.
4. Architectural plans, including floor plans, elevations and door and finish schedules showing location of all doors, windows, mechanical equipment, shafts, pipes, vents and ducts.
5. Structural plans, including foundation plan and framing plans.

6. Cross-sections and construction details for both architectural and structural plans, including wall sections, foundation, floor and roof details, connections of structural members and types of construction material.
7. Topographic plans, including original and final contours, location of all buildings and structures on the site and, when required by the building official, adjacent to the site, and cubic yards of cut and fill.
8. If the building official has reason to believe that there may be an intrusion into required open areas or over the property line, a survey of the property prepared by a land surveyor licensed by the State of Washington is required for all new construction, and for additions or accessory buildings.
9. If any building or structure is to be erected or constructed on property abutting an unimproved or partially improved street or alley, the plans shall also include a profile showing the established or proposed grade of the street or alley, based upon information obtained from the Director of Transportation relating to the proposed finished elevations of the property and improvements thereon.

R105.5.2.5 Information on first sheet. The first or general note sheet of each set of plans shall specify the following, as applicable:

1. The building and street address of the work.
2. The name and address of the owner and person who prepared the plans.
3. Legal description of the property.
4. Type of occupancy of all parts of the building as defined in this code, including notation of fixed fire protection devices or systems.

5. Zoning classification of the property and existing and proposed uses of the structure as defined in the Land Use Code.
6. Number of stories above grade and the number of basements as defined in this code.
7. Variances, conditional uses, special exceptions, including project numbers, approval and approval extension dates.

R105.5.2.6 Structural notes. Plans submitted for buildings with more than two stories, buildings of more than 4,500 square feet total floor area or buildings or other structures that are determined by the building official to embody hazards or complex structural concepts shall include applicable information including, but not limited to, the following:

1. Design loads: Snow load, live loads and live load reductions and lateral loads.
2. Foundations: Foundation investigations, allowable bearing pressure for spread footings, allowable load capacity of piles, pile driving formulas, lateral earth pressure;
3. Soil fill and back fill: Type, compaction and drainage;
4. Masonry: Type and strength of units, strength or proportions of mortar and grout, type and strength of reinforcement, method of testing, design strength;
5. Wood: Species or species groups, and grades of sawn lumber, glued-laminated lumber, plywood and assemblies, type of fasteners;

6. Concrete: Design strengths, mix designs, type and strength of reinforcing steel, welding of reinforcing steel, restrictions, if any;

7. Steel and aluminum: Specification types, grades and strengths, welding electrode types and strengths;

8. Assignment of responsibilities for inspection and testing during construction, and the degree of inspection and testing;

9. When required by the building official, computations, stress diagrams, shop and fabrication drawings and other data sufficient to show the adequacy of the plans.

In lieu of detailed structural notes the building official may approve minor references on the plans to a specific section or part of this code or other ordinances or laws.

R105.6 Permit review and issuance

R105.6.1 General. The application, plans, specifications and other data filed by an applicant for a permit shall be reviewed by the building official. Such plans may be reviewed by other departments of the City to check compliance with the laws and ordinances under their jurisdiction.

R105.6.2 Determination of completeness. Within twenty-eight (28) days after an application is filed, the building official shall notify the applicant in writing either that the application is complete or that it is not complete, and if not complete, what additional information is required to make it complete. Within fourteen days after receiving the additional information, the building official shall notify the applicant in writing whether the application is now complete or what additional information is necessary. An application

shall be deemed to be complete if the building official does not notify the applicant in writing by the deadlines in this section that the application is incomplete.

R105.6.3 Decision and issuance of permit. Except as provided in Section R105.9, the building official shall approve, condition or deny the application within 120 days as that time period is calculated pursuant to RCW 36.70B.090. If the building official finds that the work as described in an application for a permit and the plans, specifications and other data filed therewith conforms to the requirements of this code and other pertinent laws and ordinances and that the fees specified in the Fee Subtitle have been paid, the building official shall issue a permit to the applicant, who then becomes the permit holder or authorized agent.

Exceptions:

1. The building official may issue a permit for the construction of part of a building or structure before complete plans for the whole building or structure have been submitted or approved, if the proposed project complies with the State Environmental Policy Act (Chapter 25.05 of the Seattle Municipal Code), as amended, and the Land Use Code, as amended; and if adequate information and plans have been filed and checked to assure compliance with all pertinent requirements of this and other pertinent codes. The holder of such a permit shall proceed at the holder's own risk without assurance that a permit for the entire building or structure will be granted.
2. After approval of a Master Use Permit required by the Land Use Code, a permit for excavation may be issued.

R105.6.4 Permit conditions and denial. The building official may condition a permit if the building official determines that risks associated with development, construction, ownership and occupancy in areas of the City, including, but not limited to potential slide areas, can be reduced to an acceptable level. The building official may deny such permit if the building official determines that the risks cannot be reduced to an acceptable level.

R105.6.5 Compliance with approved plans and permit. When the building official issues a permit, the building official shall endorse the permit in writing and endorse in writing or stamp the plans **APPROVED.** Such approved plans and permit shall not be changed, modified or altered without authorization from the building official, and all work shall be done in accordance with the approved plans and permit except as the building official may require during field inspection to correct errors or omissions.

Exception: Approval of the building official is not required for modifications to approved plans and permit when the scope of work proposed in the modifications would not require a permit.

R105.7 Amendments to the permit. When substitutions or changes to the approved work are made during construction, approval of the building official shall be obtained prior to execution. The building inspector may approve minor substitutions and changes for work not reducing the structural strength or fire and life safety of the structure. The building inspector shall determine if it is necessary to revise the approved plans. Substitutions, changes and clarifications shall be shown on two sets of plans, which shall be submitted to

and approved by the building official, accompanied by fees specified in the Fee Subtitle prior to occupancy. These substitutions and changes shall conform to the requirements of this code and other pertinent laws and ordinances.

R105.8 Cancellation of permit applications. Applications may be cancelled if no permit is issued by the earlier of the following: (1) twelve months following the date of application; or (2) sixty days after the date of written notice that the permit is ready to be issued. After cancellation, plans and other data submitted for review may be returned to the applicant or destroyed by the building official.

The building official will notify the applicant in writing at least thirty days before the application is cancelled. The notice shall specify a date by which a request for extension must be submitted in order to avoid cancellation. The date shall be at least two weeks prior to the date on which the application will be cancelled.

R105.9 Extensions prior to permit issuance. At the discretion of the building official, an application for a project that requires more than twelve months to review and approve may be extended for a period that provides reasonable time to complete the review and approval process, but in no case longer than twenty-four months from the date of the original application. No application may be extended more than once. After cancellation, the applicant shall submit a new application and pay a new fee to restart the permit process.

Notwithstanding other provisions of this code, an application may be extended where issuance of the permit is delayed by litigation, preparation of environmental impact statements, appeals, strikes or other causes related to the application that are beyond the

applicant's control, or while the applicant is making progress toward issuance of a master use permit.

See the Fee Subtitle for possible fee refunds.

R105.10 Retention of plans. One set of approved plans, which may be on microfilm, shall be retained by the building official. One set of approved plans shall be returned to the applicant and shall be kept at the site of the building or work for use by the inspection personnel at all times during which the work authorized is in progress.

R105.11 Validity of permit. The issuance or granting of a permit or approval of plans shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or other pertinent laws and ordinances.

The issuance of a permit based upon plans shall not prevent the building official from requiring the correction of errors in said plans or from preventing work or occupancy that violates this code or other pertinent laws and ordinances of the City.

The issuance of a building permit shall not prevent the building official from requiring correction of conditions found to be in violation of this code or other pertinent laws and ordinances of the City, nor shall the period of time for which any such permit is issued be construed to extend or otherwise affect any period of time for compliance specified in any notice or order issued by the building official or other administrative authority requiring the correction of any such conditions.

R105.12 Expiration of permits. Authority to do the work authorized by a permit or a renewed permit expires eighteen months from the date of issuance.

Exception: Permits that expire in less than eighteen months may be issued where the building official determines a shorter period is appropriate to complete the work.

R105.13 Renewal of permits.

R105.13.1 Permits may be renewed and renewed permits may be further renewed by the building official if the following conditions are met:

1. Application for renewal is made within the thirty-day period immediately preceding the date of expiration of the permit;
2. If the project has had an associated discretionary Land Use review, the land use approval has not expired per Seattle Municipal Code 23.76. 032; and
3. If an application for renewal is made either more than eighteen months after the date of mandatory compliance with a new or revised edition of the Building Code or after the effective date of an amendment to applicable provisions of the Land Use Code or the Environmentally Critical Areas Ordinance (Chapter 25.09 of the Seattle Municipal Code), the permit shall not be renewed unless:
   - 3.1 The building official determines that the permit complies, or is modified to comply, with the code or codes in effect on the date of application renewal; or
   - 3.2 The work authorized by the permit is substantially underway and progressing at a rate approved by the building official. "Substantially underway" means that work such as excavation, inspections, and installation of framing, electrical, mechanical and finish work is being completed on a continuing basis.

R105.13.2 Permits may also be renewed where commencement or completion of the work authorized by the permit is delayed by litigation, appeals, strikes or other causes related to the work authorized by the permit, that are beyond the permit holder's control.

R105.14 Reestablishment. A new permit is required to complete work if a permit has expired and was not renewed.

Exception: A permit that expired less than one year prior to the date of a request for reestablishment may be reestablished upon approval of the building official, if it complies with Section R105.13.1, Items 2 and 3 above.

R105.15 Revocation.

R105.15.1 Standards for revocation. A permit may be revoked if:

1. The code or the permit has been or is being violated and issuance of a notice of violation or stop work order has been or would be ineffective to secure compliance because of circumstances related to the violation;
2. The permit was obtained with false or misleading information.

R105.15.2. Notice of revocation. Whenever the building official determines there are grounds for revoking a permit, the building official may issue a notice of revocation.

The notice of revocation shall identify the reason for the proposed revocation, including the violations, the conditions violated, and any alleged false or misleading information provided.

The notice of revocation shall be served on the owner of the property on which the work is occurring, the holder of a permit if different than the owner, and the person doing or causing the work to be done.

The notice of revocation shall be served in the manner set forth in RCW 4.28.080 for service of a summons or sent by first class mail. For purposes of this section, service is complete at the time of personal service, or if mailed, three days after the date of mailing. When the last day of the period so computed is a Saturday, Sunday or City holiday, the period runs until five p.m. on the next business day.

The building official shall identify in the notice of revocation a date certain on which the revocation will take effect unless review before the building official is requested and pursued pursuant to Section R105.15.3.

R105.15.3 Review by the building official for notice of revocation.

R105.15.3.1 Any person aggrieved by a notice of revocation may obtain a review by making a request in writing to the building official within 3 business days of the date of service of the notice of revocation.

The review shall occur within 5 business days after receipt by the building official of the request for review.

Any person aggrieved by or interested in the notice of revocation may submit additional information to the building official for consideration as part of the review at any time prior to the review.

The review will be made by a representative of the building official who will review all additional information received and may also request a site visit. After the review, the building official may:

1. Sustain the notice of revocation and set or modify the date the revocation will take effect;

2. Withdraw the notice of revocation;

3. Modify the notice of revocation and set or modify the date the revocation will take effect; or

4. Continue the review to a date certain for receipt of additional information.

R105.15.3.2 Order of the building official. The building official shall issue an order of the building official containing the decision within 10 days after the review and shall cause the same to be sent by first class mail to the person or persons requesting the review, any other person on whom the notice of revocation was served, and any other person who requested a copy before issuance of the order of the building official. The order of the building official is the final order of the City and the City and all parties shall be bound by the order

SECTION R106

FEES

A fee for each permit and for other activities related to the enforcement of this code shall be paid as set forth in the Fee Subtitle.

SECTION R107

INSPECTIONS

R107.1 General. All construction or work for which a permit is required is subject to inspection by the building official. A survey of the lot may be required by the building official to verify compliance of the structure with approved plans.

R107.2 Inspection requests. It is the duty of the owner of the property or the owner's authorized agent, or the person designated by the owner/agent to do the work authorized by a

permit, to notify the building official that work requiring inspection specified in this section is ready for inspection.

R107.3 Access for inspection. It is the duty of the permit holder and of the person requesting any inspection required by this code to provide access to and means for proper inspection of such work, including safety equipment required by the Washington Industrial Safety and Health Agency. The work shall remain accessible and exposed for inspection purposes until approved by the building official. Neither the building official nor the City is liable for expense entailed in the required removal or replacement of any material to allow inspection.

R107.4 Inspection record. Work requiring a permit shall not be commenced until the permit holder or the permit holder's agent has posted an inspection record in a conspicuous place on the premises and in a position that allows the building official to conveniently make the required entries regarding inspection of the work. This record shall be maintained in such a position by the permit holder until final approval has been granted by the building official.

R107.5 Approvals required. No work shall be done on any part of the building or structure beyond the point indicated in each successive inspection without first obtaining the written approval of the building official. Such written approval shall be given only after an inspection has been made of each successive step in the construction as indicated by each of the inspections required in Section R107.6. There shall be a final inspection and approval of all buildings when completed and ready for occupancy.

Approval as a result of an inspection is not approval of any violation of the provisions of this code or of other pertinent laws and ordinances of the City. Inspections presuming to give

authority to violate or cancel the provisions of this code or of other pertinent laws and ordinances of the City are not valid.

R107.6 Required inspections.

R107.6.1 General. No required reinforcing steel or structural framework of any part of a building or structure shall be covered or concealed in any manner whatsoever without first obtaining the approval of the building official.

Exception: Modular homes and commercial coaches identified by State of Washington stickers specified in Section 106.10.3 of the Seattle Building Code and placed upon a permanent foundation approved and inspected by the building official.

R107.6.2 The building official, upon notification by the permit holder or the permit holder's agent, of the property address and permit number, shall make the following inspections and shall either approve that portion of the construction as completed or shall notify the permit holder or the permit holder's agent if the construction fails to comply with the law.

R107.6.2.1 Site inspection: To be made at the time land-disturbing activity begins, following installation of erosion control measures and any required fencing that may restrict land disturbance in steep slope or other buffers.

Note: The purpose of this inspection is to verify the erosion control method, location and proper installation. Approved drainage plan requirements and site plan conditions will also be verified.

R107.6.2.2 Foundation inspection: To be made after trenches are excavated and forms erected and when all materials for the foundation are delivered on the job. Where concrete

from a central mixing plant (commonly termed "ready mix") is to be used, materials need not be on the job.

R107.6.2.3 Concrete slab or under-floor inspection: To be made after all in-slab or under-floor building service equipment, conduit, piping accessories and other ancillary equipment items are in place but before any concrete is poured or floor sheathing installed, including the subfloor.

R107.6.2.4 Frame inspection: To be made after the roof, all framing, fire-blocking and bracing are in place, all pipes, chimneys and vents are complete, and the rough electrical, plumbing, and heating wires, pipes and ducts are approved.

R107.6.2.5 Insulation inspection: To be made after all insulation and vapor barriers are in place but before any gypsum board or plaster is applied.

R107.6.2.6 Lath and/or gypsum board inspection: For shear walls, to be made after lathing and/or gypsum board, interior and exterior, is in place, but before any plastering is applied or before gypsum board joints and fasteners are taped and finished.

R107.6.2.7 Final inspection: To be made after finish grading and the building is completed and before occupancy.

R107.7 Other inspections. In addition to the "called" inspections specified above, the building official may make or require any other inspections of any construction work to ascertain compliance with the provisions of this code and other pertinent laws and ordinances that are enforced by the building official.

R107.8 Special investigation. If work for which a permit or approval is required is commenced or performed prior to making formal application and receiving the building

official's permission to proceed, the building official may make a special investigation inspection before a permit is issued for such work. If a special investigation is made, a special investigation fee may be assessed in accordance with the Fee Subtitle.

R107.9 Reinspections. The building official may require a reinspection if work for which inspection is made is not complete, corrections required are not made, the inspection record is not properly posted on the work site, the approved plans are not readily available to the inspector, access is not provided on the date for which inspection is requested, or if deviations from plans that require the approval of the building official have been made without proper approval, or as otherwise required by the building official. For the purpose of determining compliance with Section R108.3 the building official or the fire chief may cause a structure to be reinspected. The building official may assess a reinspection fee as set forth in the Fee Subtitle for any action listed above for which reinspection is required. In instances where reinspection fees have been assessed, no additional inspection of the work will be performed until the required fees have been paid.

R107.10 Approval for occupancy. Except for alterations and additions, no building or structure subject to this code shall be occupied until approved for occupancy after final inspection. Final inspection is not an approval of any violation of the provisions of this code or other pertinent laws and ordinances of the City. Certificates presuming to give authority to violate or cancel the provisions of this code or of other pertinent laws and ordinances of the City are not valid.

SECTION R108

EXISTING STRUCTURES AND EQUIPMENT

R108.1 General. Buildings in existence at the time of the passage of this code that were legally constructed and occupied in accordance with the provisions of a prior code may continue their existing use, if such use is not unsafe.

Mechanical systems lawful at the time of the adoption of this code may continue and may be maintained or repaired, converted to another type of fuel, or have components replaced if it is done in accordance with the basic original design and location, and no hazard to life, health or property is created by such mechanical system.

R108.2 Legalizing existing uses. In order to legalize an existing use for the record, the building shall comply with the fire and life safety requirements of this code or the code effective at the time the building was constructed. If the existing use is other than that for which the building was constructed, the building shall comply with this code or the code effective at the time the existing use was legally established.

R108.3 Maintenance. All buildings and structures and all parts thereof shall be maintained in a safe and sanitary condition.

All mechanical systems, materials, equipment and appurtenances and all parts thereof shall be maintained in proper operating condition in accordance with the original design and in a safe and hazard–free condition. All devices or safeguards that are or were required by a code in effect when the building or structure was erected, altered, or repaired shall be maintained in conformance with the code edition under which installed. To determine compliance with this

subsection, the building official may cause a mechanical system or equipment to be reinspected.

The owner or a designated agent is responsible for maintenance of buildings, structures, mechanical systems, materials, equipment, devices, safeguards, and appurtenances. It is a violation to fail to maintain such buildings, structures, mechanical systems, materials, equipment, devices, safeguards, and appurtenances or to fail to immediately comply with any lawful notice or order of the building official.

Exceptions:

1. The building official may modify the requirements of this subsection if all or a portion of a building is unoccupied, closed off and reasonably secure from unlawful entry.
2. Occupants of dwellings are responsible for the maintenance of smoke alarms required by Section R313 and the International Fire Code.

R108.4 Unsafe building appendages. Parapet walls, cornices, chimneys and other appendages or structural members that are supported by, attached to, or a part of a building and that are in a deteriorated condition or are otherwise unable to sustain the design loads specified in this code, are hereby designated as unsafe building appendages. All such unsafe building appendages are public nuisances and shall be treated as an unsafe building in accordance with Section R102 of this code.

R108.5 Additions, alterations or repairs

R108.5.1 General. Buildings and structures to which additions, alterations or repairs are made shall comply with all the requirements of this code for new facilities except as

specifically provided in this section. See also applicable provisions of the Seattle Energy Code.

Any building or addition that is not covered by or within the scope of this code as provided in Section R101.2 shall be designed to the provisions of the *International Building Code.*

Exception: An addition may be made to an existing nonconforming building if the following conditions are met:

1. A fire wall, constructed in compliance with *International Building Code* Section 705, separates the addition and the existing structure;
2. The existing building is not made more nonconforming; and
3. The addition conforms to this code.

R108.5.2 When allowed. Additions, alterations or repairs may be made to any existing building or structure without requiring the existing building or structure to comply with all the requirements of this code, if the addition, alteration or repair conforms to the standards required for a new building or structure and complies with Section R108.5.1.

Additions, alterations, renovations or repairs may be made to any mechanical system without requiring the existing mechanical system to comply with all the requirements of this code, if the addition, alteration, renovation or repair conforms to the standards required for a new mechanical system. Additions, alterations, renovations or repairs shall not cause an existing system to become unsafe, unhealthy or overloaded.

Minor additions, alterations, renovations, and repairs to existing mechanical systems may be installed in accordance with the law in effect at the time the original installation was made, if approved by the building official.

R108.5.3 Impracticality. In cases where total compliance with the requirements of this code is impractical, the applicant may arrange a pre-submittal conference with the design team and the building official. The applicant shall identify alternate design solutions and modifications and demonstrate conformance to Section R104.8 or R104.9. The building official may waive specific requirements in this code that the building official determines to be impractical.

R108.5.4 Compliance with retroactive ordinances. Alterations and repairs to existing buildings that are being made in response to a notice or order requiring compliance with the Housing and Building Maintenance Code, Subtitle II, Title 22 of the Seattle Municipal Code, the Fire Code, Subtitle VI, Title 22 of the Seattle Municipal Code, or other ordinances applicable to existing buildings, shall be permitted to be made in accordance with the standards contained in those ordinances, rather than the standards for new buildings contained in this code. If standards are not specified in those ordinances, such alterations or repairs shall conform to the requirements of this chapter.

R108.5.5 Non-structural alterations or repairs. Alterations or repairs that are non-structural and that do not affect any member or part of the building or structure having required fire-resistance may be made with the same materials of which the building or structure is constructed, provided that no change is permitted that increases its hazard.

R108.5.6 Maintenance of structural stability. If approved by the building official, minor structural alterations or repairs necessary to maintain the structural stability of the building may be made with the same material of which the building or structure is constructed.

R108.6 Historic buildings and structures. The building official may modify the specific requirements of this code as it applies to landmarks, and require in lieu thereof alternate requirements that, in the opinion of the building official, will result in a reasonable degree of safety to the public and the occupants of those buildings.

For purposes of this section a landmark is a building or structure that is subject to a requirement to obtain a certificate of approval from the City Landmarks Preservation Board before altering or making significant changes to specific features or characteristics, that has been nominated for designation or has been designated for preservation by the City Landmarks Preservation Board, that has been designated for preservation by the State of Washington, has been listed or determined eligible to be listed in the National Register of Historic Places, or is located in a landmark or special review district subject to a requirement to obtain a certificate of approval before making a change to the external appearance of the structure.

R108.7 Unreinforced masonry chimneys. If an unreinforced masonry chimney is altered or if the building in which such a chimney is located undergoes substantial alteration, the chimney shall be altered to conform to rules promulgated by the building official.

R108.8 Substantial alterations or repairs.

R108.8.1 General. Any building or structure to which substantial alterations or repairs are made shall conform with the requirements of this Section and Sections R310

(emergency escape and rescue openings), R311 (means of egress), R313 (smoke alarms), and R317 (dwelling unit separation).

R108.8.2 Definition. For the purpose of this section, substantial alterations or repairs may mean any one of the following, as determined by the building official:

1. Extensive structural repair.
2. Remodeling or additions that substantially extend the useful physical and/or economic life of the building or a significant portion of the building.
3. Change to a use within the scope of this code from any other use.
4. Change from an accessory structure to any other use within the scope of this code.
5. Change from a detached one- or two-family dwelling to a townhouse.
6. Change to adult family home or family child day care home from any other use.
7. Repairs to a building damaged by fire or other means that exceed 60 percent of the building's value as determined by the building official, or by the assessed value per King County records, or by an appraisal made by a recognized appraisal agency approved by the building official.

R108.8.3 Seismic regulations. Buildings or structures to which substantial alterations or repairs are made shall comply with Sections R301.1.3 or Sections R403.1.6, R602.10 and R602.11. In addition, the building official may require testing of existing materials if there is insufficient evidence of structural strength or integrity.

Exception: In lieu of compliance with the seismic provisions of Sections R403.1.6, R602.10 and R602.11, if approved by the building official, the applicant may

evaluate and strengthen portions of the building lateral support structure, such as foundations and cripple walls.

R108.8.4 Other structural work. All other structural work shall comply with the requirements of Chapters 3, 4, 5, 6, 8 and 10 of this code.

R108.9 Change of use.

R108.9.1 If the use of a building or portion thereof is changed, any elements of the dwelling unit envelope that are altered shall comply with the sound transmission control requirements of Section R331.

R108.9.2 If the use of a building or portion thereof is changed to adult family home or to family child day care home, the building shall comply with the applicable provisions of Section R325 or R326.

R108.10 Moved buildings. Residential buildings or structures moved into or within the City are not required to comply with the requirements of this code if the original use classification of the building or structure is not changed. Compliance with the requirements of this chapter is required if the moved residential buildings or structures undergo substantial alteration. Work performed on new and existing foundations shall comply with all of the requirements of this code for new construction.

Section 3. Chapter 2 of the International Residential Code, 2006 Edition, is amended as follows:

SECTION R201

GENERAL

***

R201.5 References to other codes. Whenever an International, National or Uniform Code is referenced in this code, it means the Seattle edition of that code, including local amendments. References to the "Building Code", "Fire Code", "Mechanical Code" and "Plumbing Code" mean the Seattle editions of those codes.

SECTION R202

DEFINITIONS

***

[W] **ADULT FAMILY HOME.** A dwelling 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.

***

BUILDING, EXISTING. Existing building is a building erected prior to the adoption of this code, or one ((~~for which a legal building permit has been issued~~)) that has passed a final inspection.

***

BUILDING OFFICIAL. The ((~~officer or other designated authority charged with the administration and enforcement of this code.~~))Director of the Department of Planning and Development.

BUILDING PERMIT APPLICATION, FULLY COMPLETE. An application that the building official has judged to meet the requirements of Section R105.5. It is the application for all the architectural and structural parts of a building, except that if the building official allows application for portions of buildings, the application shall contain at least the complete structural frame.

***

[W] CHILD DAY CARE. For the purposes of this code, the care of children during any period of a 24 hour day.

[W] CHILD DAY CARE HOME, FAMILY. A child day care facility, licensed by the 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.

***

[W] 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 child 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 that are conducted primarily by the occupants of the dwelling unit and are secondary to the use of the unit for dwelling purposes, and that do not exceed 500 square feet (46.4 m^2).

***

FIRE SEPARATION DISTANCE. The distance measured from the building face to one of the following:

1. To the closest interior lot line; or
2. To the ((~~centerline~~)) opposite side 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 face of the wall.

***

FLOATING HOME. A building constructed on a float, used in whole or in part for human habitation as a single-family dwelling, which is moored, anchored or otherwise secured in waters.

FLOATING HOME MOORAGE. A waterfront facility for the moorage of one or more floating homes and the land and water premises on which it is located.

FLOATING HOME SITE. A part of a floating home moorage, located over water, and designed to accommodate one floating home.

***

GARBAGE. All discarded putrescible waste matter, including small dead animals weighing not over 15 pounds (6.8 kg), but not including sewage or human or animal excrement.

***

JURISDICTION. The ((~~governmental unit that has adopted this code under due legislative authority~~)) City of Seattle.

***

LAND-DISTURBING ACTIVITY. Any activity that results in a movement of earth, or a change in the existing soil cover (both vegetative and nonvegetative) or the existing topography. Land-disturbing activities include, but are not limited to, clearing, grading, filling, excavation, and addition or replacement of impervious surface.

***

MEZZANINE, LOFT. An intermediate level or levels between the floor and ceiling of any story with an aggregate floor area of not more than ((~~one-third~~)) one-half of the area of the room or space in which the level or levels are located.

***

PERSON. ((~~An~~)) Any individual, receiver, ((~~heirs, executors, administrators or assigns, and also includes a~~)) administrator, executor, assignee, trustee in bankruptcy, trust, estate, firm, partnership, joint venture, club, company, joint stock company, business trust, municipal corporation, political subdivision of the State of Washington, ((~~or~~)) corporation, limited liability company, association, society or any group of individuals acting as a unit, whether mutual, cooperative, fraternal, nonprofit or otherwise, and the United States or any

instrumentality thereof. ((~~its or their successors or assigns, or the agent of any of the aforesaid.~~))

***

SEWAGE. ((~~Any liquid waste containing animal matter, vegetable matter or other impurity in suspension or solution.~~)) All water-carried waste discharged from the sanitary facilities of buildings occupied or used by people.

***

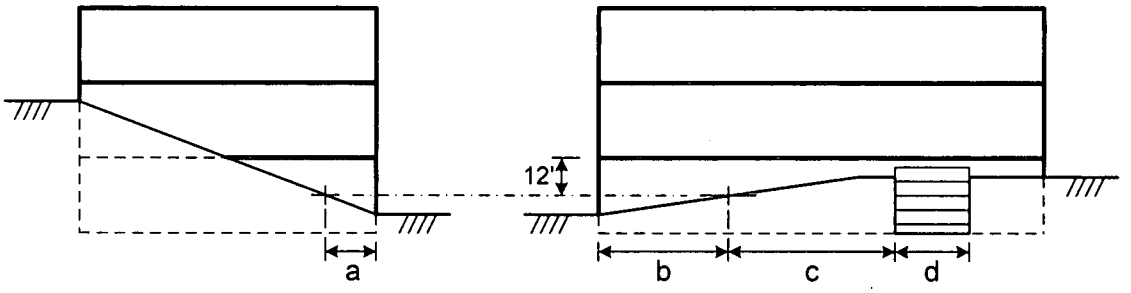
[W] SMALL BUSINESS. Any business entity (including a sole proprietorship, corporation, partnership or other legal entity) that is owned and operated independently from all other businesses, has the purpose of making a profit, and has fifty or fewer employees, or that has a million dollars or less per year in gross sales of window products.

***

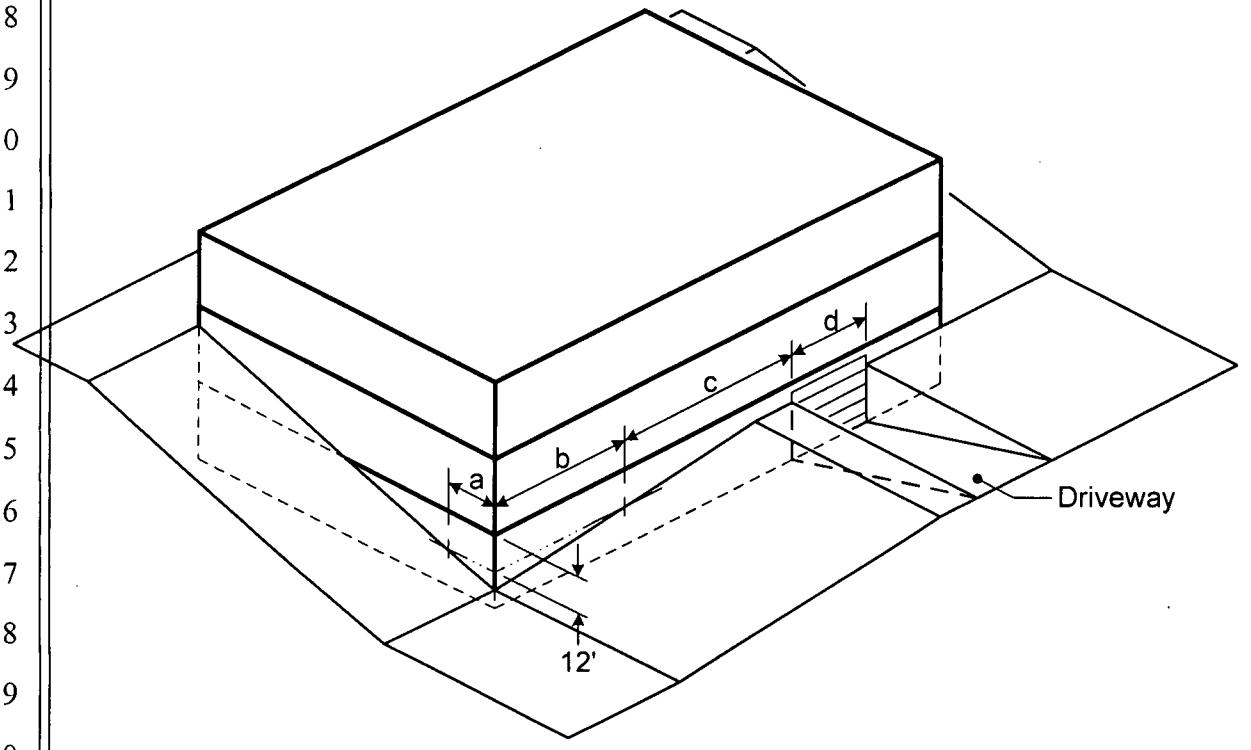
STORY ABOVE GRADE. Any story having its finished floor surface entirely above grade, except that a basement shall be considered as a story above grade where the finished surface of the floor above the basement is:

1. More than 6 feet (1829 mm) above grade plane((.));
2. More than 6 feet (1829 mm) above the finished ground level for more than 50 percent of the total building perimeter((.)); or
3. More than 12 feet (3658 mm) above the finished ground level ((~~at any point~~)) for more than 25 feet (7620 mm) of the perimeter. Required driveways up to 22 feet (6706 mm)

shall not be considered in calculating the 25 foot distance if there is at least 10 feet (3048 mm) between the driveway and all portions of the 25-foot area. See Figure R202.



SIDE ELEVATION **FRONT ELEVATION**



a + b ≤ 25'	Lowest level may be a basement below grade if all these are met
c ≥ 10'	
d ≤ 22'	

FIGURE R202
STORY ABOVE GRADE PLANE

***

TOWNHOUSE. A single-family dwelling unit constructed in a group of three or more attached units in which each unit extends from foundation to roof and with open space on at least two sides.

Interpretation R202T: The required open space shall be either a yard, driveway, parking lot or public way.

***

[W] UNUSUALLY TIGHT CONSTRUCTION. Construction in which:

1. Walls ((~~and ceilings comprising the building thermal envelope have~~)) exposed to the outside atmosphere have a continuous water vapor retarder with a rating of 1 perm (((~~$5.7 \cdot 10^{-11}$ kg/Pa · s · m^2~~)) 57 ng/ s · m^2 · Pa) or less with openings ((~~therein~~)) gasketed or sealed((~~.~~)); and

((~~2.~~)) ((~~Storm windows or weatherstripping is applied around the threshold and jambs of opaque doors and openable windows.~~)) Openable windows and doors meet the air leakage requirements of the *International Energy Conservation Code*, Section 502.1.4; and

((~~3.~~)) Caulking or sealants are applied to areas such as joints around window and door frames, between sole plates and floors, between wall-ceiling joints, between wall panels, at penetrations for plumbing, electrical and gas lines, and at other openings; or

2. Buildings built in compliance with the 1986 or later editions of the Washington State Energy Code WAC chapter 51-11, Northwest Energy Code, or Super Good Cents weatherization standards or equivalent.[

Interpretation R202U: Buildings in compliance with the 1986 or later edition of the Seattle Energy Code or Built Smart weatherization standards are considered unusually tight construction.

***

WATER HEATER. Any heating appliance or equipment that heats potable water and supplies such water to the potable hot water distribution system.

Interpretation R202W: "Water heater" includes only those appliances that do not exceed pressure of 160 pounds per square inch, volume of 120 gallons and a heat input of 200,000 Btu/hr.

***

Section 4. The following sections of Chapter 3 of the International Residential Code, 2006 Edition, are amended as follows:

***

SECTION R301
DESIGN CRITERIA

***

TABLE R301.2(1)

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

((~~GROUND~~)) ROOF SNOW LOAD	WIND SPEED[d] (mph)	SEISMIC DESIGN CATEGORY[f]	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP[e]	ICE BARRIER UNDER-LAYMENT REQUIRED[h]	FLOOD HAZARDS[g]	AIR FREEZING INDEX[i]	MEAN ANNUAL TEMP[j]
			Weathering[a]	Frost line depth[b]	Termite[c]					
25 psf	85	D2	Moderate	12"	none to slight	24°	No	(a) 1989 (b) May 16, 1995	250	52.8

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (i.e., "negligible," "moderate" or "severe") for concrete as determined from the Weathering Probability Map [Figure R301.2(3)].

The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.

b. The frost line depth may require deeper footings than indicated in Figure R403.1(1). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.

c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.

d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)].Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.

e. ((~~The outdoor design dry-bulb temperature shall be selected from the columns of 97½ percent values for winter from Appendix D of the *International Plumbing Code*. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official.~~)) The winter design temperature is taken from the *Washington State Energy Code with Seattle Amendments*.

f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.

g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the currently effective FIRM and FBFM, or other flood hazard map adopted by the community, as may be amended.

h. In accordance with Sections R905.2.7.1, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES". Otherwise, the jurisdiction shall fill in this part of the table with "NO".

i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99%) value on the National Climatic Data Center data table "Air Freezing Index- USA Method (Base 32°Fahrenheit)" at www.ncdc.noaa.gov/fpsf.html.

j The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°Fahrenheit)" at **www.ncdc.noaa.gov/fpsf.html.**

***

SECTION R302

((~~EXTERIOR WALL~~)) LOCATION ON LOT

((~~**R302.1 Exterior walls.** Construction, projections, openings and penetrations of exterior walls of dwellings and accessory buildings shall comply with Table R302.1. These provisions shall not apply to walls, projections, openings or penetrations in walls that are perpendicular to the line used to determine the fire separation distance. Projections beyond the exterior wall shall not extend more than 12 inches (305 mm) into the areas where openings are prohibited.~~

~~**Exceptions:**~~

~~1. Detached tool sheds and storage sheds, playhouses and similar structures exempted from permits are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.~~

~~2. Detached garages accessory to a dwelling located within 2 feet (610 mm) of a lot line are permitted to have roof eave projections not exceeding 4 inches (102 mm).~~

~~3. Foundation vents installed in compliance with this code are permitted.~~

~~**TABLE R302.1**~~
~~**EXTERIOR WALLS**~~

~~EXTERIOR WALL ELEMENT~~		~~MINIMUM FIRE-RESISTANCE RATING~~	~~MINIMUM FIRE SEPARATION DISTANCE~~
~~Walls~~	~~(Fire-resistance rated)~~	~~1 hour with exposure from both sides~~	~~0 feet~~
	~~(Not fire-resistance rated)~~	~~0 hours~~	~~5 feet~~
~~Projections~~	~~(Fire-resistance rated)~~	~~1 hour on the underside~~	~~2 feet~~
	~~(Not fire-resistance rated)~~	~~0 hours~~	~~5 feet~~
~~Openings~~	~~Not allowed~~	~~N/A~~	~~< 3 feet~~
	~~25% Maximum of Wall Area~~	~~0 hours~~	~~3 feet~~
	~~Unlimited~~	~~0 hours~~	~~5 feet~~
~~Penetrations~~	~~All~~	~~Comply with Section R317.3~~	~~< 5 feet~~
		~~None required~~	~~5 feet~~

~~N/A = Not Applicable.~~)).

R302.1 Exterior walls. Exterior walls with a fire separation distance less than 3 feet (914 mm) shall have not less than a one–hour fire–resistance rating with exposure from both sides. Projections shall not extend to a point closer than 2 feet (610 mm) from the line used to determine the fire separation distance.

Exception: Detached garages accessory to a dwelling located within 2 feet of a lot line shall be permitted to have roof eave projections not exceeding 4 inches.

Projections extending into the fire separation distance shall have not less than one–hour fire–resistive construction on the underside. The above provisions shall not apply to walls which are perpendicular to the line used to determine the fire separation distance.

Exception: Greenhouses, tool and storage sheds, playhouses and similar structures exempted from permits by Section R105.2 are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.

Interpretation I302.1: For purposes of Section R302.1, gutters 6 inches or less in width that are not an integral part of the structure are not considered projections.

R302.2 Openings. Openings shall not be permitted in the exterior wall of a dwelling or accessory building with a fire separation distance less than 3 feet (914 mm). This distance shall be measured perpendicular to the line used to determine the fire separation distance.

Exceptions:

1. Openings shall be permitted in walls that are perpendicular to the line used to determine the fire separation distance.

2. Foundation vents installed in compliance with this code are permitted.

R302.3 Penetrations. Penetrations located in the exterior wall of a dwelling with a fire separation distance of less than 3 feet (914 mm) shall be protected in accordance with Section R317.3.

Exception: Penetrations shall be permitted in walls that are perpendicular to the line used to determine the fire separation distance.

R302.4 Fire Service Features. Buildings shall comply with the provisions for fire department access and fire protection water supplies (hydrants) of Chapter 5 of the *International Fire Code.*

SECTION R303

LIGHT, VENTILATION AND HEATING

R303.1 Habitable rooms. All habitable rooms shall have an aggregate glazing area of not less than 8 percent of the floor area of such rooms. Ventilation shall comply with the Washington State Ventilation and Indoor Air Quality Code. ((~~Natural ventilation shall be through windows, doors, louvers or other approved openings to the outdoor air. Such openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants. The minimum openable area to the outdoors shall be 4 percent of the floor area being ventilated.~~))

Exception((s)):

((~~1. The glazed areas need not be openable where the opening is not required by Section R310 and an approved mechanical ventilation system capable of producing 0.35 air change per hour in the room is installed or a whole house mechanical ventilation system is installed capable of supplying outdoor ventilation air of 15 cubic feet per minute (cfm) (78 L/s) per occupant computed on the basis of two occupants for the first bedroom and one occupant for each additional bedroom.~~

~~2.~~)) The glazed areas need not be installed in rooms where ((~~Exception 1 above is satisfied and~~)) 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.

((~~3. Use of sunroom additions and patio covers, as defined in Section R202, shall be permitted for natural ventilation if in excess of 40 percent of the exterior sunroom walls are open, or are enclosed only by insect screening.~~))

R303.2 Adjoining rooms. For the purpose of determining light ((~~and ventilation~~)) 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^2).

Exception: Openings required for light ((~~and/or ventilation~~)) shall be permitted to open into a thermally isolated sunroom addition or patio cover, provided that there is an openable area between the adjoining room and the sunroom addition or 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^2). ((~~The minimum openable area to the outdoors shall be based upon the total floor area being ventilated.~~))

***

((~~**R303.4 Opening location.** Outdoor intake and exhaust openings shall be located in accordance with Sections R303.4.1 and R303.4.2.~~

~~**R303.4.1 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. Where a source of contaminant is located within 10 feet~~

~~(3048 mm) of an intake opening, such opening shall be located a minimum of 2 feet (610 mm) below the contaminant source.~~

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

~~**R303.4.2 Exhaust openings.** Outside exhaust openings shall be located so as not to create a nuisance. Exhaust air shall not be directed onto walkways.~~

~~**R303.5 Outside opening protection.** Air exhaust and intake openings that terminate outdoors shall be protected with corrosion resistant screens, louvers or grilles having a minimum opening size of $^{1}/_{4}$ inch (6 mm) and a maximum opening size of $^{1}/_{2}$ inch (13 mm), in any dimension. Openings shall be protected against local weather conditions. Outdoor air exhaust and intake openings shall meet the provisions for exterior wall opening protectives in accordance with this code.~~))

* * *

R303.8 Required heating. ((~~When the winter design temperature in Table R301.2(1) is below 60°F (16°C), every~~)) 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, baths and toilet rooms at the design temperature specified in Table R301.2(1). The installation of one or more portable space heaters shall not be used to achieve compliance with this section.

[W] R303.8.1 Definitions. For the purposes of Sections R303.8.1 through R303.8.3 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.

R303.8.2 Primary heating source. Primary heating sources in all new and substantially remodeled buildings in designated areas shall not be dependent upon wood stoves.

R303.8.3 Solid fuel burning devices. No used solid fuel burning device shall be installed in new or existing buildings unless such device is United States Environmental Protection Agency certified or a pellet stove either certified or exempt from certification by the United States Environmental Protection Agency.

Exception: Antique wood cook stoves and heaters manufactured prior to 1940.

***

SECTION R311

MEANS OF EGRESS

R311.1 General. Stairways, ramps, exterior egress balconies, hallways and doors shall comply with this section.

[W] Exception: Stairs or ladders within an individual dwelling unit used for access to areas of 200 square feet (18.6 m^2) or less, and not containing the primary bathroom or kitchen.

***

R311.4 Doors.

R311.4.1 Exit door required. Not less than one exit door conforming to this section shall be provided for each dwelling unit. The required exit door shall provide for direct access from the habitable portions of the dwelling to the exterior without requiring travel through a garage. Access to habitable levels not having an exit in accordance with this section shall be by a ramp in accordance with Section R311.6 or a stairway in accordance with Section R311.5.

R311.4.2 Door type and size. The required exit door shall be a side-hinged door not less than 3 feet (914 mm) in width and 6 feet 8 inches (2032 mm) in height. Other doors shall not be required to comply with these minimum dimensions.

R311.4.3 Landings at doors. There shall be a floor or landing on each side of each exterior door. The floor or landing at the exterior door shall not be more than 1.5 inches (38 mm) lower than the top of the threshold. The landing shall be permitted to have a slope not to exceed 0.25 unit vertical in 12 units horizontal (2-percent).

Exceptions:

1. Where a stairway of two or fewer risers is located on the exterior side of a door, other than the required exit door, a landing is not required for the exterior side of the door provided the door, other than an exterior storm or screen door does not swing over the stairway.

2. The exterior landing at an exterior doorway, including exit doors, shall not be more than $7^3/_4$ inches (196 mm) below the top of the threshold, provided the door, other than an exterior storm or screen door does not swing over the landing.

3. The height of floors at exterior doors other than the exit door required by Section R311.4.1 shall not be more than $7^3/_4$ inches (186 mm) lower than the top of the threshold.

The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches (914 mm) measured in the direction of travel.

R311.4.4 Type of lock or latch. All egress doors shall be readily openable from the side from which egress is to be made without the use of a key or special knowledge or effort.

***

SECTION R312

GUARDS

***

R312.2 Guard opening limitations. Required guards on open sides of stairways, raised floor areas, balconies and porches shall have intermediate rails or ornamental closures which do not allow passage of a sphere 4 inches (102 mm) or more in diameter.

Exceptions:

1. The triangular openings formed by the riser, tread and bottom rail of a guard at the open side of a stairway are permitted to be of such a size that a sphere 6 inches (152 mm) cannot pass through.

2. Openings for required guards on the sides of stair treads shall not allow a sphere 4 $^{3}/_{8}$ inches (107 mm) to pass through.

Code Alternate R312.2: Intermediate rails need not be provided at the glazed sides of stairs, ramps and landings, provided the glazing complies with Section R308.3.

SECTION R313

SMOKE ALARMS

***

[W] R313.2 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 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. In napping areas in family child day care homes.

When more than one smoke alarm is required to be installed within an individual dwelling unit 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 unit.

R313.2.1 Alterations, repairs and additions. When alterations, repairs or additions requiring a permit occur, or when one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be equipped with smoke alarms

located as required for new dwellings; the smoke alarms shall be interconnected and hard wired.

Exceptions:

1. Interconnection and hard-wiring of smoke alarms in existing areas shall not be required where the alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for hard wiring and interconnection without the removal of interior finishes.

2. Work involving the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck, are exempt from the requirements of this section.

***

SECTION R317

DWELLING UNIT SEPARATION

***

R317.2 Townhouses. Each townhouse shall be considered a separate building and shall be separated by fire-resistance-rated wall assemblies meeting the requirements of Section R302 for exterior walls.

Exception: A common 2-hour fire-resistance-rated wall is permitted for townhouses if such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. ((~~Electrical installations shall be installed in accordance with~~

~~Chapters 33 through 42.~~)) Penetrations of electrical outlet boxes shall be in accordance with Section R317.3.

[W] R317.2.1 Continuity. The fire-resistance-rated wall or assembly separating townhouses 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; or
2. The underside of the exposed floor-ceiling assembly shall be protected as required for projections in Section R302.

***

SECTION R321

SITE ADDRESS

R321.1 Premises identification. Approved numbers or addresses shall be provided for all new buildings in such a position as to be plainly visible and legible from the street or road fronting the property. Premises identification shall be provided in compliance with Seattle Building Code Section 501.2.

***

SECTION R324

FLOOD-RESISTANT CONSTRUCTION

R324.1 General. Buildings and structures constructed in whole or in part in flood hazard areas (including A or V Zones) as established in Table R301.2(1) shall be designed and constructed in accordance with the provisions contained in this section and Seattle Municipal Code Chapter 25.06, the Seattle Floodplain Development Ordinance.

Exception: Buildings and structures located in whole or in part in identified floodways as established in Table R301.2(1) shall be designed and constructed as stipulated in the *International Building Code.*

R324.1.1 Structural systems. All structural systems of all buildings and structures shall be designed, connected and anchored to resist flotation, collapse or permanent lateral movement due to structural loads and stresses from flooding equal to the design flood elevation.

R324.1.2 Flood-resistant construction. All buildings and structures erected in areas prone to flooding shall be constructed by methods and practices that minimize flood damage.

R324.1.3 Establishing the design flood elevation. The design flood elevation shall be used to define areas prone to flooding, and shall describe, at a minimum, the base flood elevation at the depth of peak elevation of flooding (including wave height) which has a 1 percent (100-year flood) or greater chance of being equaled or exceeded in any given year.

R324.1.3.1 Determination of design flood elevations. If design flood elevations are not specified, the building official is authorized to require the applicant to:

1. Obtain and reasonably use data available from a federal, state or other source; or
2. Determine the design flood elevation in accordance with accepted hydrologic and hydraulic engineering practices used to define special flood hazard areas.

Determinations shall be undertaken by a registered design professional who shall

document that the technical methods used reflect currently accepted engineering practice. Studies, analyses and computations shall be submitted in sufficient detail to allow thorough review and approval.

R324.1.3.2 Determination of impacts. In riverine flood hazard areas where design flood elevations are specified but floodways have not been designated, the applicant shall demonstrate that the effect of the proposed buildings and structures on design flood elevations, including fill, when combined with all other existing and anticipated flood hazard area encroachments, will not increase the design flood elevation more than 1 foot (305 mm) at any point within the jurisdiction.

R324.1.4 Lowest floor. The lowest floor shall be the floor of the lowest enclosed area, including basement, but excluding any unfinished flood-resistant enclosure that is useable solely for vehicle parking, building access or limited storage provided that such enclosure is not built so as to render the building or structure in violation of this section.

R324.1.5 Protection of mechanical and electrical systems. Electrical systems, equipment and components, and heating, ventilating, air conditioning and plumbing appliances, plumbing fixtures, duct systems, and other service equipment shall be located at or above the design flood elevation. If replaced as part of a substantial improvement, electrical systems, equipment and components, and heating, ventilating, air conditioning, and plumbing appliances, plumbing fixtures, duct systems, and other service equipment shall meet the requirements of this section. Systems, fixtures, and equipment and components shall not be mounted on or penetrate through walls intended to break away under flood loads.

Exception: Electrical systems, equipment and components, and heating, ventilating, air conditioning and plumbing appliances, plumbing fixtures, duct systems, and other service equipment are permitted to be located below the design flood elevation provided that they are designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding to the design flood elevation in compliance with the flood-resistant construction requirements of the *International Building Code.* Electrical wiring systems are permitted to be located below the design flood elevation provided they conform to the ((~~electrical part of this code~~)) *Seattle Electrical Code* for wet locations.

R324.1.6 Protection of water supply and sanitary sewage systems. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems in accordance with the plumbing provisions of this code. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into systems and discharges from systems into floodwaters in accordance with the ((~~plumbing provisions of this code and Chapter 3 of the *International Private Sewage Disposal Code*~~)) *Uniform Plumbing Code*.

R324.1.7 Flood-resistant materials. Building materials used below the design flood elevation shall comply with the following:

1. All wood, including floor sheathing, shall be pressure-preservative-treated in accordance with AWPA U1 for the species, product, preservative and end use or be the

decay-resistant heartwood of redwood, black locust or cedars. Preservatives shall be listed in Section 4 of AWPA U1.

2. Materials and installation methods used for flooring and interior and exterior walls and wall coverings shall conform to the provisions of FEMA/FIA-TB

R324.1.8 Manufactured housing. New or replacement manufactured housing shall be elevated in accordance with Section R324.2 and the anchor and tie-down requirements of Sections AE604 and AE605 of Appendix E shall apply. The foundation and anchorage of manufactured housing to be located in identified flood ways as established in Table R301.2(1) shall be designed and constructed in accordance with the applicable provisions in the *International Building Code.*

R324.1.9 As-built elevation documentation. A registered design professional shall prepare and seal documentation of the elevations specified in Section R324.2 or R324.3.

***

[W] SECTION R325

ADULT FAMILY HOMES

R325.1 General. This section applies to all newly constructed adult family homes and all existing single family homes being converted to adult family homes. This section does not apply to those adult family homes licensed by the state of Washington Department of Social and Health Services prior to July 1, 2001.

R325.2 Submittal standards. In addition to those requirements in Section R105, the submittal shall identify the project as a Group R-3 Adult Family Home occupancy. A floor plan shall be submitted identifying the means of egress and the components in the means of egress such as

stairs, ramps, platform lifts and elevators. The plans shall indicate the rooms used for clients and the sleeping room classification of each room.

R325.3 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 R311.6 is provided.
3. Type NS2 - where two means of egress are at grade level or ramps constructed in accordance with R311.6 are provided.

R325.4 Types of locking devices. All bedroom and bathroom doors shall be openable from the outside when locked. Every closet shall be readily openable from the inside.

R325.5 Smoke alarm requirements. All adult family homes shall be equipped with smoke alarms installed as required in Section R313. Alarms shall be installed in such a manner so that the fire warning may be audible in all parts of the dwelling upon activation of a single device.

R325.6 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.

R325.7 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 Fire Code.

[W] SECTION R326

FAMILY CHILD DAY CARE HOMES

R326 Family Child Day Care Homes.

R326.1 For family child day care homes with more than six children, each floor level used for family child day 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.

R326.2 Basements located more than 4 feet below grade level shall not be used for family child day care homes unless one of following conditions exist:

1. Stairways from the basement open directly to the exterior of the building without entering the first floor; or
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; or
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 National Fire Protection Association Standard 13D.

R326.3 Floors located more than 4 feet above grade level shall not be occupied by children in family day care homes.

Exceptions:

1. Use of toilet facilities while under supervision of an adult staff person.

2. Family child day care homes 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; or

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 National Fire Protection Association Standard 13D.

R326.4 Every sleeping or napping room in a family child day care home 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.

R326.5 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 child day care area by at least one-hour fire-resistive construction.

Exception: A fire-resistive 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.

[W] SECTION R327

PROTECTION AGAINST RADON

R327.1 Protection against radon. The radon control provisions of Appendix F of this code apply to buildings constructed in High Radon Potential Counties (zone 1) designated in Table AF101 (1). The radon control provisions of Appendix F of this code also apply to all buildings constructed using the provisions of Section R408.3, unvented crawl space compliance method.

[W] SECTION R328

SWIMMING POOLS, SPAS AND HOT TUBS

R328.1 Design and construction of pools, spas and hot tubs. The provisions of Appendix G control the design and construction of swimming pools, spas and hot tubs installed in or on the lot of a one- or two-family dwelling.

[W] SECTION R329

METHANE REDUCTION MEASURES

R329.1 Applicability. This section applies to all construction activities on or within 1,000 feet (305 m) of an active, closed or abandoned landfill (landfill zone) that has been identified by the building official to be generating levels of methane gas on-site either at or above the lower explosive limits. The distance shall be calculated from the location of the proposed structure to the nearest property line of the active or former landfill site. The building official may waive these requirements if technical studies demonstrate that dangerous amounts of methane are not present on the site.

R329.2 Protection of structures. All enclosed structures to be built within the 1,000 foot (305 m) landfill zone shall be protected from potential methane migration. The method for

protecting a structure from methane shall be identified in a report prepared by a licensed civil engineer and submitted by the applicant to the department for approval. The report shall contain a description of the investigation and recommendations for preventing the accumulation of explosive concentrations of methane gas within or under enclosed portions of the building or structure. At the time of final inspection, the civil engineer shall furnish a signed statement attesting that, to the best of the engineer's knowledge, the building or structure has been constructed in accordance with the recommendations for addressing methane gas migration.

SECTION R330

SECURITY FROM CRIMINAL ACTIVITY

R330.1 Building entrance locks. Building entrance doors, including garage doors, shall be capable of locking. They shall be equipped with a dead-locking latch bolt with at least a 1/2-inch throw that penetrates the striker not less than 1/4 inch. Building entrance doors shall be openable from the inside without use of a key or special knowledge or effort.

Exception: Garage-to-exterior doors are permitted to be equipped with an electronically-operated remote control device for opening and closing in lieu of a dead-locking latch bolt. When garage-to-exterior doors are equipped with remote control devices, garage-to-building doors need not be capable of locking.

R330.2. Observation ports. Every building entrance door, other than garage doors, shall have a visitor observation port or glass side light. Observation ports shall be installed at a height of not less than 54 inches and not more than 66 inches from the floor.

R330.3. Windows and sliding doors. Dead bolts or other approved locking devices shall be provided on all sliding doors and openable windows. The lock shall be installed so that the mounting screws for the lock case are inaccessible from the outside.

Exception: Windows with sills located 10 feet or more above grade, or 10 feet or more above a deck, balcony or porch that is not readily accessible from grade except through a housing unit need not have operable inside latching devices.

R330.4 Alternate security devices. Subject to the approval of the building official, alternate security devices are permitted to be substituted for those required by this section. Alternate devices must have equal capability to resist illegal entry. The installation of the device shall not conflict with other requirements of this code and other ordinances regulating the safety of exiting.

SECTION R331

SOUND TRANSMISSION CONTROL

R331.1 General. Wall and floor-ceiling assemblies separating dwelling units shall provide sound insulation in accordance with this Section R331.

R331.1.1 Perimeter joints. Joints in the perimeter of such separating wall or floor-ceiling assembly shall be acoustically sealed with a permanent resilient material approved for the purpose. The separating wall or floor-ceiling assembly shall extend completely to and be sealed to another separating assembly or an exterior wall, roof or floor assembly.

R331.1.2 Penetrations. Conduits, ducts, pipes and vents within the wall or floor-ceiling assembly causing vibration shall be reasonably isolated from the building construction at points of support by means of resilient sleeves, mounts or underlayments. All other openings through

which such conduits, ducts, pipes or vents pass shall have the excess opening fully sealed with insulative and permanently resilient materials approved for the purpose.

R331.1.3 Fire-resistance-ratings. Design and materials for sound transmission control shall not impair the fire-resistance-rating of separating walls or floor-ceiling assemblies required to be of fire-resistance-rated construction.

R331.2 Airborne sound. Airborne sound insulation for wall and floor–ceiling assemblies shall meet a Sound Transmission Class (STC) rating of 45 when tested in accordance with ASTM E 90.

R331.2.1 Outlet boxes. Electrical outlet boxes shall not be placed back-to-back and shall be offset by not less than 12 inches (305 mm) from outlets in the opposite wall surface. The back and sides of boxes shall be sealed with one-eighth-inch resilient sealant and backed by a minimum of 2-inch thick mineral fiber insulation or approved equivalent.

R331.3 Structural-borne sound. Floor-ceiling assemblies between dwelling units or between a dwelling unit and a public or service area within a structure shall have an Impact Insulation Class (IIC) rating of not less than 50 when tested in accordance with ASTM E 492. Floor covering may be included in the assembly to obtain the required ratings.

Exception: Floor assemblies in bathrooms are not required to meet the IIC rating of 50 where structural concrete floor systems are used.

R331.4 Tested assemblies. Field- or laboratory-tested wall or floor-ceiling designs having an STC or IIC of 50 or more may be used without additional field testing when, in the opinion of the building official, the tested design has not been compromised by flanking paths. Tests may be required by the building official when evidence of compromised separations is noted. Wall

or floor-ceiling designs field tested by ASTM E 336 having a minimum FSTC or FIIC rating of 45 may be used.

R331.5 Field testing and certification. Field testing, when permitted to determine airborne sound transmission or impact sound insulation class, shall be done in accordance with ASTM E 492 under the supervision of an acoustical professional who is experienced in the field of acoustical testing and engineering and who shall forward certified test results to the building official that minimum sound insulation requirements stated above have been met.

R331.7 Sound transmission control systems. Generic systems listed in GA 600-00 may be accepted where a laboratory test indicates that the requirements of Section R331 are met by the system.

SECTION R332

FLOATING HOMES

R332.1 Definitions. Certain words and terms used in this section, unless clearly inconsistent with their context, are defined as follows:

R332.2 Moorage location. Every floating home moorage shall be located on privately-owned or privately-controlled premises in accordance with the Land Use Code.

R332.3 Land access. Every floating home moorage shall have not less than 20 feet (6096 mm) of land frontage abutting a public street sufficiently improved for automobile travel.

R332.4 Moorage walkways. Every floating home moorage shall have firm and substantial walkways with a net width of not less than 4 feet (1219 mm) and extending from land to every floating home site in the moorage.

R332.5 Moorage lighting. Every floating home moorage and the walkways to every floating home site shall be illuminated to provide safe access. All luminaires shall be listed for the use.

R332.6 Fire protection. Floating home moorages shall be provided with fire extinguishing equipment as follows:

1. **Portable fire-protection equipment**. One fire extinguisher, 2A, 20-B:C rating minimum, shall be provided in each required hose station. The fire chief shall designate the type and number of all other fire appliances to be installed and maintained in each floating home moorage.
2. **Standpipes**. All portions of floats exceeding 250 feet (76 500 mm) in distance from fire apparatus access and marine service stations shall be provided with an approved Class I standpipe system installed according to *International Building Code* Section 905 and the *International Fire Code.*

R332.7 Water service connections. Every floating home moorage shall have a water service connection and shall provide water service piping securely fastened and stabilized above water from the water service connection to an outlet connection at each floating home site on a floating home moorage. The water piping in every floating home in a floating home moorage shall be connected to the water service outlet serving the floating home and the connection shall be securely fastened and stabilized above high water line. Water service connections and water service piping shall be constructed, installed and maintained in accordance with applicable standards established by or pursuant to ordinance.

R332.8 Public sewer connection. Every floating home moorage any part of which is within 300 feet (91 440 mm) of a public sewer and every floating home moorage on Shilshole Bay,

Salmon Bay, Lake Washington Ship Canal, Lake Union, Portage Bay, Union Bay and that portion of Lake Washington lying within the city limits of Seattle shall have a lawfully-installed connection to a public sewer.

R332.9 Local side sewer system. Every floating home moorage within the limits specified in Section R332.8 shall provide a local side sewer system for the collection of sewage from every floating home in the moorage. The local side sewer system shall be connected to the public sewer, shall have an inlet connection at each floating home site and shall be constructed, installed and maintained in accordance with this and all other applicable ordinances regulating the construction, alteration, repair and connection of side sewers.

R332.10 Connection to local side sewer system. Every floating home in a floating home moorage that is required under Section R332.8 to be connected to a public sewer shall be connected to the local side sewer system. Owners and operators of floating home moorages shall not permit any floating home to be moored at any moorage under their control unless the floating home is connected to the local side sewer system. It is a violation for any person to use, occupy or let any floating home for human habitation within the limits specified in Section R332.8 unless it is connected to the sewer system.

A reconnection permit is required for any floating home that is relocated from its original site of connection to a local side sewer system. Such reconnection is subject to the approval of the Director of Seattle Public Utilities.

R332.11 Sewer installation fees. The fee for the installation of any side sewer serving a floating home moorage is the fee provided by law for the connection to the public sewer of side sewers serving mobile home parks.

R332.12 Plumbing systems. All plumbing and plumbing systems in every floating home shall meet the requirements of the *Uniform Plumbing Code* except as otherwise approved by the Director of Public Health.

R332.13 Garbage disposal. Every floating home moorage shall be provided with adequate garbage storage and collection facilities, which shall be located in an accessible place on the moorage site. No garbage or refuse shall be thrown or dumped into the waters.

R332.14 Electrical service and wiring. Electrical service approved by City Light shall be provided to floating homes and floating home moorages. Electrical wiring and equipment in every floating home shall conform to requirements of the *Seattle Electrical Code*. No floating home shall be permitted to connect or reconnect to the electric utility's distribution system unless approved for such connection by the building official in accordance with the *Seattle Electrical Code*.

R332.15 New construction and alterations. All new construction of floating homes or major alterations thereto and all floating homes moved into city waters shall conform to the requirements for dwellings set forth in this code and all other applicable codes and ordinances regulating the design, construction, use and occupancy of such buildings and the required installations therein.

R332.16 Housing standards for existing floating homes. Every floating home shall comply with the minimum housing standards of the Seattle Housing and Building Maintenance Code except as otherwise approved by the building official in accordance with the Housing and Building Maintenance Code.

R332.17. Property lines. The boundaries of floating home moorage sites shall be considered the lot line for determining compliance with Section R302.

Interpretation R332.17: For the purposes of determining the required wall and opening protection and roof-covering requirements, distance shall be measured to the exterior wall of the home, and not to the float.

R332.18 Approval of moorage site plan required. Every floating home moorage shall continuously conform to a moorage site plan that has been approved by the building official. Such approval shall be obtained as follows: Three copies of the site plan, drawn to scale and completely dimensioned, and setting forth the address and legal description of the property on which the moorage is located and the name and address of the owner or operator of the moorage, shall be filed with the building official.

The moorage site plan shall show:

1. The dimensions of the floating home moorage site;
2. The location of abutting public waterways;
3. The location and dimensions of private waterways and land access to the moorage;
4. The location and identification of individual floating home sites;
5. The location and dimensions of off-street parking spaces;
6. The location and dimensions of walkways and any accessory structures or facilities;
7. The water service system;
8. The local side sewer system; and
9. The electrical service and lighting system.

The site plan shall be reviewed by the building official, the Fire Chief, the Director of Public Health, the Director of Seattle Public Utilities, and the Director of Transportation for conformance with the requirements of this code and other applicable ordinances. Upon approval by the building official, one copy of the approved site plan shall be retained in the office of the building official, one copy in the office of the Director of Public Health, and one copy, which shall be maintained on the premises of the floating home moorage, shall be returned to the owner or operator.

R332.19 Moorage register of ownership. Every owner or operator of a floating home moorage shall maintain a current register of every floating home moored on the premises, such register to record the name and address of the legal owner of each floating home and the registration number assigned to it by the King County Assessor. A copy of the register shall be made available upon request to any City department referred to in this chapter.

Section 5. The following sections of Chapter 4 of the International Residential Code, 2006 Edition, are amended as follows:

SECTION R402

MATERIALS

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R402.2 Concrete. Concrete shall have a minimum specified compressive strength of f_c', as shown in Table R402.2. Concrete subject to moderate or severe weathering as indicated in Table R301.2(1) shall be air entrained as specified in Table R402.2. The maximum weight of fly ash, other pozzolans, silica fume, slag or blended cements that is included in concrete mixtures for garage floor slabs and for exterior porches, carport slabs and steps that will be

exposed to deicing chemicals shall not exceed the percentages of the total weight of cementitious materials specified in Section 4.2.3 of ACI 318. Materials used to produce concrete and testing thereof shall comply with the applicable standards listed in Chapter 3 of ACI 318.

Code Alternate R402.2: Five-sack 2000 psi and 5½-sack 2500 psi concrete mixes in accordance with Seattle Building Code Section 1905.2.3 and Table 1905.2 are equivalent to 3000 psi concrete for weathering potential. In addition, air-entrainment is not required to address weathering.

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[W] SECTION R403

FOOTINGS

R403.1 General. All exterior walls shall be supported on continuous solid or fully grouted masonry or concrete footings, wood foundations, or other approved structural systems which shall be of sufficient design to accommodate all loads ((~~according to~~)) specified in Section R301 and to transmit the resulting loads to the supporting soil within the limitations ((~~as~~)) determined from the ((~~character~~)) characteristics of the soil. Footings shall be supported on undisturbed natural soils or engineered fill. Foundation walls complying with Section R404 or stem walls complying with Section R403.1.3 shall be permitted to support exterior walls, exterior braced wall lines and exterior braced wall panels provided they are supported by continuous footings.

* * *

R403.1.2 ((~~Continuous footing~~)) Braced wall panels in Seismic Design Categories D_0, D_1 and D_2. The braced wall panels at exterior and interior walls of buildings located in Seismic Design Categories D_0, D1 and D_2 shall be supported by foundations. ((~~continuous footings. All required interior braced wall panels in buildings with plan dimensions greater than 50 feet (15 240 mm) shall also be supported by continuous footings.~~))

Exceptions:

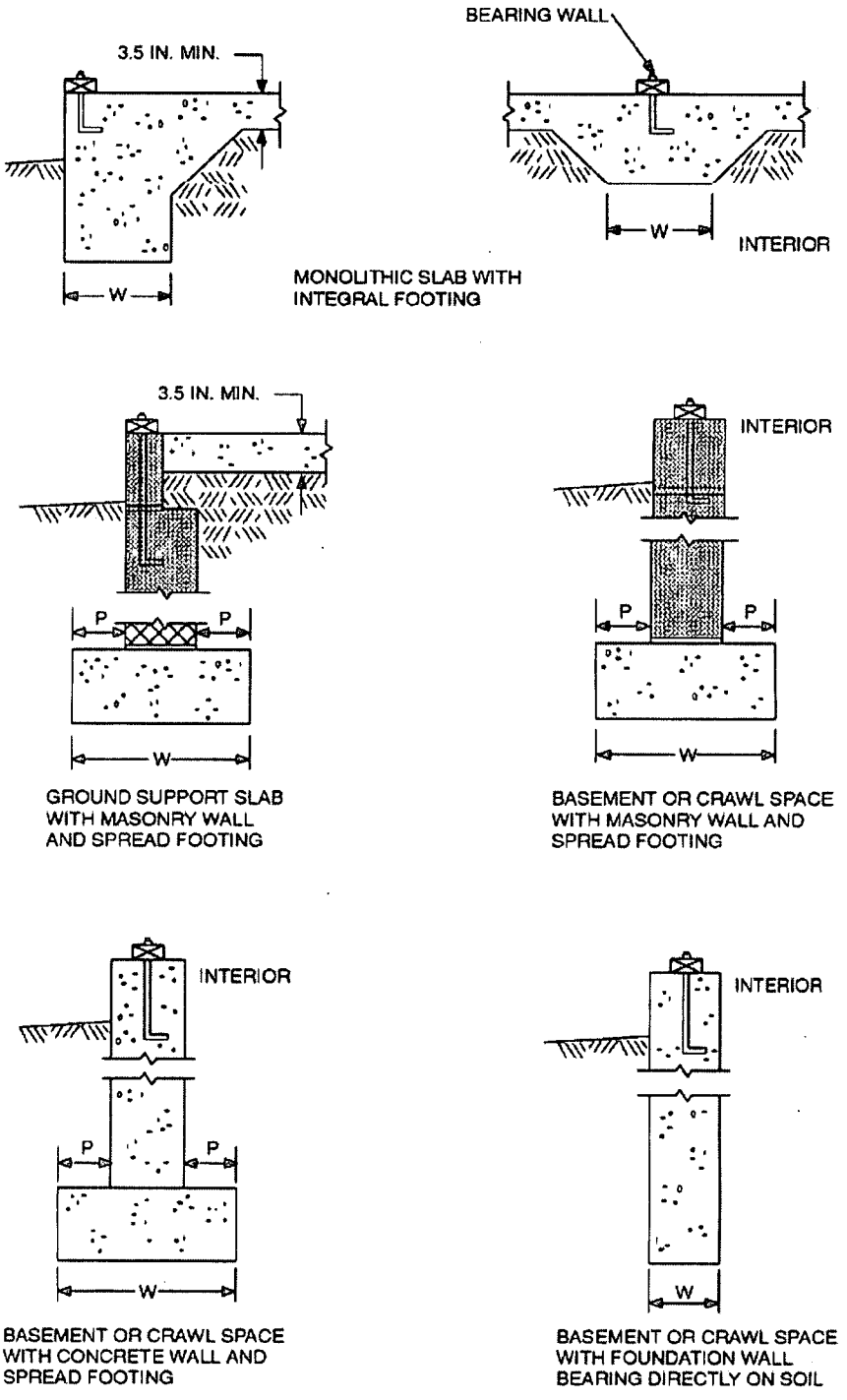
1. In buildings in Seismic Design Categories D_0 and D_1, and in one-story buildings in Seismic Design Category D_2, interior braced wall panels are not required to be supported by foundations, provided no building plan dimension perpendicular to the interior braced wall lines is greater than 50 feet.
2. In two-story buildings in Seismic Design Category D_2, interior braced wall panels are not required to be supported by foundations, provided all of the following conditions are met:
   2.1. No building plan dimension perpendicular to the interior braced wall lines exceeds 50 feet;
   2.2. The distances between braced wall lines do not exceed twice the building width measured parallel to the braced wall lines;
   2.3. The braced wall panels at the first story are continuously supported by floor joists, blocking or floor beams; and
   2.4. The heights of braced wall panels in under-floor spaces do not exceed 48 inches (1219 mm).

R403.1.2.1 Foundations. Foundations at braced wall panels shall be constructed of masonry or concrete foundation walls in accordance with Sections R402 and R404, and masonry or concrete footings in accordance with Sections R402 and R403.

Exceptions:

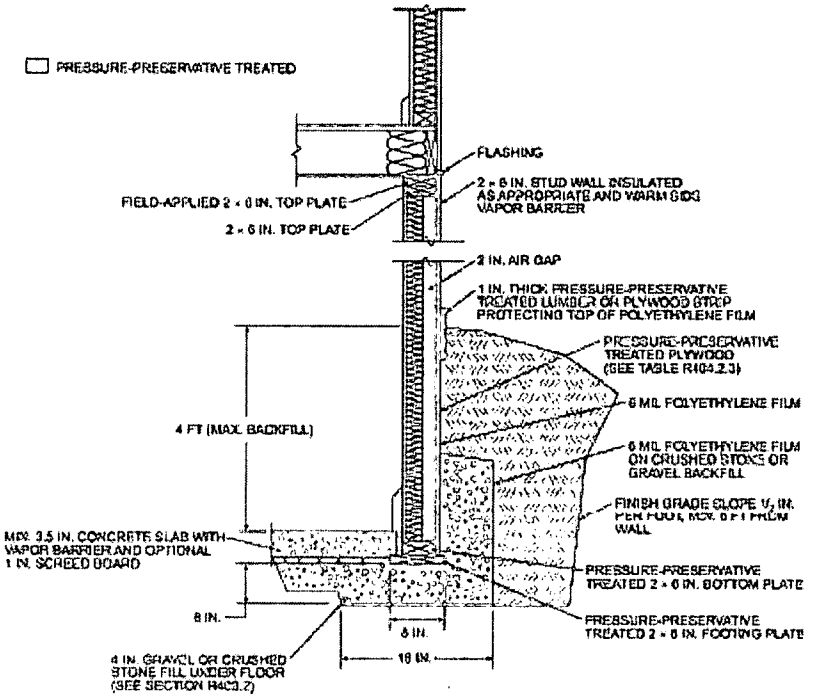
1. In under-floor spaces, cripple walls shall be permitted to substitute for masonry or concrete foundation walls provided they comply with the following:
   a. They are located directly below the interior braced wall panels above;
   b. They are braced in accordance with Sections R602.10.2 and R602.10.11.4 for cripple wall bracing; and
   c. They are supported by footings complying with Sections R402 and R403, except that the footing of a foundation supporting an interior braced wall panel is not required to be continuous.
2. Footings of foundations supporting interior braced wall panels are not required to be continuous but shall be constructed beyond the ends of foundation walls, stem walls and cripple walls supporting braced wall panels for a minimum distance of 4 inches and a maximum distance of the footing thickness. The footing extension is not required at intersections with other footings.

R403.1.3 Seismic reinforcing in Seismic Design Categories D_0, D_1 and D_2. Concrete footings ((~~located in~~)) of buildings assigned to Seismic Design Categories D_0, D_1 and D_2, ((~~as established in Table R301.2(1),~~)) shall comply with this section and have minimum reinforcement as specified by Section R403.1.3.1 or R403.1.3.2. Bottom reinforcement shall be located a minimum of 3 inches (76 mm) ((~~clear~~)) from the bottom of the footing.



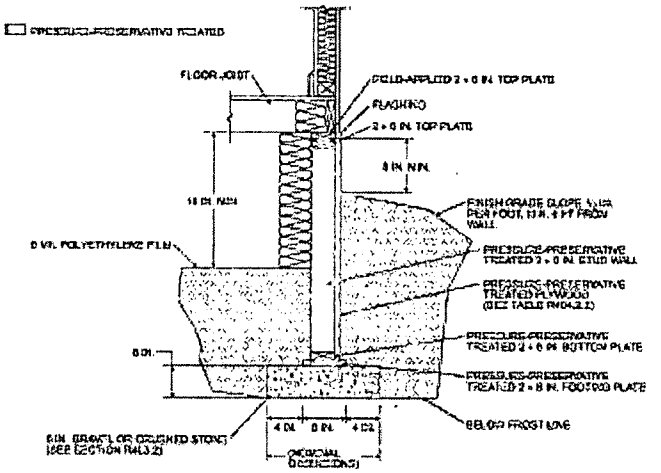
For SI: 1 inch = 25.4 mm.

FIGURE R403.1(1)
CONCRETE AND MASONRY FOUNDATION DETAILS



For SI: 1 inch 25.4 = mm, 1 foot =304.8, 1 mil =0.0254 mm.

FIGURE R403.1(2)
PERMANENT WOOD FOUNDATION BASEMENT WALL SECTION



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mil = 0.0254 mm.

FIGURE R403.1(3)
PERMANENT WOOD FOUNDATION CRAWL SPACE SECTION

((~~In Seismic Design Categories D_0, D_1 and D_2 where~~)) Where a construction joint is created between a concrete footing and a concrete stem wall, ((~~a~~)) minimum vertical reinforcement of one No. 4 bar shall be ((~~installed~~)) provided at not more than 4 feet (1219 mm) on center. The ((~~vertical bar~~)) bars shall extend to 3 inches (76 mm) clear of the bottom of the footing, have a standard hook and extend ((~~a minimum of 14 inches (357 mm)~~)) into the stem wall the lesser of 2 inches (49 mm) clear of the top of the wall and 14 inches (357 mm).

((~~In Seismic Design Categories D_0, D_1 and D_2 where~~)) Where a solidly grouted masonry stem wall is supported on a concrete footing ((~~and stem wall~~)), ((~~a~~)) minimum vertical reinforcement of one No. 4 bar shall be ((~~installed~~)) provided at not more than 4 feet on center. The ((~~vertical bar~~)) bars shall extend to 3 inches (76 mm) clear of the bottom of the footing, ((~~and~~)) have a standard hook, and extend into the stem wall to 2 inches (49 mm) clear of the top of the wall.

((~~In Seismic Design Categories D_0, D_1 and D_2 masonry~~)) Masonry stem walls without solid grout and vertical reinforcing are not permitted.

Concrete and masonry stem walls shall comply with the requirements of Section R404 for foundation walls.

Exception: In detached one- and two-family dwellings ((~~which are~~)) of light-framed construction and three stories or less ((~~in height~~)) above grade, ((~~and constructed with stud bearing walls,~~)) plain concrete footings ((~~without longitudinal reinforcement supporting walls and isolated plain concrete footings~~)) supporting walls, columns or pedestals are permitted.

R403.1.3.1 ((~~Foundations with~~)) Foundation stem walls. ((~~Foundations with~~)) Foundation stem walls shall have installed a minimum of one No. 4 bar within 12 inches (305 mm) of the top of the stem wall and one No. 4 bar located 3 inches (76 mm) to 4 inches (102 mm) from the bottom of the footing.

R403.1.3.2 Slabs-on-ground with turned-down footings. Slabs-on-ground with turned-down footings shall have a minimum of one No. 4 bar at the top and bottom of the footing.

Exception: For slabs-on-ground cast monolithically with a footing, one No. 5 bar or two No. 4 bars shall be located in the middle third of the footing depth.

R403.1.4 Minimum depth. All exterior footings shall be placed at least 12 inches (305 mm) below the undisturbed ground surface. Where applicable, the depth of footings shall also ((~~conform to~~)) comply with Sections R403.1.4.1 through R403.1.4.2.

R403.1.4.1 Frost protection. Except where otherwise protected from frost, foundation walls, piers and other permanent supports of buildings and structures shall be protected from frost by one or more of the following methods:

1. Extend((~~ed~~)) below the frost line specified in Table R301.2.(1);
2. Construct((~~ing~~)) in accordance with Section R403.3;
3. Construct((~~ing~~)) in accordance with ASCE 32; or
4. Erect((~~ed~~)) on solid rock.

Exceptions:

1. Protection of freestanding accessory structures with an area of 600 square feet (56 m^2) or less, ((~~of light-framed construction,~~)) and with an eave height of 10 feet (3048 mm) or less shall not be required.

2. Protection of freestanding accessory structures with an area of 400 square feet (37 m^2) or less, of other than light-framed construction, with an eave height of 10 feet (3048 mm) or less shall not be required.

3. Decks not supported by a dwelling need not be provided with footings that extend below the frost line.

Footings shall not bear on frozen soil unless the frozen condition is of a permanent character.

R403.1.4.2 Seismic conditions. In Seismic Design Categories D_0, D_1 and D_2, interior footings supporting bearing or bracing walls and cast monolithically with a slab on grade shall extend to a depth of not less than 12 inches (305 mm) below the top of the slab.

* * *

R403.1.6 ((~~Foundation anchorage~~)) Anchorage at braced wall panels. ((~~When~~)) Where braced wall panels are supported ((~~directly on continuous~~)) by monolithic slabs, footings or foundations, the ((~~wall~~)) wood sole plates, wood sill plates or cold-formed steel bottom tracks shall be anchored to the footing, slab cast monolithically with a footing, or foundation in accordance with ((~~this section~~)) Section R403.1.6.

The wood sole or sill plate ((~~at exterior walls on monolithic slabs and wood sill plate~~)) shall be anchored to the monolithic slab, footing or foundation with anchor bolts spaced a maximum of 6 feet (1829 mm) on center. There shall be a minimum of two bolts per plate section with one bolt located not more than 12 inches (305 mm) or less than seven bolt diameters from each end of the plate section. ((~~In Seismic Design Categories D_0, D_1 and D_2, anchor bolts shall be spaced at 6 feet (1829 mm) on center and located within 12 inches (305~~

~~mm) of the ends of each plate section at interior braced wall lines when required by Section R602.10.9 to be supported on a continuous foundation.~~)) Bolts shall be at least $^1/_2$ inch (13 mm) in diameter and shall extend a minimum of 7 inches (178 mm) into masonry or concrete. ((~~Interior bearing wall sole plates on monolithic slab foundation shall be positively anchored with approved fasteners.~~)) A nut and washer shall be tightened to a snug-tight condition on each bolt ((~~of~~)) to the plate. ((~~Sills and sole plates shall be protected against decay and termites where required by Sections R319 and R320.~~)) Cold-formed steel framing systems shall be fastened to the wood sill plates or anchored directly to the foundation as required in Section R505.3.1 or R603.1.1.

Exceptions:

1. Foundation anchorage, spaced as required to provide equivalent anchorage to $^1/_2$-inch-diameter (13 mm) anchor bolts.
2. Walls 24 inches (610 mm) in total length or shorter connecting offset braced wall panels shall be anchored to the footing or foundation with a minimum of one anchor bolt located in the center third of the plate section and shall be attached to adjacent braced wall panels ((~~per~~)) as specified in Figure R602.10.5 at the corners.
3. Walls 12 inches (305 mm) in total length or shorter connecting offset braced wall panels shall be permitted to be connected to the footing or foundation without anchor bolts. The wall shall be attached to adjacent braced wall panels at corners ((~~per~~)) as specified in Figure R602.10.5 ((~~at corners~~)).

R403.1.6.1 Foundation anchorage in Seismic Design Categories C, D_0, D_1 and D_2. In addition to the requirements of Section R403.1.6, the following requirements ((~~shall~~))

apply to wood light-frame structures in Seismic Design Categories D_0, D_1 and D_2 and wood light-frame townhouses in Seismic Design Category C.

((~~1. Plate washers conforming to Section R602.11.1 shall be provided for all anchor bolts over the full length of required braced wall lines. Properly sized cut washers shall be permitted for anchor bolts in wall lines not containing braced wall panels.~~

~~2. Interior braced wall plates shall have anchor bolts spaced at not more than 6 feet (1829 mm) on center and located within 12 inches (305 mm) of the ends of each plate section when supported on a continuous foundation.~~

~~3. Interior bearing wall sole plates shall have anchor bolts spaced at not more than 6 feet (1829 mm) on center and located within 12 inches (305 mm) of the ends of each plate section when supported on a continuous foundation.~~

~~4. The maximum anchor bolt spacing shall be 4 feet (1219 mm) for buildings over two stories in height.~~

~~5. Stepped cripple walls shall conform to Section R602.11.3.~~

~~6. Where continuous wood foundations in accordance with Section R404.2 are used, the force transfer shall have a capacity equal to or greater than the connections required by Section R602.11.1 or the braced wall panel shall be connected to the wood foundations in accordance with the braced wall panel-to-floor fastening requirements of Table R602.3(1).~~))

1. Bearing walls and interior braced wall sill plates supported on a continuous foundation shall be anchored to footings or foundations with anchor bolts spaced at

not more than 6 feet (1829 mm) on center and located within 12 inches (305 mm) from the ends of each plate section.

2. The maximum anchor bolt spacing shall be 4 feet (1219 mm) for buildings over two stories in height.

3. Plate washers complying with Section R602.11.1 shall be provided for all anchor bolts over the full length of required braced wall lines. Properly sized cut washers shall be permitted for anchor bolts in wall lines not containing braced wall panels or in braced wall lines.

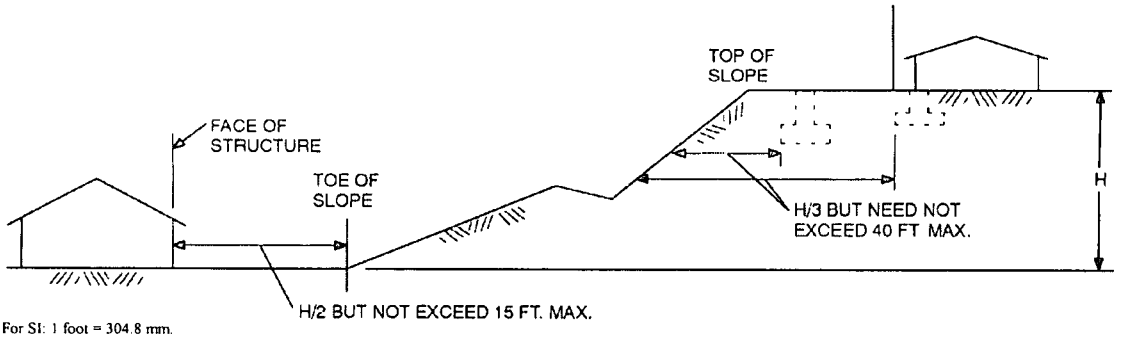
4. Stepped cripple walls shall conform to Section R602.11.3.

5. Where wood foundations are used pursuant to Section R402.1 and R404.2, the force transfer shall have a capacity equal to or greater than the connections required by Section R602.11.1, or the braced wall panel shall be connected to the wood foundations in accordance with the braced wall panel-to-floor fastening requirements of Table R602.3(1).

R403.1.7 Footings on or adjacent to slopes. The placement of buildings and structures on or adjacent to slopes steeper than 1 unit vertical in 3 units horizontal (33.3-percent slope) shall conform to Sections R403.1.7.1 through R403.1.7.4.

R403.1.7.1 Building clearances from ascending slopes. In general, buildings below slopes shall be set a sufficient distance from the slope to provide protection from slope drainage, erosion and shallow failures. Except as provided in Section R403.1.7.4 and Figure R403.1.7.1, the following criteria will be assumed to provide this protection. Where the existing slope is steeper than one unit vertical in one unit horizontal (100-

percent slope), the toe of the slope shall be assumed to be at the intersection of a horizontal plane drawn from the top of the foundation and a plane drawn tangent to the slope at an angle of 45 degrees (0.79 rad) to the horizontal. Where a retaining wall is constructed at the toe of the slope, the height of the slope shall be measured from the top of the wall to the top of the slope.



For SI: 1 foot = 304.8 mm.

FIGURE R403.1.7.1
FOUNDATION CLEARANCE FROM SLOPES

R403.1.7.2 Footing setback from descending slope surfaces. Footings on or adjacent to slope surfaces shall be founded in material with an embedment and setback from the slope surface sufficient to provide vertical and lateral support for the footing without detrimental settlement. Except as provided for in Section R403.1.7.4 and Figure R403.1.7.1, the following setback is deemed adequate to meet the criteria. Where the slope is steeper than one unit vertical in one unit horizontal (100-percent slope), the required setback shall be measured from an imaginary plane 45 degrees (0.79 rad) to the horizontal, projected upward from the toe of the slope.

R403.1.7.3 Foundation elevation. On graded sites, the top of any exterior foundation shall extend above the elevation of the street gutter at point of discharge or the inlet of an approved drainage device a minimum of 12 inches (305 mm) plus 2 percent. Alternate elevations are permitted subject to the approval of the building official, provided it can be

demonstrated that required drainage to the point of discharge and away from the structure is provided at all locations on the site.

R403.1.7.4 Alternate setback and clearances. Alternate setbacks and clearances are permitted, subject to the approval of the building official. The building official is permitted to require an investigation and recommendation of a qualified engineer to demonstrate that the intent of this section has been satisfied. Such an investigation shall include consideration of material, height of slope, slope gradient, load intensity and erosion characteristics of slope material.

R403.1.8 Foundations on expansive soils. Foundation and floor slabs for buildings located on expansive soils shall be designed in accordance with Section 1805.8 of the *International Building Code.*

Exception: Slab-on-ground and other foundation systems which have performed adequately in soil conditions similar to those encountered at the building site are permitted subject to the approval of the building official.

R403.1.8.1 Expansive soils classifications. Soils meeting all four of the following provisions shall be considered expansive, except that tests to show compliance with Items 1, 2 and 3 shall not be required if the test prescribed in Item 4 is conducted:

1. Plasticity Index (PI) of 15 or greater, determined in accordance with ASTM D 4318.
2. More than 10 percent of the soil particles pass a No. 200 sieve (75 mm), determined in accordance with ASTM D 422.
3. More than 10 percent of the soil particles are less than 5 micrometers in size, determined in accordance with ASTM D 422.

4. Expansion Index greater than 20, determined in accordance with ASTM D 4829.

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SECTION R404

FOUNDATION AND RETAINING WALLS

R404.1 Concrete and masonry foundation walls. Concrete and masonry foundation walls shall be selected and constructed in accordance with the provisions of Section R404 or in accordance with ACI 318, ACI 332, NCMA TR68–A or ACI 530/ASCE 5/TMS 402 or other approved structural standards. When ACI 318, ACI 332 or ACI 530/ASCE 5/TMS 402 or the provisions of Section R404 are used to design concrete or masonry foundation walls, project drawings, typical details and specifications are not required to bear the seal of the architect or engineer responsible for design, unless otherwise required by the state law of the jurisdiction having authority.

((~~Foundation walls that meet all of the following shall be considered laterally supported:~~

~~1. Full basement floor shall be 3.5 inches (89 mm) thick concrete slab poured tight against the bottom of the foundation wall.~~

~~2. Floor joists and blocking shall be connected to the sill plate at the top of~~ the ~~wall by the prescriptive method called out in Table R404.1(1), or; shall be connected with an approved connector with listed capacity meeting Table R404.1(1).~~

~~3. Bolt spacing for the sill plate shall be no greater than per Table R404.1(2).~~

4. Floor shall be blocked perpendicular to the floor joists. Blocking shall be full-depth within two joist spaces of the foundation wall, and be flat-blocked with minimum 2-inch by 4-inch (51 mm by 102 mm) blocking elsewhere.

5. Where foundation walls support unbalanced load on opposite sides of the building, such as a daylight basement, the building aspect ratio, L/W, shall not exceed the value specified in Table R404.1(3). For such foundation walls, the rim board shall be attached to the sill with a 20 gage metal angle clip at 24 inches (610 mm) on center, with five 8d nails per leg, or an approved connector supplying 230 pounds per linear foot (3.36 kN/m) capacity.))

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((TABLE R404.1(1)

TOP REACTIONS AND PRESCRIPTIVE SUPPORT FOR FOUNDATION WALLS.

MAXIMUM WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT (feet)	HORIZONTAL REACTION TO TOP (plf) Soil Classes (Letter indicates connection types.)		
		GW, GP, SW and SP soils	GM, GC, SM-SC and ML soils	SC, MH, ML-CL and inorganic CL soils
7	4	45.7 A	68.6 A	91.4 A
	5	89.3 A	133.9 B	178.6 B
	6	154.3 B	231.4 C	308.6 C
	7	245.0 C	367.5 C	490.0 D
8	4	40.0 A	60.0 A	80.0 A
	5	78.1 A	117.2 B	156.3 B
	6	135.0 B	202.5 B	270.0 C
	7	214.0 B	321.6 C	428.8 C
	8	320.0 C	480.0 C	640.0 D
	4	35.6 A	53.3 A	71.1 A

9	5	69.4 A	104.2 B	138.9 B
	6	120.0 B	180.0 B	240.0 C
	7	190.6 B	285.8 C	381.1 C
	8	284.4 C	426.7 C	568.9 D
	9	405.0 C	607.5 D	810.0 D

For SI: 1 foot = 304.8 mm, 1 pound = 0.454 kg, 1 plf = pounds per linear foot = 1.488 kg/m.

a. Loads are pounds per linear foot of wall. Prescriptive options are limited to maximum joist and blocking spacing of 24 inches on center.

b. Prescriptive Support Requirements:

Type Joist/blocking Attachment Requirement

A 3-8d per joist per Table R602.3(1).

B 1-20 gage angle clip each joist with 5-8d per leg.

C 1-1/4-inch thick steel angle. Horizontal leg attached to sill bolt adjacent to joist/blocking, vertical leg attached to joist/blocking with 1/2-inch minimum diameter bolt.

D 2-1/4 inch thick steel, angles, one on each side of joist/blocking. Attach each angle to adjacent sill bolt through horizontal leg. Bolt to joist/blocking with 1/2-inch minimum diameter bolt common to both angles.

TABLE R404.1(2)

MAXIMUM PLATE ANCHOR BOLT SPACING FOR SUPPORTED FOUNDATION WALL.

MAXIMUM WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT (feet)	ANCHOR BOLT SPACING (inches)		
		Soil Classes		
		GW, GP, SW	GM, GC, SM-SC	SC, MH, ML-CL
7	4	72	58	43
	5	44	30	22
	6	26	17	13
	7	16	11	8
	4	72	66	50

	5	51	34	25
8	6	29	20	15
	7	18	12	9
	8	12	8	6
	4	72	72	56
	5	57	38	29
	6	33	22	17
9	7	21	14	10
	8	14	9	7
	9	10	7	5

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

a. Spacing is based on 1/2 inch diameter anchor bolts. For 5/8 inch diameter anchor bolts, spacing may be multiplied by 1.27, with a maximum spacing of 72 inches.

TABLE R404.1(3)

MAXIMUM ASPECT RATIO, L/W FOR UNBALANCED FOUNDATIONS

MAXIMUM WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT (feet)	SOIL CLASSES		
		GW, GP, SW and SP soils	GM, GC, SM-SC and ML soils	SC, MH, ML-CL and inorganic CL soils
7	4	4.0	4.0	4.0
	5	4.0	3.4	2.6
	6	3.0	2.0	1.5
	7	1.9	1.2	0.9
8	4	4.0	4.0	4.0
	5	4.0	3.9	2.9
	6	3.4	2.3	1.7
	7	2.1	1.4	1.1
	8	1.4	1.0	0.7

9	4	4.0	4.0	4.0
	5	4.0	4.0	3.3
	6	3.8	2.6	1.9
	7	2.4	1.6	1.2
	8	1.6	1.1	0.8
	9	1.1	0.8	0.6

For SI: 1 foot = 304.8 mm.))

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. ((The minimum net area of ventilation openings shall not be less than 1 square foot (0.0929 m^2) for each 150 square feet (14 m^2) of under-floor space area. One such ventilating opening shall be within 3 feet (914 mm) of each corner of the building.))

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^2) for each ((150)) 300 square feet (((14)) 28 m^2) of under-floor area. In addition, a ground cover that meets the requirements of Section 502.1.6.7 of the Washington State Energy Code (chapter 51-11 WAC) shall be installed. One ventilating opening shall be within 3 feet (914 mm) of each corner of the building, 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 ¼ inch (6.4 mm):

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).

***

Section 6. The following sections of Chapter 6 of the International Residential Code, 2006 Edition, are amended as follows:

SECTION R602

WOOD WALL FRAMING

***

R602.3 Design and construction. Exterior walls of wood-light- framed construction shall be designed and constructed in accordance with the provisions of this chapter and Figures R602.3(1) and R602.3(2) or in accordance with AF&PA's NDS. Components of exterior walls shall be fastened in accordance with Tables R602.3(1) through R602.3(4). Exterior walls covered with foam plastic sheathing shall be braced in accordance with Section R602.10. Structural sheathing shall be fastened directly to structural framing members.

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R602.3.4 Bottom (sole) plate. Studs shall have full bearing on a ((~~nominal~~)) 2-((~~by~~)) inch nominal (38 mm) or larger plate or sill having a width at least equal to the width of the studs.

***

R602.10 Wall bracing. All exterior walls shall be braced in accordance with this section. In addition, interior braced wall lines shall be provided in accordance with Section R602.10.11. For buildings in Seismic Design Categories D_0, D_1 and D_2, walls shall be constructed in accordance with the additional requirements of Sections ((~~R602.10.9, R602.10.11, and R602.11~~)) R602.10.11 through R602.11.3.

R602.10.1 Braced wall lines. Braced wall lines shall consist of braced wall panel construction in accordance with Section R602.10.3. The amount and location of bracing shall be in accordance with Table R602.10.1 and the amount of bracing shall be the greater of that required by the seismic design category or the design wind speed. Braced wall panels shall begin no more than 12.5 feet (3810 mm) from each end of a braced wall line. Braced wall panels that are counted as part of a braced wall line shall be in line, except that offsets out-of-plane of up to 4 feet (1219 mm) shall be permitted provided that the total out-to-out offset dimension in any braced wall line is not more than 8 feet (2438 mm).

R602.10.1.1 Spacing. Spacing of braced wall lines shall not exceed 35 feet (10 668 mm) on center in both the longitudinal and transverse directions in each story.

Exception: Spacing of braced wall lines not exceeding 50 feet shall be permitted where:

1. The wall bracing installed equals or exceeds the amount of bracing required by Table R602.10.1 multiplied by a factor equal to the braced wall line spacing divided by 35 feet and

2. The length-to-width ratio for the floor or roof diaphragm does not exceed 3:1.

TABLE R602.10.1
WALL BRACING

SEISMIC DESIGN CATEGORY OR WIND SPEED	CONDITION	TYPE OF BRACE[b, c]	AMOUNT OF BRACING[b, d, e]
Category A and B ($S_s \le 0.35g$ and $S_{ds} \le 0.33g$) or 100 mph or less	One story Top of two or three story	Methods 1, 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less than 16% of braced wall line for Methods 2 through 8.
	First story of two story Second story of three story	Methods 1, 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less than 16% of braced wall line for Method 3 or 25% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
	First story of three story	Methods 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less than 25% of braced wall line for Method 3 or 35% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
Category C ($S_s \le 0.6g$ and $S_{ds} \le 0.50g$) or less than 110 mph	One story Top of two or three story	Methods 1, 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less than 30% of braced wall line for Method 3 or 45% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
	First story of two story Second story of three story	Methods 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less than 16% of braced wall line for Method 3 or 25% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
	First story of three story	Methods 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less than 45% of braced wall line for Method 3 or 60% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
Categories D_0 and D_1 ($S_s \le 1.25g$ and $S_{ds} \le 0.83g$) or less than 110 mph	One story Top of two or three story	Methods 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less than 20% of braced wall line for Method 3 or 30% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
	First story of two story Second story of three story	Methods 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less than 45% of braced wall line for Method 3 or 60% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
	First story of three story	Methods 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less than 60% of braced wall line for Method 3 or 85% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
Category D_2 or less than 110 mph	One story Top of two story	Methods 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less than 25% of braced wall line for Method 3 or 45% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
	First story of two story	Methods 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less than 55% of braced wall line for Method 3 or 75% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
	Cripple walls	Method 3	Located in accordance with Section R602.10 and at least every 25 feet on center but not less than 75% of braced wall line.

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.477 m/s.

a. Wall bracing amounts are based on a soil site class "D." Interpolation of bracing amounts between the S_{ds} values associated with the seismic design categories shall be permitted when a site specific S_{ds} value is determined in accordance with Section 1613.5 of the *International Building Code*.

b. Foundation cripple wall panels shall be braced in accordance with Section R602.10.2.

c. Methods of bracing shall be as described in Section R602.10.3. The abutments braced wall panels described in Section R602.10.6.1 or R602.10.6.2 shall also be permitted.

d. The bracing amounts for Seismic Design Categories are based on a 15 psf wall dead load. For walls with a dead load of 8 psf or less, the bracing amounts shall be permitted to be multiplied by 0.85 provided that the adjusted bracing amount is not less than that required for the site's wind speed. The minimum length of braced panel shall not be less than required by Section R602.10.3.

e. When the dead load of the roof/ceiling exceeds 15 psf, the bracing amounts shall be increased in accordance with Section R301.2.2.2.1. Bracing required for a site's wind speed shall not be adjusted.

R602.10.2 Cripple wall bracing.

R602.10.2.1 Seismic design categories other than D_2. In Seismic Design Categories other than D_2, cripple walls supporting exterior walls or interior braced wall panels as required in Section R403.1.2 and R403.1.2.1 shall be braced with an amount and type of bracing as required for the wall above in accordance with Table R602.10.1 with the following modifications for cripple wall bracing:

1. The percent bracing amount as determined from Table R602.10.1 shall be increased by 15 percent and

2. The wall panel spacing shall be decreased to 18 feet (5486 mm) instead of 25 feet (7620 mm).

R602.10.2.2 Seismic Design Category D_2. In Seismic Design Category D_2, cripple walls supporting exterior walls or interior braced wall panels as required in Section R403.1.2 and R403.1.2.1 shall be braced in accordance with Table R602.10.1.

R602.10.2.3 Redesignation of cripple walls. In any seismic design category, cripple walls are permitted to be redesignated as the first story walls for purposes of determining wall bracing requirements. If the cripple walls are redesignated, the stories above the redesignated story shall be counted as the second and third stories, respectively.

R602.10.3 Braced wall panel construction methods. The construction of braced wall panels shall be in accordance with one of the following methods:

1. Nominal 1-inch-by-4-inch (25 mm by 102 mm) continuous diagonal braces let in to the top and bottom plates and the intervening studs or approved metal strap devices installed in accordance with the manufacturer's specifications. The let-in bracing shall be placed at an angle not more than 60 degrees (1.06 rad) or less than 45 degrees (0.79 rad) from the horizontal.

2. Wood boards of 5/8 inch (16 mm) net minimum thickness applied diagonally on studs spaced a maximum of 24 inches (610 mm). Diagonal boards shall be attached to studs in accordance with Table R602.3 (1).

3. Wood structural panel sheathing with a thickness not less than $^{5}/_{16}$ inch (8 mm) for 16-inch (406 mm) stud spacing and not less than $^{3}/_{8}$ inch (9 mm) for 24-inch (610 mm) stud spacing. Wood structural panels shall be installed in accordance with Table R602.3(3).

4. One-half-inch (13 mm) or $^{25}/_{32}$-inch (20 mm) thick structural fiberboard sheathing applied vertically or horizontally on studs spaced a maximum of 16 inches (406 mm) on center. Structural fiberboard sheathing shall be installed in accordance with Table R602.3 (1).

5. Gypsum board with minimum $^{1}/_{2}$-inch (13 mm) thickness placed on studs spaced a maximum of 24 inches (610 mm) on center and fastened at 7 inches (178 mm) on center with the size nails specified in Table R602.3(1) for sheathing and Table R702.3.5 for interior gypsum board.

6. Particleboard wall sheathing panels installed in accordance with Table R602.3(4).

7. Portland cement plaster on studs spaced a maximum of 16 inches (406 mm) on center and installed in accordance with Section R703.6.

8. Hardboard panel siding when installed in accordance with Table R703.4.

Exception: Alternate braced wall panels constructed in accordance with Section R602.10.6.1 or R602.10.6.2 shall be permitted to replace any of the above methods of braced wall panels.

R602.10.4 Length of braced panels. For Methods 2, 3, 4, 6, 7 and 8 above, each braced wall panel shall be at least 48 inches (1219 mm) in length, covering a minimum of three stud spaces where studs are spaced 16 inches (406 mm) on center and covering a minimum of two stud spaces where studs are spaced 24 inches (610 mm) on center. For Method 5 above, each

braced wall panel shall be at least 96 inches (2438 mm) in length where applied to one face of a braced wall panel and at least 48 inches (1219 mm) where applied to both faces.

Exceptions:

1. Lengths of braced wall panels for continuous wood structural panel sheathing shall be in accordance with Section R602.10.5.

2. Lengths of alternate braced wall panels shall be in accordance with Section R602.10.6.1 or Section R602.10.6.2.

R602.10.5 Continuous wood structural panel sheathing. When continuous wood structural panel sheathing is provided in accordance with Method 3 of Section R602.10.3 on all sheathable areas of all exterior walls, ((~~and interior braced wall lines, where required,~~)) including areas above and below openings, braced wall panel lengths ((~~shall be~~)) are not required to comply with Section R602.10.4 provided they are in accordance with Table R602.10.5. Wood structural panel sheathing shall be installed at corners in accordance with Figure R602.10.5. The bracing ((~~amounts~~)) percentages in Table R602.10.1 for Method 3 shall be permitted to be multiplied by a factor of 0.9 for exterior walls with a maximum opening height that does not exceed 85 percent of the wall height or a factor of 0.8 for exterior walls with a maximum opening height that does not exceed 67 percent of the wall height.

TABLE R602.10.5
LENGTH REQUIREMENTS FOR BRACED WALL PANELS IN A CONTINUOUSLY SHEATHED WALL[a, b, c]

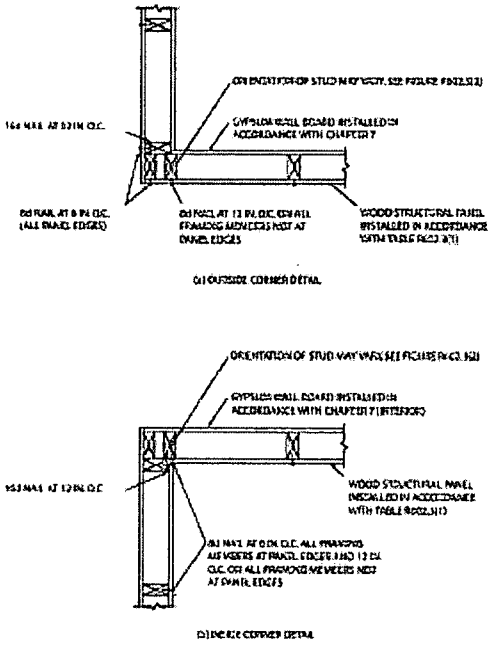
MINIMUM LENGTH OF BRACED WALL PANEL (inches)			MAXIMUM OPENING HEIGHT NEXT TO THE BRACED WALL PANEL (% of wall height)
8-foot wall	9-foot wall	10-foot wall	
48	54	60	100
32	36	40	85
24	27	30	65

For SI: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 pound per square foot = 0.0479 kPa.

a. Linear interpolation shall be permitted.

b. Full-height sheathed wall segments on either side of garage openings that support ((~~light frame~~)) roofs of light-framed construction only, with roof covering dead loads of 3 psf or less shall be permitted to have a 4:1 ((~~aspect~~)) height-to-width ratio.

c. Walls on either or both sides of openings in garages attached to fully sheathed dwellings shall be permitted to be built in accordance with Section R602.10.6.2 and Figure R602.10.6.2 except that a single ((~~bottom~~)) sill plate shall be permitted and two anchor bolts shall be placed at 1/3 points. In addition, tie-down devices shall not be required and the vertical wall segment shall have a maximum 6:1 height-to-width ratio (with height being measured from top of header to the bottom of the sill plate). This option shall be permitted for the first story of two-story applications in Seismic Design Categories A through C.



For SI: 1 inch = 25.4 mm.
Gypsum board nails deleted for clarity.

FIGURE R602.10.6
TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS STRUCTURAL PANEL SHEATHING; SHOWING REQUIRED STUD-TO-STUD NAILING

R602.10.6 Alternate braced wall panel construction methods. Alternate braced wall panels shall be constructed in accordance with Sections R602.10.6.1 and R602.10.6.2.

R602.10.6.1 Alternate braced wall panels. Alternate braced wall ((~~lines~~)) panels constructed in accordance with one of the following provisions shall be permitted to replace each 4 feet (1219 mm) of braced wall panel as required by Section R602.10.4. The maximum height and minimum width of each panel shall be in accordance with Table R602.10.6:

1. In one-story buildings, each panel shall be sheathed on one face with $^3/_8$-inch-minimum-thickness (10 mm) wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Table R602.3(1) and blocked at all wood structural panel sheathing edges. Two anchor bolts installed in accordance with Figure R403.1(1) shall be provided in each panel. Anchor bolts shall be placed ((~~at panel quarter points~~)) in from each end of the panel a horizontal distance of one-fourth the panel width. Each panel end stud shall have a tie-down device fastened to the foundation, capable of providing an uplift capacity in accordance with Table R602.10.6. The tie down device shall be installed in accordance with the manufacturer's recommendations. The panels shall be supported directly on a foundation or on floor framing supported directly on a foundation which is continuous across the entire length of the braced wall line. This foundation shall be reinforced with not less than one No. 4 bar top and bottom. When the continuous foundation is required to have a depth greater than 12 inches (305 mm), a minimum 12-inch-by-12-inch (305 mm by 305 mm) continuous footing or turned down slab edge is permitted

at door openings in the braced wall line. This continuous footing or turned down slab edge shall be reinforced with not less than one No. 4 bar top and bottom. This reinforcement shall be lapped 15 inches (381 mm) with the reinforcement required in the continuous foundation located directly under the braced wall line.

2. In the first story of two-story buildings, each braced wall panel shall be in accordance with Item 1 above, except that ((~~the~~)):

2.1 The wood structural panel sheathing shall be ((~~installed~~)) provided on both faces,

2.2 ((s))Sheathing edge nailing spacing shall not exceed 4 inches (102 mm) on center, and

((~~at least three anchor bolts shall be placed at one-fifth points~~))

2.3 Anchor bolts shall be placed at the center of the panel width and in from each end of the panel a horizontal distance of one-fifth the panel width (three total).

R602.10.6.2 Alternate braced wall panel adjacent to a door or window opening. Alternate braced wall panels constructed in accordance with one of the following provisions are also permitted to replace each 4 feet (1219 mm) of braced wall panel as required by Section R602.10.4 for use adjacent to a window or door opening with a full-length header:

1. In one-story buildings, each panel shall have a length of not less than 16 inches (406 mm) and a height of not more than 10 feet (3048 mm). Each panel shall be sheathed on one face with a single layer of 3/8-inch-minimum-thickness (10 mm) wood structural panel sheathing nailed with 8d common

or galvanized box nails in accordance with Figure R602.10.6.2. The wood structural panel sheathing shall extend up over the solid sawn or glued-laminated header and shall be nailed in accordance with Figure R602.10.6.2. Use of a built-up header consisting of at least two 2 x 12s and fastened in accordance with Table R602.3(1) shall be permitted. A spacer, if used, shall be placed on the side of the built-up beam opposite the wood structural panel sheathing. The header shall extend between the inside faces of the first full-length outer studs of each panel. The clear span of the header between the inner studs of each panel shall be not less than 6 feet (1829 mm) and not more than 18 feet (5486 mm) in length. A strap with an uplift capacity of not less than 1000 pounds (4448 N) shall fasten the header to the side of the inner studs opposite the sheathing. One anchor bolt not less than 5/8-inch-diameter (16 mm) and installed in accordance with Section R403.1.6 shall be ((installed)) provided in the center of each sill plate. The studs at each end of the panel shall have a tie-down device fastened to the foundation with an uplift capacity of not less than 4,200 pounds (18 683 N).

Where a panel is located on one side of the opening, the header shall extend between the inside face of the first full-length stud of the panel and the bearing studs at the other end of the opening. A strap with an uplift capacity of not less than 1000 pounds (4448 N) shall fasten the header to the bearing studs. The bearing studs shall also have a tie-down device fastened to the foundation with an uplift capacity of not less than 1000 pounds (4448 N).

The tie-down devices shall be an embedded-strap type, installed in accordance with the manufacturer's recommendations. The panels shall be supported directly on a foundation which is continuous across the entire length of the braced wall line. The foundation shall be reinforced with not less than one No. 4 bar top and bottom.

Where the continuous foundation is required to have a depth greater than 12 inches (305 mm), a minimum 12-inch-by-12-inch (305 mm by 305 mm) continuous footing or turned down slab edge is permitted at door openings in the braced wall line. This continuous footing or turned down slab edge shall be reinforced with not less than one No. 4 bar top and bottom. This reinforcement shall be lapped not less than 15 inches (381 mm) with the reinforcement required in the continuous foundation located directly under the braced wall line.

2. In the first story of two-story buildings, each wall panel shall be braced in accordance with Item 1 above, except that each panel shall have a length of not less than 24 inches (610 mm).

TABLE R602.10.6
MINIMUM WIDTHS AND TIE-DOWN FORCES OF ALTERNATE BRACED WALL PANELS

SEISMIC DESIGN CATEGORY AND WINDSPEED	TIE-DOWN FORCE (lb)	HEIGHT OF BRACED WALL PANEL				
		Sheathed Width				
		8 ft. 2' - 4"	9 ft. 2' - 8"	10 ft. 2' - 9"	11 ft. 3' - 2"	12 ft. 3' - 6"
SDC A, B, and C Windspeed < 110 mph	R602.10.6.1, Item 1	1500	1800	1500	2000	2200
	R602.10.6.1, Item 2	3000	3000	3000	3300	3600
		Sheathed Width				
SDC D_0, D_1 and D_2 Windspeed < 110 mph		2' - 0"	2' - 0"	2' - 0"	Note a	Note a
	R602.10.6.1, Item 1	1900	1900	1900	—	—
	R602.10.6.1, Item 2	3000	3000	3000	—	—

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.
a. Not permitted because maximum height is 10 feet.

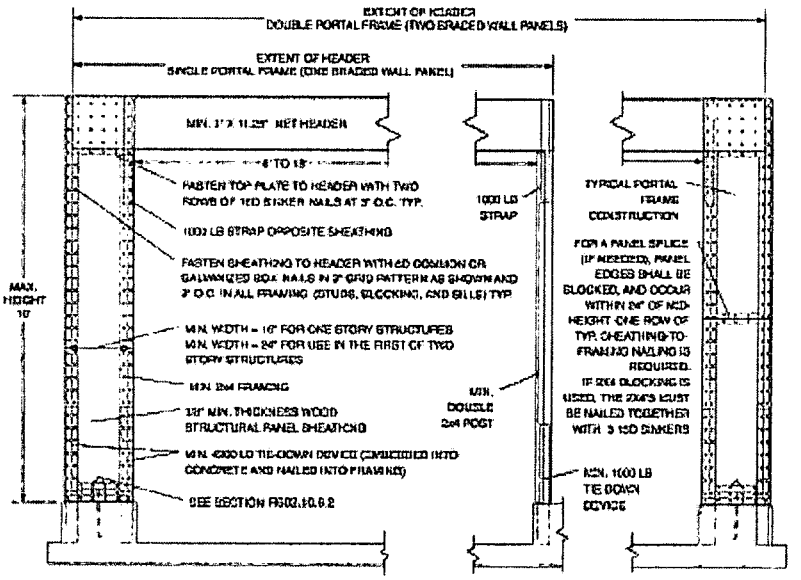


FIGURE R602.10.6.2
ALTERNATE BRACED WALL PANEL ADJACENT TO A DOOR OR WINDOW OPENING

R602.10.7 Panel joints. All vertical joints of panel sheathing shall occur over, and be fastened to, common studs. Horizontal joints in braced wall panels shall occur over, and be fastened to, common blocking of a minimum ((~~1+1/2 inch (38 mm)~~)) 2 inches (51 mm) in nominal thickness.

Exception: Blocking is not required behind horizontal joints in Seismic Design Categories A and B and detached dwellings in Seismic Design Category C when constructed in accordance with Section R602.10.3, braced-wall-panel construction method 3 and Table

R602.10.1, method 3, or where permitted by the manufacturer's installation requirements for the specific sheathing material.

R602.10.8 Connections. Braced wall ((~~line~~)) panel bottom (sole) plates shall be fastened to the floor framing and top plates shall be connected to the framing above in accordance with Table R602.3 (1). ((~~Sills~~)) Sill plates shall be fastened to the footing, foundation or slab in accordance with Sections R403.1.6 and R602.11. Where joists are perpendicular to the braced wall lines above, blocking shall be provided under and in line with the braced wall panels. Where joists are perpendicular to braced wall lines below, blocking shall be provided over and in line with the braced wall panels. Where joists are parallel to braced wall lines above or below, a rim joist or other parallel framing member shall be provided at the wall to permit fastening per Table R602.3(1). For buildings in Seismic Design Categories D_0, D_1 and D_2, braced wall panels shall also be fastened in accordance with Section R602.11.2.

R602.10.9 Interior braced wall support. This section is not adopted. See Section R403.1.2.

((~~In one-story buildings located in Seismic Design Category D_2, interior braced wall lines shall be supported on continuous foundations at intervals not exceeding 50 feet (15 240 mm). In two-story buildings located in Seismic Design Category D_2, all interior braced wall panels shall be supported on continuous foundations.~~

~~**Exception:** Two-story buildings shall be permitted to have interior braced wall lines supported on continuous foundations at intervals not exceeding 50 feet (15 240 mm)) provided that:~~

~~1. The height of cripple walls does not exceed 4 feet (1219 mm).~~

~~2. First-floor braced wall panels are supported on doubled floor joists, continuous blocking or floor beams.~~

3. ~~The distance between bracing lines does not exceed twice the building width measured parallel to the braced wall line.~~))

R602.10.10 Design of structural elements. Where a building, or portion thereof, does not comply with one or more of the bracing requirements in ((~~this section,~~)) Sections R602.10 through R602.10.9, those portions shall be designed and constructed in accordance with accepted engineering practice.

R602.10.11 Bracing in Seismic Design Categories D_0, D_1 and D_2. Structures located in Seismic Design Categories D_0, D_1 and D_2 shall ((~~have~~)) be provided with exterior and interior braced wall lines.

R602.10.11.1 Braced wall line spacing. Spacing between braced wall lines in each story shall not exceed 25 feet (7620 mm) on center in both the longitudinal and transverse directions.

Exception: In one- and two-story buildings, ((~~spacing between~~)) two adjacent braced wall lines shall not exceed 35 feet (10 363 mm) on center in order to accommodate ((~~one single room~~)) an area not exceeding 900 square feet (84 m^2) in each dwelling unit. Spacing between all other braced wall lines shall not exceed 25 feet (7620 mm).

R602.10.11.2 Braced wall panel location. Exterior braced wall lines shall have a braced wall panel located at each end of the braced wall line.

Exception: For braced wall panel construction Method 3 of Section R602.10.3, the braced wall panel shall be permitted to begin no more than 8 feet (2438 mm) from each end of the braced wall line provided the following is satisfied:

1. A minimum 24-inch-wide (610 mm) panel is applied to each side of the building corner and the two 24-inch-wide (610 mm) panels at the corner shall be attached to framing in accordance with Figure R602.10.5; or

2. The end of each braced wall panel closest to the corner shall have a tie-down device fastened to the stud at the edge of the braced wall panel closest to the corner and to the foundation or framing below. The tie-down device shall be capable of providing an uplift allowable design value of at least 1,800 pounds (8 kN). The tie-down device shall be installed in accordance with the manufacturer's recommendations.

R602.10.11.3 Collectors. A designed collector shall be provided if a braced wall panel is not located at each end of a braced wall line as indicated in Section R602.10.11.2, or, when using the Section R602.10.11.2 exception, if a braced wall panel is more than 8 feet (2438 mm) from each end of a braced wall line.

R602.10.11.4 Cripple wall bracing. In addition to the requirements of Section R602.10.2, where interior braced wall ((~~lines~~)) panels occur without a ((~~continuous~~)) foundation below, the length of parallel exterior cripple wall bracing shall be one and one-half times the length required by Table R602.10.1. Where cripple walls braced using Method 3 of Section R602.10.3 cannot provide this additional length, the capacity of the sheathing shall

be increased by reducing the spacing of fasteners along the perimeter of each piece of sheathing to 4 inches (102 mm) on center.

R602.10.11.5 Sheathing attachment. Adhesive attachment of wall sheathing shall not be permitted in Seismic Design Categories C, D_0, D_1 and D_2.

R602.11 Framing and connections for Seismic Design Categories D_0, D_1 and D_2. The framing and connection details of buildings located in Seismic Design Categories D_0, D_1 and D2 shall be in accordance with Sections R602.11.1 through R602.11.3.

R602.11.1 Wall anchorage. Braced wall line ((~~sills~~)) sill plates shall be anchored to concrete or masonry foundations in accordance with Sections R403.1.6 and R602.11. For all buildings in Seismic Design Categories D_0, D_1 and D_2 and townhouses in Seismic Design Category C, plate washers, a minimum of 0.229 inch by 3 inches by 3 inches (5.8 mm by 76 mm by 76 mm) in size, shall be installed between the foundation sill plate and the nut. The hole in the plate washer is permitted to be diagonally slotted with a width of up to $^3/_{16}$ inch (5 mm) larger than the bolt diameter and a slot length not to exceed $1^3/_4$ inches (44 mm), provided a standard cut washer is placed between the plate washer and the nut.

R602.11.2 Interior braced wall panel connections. Interior braced wall ((~~lines~~)) panels shall be fastened to floor and roof framing in accordance with Table R602.3(1), to required foundations in accordance with Section R602.11.1, and in accordance with the following requirements:

1. Floor joists parallel to the top plate shall be toe-nailed to the top plate with at least 8d nails spaced a maximum of 6 inches (152 mm) on center.

2. Top plate laps shall be face-nailed with at least eight 16d nails on each side of the splice.

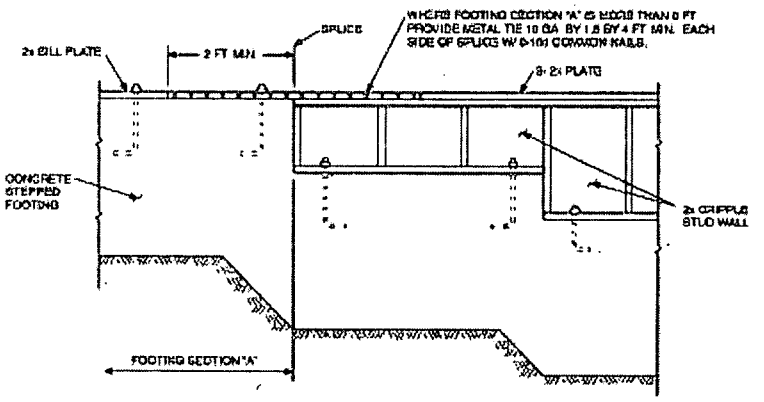
R602.11.3 Stepped foundations. Where stepped foundations occur, the following requirements apply:

1. Where the height of a required braced wall panel that extends from foundation to floor above varies more than 4 feet (1220 mm), the braced wall panel shall be constructed in accordance with Figure R602.11.3.

2. Where the lowest floor framing rests directly on a sill bolted to a foundation not less than 8 feet (2440 mm) in length along a line of bracing, the line shall be considered as braced. The double plate of the cripple stud wall beyond the segment of footing that extends to the lowest framed floor shall be spliced by extending the upper top plate a minimum of 4 feet (1219 mm) along the foundation. Anchor bolts shall be located a maximum of 1 foot and 3 feet (305 and 914 mm) from <u>each end of the plate section at</u> the step in the foundation.

3. Where cripple walls occur between the top of the foundation and the lowest floor framing, the bracing requirements for a story shall apply.

4. Where only the bottom of the foundation is stepped and the lowest floor framing rests directly on a sill bolted to the foundations, the requirements of Section R602.11.1 shall apply.



For SI: 1 inch 25.4 mm, 1 foot = 304.8 mm.
Note: Where footing Section "A" is less than 8 feet long in a 25-foot-long wall, install bracing or cripple stud wall.

FIGURE R602.11.3
STEPPED FOUNDATION CONSTRUCTION

***

SECTION R613

EXTERIOR WINDOWS AND GLASS DOORS

***

[W] R613.4 Testing and labeling. Exterior windows and sliding doors shall be tested by an approved independent laboratory, and bear a label identifying manufacturer, performance characteristics and approved inspection agency to indicate compliance with AAMA/WDMA/CSA 101/I.S.2/A440. Exterior side-hinged doors shall be tested and labeled as conforming to AAMA/ WDMA/CSA 101/I.S.2/A440 or comply with Section R613.6.

Exceptions:

1. Decorative glazed openings.
2. Custom exterior windows and doors manufactured by a small business, are exempt from all testing requirements in Section R613 of the *International Residential Code* provided they meet the applicable provisions of Chapter 24 of the *International Building Code.*

R613.4.1 Comparative analysis. Structural wind load design pressures for window and door units smaller than the size tested in accordance with Section R613.4 shall be permitted to be higher than the design value of the tested unit provided such higher pressures are determined by accepted engineering analysis. All components of the small unit shall be the same as those of the tested unit. Where such calculated design pressures are used, they shall be validated by an additional test of the window or door unit having the highest allowable design pressure.

***

Section 7. The following section of Chapter 7 of the International Residential Code, 2006 Edition, is amended as follows:

SECTION R703

EXTERIOR COVERING

[W] R703.1 General. Exterior walls shall provide the building with a weather-resistant exterior wall envelope. The exterior wall envelope shall include flashing as described in Section R703.8. The exterior wall envelope shall be designed and constructed in a manner that prevents the accumulation of water within the wall assembly by providing a water-resistant barrier behind the exterior veneer as required by Section R703.2 and a means of draining water that enters the assembly to the exterior. Protection against condensation in the exterior wall assembly shall be provided in accordance with ((~~Chapter 11 of this code~~)) the Washington State Energy Code (chapter 51-11 WAC).

Exceptions:

1. A weather-resistant exterior wall envelope shall not be required over concrete or masonry walls designed in accordance with Chapter 6 and flashed according to Section R703.7 or R703.8.

2. Compliance with the requirements for a means of drainage, and the requirements of Section R703.2 and R703.8, shall not be required for an exterior wall envelope that has been demonstrated to resist wind-driven rain through testing of the exterior wall envelope, including joints, penetrations and intersections with dissimilar materials, in accordance with ASTM E 331 under the following conditions:

   2.1 Exterior wall envelope test assemblies shall include at least one opening, one control joint, one wall/eave interface and one wall sill. All tested openings and penetrations shall be representative of the intended end-use configuration.

   2.2 Exterior wall envelope test assemblies shall be at least 4 feet (1219 mm) by 8 feet (2438 mm) in size.

   2.3 Exterior wall assemblies shall be tested at a minimum differential pressure of 6.24 pounds per square foot (299 Pa).

   2.4 Exterior wall envelope assemblies shall be subjected to a minimum test exposure duration of 2 hours.

The exterior wall envelope design shall be considered to resist wind-driven rain where the results of testing indicate that water did not penetrate: Control joints in the exterior wall envelope; joints at the perimeter of openings penetration; or intersections of terminations with dissimilar materials.

***

Section 8. The following section of Chapter 8 of the International Residential Code, 2006 Edition, is amended as follows:

((~~**R806.4 Conditioned attic assemblies.** Unvented conditioned attic assemblies (spaces between the ceiling joists of the top story and the roof rafters) are permitted under the following conditions:~~

~~1. No interior vapor retarders are installed on the ceiling side (attic floor) of the unvented attic assembly.~~

~~2. An air impermeable insulation is applied in direct contact to the underside/interior of the structural roof deck. "Air impermeable" shall be defined by ASTM E 283.~~

~~**Exception:** In Zones 2B and 3B, insulation is not required to be air impermeable.~~

~~3. In the warm humid locations as defined in Section N1101.2.1:~~

~~3.1. For asphalt roofing shingles: A 1 perm (5.7×10^{-11} kg/s · m^2 · Pa) or less vapor retarder (determined using Procedure B of ASTM E 96) is placed to the exterior of the structural roof deck; that is, just above the roof structural sheathing.~~

~~3.2. For wood shingles and shakes: a minimum continuous 1/4 inch (6 mm) vented air space separates the shingles/shakes and the roofing felt placed over the structural sheathing.~~

~~4. In Zones 3 through 8 as defined in Section N1101.2, sufficient insulation is installed to maintain the monthly average temperature of the condensing surface above 45°F (7°C). The condensing surface is defined as either the structural roof deck or the interior surface of an air impermeable insulation applied in direct contact with the underside/interior of the structural~~

~~roof deck. "Air-impermeable" is quantitatively defined by ASTM E 283. For calculation purposes, an interior temperature of 68°F (20°C) is assumed. The exterior temperature is assumed to be the monthly average outside temperature.~~))

Section 9. The following section of Chapter 10 of the International Residential Code, 2006 Edition, is amended as follows:

SECTION R1004

FACTORY-BUILT FIREPLACES

R1004.1 General. Factory-built fireplaces shall be listed and labeled and shall be installed in accordance with the conditions of the listing. Factory-built fireplaces shall be tested in accordance with UL 127.

[W] R1004.1.1 Emission standards for factory-built fireplaces. After January 1, 1997, no new or used factory-built fireplace shall be installed in Washington state unless it is certified and labeled in accordance with procedures and criteria specified in the Washington State Building Code Standard 31-2.

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

[W] R1004.1.2 Emission standards for certified masonry and concrete fireplaces. After January 1, 1997, new certified masonry or concrete fireplaces installed in Washington state shall be tested and labeled in accordance with procedures and criteria specified in the Washington State Building Code Standard 31-2.

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

***

Section 10. The following section of Chapter 12 of the International Residential Code, 2006 Edition, is amended as follows:

SECTION R1201

GENERAL

[W] 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 2004 Edition of NFPA 58 (Liquefied Petroleum Gas Code) and the 2006 Edition of ANSI Z223.1/NFPA 54 (National Fuel Gas Code).

***

Section 11. The following sections of Chapter 20 of the International Residential Code, 2006 Edition, are amended as follows:

~~((**SECTION M2001**~~

~~**BOILERS**~~

~~**M2001.1 Installation.** In addition to the requirements of this code, the installation of boilers shall conform to the manufacturer's instructions. The manufacturer's rating data, the nameplate and operating instructions of a permanent type shall be attached to the boiler. Boilers shall have all controls set, adjusted and tested by the installer. A complete control diagram together with complete boiler operating instructions shall be furnished by the installer. Solid- and liquid-fuel-burning boilers shall be provided with combustion air as required by Chapter 17.~~

~~**M2001.1.1 Standards.** Oil-fired boilers and their control systems shall be listed and labeled in accordance with UL 726. Electric boilers and their control systems shall be listed in accordance with UL 834. Boilers shall be designed and constructed in accordance with the requirements of ASME CSD-1 and as applicable, the ASME *Boiler and Pressure Vessel Code,* Sections I and IV. Gas-fired boilers shall conform to the requirements listed in Chapter 24.~~

~~**M2001.2 Clearance.** Boilers shall be installed in accordance with their listing and label.~~

~~**M2001.3 Valves.** Every boiler or modular boiler shall have a shutoff valve in the supply and return piping. For multiple boiler or multiple modular boiler installations, each boiler or modular boiler shall have individual shutoff valves in the supply and return piping.~~

~~**Exception:** Shutoff valves are not required in a system having a single low-pressure steam boiler.~~

~~**M2001.4 Flood-resistant installation.** In areas prone to flooding as established in Table R301.2(1), boilers, water heaters and their control systems shall be located or installed in accordance with Section R323.1.5.~~

~~SECTION M2002~~

~~OPERATING AND SAFETY CONTROLS~~

~~**M2002.1 Safety controls.** Electrical and mechanical operating and safety controls for boilers shall be listed and labeled.~~

~~**M2002.2 Hot water boiler gauges.** Every hot water boiler shall have a pressure gauge and a temperature gauge, or combination pressure and temperature gauge. The gauges shall indicate the temperature and pressure within the normal range of the system's operation.~~

~~**M2002.3 Steam boiler gauges.** Every steam boiler shall have a water-gauge glass and a pressure gauge. The pressure gauge shall indicate the pressure within the normal range of the system's operation. The gauge glass shall be installed so that the midpoint is at the normal water level.~~

~~**M2002.4 Pressure-relief valve.** Boilers shall be equipped with pressure-relief valves with minimum rated capacities for the equipment served. Pressure-relief valves shall be set at the maximum rating of the boiler. Discharge shall be piped to drains by gravity to within 18 inches (457 mm) of the floor or to an open receptor.~~

M2002.5 Boiler low-water cutoff. All steam and hot water boilers shall be protected with a low-water cutoff control. The low-water cutoff shall automatically stop the combustion operation of the appliance when the water level drops below the lowest safe water level as established by the manufacturer.

SECTION M2003

EXPANSION TANKS

M2003.1 General. Hot water boilers shall be provided with expansion tanks. Nonpressurized expansion tanks shall be securely fastened to the structure or boiler and supported to carry twice the weight of the tank filled with water. Provisions shall be made for draining nonpressurized tanks without emptying the system.

M2003.1.1 Pressurized expansion tanks. Pressurized expansion tanks shall be consistent with the volume and capacity of the system. Tanks shall be capable of withstanding a hydrostatic test pressure of two and one-half times the allowable working pressure of the system.

M2003.2 Minimum capacity. The minimum capacity of expansion tanks shall be determined from Table M2003.2.

TABLE M2003.2
EXPANSION TANK MINIMUM CAPACITY[a] FOR FORCED HOT-WATER SYSTEMS

SYSTEM VOLUME[b] (gallons)	PRESSURIZED DIAPHRAGM TYPE	NONPRESSURIZED TYPE
10	1.0	1.5
20	1.5	3.0
30	2.5	4.5
40	3.0	6.0
50	4.0	7.5
60	5.0	9.0
70	6.0	10.5

~~80~~	~~6.5~~	~~12.0~~
~~90~~	~~7.5~~	~~13.5~~
~~100~~	~~8.0~~	~~15.0~~

~~For SI: 1 gallon = 3.785 L, 1 pound per square inch gauge = 6.895 kPa, °C = [(°F) 32]/1.8.~~

~~Based on average water temperature of 195°F, fill pressure of 12 psig and a maximum operating pressure of 30 psig.~~

~~System volume includes volume of water in boiler, convectors and piping, not including the expansion tank.~~))

Section 12. Sections 2 -27 of Ordinance 121521 and Sections 1-5 and 7-11 of Ordinance 122047 are repealed.

Section 13. The provisions of this ordinance are declared to be separate and severable. The invalidity of any clause, sentence, paragraph, subdivision, section or portion of this ordinance, or the invalidity of the application thereof to any person, owner, or circumstance shall not affect the validity of the remainder of this ordinance, or the validity of its application to other persons, owners, or circumstances.

Section 14. For a period of 60 days following the effective date of this ordinance, the Director may also accept and thereafter approve applications that are designed to comply with either the requirements of this Ordinance or the requirements of Ordinance 121521 as amended by Ordinance 122047.

Section 15. This ordinance shall take effect and be in force thirty (30) days from and after its approval by the Mayor, but if not approved and returned by the Mayor within ten (10) days after presentation, it shall take effect as provided by Municipal Code Section 1.04.020.

Passed by the City Council the 1st day of October, 2007, and signed by me in open session in authentication of its passage this 1st day of October, 2007.

President _____ of the City Council

Approved by me this 11th day of October, 2007.

Gregory J. Nickels, Mayor

Filed by me this 11th day of Octob, 2007.

City Clerk

(Seal)

Maureen Traxler/mt
DPD 2006 IRC Ord.doc
July 7, 2007
Version #2

Form revised December 4, 2006

FISCAL NOTE FOR NON-CAPITAL PROJECTS

Department:	Contact Person/Phone:	DOF Analyst/Phone:
Planning and Development	Maureen Traxler/3-3892	

Legislation Title:
AN ORDINANCE relating to the Seattle Residential Code, amending Section 22.150.010, and adopting by reference Chapters 2 through 10, 12 through 24, 43, and Appendices F and G of the 2006 International Residential Code with errata published by the International Code Council, and amending certain of those chapters; adopting a new Chapter 1 for the Seattle Residential Code related to administration, permitting and enforcement; and repealing Sections 2 -27 of Ordinance 121521 and Sections 1-5 and 7-11 of Ordinance 122047.

- **Summary of the Legislation:**

This Bill adopts the 2006 International Residential Code with Seattle amendments. It is part of a group of several companion Bills that regulate construction and use of buildings in the City of Seattle. The Code establishes construction standards for one- and two-family dwellings and townhouses.

- **Background:** *(Include brief description of the purpose and context of legislation and include record of previous legislation and funding history, if applicable):*

The International Residential Code is adopted statewide according to the State Building Code Act, RCW 19.27. Seattle adds local interpretations and a chapter on administration and enforcement.

- *Please check one of the following:*

_X_ **This legislation does not have any financial implications.** (*Stop here and delete the remainder of this document prior to saving and printing.)*

Att 1. Changes in Seattle Amendments

Attachment A
Changes in Seattle amendments—2006 Seattle Residential Code

Note: This list includes changes proposed for the Seattle amendments to the International Residential Code. Amendments that are carried forward from the 2003 Seattle Residential Code are not listed; differences between the 2003 and 2006 editions of the International Residential Code are not listed.

Chapter 1 Administration

R101.2 Scope. The note is clarified to include standards other than the IBC as acceptable for seismic design of residences of more than two stories.

R102.2 & R102.3 The sections on emergency and hazard correction orders are revised to require the orders to specify a date certain by which deficiencies in the buildings subject to the orders must be corrected.

R103.3 The procedures for "review by the director" for notices of violation are revised to conform to recent judicial decisions, and so that they clearly apply to permit revocations.

R103.5.2 A section is added stating that civil actions to enforce the code must be brought in Municipal Court.

R103.6 The code is revised to clarify that criminal penalties are an alternative to civil penalties.

R104.4.3 A procedure for review by the director of stop work orders is added.

Several sections. The terms "registered design professional" and "design professional in responsible charge" replace "architect of record" and "engineer of record". Both new terms are used in IBC.

R105.5.2.2 Clarification is added to explain when a design professional's stamp is required on applications.

R105.6.2 An exception is added stating that approval of the building official is not required for modifications to issued permits when the scope of work proposed in the modification by itself wouldn't require a permit.

R105.9.4 Permits may be revoked or suspended if permit is issued on basis of incomplete information. The procedure that DPD must follow is specified, including an opportunity for the permit holder to challenge the revocation.

R105.15.3 A procedure for review by the director is added for notices of revocation.

R107.3 Those who request inspections are required to provide safety equipment for inspectors.

Chapter 2 Definitions

Definitions of "architect", "engineer", "project architect or engineer" and "structural engineer of record" are deleted. The Seattle Code adopts the term "registered design professional" and "design professional in responsible charge", as used in the IBC.

The definition of "dwelling unit" is revised to include adult family homes, foster care homes, home day cares, and home occupations. The effect of this change is that buildings containing those uses may be constructed according to the IRC instead of the IBC which requires sprinkler systems.

The definition of "existing structure" is revised so that buildings are not considered "existing" until after they have passed a final inspection. The IBC defines buildings as existing as soon as a permit is issued, which could allow revisions made during construction to be subject to older codes.

A definition of "small business" taken from the Washington State Residential Code is added. The definition is used to describe the businesses that are not required to comply with a new window testing standard.

An interpretation is added to the definition of "townhouse" to clarify that townhouses must have yards, driveway, parking lots or public ways on at least two sides.

Att 1 to Fisc

Chapter 3 Building Planning
Table R301.2(1) The title of the first column in the table is changed from "ground snow load" to "roof snow load" to more accurately describe the data found in the column.

R317.2.1 A provision from the Washington State Residential Code is added that clarifies what fire protection is required for cantilevered upper stories of a residence.

R327 A provision of the Washington State Residential Code is added that adopts IRC Appendix F to govern radon mitigation measures. Radon provisions are deleted from the Washington State Ventilation and Indoor Air Quality Code.

R328 A provision of the Washington State Residential Code is added that adopts Appendix G of the IRC to govern pools and hot tubs.

R332.6 Specific provisions related to standpipes for floating homes are deleted to reflect current practices.

R332.15 The 2003 SRC excludes floating home flotation from compliance with the Residential Code. In the 2006 Code, floatation will be subject to the Code. This code change reflects DPD's practice. The Code does not contain standards applicable to floatation, so applicants will comply with other standards.

Chapter 4 Foundations
R402.2 An interpretation is added stating that specific sack mixes of concrete are deemed to be equivalent to the code for resistance to weathering. These sack mixes have been accepted in Seattle for many years.

R403 and R404 Several amendments are taken from the Washington State Residential Code that clarify the IRC provisions for braced wall panels. This ordinance incorporates an emergency rule adopted by the State Building Code Council on August 10, 2007. The emergency rule corrects an inadvertent omission of provisions requiring that bearing walls be anchored to the foundation.

R404.1 A provision is deleted that forbids jurisdictions from requiring an engineer to stamp plans for concrete foundation walls designed according to certain technical standards.

R408 A Washington State Residential Code amendment is adopted that coordinates Energy Code and Residential Code requirements for underfloor ventilation.

Chapter 6 Wall Construction
As in Chapter 4, several amendments are taken from the Washington State Residential Code that clarify the IRC provisions for braced wall panels.

An exception from the State Residential Code that relieves small window manufacturers from some testing requirements is adopted.

Chapter 8 Roof-ceiling Construction
R806.4 Provisions relating to insulation in attics are deleted. The provisions are in conflict with the Energy Code.

City of Seattle

Gregory J. Nickels, Mayor

Office of the Mayor

September 18, 2007

Honorable Nick Licata
President
Seattle City Council
City Hall, 2nd Floor

Dear Council President Licata:

I am pleased to transmit the attached proposed Council Bill that adopts the 2006 International Residential Code with Seattle amendments, which govern construction of one- and two-family dwellings. This Bill is part of a group of seven companion Bills that regulate the construction and use of buildings in the City of Seattle. Six of the Codes are prepared by the Department of Planning and Development: (the Seattle Residential, Building, Energy, Mechanical, Fuel Gas, and Existing Building Codes), and one is prepared by the Fire Department (the 2006 Fire Code).

All of the Codes are adopted by the State of Washington. Seattle subsequently adds local amendments specific to its needs. The Construction Codes Advisory Board (CCAB), which consists of representatives of the design, development, and construction industry, has reviewed and approved the proposals. Drafts of the Codes were made available to the public in January.

Thank you for your consideration of this legislation. Adoption of the new Codes will provide additional flexibility in building design, and will enhance the safety of Seattle's citizens. Should you have questions, please contact Maureen Traxler at 233-3892.

Sincerely,

GREG NICKELS
Mayor of Seattle

cc: Honorable Members of the Seattle City Council

600 Fourth Avenue, 7th Floor, P.O. Box 94749, Seattle, WA 98124-4749
Tel: (206) 684-4000, TDD: (206) 684-8811 Fax: (206) 684-5360, Email: mayors.office@seattle.gov

STATE OF WASHINGTON – KING COUNTY

--ss.

216519 No.

CITY OF SEATTLE,CLERKS OFFICE

Affidavit of Publication

The undersigned, on oath states that he is an authorized representative of The Daily Journal of Commerce, a daily newspaper, which newspaper is a legal newspaper of general circulation and it is now and has been for more than six months prior to the date of publication hereinafter referred to, published in the English language continuously as a daily newspaper in Seattle, King County, Washington, and it is now and during all of said time was printed in an office maintained at the aforesaid place of publication of this newspaper. The Daily Journal of Commerce was on the 12th day of June, 1941, approved as a legal newspaper by the Superior Court of King County.

The notice in the exact form annexed, was published in regular issues of The Daily Journal of Commerce, which was regularly distributed to its subscribers during the below stated period. The annexed notice, a

CT:ORDINANCE 122533

was published on

10/19/07

The amount of the fee charged for the foregoing publication is the sum of $15,527.00, which amount has been paid in full.

Subscribed and sworn to before me on

10/19/07

Notary public for the State of Washington,
residing in Seattle

Affidavit of Publication

SEATTLE CITY NOTICES

ORDINANCE 122533

AN ORDINANCE relating to the Seattle Residential Code, amending Section 22.150.010, and adopting by reference Chapters 2 through 10, 12 through 24, 43, and Appendices F and G of the 2006 International Residential Code with errata published by the International Code Council, and amending certain of those chapters; adopting a new Chapter 1 for the Seattle Residential Code related to administration, permitting and enforcement; and repealing Sections 2 -27 of Ordinance 121521 and Sections 1-5 and 7-11 of Ordinance 122047.

BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:

Section 1. Section 22.150.010 of the Seattle Municipal Code is amended as follows:

22.150.010 Adoption of International Residential Code.

The Seattle Residential Code ((~~shall consist~~)) consists of: 1) the following portions of the ((~~2003~~)) 2006 edition of the International Residential Code ((~~as~~)) published by the International Code Council, as amended by City Council by ordinance: Chapters 2 through 10, Chapters 12 through ((~~19, Chapters 22 through~~)) 24, ((~~and~~)) Chapter 43, Appendices F and G, together with the adopted amendments and additions and all errata published by the International Code Council after February 1, 2006, and 2) Chapter 1 relating to administration, permitting and enforcement adopted by City Council by ordinance. One copy of the ((~~2003~~)) 2006 International Residential Code is filed with the City Clerk in C.F. ((~~306759~~)) 308941.

Section 2. The following chapter is adopted as Chapter 1 of the Seattle Residential Code, to read as follows:

Chapter 1

ADMINISTRATION

SECTION R101

TITLE, PURPOSE AND SCOPE

R101.1 Title. This subtitle shall be known as the "Seattle Residential Code" and may be so cited, and is referred to herein as "this code."

R101.2 Scope. The provisions of this code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above grade in height with a separate means of egress, and their accessory structures, including adult family homes, foster family care homes and family day care homes licensed by the Washington State Department of Social and Health Services.

Note: The seismic design for wood-frame buildings with more than two stories above grade shall comply with the Seattle Building Code or other standards referenced in Section R301.1. See Sections R301.2.2.4 and Table R602.10.1.
Interpretation R101.2a: Buildings with mixed occupancies, other than residences with home occupations, are not within the scope of the Seattle Residential Code and shall comply with the Seattle Building Code.
Interpretation R101.2b: Dwellings located above a common garage or other common space are not within the scope of the Seattle Residential Code, and shall comply with the Seattle Building Code. Units in detached two-family dwellings that share a garage are within the scope of this code.

Note: If a structure is constructed and maintained in compliance with standards and procedures of the Seattle Residential Code currently in effect, as well as the Seattle Building, Mechanical, Fire, Electrical and Plumbing Codes currently in effect, the Seattle Housing and Building Maintenance Code, SMC 22.200-22.208 does not apply.

R101.3 Purpose. The purpose of this code is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, quality of materials, occupancy, location and maintenance of buildings and structures within the City and certain equipment specifically regulated herein.

The purpose of this code is to provide for and promote the health, safety and welfare of the general public, and not to create or otherwise establish or designate any particular class or group of persons who will or should be especially protected or benefited by the terms of this code.

R101.4 Internal consistency. Where in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive governs.

R101.5 Referenced codes and standards. The codes and standards referenced in this code are part of the requirements of this code to the extent prescribed by each such reference. Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code apply.

Exception: Where enforcement of a code provision would violate the conditions of the listing of the equipment or appliance, the conditions of the listing and manufacturer's instructions apply.

R101.6 Appendices. Provisions in the *International Residential Code* appendices do not apply unless specifically adopted.

[W][1] R101.7 Conflict with Ventilation Code. In the case of conflict between the ventilation requirements of this code and the ventilation requirements of Washington Administrative Code Chapter 51-13 the Washington State Ventilation and Indoor Air Quality Code (VIAQ), the provisions of the VIAQ govern.

R101.8 Metric units. Wherever in this ordinance there is a conflict between metric units of measurement and English units, the English units govern.

SECTION R102

UNSAFE BUILDINGS, STRUCTURES OR PREMISES

R102.1 Definition. For the purpose of this section, "unsafe buildings, structures or premises" include all buildings or structures and all premises immediately surrounding such buildings or structures, whether erected before or after the effective date of this code, that are structurally unsound or unsafe or not provided with adequate egress, or that constitute a fire hazard, or are otherwise dangerous to human life, or that, in relation to existing occupancy, constitute a hazard to safety, health or public welfare by reason of inadequate maintenance, deterioration, instability, dilapidation, obsolescence, damage by fire or other causes or abandonment as specified in this code or any other effective ordinance.

R102.2 Emergency orders. Whenever the building official finds that any building or structure, or portion thereof is in such a dangerous and unsafe condition as to constitute an imminent hazard to life or limb, the building official may issue an emergency order directing that the building or structure, or portion thereof be restored to a safe condition by a date certain. The order shall be posted on the premises or personally served on the owner of the building or premises and /or any person responsible for the condition and shall specify the time for compliance. The order may also require that the building or structure, or portion thereof, be vacated within a reasonable time to be specified in the order. In the case of extreme danger, the order may specify immediate vacation of the building or structure, or may authorize immediate disconnection of the utilities or energy source. No person may occupy a building or structure, or portion thereof, after the date on which the building is required to be vacated until the building or structure, or portion thereof, is restored to a safe condition as required by the order and this code. It is a violation for any person to fail to comply with an emergency order issued by the building official.

R102.3 Hazard correction order. Whenever the building official finds that an unsafe building, structure or premises exists, the building official may issue a hazard correction order specifying the conditions causing the building, structure or premises to be unsafe and directing the owner or other person responsible for the unsafe building, structure or premises to correct the condition by a date certain. In lieu of correction, the owner may submit a report or analysis to the building official analyzing said conditions and establishing that the building, structure or premises is, in fact, safe. The building official may require that the report or analysis be prepared by a licensed engineer and may require compliance with Seattle Building Code Chapter 34. It is a violation of this code for any person to fail to comply with a hazard correction order as specified in this subsection.

[1] [W] preceding a section number indicates that the section incorporates a provision of the Washington State Residential Code.

SECTION R103

VIOLATIONS AND PENALTIES

R103.1 Violations. It is a violation of this code for any person to:

1. erect, construct, enlarge, repair, move, improve, remove, convert, demolish, equip, occupy, inspect or maintain any building or structure in the City, contrary to or in violation of any of the provisions of this code.

2. knowingly aid, abet, counsel, encourage, hire, induce or otherwise procure another to violate or fail to comply with this code.

3. use any material or to install any device, appliance or equipment that is subject to this code and that has not been approved by the building official.

4. violate or fail to comply with any requirements of this code or with any final order issued by the building official pursuant to the provisions of this code.

5. remove, mutilate, destroy or conceal any notice or order issued or posted by the building official pursuant to the provisions of this code, or any notice or order issued or posted by the building official in response to a natural disaster or other emergency.

R103.2 Notice of violation. If, after investigation, the building official determines that standards or requirements of this code have been violated or that orders or requirements have not been complied with, the building official may serve a notice of violation upon the owner, agent, or other person responsible for the action or condition. The notice of violation shall state the standards or requirements violated, shall state what corrective action, if any, is necessary to comply with the standards or requirements, and shall set a reasonable time for compliance. The notice shall be served upon the owner, agent or other responsible person by personal service or regular first class mail addressed to the last known address of such person, or if no address is available after reasonable inquiry, the notice may be served by posting it in a conspicuous place on the premises. The notice may also be posted if served by personal service or first class mail. The notice of violation shall be considered an order of the building official if no request for review before the building official is made pursuant to Section R103.3. Nothing in this section limits or precludes any action or proceeding to enforce this chapter, and nothing obligates or requires the building official to issue a notice of violation prior to the imposition of civil or criminal penalties.

R103.3 Review by the building official for notice of violation

R103.3.1 Any person affected by a notice of violation issued pursuant to Section R103.2 may obtain a review of the notice by making a request in writing within ten days after service of the notice. When the last day of the period computed is a Saturday, Sunday, federal or City holiday, the period runs until 5:00 p.m. of the next business day. The review shall occur not less than ten nor more than twenty days after the request is received by the building official unless otherwise agreed by the person requesting the review. Any person aggrieved by or interested in the notice of violation may submit additional information to the building official.

R103.3.2 The review shall be made by a representative of the building official who will review any additional information that is submitted and the basis for issuance of the notice of violation. The reviewer may request clarification of the information received and a site visit. After the review, the building official shall:

1. Sustain the notice; or
2. Withdraw the notice; or
3. Continue the review to a date certain; or
4. Amend the notice.

R103.3.3 The building official shall issue an order containing the decision within 15 days of the date that the review is completed and shall cause the order to be mailed by regular first class mail to the persons requesting the review and the persons named on the notice of violation, addressed to their last known address.

R103.4 Because civil actions to enforce Title 22 SMC are brought in Seattle Municipal Court pursuant to Section R103.5.2, orders of the building official issued under this chapter are not subject to judicial review pursuant to chapter 36.70C RCW.

R103.5 Civil penalties.

R103.5.1. Any person violating or failing to comply with the provisions of this code shall be subject to a cumulative civil penalty in an amount not to exceed $500 per day for each violation from the date the violation occurs or begins until compliance is achieved. In cases where the building official has issued a notice of violation, the violation will be deemed to begin, for purposes of determining the number of days of violation, on the date compliance is required by the notice of violation.

R103.5.2. Civil actions to enforce this chapter shall be brought exclusively in Seattle Municipal Court, except as otherwise required by law or court rule. In any civil action for a penalty, the City has the burden of proving by a preponderance of the evidence that a violation exists or existed; the issuance of the notice of violation or of an order following a review by the building official is not itself evidence that a violation exists.

R103.6 Alternative criminal penalty. Anyone who violates or fails to comply with any order issued by the building official pursuant to this code or who removes, mutilates, destroys or conceals a notice issued or posted by the building official shall, upon conviction thereof, be punished by a fine of not more than $5000 or by imprisonment for not more than 365 days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.

R103.7 Additional relief. The building official may seek legal or equitable relief to enjoin any acts or practices and abate any condition when necessary to achieve compliance.

R103.8 Recording of notices. The building official may record a copy of any order or notice with the Department of Records and Elections of King County. The building official may record with the Department of Records and Elections of King County a notice that a permit has expired without a final inspection after reasonable efforts have been made to provide a final inspection.

SECTION R104

ORGANIZATION AND ENFORCEMENT

R104.1 Jurisdiction of Department of Planning and Development. The Department of Planning and Development is authorized to administer and enforce this code. The Department of Planning and Development is under the administrative and operational control of the Director, who is the building official.

R104.2 Deputies. The building official may appoint such officers, inspectors, assistants and other employees as are authorized from time to time. The building official may authorize such employees as may be necessary to carry out the functions of the building official.

R104.3 Right of entry. With the consent of the owner or occupier of a building or premises, or pursuant to a lawfully issued warrant, the building official may enter a building or premises at any reasonable time to perform the duties imposed by this code.

R104.4 Stop work orders. The building official may issue a stop work order whenever any work is being done contrary to the provisions of this code, or in the event of dangerous or unsafe conditions related to construction or demolition. The stop work order shall identify the violation and may prohibit work or other activity on the site.

R104.4.1 Service of stop work order. The building official may serve the stop work order by posting it in a conspicuous place at the site, if posting is physically possible. If posting is not physically possible, then the stop work order may be served in the manner set forth in RCW 4.28.080 for service of a summons or by sending it by first class mail to the last known address of: the property owner, the person doing or causing the work to be done, and the holder of a permit if work is being stopped on a permit. For purposes of this section, service is complete at the time of posting or of personal service, or if mailed, three days after the date of mailing. When the last day of the period so computed is a Saturday, Sunday or city holiday, the period runs until 5:00 p.m. on the next business day.

R104.4.2 Effective date of stop work order. Stop work orders are effective when posted, or if posting is not physically possible, when one of the persons identified in Section R104.4.1 is served.

R104.4.3 Review by the building official for stop work orders. Any person aggrieved by a stop work order may obtain a review of the order by delivering to the building official a request in writing within 2 business days of the date of service of the stop work order.

The review shall occur within 2 business days after receipt by the building official of the request for review unless the requestor agrees to a longer time.

Any person aggrieved by or interested in the stop work order may submit additional information to the building official for consideration as part of the review at any time prior to the review.

The review will be made by a representative of the building official who will review all additional information received and may also request a site visit. After the review, the building official may:

a. Sustain the stop work order;

b. Withdraw the stop work order;

c. Modify the stop work order; or

d. Continue the review to a date certain for receipt of additional information.

R104.4.4 Order of the building official. The building official shall issue an order of the building official containing the decision within 2 business days after the review and shall cause the order to be sent by first class mail to the person or persons requesting the review, any person on whom the stop work order was served, and any other person who requested a copy before issuance of the order. The City and all parties shall be bound by the order.

R104.5 Occupancy violations. Whenever any building or structure is being occupied contrary to the provisions of this code, the building official may order such occupancy discontinued and the building or structure, or portion thereof, vacated by notice. The notice shall be served by personal service or regular first class mail addressed to the last known address of the occupant of the premises or any person causing such occupancy. If no address is available after reasonable inquiry, the notice may be served by posting it in a conspicuous place on the premises.

Any person occupying the building or structure shall discontinue the occupancy by the date specified in the notice of the building official, or shall make the building or structure, or portion thereof, comply with the requirements of this code; provided, however, that in the event of an unsafe building, Section R102 may apply.

R104.6 Liability. Nothing in this code is intended to be nor shall be construed to create or form the basis for any liability on the part of the City, or its officers, employees or agents, for any injury or damage resulting from the failure of a building to conform to the provisions of this code, or by reason or as a consequence of any inspection, notice, order, certificate, permission or approval authorized or issued or done in connection with the implementation or enforcement of this code, or by reason of any action or inaction on the part of the City related in any manner to the enforcement of this code by its officers, employees or agents.

This code shall not be construed to lessen or relieve the responsibility of any person owning, operating or controlling any building or structure for any damages to persons or

property caused by defects, nor shall the Department of Planning and Development or the City of Seattle be held to have assumed any such liability by reason of the inspections authorized by this code or any permits or certificates issued under this code.

R104.7 Responsibilities of parties.

R104.7.1 Responsibility for compliance. Compliance with the requirements of this code is the obligation of the owner of the building, structure, or premises, the duly authorized agent of the owner, and other persons responsible for the condition or work, and not of the City or any of its officers or employees.

R104.7.2 Responsibility of design professional, contractor, plans examiner and inspector. The responsibilities of the design professional in responsible charge, contractor, plans examiner, and field inspector are as provided in the Seattle Building Code.

R104.8 Modifications. The building official may modify the requirements of this code for individual cases provided the building official finds: (1) there are practical difficulties involved in carrying out the provisions of this code; (2) the modification is in conformity with the intent and purpose of this code; and (3) the modification will provide a reasonable level of fire protection and structural integrity when considered together with other safety features of the building or other relevant circumstances. The building official may, but is not required, to record the approval of modifications and any relevant information in the files of the building official or on the approved permit plans.

R104.9 Alternate materials, methods of construction and design. This code does not prevent the use of any material, design or method of construction not specifically allowed or prohibited by this code, provided the alternate has been approved and its use authorized by the building official. The building official may approve an alternate, provided the building official finds that the proposed alternate complies with the provisions of this code and that the alternate, when considered together with other safety features of the building or other relevant circumstances, will provide at least an equivalent level of strength, effectiveness, fire resistance, durability, safety and sanitation. Certain code alternates have been pre-approved by the building official and are identified in this code as code alternates. The building official may require that sufficient evidence or proof be submitted to reasonably substantiate any claims regarding the use or suitability of the alternate. The building official may, but is not required, to record the approval of alternates and any relevant information in the files of the building official or on the approved permit plans.

R104.10 Tests. Whenever there is insufficient evidence of compliance with any of the provisions of this code or evidence that any material or construction does not conform to the requirements of this code, the building official may require tests as proof of compliance to be made at no expense to the City. Test methods shall be specified by this code or by other recognized test standards. If there are no recognized and accepted test methods for the proposed alternate, the building official shall determine the test procedures. All tests shall be made by an approved agency. Reports of such tests shall be retained by the building official.

R104.11 Rules of the building official.

R104.11.1 Authority of building official. The building official has authority to issue interpretations of this code and to adopt and enforce rules and regulations supplemental to this code as may be deemed necessary in order to clarify the application of the provisions of this code. Such interpretations, rules and regulations shall be in conformity with the intent and purpose of this code.

R104.11.2 Procedure for adoption of rules. The building official shall promulgate, adopt and issue rules according to the procedures specified in the Administrative Code, Chapter 3.02 of the Seattle Municipal Code.

R104.12 Appeals. Except for building official reviews, appeals from decisions or actions pertaining to the administration and enforcement of this code shall be addressed to the building official according to Seattle Building Code Section 104.13.

SECTION R105

BUILDING PERMITS

R105.1 Permits required. Except as otherwise specifically provided in this code, a building permit shall be obtained from the building official for each building, structure or mechanical system prior to erecting, constructing, enlarging, altering, repairing, moving, improving, removing, changing the occupancy of, or demolishing such building, structure or mechanical system, or allowing the same to be done. All work shall comply with this code, even where no permit is required.

R105.2 Work exempt from permit. A building permit is not required for the work listed below. Exemption from the permit requirements of this code does not grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of the City.

1. Minor repairs or alterations that, as determined by the building official, cost the owner $4,000 or less in any 6-month period. Such repairs and alterations shall not include the removal, reduction, alteration, or relocation of any loadbearing support. Egress, light, ventilation, and fire-resistance shall not be reduced without a permit.
2. Minor work including the following, provided no changes are made to the building envelope: patio and concrete slabs on grade, painting or cleaning a building, repointing a chimney, installing kitchen cabinets, paneling or other surface finishes over existing wall and ceiling systems, insulating existing buildings, abatement of hazardous materials, and in-kind or similar replacement or repair of deteriorated members of a structure.
3. One-story detached accessory buildings used for greenhouse, tool or storage shed, playhouse, or similar uses, if:
   - 3.1 The projected roof area does not exceed 120 square feet; and
   - 3.2 The building is not placed on a concrete foundation other than a slab on grade.
4. Fences not over 8 feet high that do not have masonry or concrete elements above 6 feet.
5. Arbors and other open-framed landscape structures not exceeding 120 square feet in projected area.
6. Retaining walls and rockeries not over 4 feet in height measured from the bottom of the footing to the top of the wall, if:
   - 6.1 There is no surcharge or impoundment of Class I, II or III-A liquids.
   - 6.2 Construction does not support soils in a steep slope area, potential landslide area or known slide area as identified in the Seattle Environmentally Critical Areas Ordinance, Section 25.09.020 of the Seattle Municipal Code.
   - 6.3 Possible failure would likely cause no damage to adjoining property or structures.
7. Platforms, walks and driveways not more than 18 inches above grade and not over any basement or story below.
8. Window awnings supported by an exterior wall when projecting not more than 54 inches.
9. Prefabricated swimming pools, spas and similar equipment accessory to a building subject to this code in which the pool walls are entirely above the adjacent grade and if the capacity does not exceed 5,000 gallons.
10. Replacement of roofing materials and siding. This does not include structural changes, replacement of sheathing or alterations to doors and windows. See Energy Code Sections 101.3.2.5 and 1132.1 for insulation requirements for existing buildings.

    Exception: In detached one- and two- family dwellings, the existing roof sheathing may be replaced and roof structure may be repaired without permit if no changes are made to the building envelope other than adding or replacing insulation, and the work is equivalent to or better than the existing structure.
11. Private playground equipment including tree houses.
12. Removal and/or replacement of underground storage tanks that are subject to regulation by a state or federal agency.

    Note: A Fire Department permit is required for removal, replacement and decommissioning of underground storage tanks.
13. Installation of dish and panel antennas 6.56 feet (2 m) or less in diameter or diagonal measurement.
14. Portable heating appliances, portable ventilating equipment, and portable cooling units, provided that the total capacity of these portable appliances do not exceed 40 percent of the cumulative heating, cooling or ventilating requirements of a building or dwelling unit and do not exceed 3 kW or 10,000 Btu input.
15. Any closed system of steam, hot or chilled water piping within heating or cooling equipment regulated by this code.
16. Minor work or the replacement of any component part of a mechanical system that does not alter its original approval and complies with other applicable requirements of this code.

R105.3 Other permits required. Unless otherwise exempted by this or other pertinent codes, master use, plumbing, electrical, mechanical and other permits may be required for the above exempted items.

R105.4 Flood hazard areas. In addition to the permit required by this section, all work to be performed in areas of special flood hazard, identified in the report entitled "Flood Insurance Study for King County, Washington and Incorporated Areas" and the accompanying Flood Insurance Rate Maps and filed in C.F. 296948, is subject to additional standards and requirements, including floodplain development approval or a Floodplain Development License, as set forth in Chapter 25.06, the Seattle Floodplain Development Ordinance.

R105.5 Application for permit

R105.5.1 Application. To obtain a permit, the applicant shall first file an application in writing on a form furnished by the Department of Planning and Development for that purpose. Every such application shall:

1. Identify and describe the work to be covered by the permit for which application is made.
2. Describe the land on which the proposed work is to be done by legal description, property address or similar description that will readily identify and definitely locate the proposed building or work.
3. Provide the contractor's business name, address, phone number and current contractor registration number (required if contractor has been selected).
4. Be accompanied by plans and other data required in Section R105.5.2.
5. State the valuation of any new building or structure or any addition, remodeling or alteration to an existing building, including cost breakdown between additions and alterations.
6. Be signed by the owner of the property or building, or the owner's authorized agent, who may be required to submit evidence to indicate such authority.
7. Give such other data and information as may be required by the building official, including, but not limited to, master use and shoreline permits and building identification plans.
8. Indicate the name of the owner and contractor and the name, address and phone number of a contact person.
9. Substantially conform with the Land Use Code, critical areas regulations and Seattle Residential Code in effect on the date that the application is submitted.

R105.5.2 Plans and specifications.

R105.5.2.1 General. Plans, engineering calculations, diagrams and other data shall be submitted in two or more sets with each application for a permit.

Exception: An engineer's stamp or submission of plans, calculations or other data is not required if the building official finds that the nature of the work applied for is such that review of plans is not necessary to obtain compliance with this code.

R105.5.2.2 Preparation by registered design professionals. Plans, computations and specifications for all work shall be prepared and designed by or under the direct supervision of an architect or structural engineer licensed to practice under the laws of the State of Washington. Each sheet of plans shall bear the seal and the signature of the registered design professional.

Exception: When authorized by the building official, plans and specifications need not be prepared by an engineer or architect licensed by the State of Washington for the following:

1. One- and two-family detached dwellings and accessory structures constructed of light-frame wood or cold-formed steel construction with a shear wall lateral-force-resisting system.

   Interpretation R105.5.2: Steel moment frames or extensive or more complex concrete structures such as concrete frame, mild reinforced or post-tensioned floor slabs, shall be designed by a licensed structural engineer.
2. New construction, additions, alterations or repairs of conventional light-frame construction, and nonstructural alterations having a total valuation of less than $30,000 excluding the value of electrical and mechanical systems, fixtures, equipment, interior finish and millwork.
3. The building official may accept the design of a licensed professional engineer for assembly line products or designed specialty structural products.
4. Other work specified in rules promulgated by the building official.

R105.5.2.3 Clarity of plans. Plans shall be drawn to a clearly indicated and commonly accepted scale upon substantial paper such as blueprint quality or standard drafting paper. Tissue paper, posterboard or cardboard will not be accepted. The plans shall be of microfilm quality and limited to a minimum size of 18 inches by 18 inches and a maximum size of 41 inches by 54 inches.

Exception: The plans for metal plate connected wood trusses may be not less than 8-1/2 inches by 11 inches for detached single family structures and no less than 11 inches by 17 inches for all other structures.

R105.5.2.4 Information required on plans. Plans shall include the following, as applicable:

1. A plot plan showing the width of streets, alleys, yards and courts.
2. The location, floor area, story, height, and use defined by the Land Use Code of the proposed building and of every existing building on the property.
3. Types of heating and air conditioning systems.
4. Architectural plans, including floor plans, elevations and door and finish schedules showing location of all doors, windows, mechanical equipment, shafts, pipes, vents and ducts.
5. Structural plans, including foundation plan and framing plans.
6. Cross-sections and construction details for both architectural and structural plans, including wall sections, foundation, floor and roof details, connections of structural members and types of construction material.
7. Topographic plans, including original and final contours, location of all buildings and structures on the site and, when required by the building official, adjacent to the site, and cubic yards of cut and fill.
8. If the building official has reason to believe that there may be an intrusion into required open areas or over the property line, a survey of the property prepared by a land surveyor licensed by the State of Washington is required for all new construction, and for additions or accessory buildings.
9. If any building or structure is to be erected or constructed on property abutting an unimproved or partially improved street or alley, the plans shall also include a profile showing the established or proposed grade of the street or alley, based upon information obtained from the Director of Transportation relating to the proposed finished elevations of the property and improvements thereon.

R105.5.2.5 Information on first sheet. The first or general note sheet of each set of plans shall specify the following, as applicable:

1. The building and street address of the work.
2. The name and address of the owner and person who prepared the plans.
3. Legal description of the property.
4. Type of occupancy of all parts of the building as defined in this code, including notation of fixed fire protection devices or systems.
5. Zoning classification of the property and existing and proposed uses of the structure as defined in the Land Use Code.
6. Number of stories above grade and the number of basements as defined in this code.
7. Variances, conditional uses, special exceptions, including project numbers, approval and approval extension dates.

R105.5.2.6 Structural notes. Plans submitted for buildings with more than two stories, buildings of more than 4,500 square feet total floor area or buildings or other structures that are determined by the building official to embody hazards or complex structural concepts shall include applicable information including, but not limited to, the following:

1. Design loads: Snow load, live loads and live load reductions and lateral loads.
2. Foundations: Foundation investigations, allowable bearing pressure for spread footings, allowable load capacity of piles, pile driving formulas, lateral earth pressure;
3. Soil fill and back fill: Type, compaction and drainage;
4. Masonry: Type and strength of units, strength or proportions of mortar and grout, type and strength of reinforcement, method of testing, design strength;
5. Wood: Species or species groups, and grades of sawn lumber, glued-laminated lumber, plywood and assemblies, type of fasteners;
6. Concrete: Design strengths, mix designs, type and strength of reinforcing steel, welding of reinforcing steel, restrictions, if any;
7. Steel and aluminum: Specification types, grades and strengths, welding electrode types and strengths;
8. Assignment of responsibilities for inspection and testing during construction, and the degree of inspection and testing;
9. When required by the building official, computations, stress diagrams, shop and fabrication drawings and other data sufficient to show the adequacy of the plans.

In lieu of detailed structural notes the building official may approve minor references on the plans to a specific section or part of this code or other ordinances or laws.

R105.6 Permit review and issuance

R105.6.1 General. The application, plans, specifications and other data filed by an applicant for a permit shall be reviewed by the building official. Such plans may be reviewed by other departments of the City to check compliance with the laws and ordinances under their jurisdiction.

R105.6.2 Determination of completeness. Within twenty-eight (28) days after an application is filed, the building official shall notify the applicant in writing either that the application is complete or that it is not complete, and if not complete, what additional

information is required to make it complete. Within fourteen days after receiving the additional information, the building official shall notify the applicant in writing whether the application is now complete or what additional information is necessary. An application shall be deemed to be complete if the building official does not notify the applicant in writing by the deadlines in this section that the application is incomplete.

R105.6.3 Decision and issuance of permit. Except as provided in Section R105.9, the building official shall approve, condition or deny the application within 120 days as that time period is calculated pursuant to RCW 36.70B.090. If the building official finds that the work as described in an application for a permit and the plans, specifications and other data filed therewith conforms to the requirements of this code and other pertinent laws and ordinances and that the fees specified in the Fee Subtitle have been paid, the building official shall issue a permit to the applicant, who then becomes the permit holder or authorized agent.

Exceptions:

1. The building official may issue a permit for the construction of part of a building or structure before complete plans for the whole building or structure have been submitted or approved, if the proposed project complies with the State Environmental Policy Act (Chapter 25.05 of the Seattle Municipal Code), as amended, and the Land Use Code, as amended; and if adequate information and plans have been filed and checked to assure compliance with all pertinent requirements of this and other pertinent codes. The holder of such a permit shall proceed at the holder's own risk without assurance that a permit for the entire building or structure will be granted.
2. After approval of a Master Use Permit required by the Land Use Code, a permit for excavation may be issued.

R105.6.4 Permit conditions and denial. The building official may condition a permit if the building official determines that risks associated with development, construction, ownership and occupancy in areas of the City, including, but not limited to potential slide areas, can be reduced to an acceptable level. The building official may deny such permit if the building official determines that the risks cannot be reduced to an acceptable level.

R105.6.5 Compliance with approved plans and permit. When the building official issues a permit, the building official shall endorse the permit in writing and endorse in writing or stamp the plans **APPROVED.** Such approved plans and permit shall not be changed, modified or altered without authorization from the building official, and all work shall be done in accordance with the approved plans and permit except as the building official may require during field inspection to correct errors or omissions.

Exception: Approval of the building official is not required for modifications to approved plans and permit when the scope of work proposed in the modifications would not require a permit.

R105.7 Amendments to the permit. When substitutions or changes to the approved work are made during construction, approval of the building official shall be obtained prior to execution. The building inspector may approve minor substitutions and changes for work not reducing the structural strength or fire and life safety of the structure. The building inspector shall determine if it is necessary to revise the approved plans. Substitutions, changes and clarifications shall be shown on two sets of plans, which shall be submitted to and approved by the building official, accompanied by fees specified in the Fee Subtitle prior to occupancy. These substitutions and changes shall conform to the requirements of this code and other pertinent laws and ordinances.

R105.8 Cancellation of permit applications. Applications may be cancelled if no permit is issued by the earlier of the following: (1) twelve months following the date of application; or (2) sixty days after the date of written notice that the permit is ready to be issued. After cancellation, plans and other data submitted for review may be returned to the applicant or destroyed by the building official.

The building official will notify the applicant in writing at least thirty days before the application is cancelled. The notice shall specify a date by which a request for extension must be submitted in order to avoid cancellation. The date shall be at least two weeks prior to the date on which the application will be cancelled.

R105.9 Extensions prior to permit issuance. At the discretion of the building official, an application for a project that requires more than twelve months to review and approve may be extended for a period that provides reasonable time to complete the review and approval process, but in no case longer than twenty-four months from the date of the original application. No application may be extended more than once. After cancellation, the applicant shall submit a new application and pay a new fee to restart the permit process.

Notwithstanding other provisions of this code, an application may be extended where issuance of the permit is delayed by litigation, preparation of environmental impact statements, appeals, strikes or other causes related to the application that are beyond the applicant's control, or while the applicant is making progress toward issuance of a master use permit.

See the Fee Subtitle for possible fee refunds.

R105.10 Retention of plans. One set of approved plans, which may be on microfilm, shall be retained by the building official. One set of approved plans shall be returned to the applicant and shall be kept at the site of the building or work for use by the inspection personnel at all times during which the work authorized is in progress.

R105.11 Validity of permit. The issuance or granting of a permit or approval of plans shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or other pertinent laws and ordinances.

The issuance of a permit based upon plans shall not prevent the building official from requiring the correction of errors in said plans or from preventing work or occupancy that violates this code or other pertinent laws and ordinances of the City.

The issuance of a building permit shall not prevent the building official from requiring correction of conditions found to be in violation of this code or other pertinent laws and ordinances of the City, nor shall the period of time for which any such permit is issued be construed to extend or otherwise affect any period of time for compliance specified in any notice or order issued by the building official or other administrative authority requiring the correction of any such conditions.

R101.6 Appendices. Provisions in the *International Residential Code* appendices do not apply unless specifically adopted.

Exception: Permits that expire in less than eighteen months may be issued where the building official determines a shorter period is appropriate to complete the work.

R105.13 Renewal of permits.

R105.13.1 Permits may be renewed and renewed permits may be further renewed by the building official if the following conditions are met:

1. Application for renewal is made within the thirty-day period immediately preceding the date of expiration of the permit;
2. If the project has had an associated discretionary Land Use review, the land use approval has not expired per Seattle Municipal Code 23.76. 032; and
3. If an application for renewal is made either more than eighteen months after the date of mandatory compliance with a new or revised edition of the Building Code or after the effective date of an amendment to applicable provisions of the Land Use Code or the Environmentally Critical Areas Ordinance (Chapter 25.09 of the Seattle Municipal Code), the permit shall not be renewed unless:
   - 3.1 The building official determines that the permit complies, or is modified to comply, with the code or codes in effect on the date of application renewal; or
   - 3.2 The work authorized by the permit is substantially underway and progressing at a rate approved by the building official. "Substantially underway" means that work such as excavation, inspections, and installation of framing, electrical, mechanical and finish work is being completed on a continuing basis.

R105.13.2 Permits may also be renewed where commencement or completion of the work authorized by the permit is delayed by litigation, appeals, strikes or other causes related to the work authorized by the permit, that are beyond the permit holder's control.

R105.14 Reestablishment. A new permit is required to complete work if a permit has expired and was not renewed.

Exception: A permit that expired less than one year prior to the date of a request for reestablishment may be reestablished upon approval of the building official, if it complies with Section R105.13.1, Items 2 and 3 above.

R105.15 Revocation.

R105.15.1 Standards for revocation. A permit may be revoked if:

1. The code or the permit has been or is being violated and issuance of a notice of violation or stop work order has been or would be ineffective to secure compliance because of circumstances related to the violation;
2. The permit was obtained with false or misleading information.

R105.15.2. Notice of revocation. Whenever the building official determines there are grounds for revoking a permit, the building official may issue a notice of revocation.

The notice of revocation shall identify the reason for the proposed revocation, including the violations, the conditions violated, and any alleged false or misleading information provided.

The notice of revocation shall be served on the owner of the property on which the work is occurring, the holder of a permit if different than the owner, and the person doing or causing the work to be done.

The notice of revocation shall be served in the manner set forth in RCW 4.28.080 for service of a summons or sent by first class mail. For purposes of this section, service is complete at the time of personal service, or if mailed, three days after the date of mailing. When the last day of the period so computed is a Saturday, Sunday or City holiday, the period runs until five p.m. on the next business day.

The building official shall identify in the notice of revocation a date certain on which the revocation will take effect unless review before the building official is requested and pursued pursuant to Section R105.15.3.

R105.15.3 Review by the building official for notice of revocation.

R105.15.3.1 Any person aggrieved by a notice of revocation may obtain a review by making a request in writing to the building official within 3 business days of the date of service of the notice of revocation.

The review shall occur within 5 business days after receipt by the building official of the request for review.

Any person aggrieved by or interested in the notice of revocation may submit additional information to the building official for consideration as part of the review at any time prior to the review.

The review will be made by a representative of the building official who will review all additional information received and may also request a site visit. After the review, the building official may:

1. Sustain the notice of revocation and set or modify the date the revocation will take effect;
2. Withdraw the notice of revocation;
3. Modify the notice of revocation and set or modify the date the revocation will take effect; or
4. Continue the review to a date certain for receipt of additional information.

R105.15.3.2 Order of the building official. The building official shall issue an order of the building official containing the decision within 10 days after the review and shall cause the same to be sent by first class mail to the person or persons requesting the review, any other person on whom the notice of revocation was served, and any other person who requested a copy before issuance of the order of the building official. The order of the building official is the final order of the City and the City and all parties shall be bound by the order

SECTION R106

FEES

A fee for each permit and for other activities related to the enforcement of this code shall be paid as set forth in the Fee Subtitle.

SECTION R107

INSPECTIONS

R107.1 General. All construction or work for which a permit is required is subject to inspection by the building official. A survey of the lot may be required by the building official to verify compliance of the structure with approved plans.

R107.2 Inspection requests. It is the duty of the owner of the property or the owner's authorized agent, or the person designated by the owner/agent to do the work authorized by a permit, to notify the building official that work requiring inspection specified in this section is ready for inspection.

R107.3 Access for inspection. It is the duty of the permit holder and of the person requesting any inspection required by this code to provide access to and means for proper inspection of such work, including safety equipment required by the Washington Industrial Safety and Health Agency. The work shall remain accessible and exposed for inspection purposes until approved by the building official. Neither the building official nor the City is liable for expense entailed in the required removal or replacement of any material to allow inspection.

R107.4 Inspection record. Work requiring a permit shall not be commenced until the permit holder or the permit holder's agent has posted an inspection record in a conspicuous place on the premises and in a position that allows the building official to conveniently make the required entries regarding inspection of the work. This record shall be maintained in such a position by the permit holder until final approval has been granted by the building official.

R107.5 Approvals required. No work shall be done on any part of the building or structure beyond the point indicated in each successive inspection without first obtaining the written approval of the building official. Such written approval shall be given only after an inspection has been made of each successive step in the construction as indicated by each of the inspections required in Section R107.6. There shall be a final inspection and approval of all buildings when completed and ready for occupancy.

Approval as a result of an inspection is not approval of any violation of the provisions of this code or of other pertinent laws and ordinances of the City. Inspections presuming to give authority to violate or cancel the provisions of this code or of other pertinent laws and ordinances of the City are not valid.

R107.6 Required inspections.

R107.6.1 General. No required reinforcing steel or structural framework of any part of a building or structure shall be covered or concealed in any manner whatsoever without first obtaining the approval of the building official.

Exception: Modular homes and commercial coaches identified by State of Washington stickers specified in Section 106.10.3 of the Seattle Building Code and placed upon a permanent foundation approved and inspected by the building official.

R107.6.2 The building official, upon notification by the permit holder or the permit holder's agent, of the property address and permit number, shall make the following inspections and shall either approve that portion of the construction as completed or shall notify the permit holder or the permit holder's agent if the construction fails to comply with the law.

R107.6.2.1 Site inspection: To be made at the time land-disturbing activity begins, following installation of erosion control measures and any required fencing that may restrict land disturbance in steep slope or other buffers.

Note: The purpose of this inspection is to verify the erosion control method, location and proper installation. Approved drainage plan requirements and site plan conditions will also be verified.

R107.6.2.2 Foundation inspection: To be made after trenches are excavated and forms erected and when all materials for the foundation are delivered on the job. Where concrete from a central mixing plant (commonly termed "ready mix") is to be used, materials need not be on the job.

R107.6.2.3 Concrete slab or under-floor inspection: To be made after all in-slab or under-floor building service equipment, conduit, piping accessories and other ancillary equipment items are in place but before any concrete is poured or floor sheathing installed, including the subfloor.

R107.6.2.4 Frame inspection: To be made after the roof, all framing, fire-blocking and bracing are in place, all pipes, chimneys and vents are complete, and the rough electrical, plumbing, and heating wires, pipes and ducts are approved.

R107.6.2.5 Insulation inspection: To be made after all insulation and vapor barriers are in place but before any gypsum board or plaster is applied.

R107.6.2.6 Lath and/or gypsum board inspection: For shear walls, to be made after lathing and/or gypsum board, interior and exterior, is in place, but before any plastering is applied or before gypsum board joints and fasteners are taped and finished.

R107.6.2.7 Final inspection: To be made after finish grading and the building is completed and before occupancy.

R107.7 Other inspections. In addition to the "called" inspections specified above, the building official may make or require any other inspections of any construction work to ascertain compliance with the provisions of this code and other pertinent laws and ordinances that are enforced by the building official.

R107.8 Special investigation. If work for which a permit or approval is required is commenced or performed prior to making formal application and receiving the building official's permission to proceed, the building official may make a special investigation inspection before a permit is issued for such work. If a special investigation is made, a special investigation fee may be assessed in accordance with the Fee Subtitle.

R107.9 Reinspections. The building official may require a reinspection if work for which inspection is made is not complete, corrections required are not made, the inspection record is not properly posted on the work site, the approved plans are not readily available to the inspector, access is not provided on the date for which inspection is requested, or if deviations from plans that require the approval of the building official have been made without proper approval, or as otherwise required by the building official. For the purpose of determining compliance with Section R108.3 the building official or the fire chief may cause a structure to be reinspected. The building official may assess a reinspection fee as set forth in the Fee Subtitle for any action listed above for which reinspection is required. In instances where reinspection fees have been assessed, no additional inspection of the work will be performed until the required fees have been paid.

R107.10 Approval for occupancy. Except for alterations and additions, no building or structure subject to this code shall be occupied until approved for occupancy after final inspection. Final inspection is not an approval of any violation of the provisions of this code or other pertinent laws and ordinances of the City. Certificates presuming to give authority to violate or cancel the provisions of this code or of other pertinent laws and ordinances of the

City are not valid.

SECTION R108

EXISTING STRUCTURES AND EQUIPMENT

R108.1 General. Buildings in existence at the time of the passage of this code that were legally constructed and occupied in accordance with the provisions of a prior code may continue their existing use, if such use is not unsafe.

Mechanical systems lawful at the time of the adoption of this code may continue and may be maintained or repaired, converted to another type of fuel, or have components replaced if it is done in accordance with the basic original design and location, and no hazard to life, health or property is created by such mechanical system.

R108.2 Legalizing existing uses. In order to legalize an existing use for the record, the building shall comply with the fire and life safety requirements of this code or the code effective at the time the building was constructed. If the existing use is other than that for which the building was constructed, the building shall comply with this code or the code effective at the time the existing use was legally established.

R108.3 Maintenance. All buildings and structures and all parts thereof shall be maintained in a safe and sanitary condition.

All mechanical systems, materials, equipment and appurtenances and all parts thereof shall be maintained in proper operating condition in accordance with the original design and in a safe and hazard–free condition. All devices or safeguards that are or were required by a code in effect when the building or structure was erected, altered, or repaired shall be maintained in conformance with the code edition under which installed. To determine compliance with this subsection, the building official may cause a mechanical system or equipment to be reinspected.

The owner or a designated agent is responsible for maintenance of buildings, structures, mechanical systems, materials, equipment, devices, safeguards, and appurtenances. It is a violation to fail to maintain such buildings, structures, mechanical systems, materials, equipment, devices, safeguards, and appurtenances or to fail to immediately comply with any lawful notice or order of the building official.

Exceptions:

1. The building official may modify the requirements of this subsection if all or a portion of a building is unoccupied, closed off and reasonably secure from unlawful entry.
2. Occupants of dwellings are responsible for the maintenance of smoke alarms required by Section R313 and the International Fire Code.

R108.4 Unsafe building appendages. Parapet walls, cornices, chimneys and other appendages or structural members that are supported by, attached to, or a part of a building and that are in a deteriorated condition or are otherwise unable to sustain the design loads specified in this code, are hereby designated as unsafe building appendages. All such unsafe building appendages are public nuisances and shall be treated as an unsafe building in accordance with Section R102 of this code.

R108.5 Additions, alterations or repairs

R108.5.1 General. Buildings and structures to which additions, alterations or repairs are made shall comply with all the requirements of this code for new facilities except as specifically provided in this section. See also applicable provisions of the Seattle Energy Code.

Any building or addition that is not covered by or within the scope of this code as provided in Section R101.2 shall be designed to the provisions of the *International Building Code*.

Exception: An addition may be made to an existing nonconforming building if the following conditions are met:

1. A fire wall, constructed in compliance with *International Building Code* Section 705, separates the addition and the existing structure;
2. The existing building is not made more nonconforming; and
3. The addition conforms to this code.

R108.5.2 When allowed. Additions, alterations or repairs may be made to any existing building or structure without requiring the existing building or structure to comply with all the requirements of this code, if the addition, alteration or repair conforms to the standards required for a new building or structure and complies with Section R108.5.1.

Additions, alterations, renovations or repairs may be made to any mechanical system without requiring the existing mechanical system to comply with all the requirements of this code, if the addition, alteration, renovation or repair conforms to the standards required for a new mechanical system. Additions, alterations, renovations or repairs shall not cause an existing system to become unsafe, unhealthy or overloaded.

Minor additions, alterations, renovations, and repairs to existing mechanical systems may be installed in accordance with the law in effect at the time the original installation was made, if approved by the building official.

R108.5.3 Impracticality. In cases where total compliance with the requirements of this code is impractical, the applicant may arrange a pre-submittal conference with the design team and the building official. The applicant shall identify alternate design solutions and modifications and demonstrate conformance to Section R104.8 or R104.9. The building official may waive specific requirements in this code that the building official determines to be impractical.

R108.5.4 Compliance with retroactive ordinances. Alterations and repairs to existing buildings that are being made in response to a notice or order requiring compliance with the Housing and Building Maintenance Code, Subtitle II, Title 22 of the Seattle Municipal Code, the Fire Code, Subtitle VI, Title 22 of the Seattle Municipal Code, or other ordinances applicable to existing buildings, shall be permitted to be made in accordance with the standards contained in those ordinances, rather than the standards for new buildings contained in this code. If standards are not specified in those ordinances, such alterations or repairs shall conform to the requirements of this chapter.

R108.5.5 Non-structural alterations or repairs. Alterations or repairs that are non-structural and that do not affect any member or part of the building or structure having required fire-resistance may be made with the same materials of which the building or structure is constructed, provided that no change is permitted that increases its hazard.

R108.5.6 Maintenance of structural stability. If approved by the building official, minor structural alterations or repairs necessary to maintain the structural stability of the building may be made with the same material of which the building or structure is constructed.

R108.6 Historic buildings and structures. The building official may modify the specific requirements of this code as it applies to landmarks, and require in lieu thereof alternate requirements that, in the opinion of the building official, will result in a reasonable degree of safety to the public and the occupants of those buildings.

For purposes of this section a landmark is a building or structure that is subject to a requirement to obtain a certificate of approval from the City Landmarks Preservation Board before altering or making significant changes to specific features or characteristics, that has been nominated for designation or has been designated for preservation by the City Landmarks Preservation Board, that has been designated for preservation by the State of Washington, has been listed or determined eligible to be listed in the National Register of Historic Places, or is located in a landmark or special review district subject to a requirement to obtain a certificate of approval before making a change to the external appearance of the structure.

R108.7 Unreinforced masonry chimneys. If an unreinforced masonry chimney is altered or if the building in which such a chimney is located undergoes substantial alteration, the chimney shall be altered to conform to rules promulgated by the building official.

R108.8 Substantial alterations or repairs.

R108.8.1 General. Any building or structure to which substantial alterations or repairs are made shall conform with the requirements of this Section and Sections R310 (emergency escape and rescue openings), R311 (means of egress), R313 (smoke alarms), and R317 (dwelling unit separation).

R108.8.2 Definition. For the purpose of this section, substantial alterations or repairs may mean any one of the following, as determined by the building official:

1. Extensive structural repair.
2. Remodeling or additions that substantially extend the useful physical and/or economic life of the building or a significant portion of the building.
3. Change to a use within the scope of this code from any other use.
4. Change from an accessory structure to any other use within the scope of this code.
5. Change from a detached one- or two-family dwelling to a townhouse.
6. Change to adult family home or family child day care home from any other use.
7. Repairs to a building damaged by fire or other means that exceed 60 percent of the building's value as determined by the building official, or by the assessed value per King County records, or by an appraisal made by a recognized appraisal agency approved by the building official.

R108.8.3 Seismic regulations. Buildings or structures to which substantial alterations or repairs are made shall comply with Sections R301.1.3 or Sections R403.1.6, R602.10 and R602.11. In addition, the building official may require testing of existing materials if there is insufficient evidence of structural strength or integrity.

Exception: In lieu of compliance with the seismic provisions of Sections R403.1.6, R602.10 and R602.11, if approved by the building official, the applicant may evaluate and strengthen portions of the building lateral support structure, such as foundations and cripple walls.

R108.8.4 Other structural work. All other structural work shall comply with the requirements of Chapters 3, 4, 5, 6, 8 and 10 of this code.

R108.9 Change of use.

R108.9.1 If the use of a building or portion thereof is changed, any elements of the dwelling unit envelope that are altered shall comply with the sound transmission control requirements of Section R331.

R108.9.2 If the use of a building or portion thereof is changed to adult family home or to family child day care home, the building shall comply with the applicable provisions of Section R325 or R326.

R108.10 Moved buildings. Residential buildings or structures moved into or within the City are not required to comply with the requirements of this code if the original use classification of the building or structure is not changed. Compliance with the requirements of this chapter is required if the moved residential buildings or structures undergo substantial alteration. Work performed on new and existing foundations shall comply with all of the requirements of this code for new construction.

Section 3. Chapter 2 of the International Residential Code, 2006 Edition, is amended as follows:

SECTION R201

GENERAL

***

R201.5 References to other codes. Whenever an International, National or Uniform Code is referenced in this code, it means the Seattle edition of that code, including local amendments. References to the "Building Code", "Fire Code", "Mechanical Code" and "Plumbing Code" mean the Seattle editions of those codes.

SECTION R202

DEFINITIONS

***

[W] ADULT FAMILY HOME. A dwelling 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.

***

BUILDING, EXISTING. Existing building is a building erected prior to the adoption of this code, or one ((~~for which a legal building permit has been issued~~)) that has passed a final inspection.

***

BUILDING OFFICIAL. The ((~~officer or other designated authority charged with the administration and enforcement of this code.~~))Director of the Department of Planning and Development.

BUILDING PERMIT APPLICATION, FULLY COMPLETE. An application that the building official has judged to meet the requirements of Section R105.5. It is the application for all the architectural and structural parts of a building, except that if the building official allows application for portions of buildings, the application shall contain at least the complete structural frame.

***

[W] CHILD DAY CARE. For the purposes of this code, the care of children during any period of a 24 hour day.

[W] CHILD DAY CARE HOME, FAMILY. A child day care facility, licensed by the 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.

***

[W] 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 child 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 that are conducted primarily by the occupants of the dwelling unit and are secondary to the use of the unit for dwelling purposes, and that do not exceed 500 square feet (46.4 m²).

***

FIRE SEPARATION DISTANCE. The distance measured from the building face to one of the following:

1. To the closest interior lot line; or
2. To the ((~~centerline~~)) opposite side 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 face of the wall.

***

FLOATING HOME. A building constructed on a float, used in whole or in part for human habitation as a single-family dwelling, which is moored, anchored or otherwise secured in waters.

FLOATING HOME MOORAGE. A waterfront facility for the moorage of one or more floating homes and the land and water premises on which it is located.

FLOATING HOME SITE. A part of a floating home moorage, located over water, and designed to accommodate one floating home.

***

GARBAGE. All discarded putrescible waste matter, including small dead animals weighing not over 15 pounds (6.8 kg), but not including sewage or human or animal excrement.

***

JURISDICTION. The ((~~governmental unit that has adopted this code under due legislative authority~~)) City of Seattle.

***

LAND-DISTURBING ACTIVITY. Any activity that results in a movement of earth, or a change in the existing soil cover (both vegetative and nonvegetative) or the existing topography. Land-disturbing activities include, but are not limited to, clearing, grading, filling, excavation, and addition or replacement of impervious surface.

***

MEZZANINE, LOFT. An intermediate level or levels between the floor and ceiling of any story with an aggregate floor area of not more than ((~~one third~~)) one-half of the area of the room or space in which the level or levels are located.

***

PERSON. ((~~An~~)) Any individual, receiver, ((~~heirs, executors, administrators or assigns, and also includes a~~)) administrator, executor, assignee, trustee in bankruptcy, trust, estate, firm, partnership, joint venture, club, company, joint stock company, business trust, municipal corporation, political subdivision of the State of Washington, ((~~or~~)) corporation, limited liability company, association, society or any group of individuals acting as a unit, whether mutual, cooperative, fraternal, nonprofit or otherwise, and the United States or any instrumentality thereof. ((~~its or their successors or assigns, or the agent of any of the aforesaid.~~))

***

SEWAGE. ((~~Any liquid waste containing animal matter, vegetable matter or other impurity in suspension or solution.~~)) All water-carried waste discharged from the sanitary facilities of buildings occupied or used by people.

***

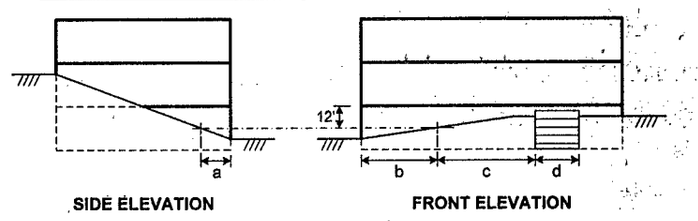
[W] SMALL BUSINESS. Any business entity (including a sole proprietorship, corporation, partnership or other legal entity) that is owned and operated independently from all other businesses, has the purpose of making a profit, and has fifty or fewer employees, or that has a million dollars or less per year in gross sales of window products.

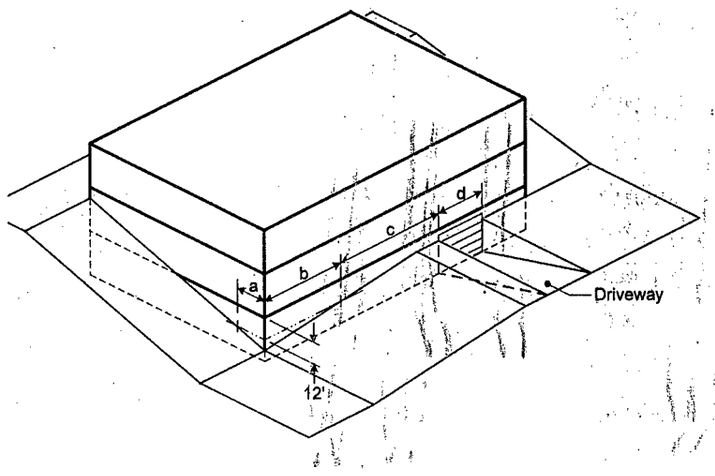
***

STORY ABOVE GRADE. Any story having its finished floor surface entirely above grade, except that a basement shall be considered as a story above grade where the finished surface of the floor above the basement is:

1. More than 6 feet (1829 mm) above grade plane((~~.~~));
2. More than 6 feet (1829 mm) above the finished ground level for more than 50 percent of the total building perimeter((~~.~~)); or
3. More than 12 feet (3658 mm) above the finished ground level ((~~at any point~~)) for more than 25 feet (7620 mm) of the perimeter. Required driveways up to 22 feet (6706 mm)

shall not be considered in calculating the 25 foot distance if there is at least 10 feet (3048 mm) between the driveway and all portions of the 25-foot area. See Figure R202.





a + b ≤ 25'	Lowest level may be a basement below grade if all these are met
c ≥ 10'	
d ≤ 22'	

FIGURE R202
STORY ABOVE GRADE PLANE

***

TOWNHOUSE. A single-family dwelling unit constructed in a group of three or more attached units in which each unit extends from foundation to roof and with open space on at least two sides.

Interpretation R202T: The required open space shall be either a yard, driveway, parking lot or public way.

***

[W] UNUSUALLY TIGHT CONSTRUCTION. Construction in which:

1. Walls ((~~and ceilings comprising the building thermal envelope have~~)) exposed to the outside atmosphere have a continuous water vapor retarder with a rating of 1 perm (((~~$5.7 \cdot 10^{-11}$ kg/Pa · s · m^2~~)) 57 ng/ s · m^2 · Pa) or less with openings ((~~therein~~)) gasketed or sealed((~~.~~)); and

((~~2.~~)) ((~~Storm windows or weatherstripping is applied around the threshold and jambs of opaque doors and openable windows.~~)) Openable windows and doors meet the air leakage requirements of the *International Energy Conservation Code*, Section 502.1.4; and

((~~3.~~)) Caulking or sealants are applied to areas such as joints around window and door frames, between sole plates and floors, between wall-ceiling joints, between wall panels, at penetrations for plumbing, electrical and gas lines, and at other openings; or

2. Buildings built in compliance with the 1986 or later editions of the Washington State Energy Code WAC chapter 51-11, Northwest Energy Code, or Super Good Cents weatherization standards or equivalent.[

Interpretation R202U: Buildings in compliance with the 1986 or later edition of the Seattle Energy Code or Built Smart weatherization standards are considered unusually tight construction.

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WATER HEATER. Any heating appliance or equipment that heats potable water and supplies such water to the potable hot water distribution system.

Interpretation R202W: "Water heater" includes only those appliances that do not exceed pressure of 160 pounds per square inch, volume of 120 gallons and a heat input of 200,000 Btu/hr.

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Section 4. The following sections of Chapter 3 of the International Residential Code, 2006 Edition, are amended as follows:

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SECTION R301
DESIGN CRITERIA

***

TABLE R301.2(1)

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

((GROUND)) ROOF SNOW LOAD	WIND SPEED[d] (mph)	SEISMIC DESIGN CATEGORY[f]	SUBJECT TO DAMAGE FROM: Weathering[a]	Frost line depth[b]	Termite[c]	WINTER DESIGN TEMP[e]	ICE BARRIER UNDER-LAYMENT REQUIRED[h]	FLOOD HAZARDS[g]	AIR FREEZING INDEX[i]	MEAN ANNUAL TEMP[j]
25 psf	85	D2	Moderate	12"	none to slight	24°	No	(a) 1989 (b) May 16, 1995	250	52.8

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (i.e., "negligible," "moderate" or "severe") for concrete as determined from the Weathering Probability Map [Figure R301.2(3)]. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.

b. The frost line depth may require deeper footings than indicated in Figure R403.1(1). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.

c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.

d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)].Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.

e. ((~~The outdoor design dry-bulb temperature shall be selected from the columns of 97½ percent values for winter from Appendix D of the *International Plumbing Code*. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official.~~)) The winter design temperature is taken from the *Washington State Energy Code with Seattle Amendments*.

f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.

g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the currently effective FIRM and FBFM, or other flood hazard map adopted by the community, as may be amended.

h. In accordance with Sections R905.2.7.1, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES". Otherwise, the jurisdiction shall fill in this part of the table with "NO".

i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99%) value on the National Climatic Data Center data table "Air Freezing Index- USA Method (Base 32°Fahrenheit)" at www.ncdc.noaa.gov/fpsf.html.

j The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°Fahrenheit)" at www.ncdc.noaa.gov/fpsf.html.

***

SECTION R302

((~~EXTERIOR WALL~~)) LOCATION ON LOT

((~~**R302.1 Exterior walls.** Construction, projections, openings and penetrations of exterior walls of dwellings and accessory buildings shall comply with Table R302.1. These provisions shall not apply to walls, projections, openings or penetrations in walls that are perpendicular to the line used to determine the fire separation distance. Projections beyond the exterior wall shall not extend more than 12 inches (305 mm) into the areas where openings are prohibited.~~

~~**Exceptions:**~~

~~1. Detached tool sheds and storage sheds, playhouses and similar structures exempted from permits are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.~~

~~2. Detached garages accessory to a dwelling located within 2 feet (610 mm) of a lot line are permitted to have roof eave projections not exceeding 4 inches (102 mm).~~

~~3. Foundation vents installed in compliance with this code are permitted.~~

~~**TABLE R302.1**~~
~~**EXTERIOR WALLS**~~

~~EXTERIOR WALL ELEMENT~~		~~MINIMUM FIRE-RESISTANCE RATING~~	~~MINIMUM FIRE SEPARATION DISTANCE~~
~~Walls~~	~~(Fire-resistance rated)~~	~~1 hour with exposure from both sides~~	~~0 feet~~
	~~(Not fire-resistance rated)~~	~~0 hours~~	~~5 feet~~
~~Projections~~	~~(Fire-resistance rated)~~	~~1 hour on the underside~~	~~2 feet~~
	~~(Not fire-resistance rated)~~	~~0 hours~~	~~5 feet~~
~~Openings~~	~~Not allowed~~	~~N/A~~	~~< 3 feet~~
	~~25% Maximum of Wall Area~~	~~0 hours~~	~~3 feet~~
	~~Unlimited~~	~~0 hours~~	~~5 feet~~
~~Penetrations~~	~~All~~	~~Comply with Section R317.3~~	~~< 5 feet~~
		~~None required~~	~~5 feet~~

~~N/A = Not Applicable.~~)).

R302.1 Exterior walls. Exterior walls with a fire separation distance less than 3 feet (914 mm) shall have not less than a one-hour fire-resistance rating with exposure from both sides. Projections shall not extend to a point closer than 2 feet (610 mm) from the line used to determine the fire separation distance.

Exception: Detached garages accessory to a dwelling located within 2 feet of a lot line shall be permitted to have roof eave projections not exceeding 4 inches.

Projections extending into the fire separation distance shall have not less than one-hour fire-resistive construction on the underside. The above provisions shall not apply to walls which are perpendicular to the line used to determine the fire separation distance.

Exception: Greenhouses, tool and storage sheds, playhouses and similar structures exempted from permits by Section R105.2 are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.

Interpretation I302.1: For purposes of Section R302.1, gutters 6 inches or less in width that are not an integral part of the structure are not considered projections.

R302.2 Openings. Openings shall not be permitted in the exterior wall of a dwelling or accessory building with a fire separation distance less than 3 feet (914 mm). This distance shall be measured perpendicular to the line used to determine the fire separation distance.

Exceptions:

1. Openings shall be permitted in walls that are perpendicular to the line used to determine the fire separation distance.
2. Foundation vents installed in compliance with this code are permitted.

R302.3 Penetrations. Penetrations located in the exterior wall of a dwelling with a fire separation distance of less than 3 feet (914 mm) shall be protected in accordance with Section R317.3.

Exception: Penetrations shall be permitted in walls that are perpendicular to the line used to determine the fire separation distance.

R302.4 Fire Service Features. Buildings shall comply with the provisions for fire department access and fire protection water supplies (hydrants) of Chapter 5 of the *International Fire Code*.

SECTION R303

LIGHT, VENTILATION AND HEATING

R303.1 Habitable rooms. All habitable rooms shall have an aggregate glazing area of not less than 8 percent of the floor area of such rooms. Ventilation shall comply with the Washington State Ventilation and Indoor Air Quality Code. ((~~Natural ventilation shall be through windows, doors, louvers or other approved openings to the outdoor air. Such openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants. The minimum openable area to the outdoors shall be 4 percent of the floor area being ventilated.~~))

Exception((s)):

((~~1. The glazed areas need not be openable where the opening is not required by Section R310 and an approved mechanical ventilation system capable of producing 0.35 air change per hour in the room is installed or a whole-house mechanical ventilation system is installed capable of supplying outdoor ventilation air of 15 cubic feet per minute (cfm) (78 L/s) per occupant computed on the basis of two occupants for the first bedroom and one occupant for each additional bedroom.~~

~~2.~~)) The glazed areas need not be installed in rooms where ((~~Exception 1 above is satisfied and~~)) 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.

((~~3. Use of sunroom additions and patio covers, as defined in Section R202, shall be permitted for natural ventilation if in excess of 40 percent of the exterior sunroom walls are open, or are enclosed only by insect screening.~~))

R303.2 Adjoining rooms. For the purpose of determining light ((~~and ventilation~~)) 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^2).

Exception: Openings required for light ((~~and/or ventilation~~)) shall be permitted to open into a thermally isolated sunroom addition or patio cover, provided that there is an openable area between the adjoining room and the sunroom addition or 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^2). ((~~The minimum openable area to the outdoors shall be based upon the total floor area being ventilated.~~))

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((~~**R303.4 Opening location.** Outdoor intake and exhaust openings shall be located in accordance with Sections R303.4.1 and R303.4.2.~~

~~**R303.4.1 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. Where a source of contaminant is located within 10 feet (3048 mm) of an intake opening, such opening shall be located a minimum of 2 feet (610 mm) below the contaminant source.~~

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

~~**R303.4.2 Exhaust openings.** Outside exhaust openings shall be located so as not to create a nuisance. Exhaust air shall not be directed onto walkways.~~

~~**R303.5 Outside opening protection.** Air exhaust and intake openings that terminate outdoors shall be protected with corrosion-resistant screens, louvers or grilles having a minimum opening size of ¼ inch (6 mm) and a maximum opening size of ½ inch (13 mm), in any dimension. Openings shall be protected against local weather conditions. Outdoor air exhaust and intake openings shall meet the provisions for exterior wall opening protectives in accordance with this code.~~))

***

R303.8 Required heating. ((~~When the winter design temperature in Table R301.2(1) is below 60°F (16°C), every~~)) 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, baths and toilet rooms at the design temperature specified in Table R301.2(1). The installation of one or more portable space heaters shall not be used to achieve compliance with this section.

[W] R303.8.1 Definitions. For the purposes of Sections R303.8.1 through R303.8.3 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.

R303.8.2 Primary heating source. Primary heating sources in all new and substantially remodeled buildings in designated areas shall not be dependent upon wood stoves.

R303.8.3 Solid fuel burning devices. No used solid fuel burning device shall be installed in new or existing buildings unless such device is United States Environmental Protection Agency certified or a pellet stove either certified or exempt from certification by the United States Environmental Protection Agency.

Exception: Antique wood cook stoves and heaters manufactured prior to 1940.

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SECTION R311

MEANS OF EGRESS

R311.1 General. Stairways, ramps, exterior egress balconies, hallways and doors shall comply with this section.

[W] Exception: Stairs or ladders within an individual dwelling unit used for access to areas of 200 square feet (18.6 m^2) or less, and not containing the primary bathroom or kitchen.

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R311.4 Doors.

R311.4.1 Exit door required. Not less than one exit door conforming to this section shall be provided for each dwelling unit. The required exit door shall provide for direct access from the habitable portions of the dwelling to the exterior without requiring travel through a garage. Access to habitable levels not having an exit in accordance with this section shall be by a ramp in accordance with Section R311.6 or a stairway in accordance with Section R311.5.

R311.4.2 Door type and size. The required exit door shall be a side-hinged door not less than 3 feet (914 mm) in width and 6 feet 8 inches (2032 mm) in height. Other doors shall not be required to comply with these minimum dimensions.

R311.4.3 Landings at doors. There shall be a floor or landing on each side of each exterior door. The floor or landing at the exterior door shall not be more than 1.5 inches (38 mm) lower than the top of the threshold. The landing shall be permitted to have a slope not to exceed 0.25 unit vertical in 12 units horizontal (2-percent).

Exceptions:

1. Where a stairway of two or fewer risers is located on the exterior side of a door, other than the required exit door, a landing is not required for the exterior side of the door provided the door, other than an exterior storm or screen door does not swing over the stairway.
2. The exterior landing at an exterior doorway, including exit doors, shall not be more than 7¾ inches (196 mm) below the top of the threshold, provided the door, other than an exterior storm or screen door does not swing over the landing.
3. The height of floors at exterior doors other than the exit door required by Section R311.4.1 shall not be more than 7¾ inches (186 mm) lower than the top of the threshold.

The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches (914 mm) measured in the direction of travel.

R311.4.4 Type of lock or latch. All egress doors shall be readily openable from the side from which egress is to be made without the use of a key or special knowledge or effort.

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SECTION R312

GUARDS

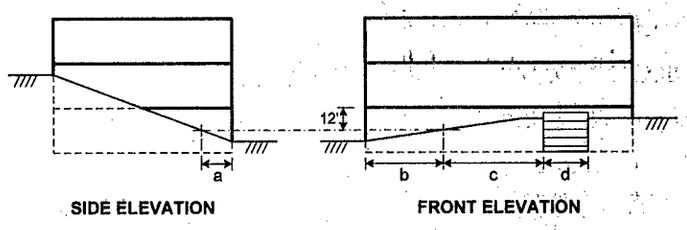
***

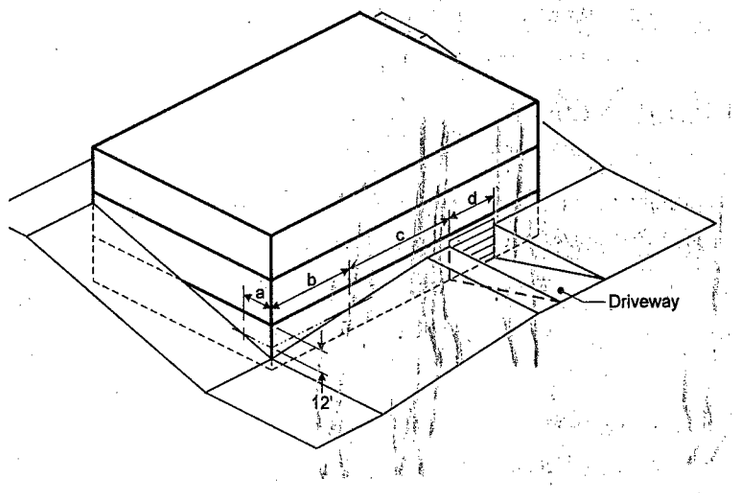
R312.2 Guard opening limitations. Required guards on open sides of stairways, raised floor areas, balconies and porches shall have intermediate rails or ornamental closures which do not allow passage of a sphere 4 inches (102 mm) or more in diameter.

Exceptions:

1. The triangular openings formed by the riser, tread and bottom rail of a guard at the open side of a stairway are permitted to be of such a size that a sphere 6 inches (152 mm) cannot pass through.

shall not be considered in calculating the 25 foot distance if there is at least 10 feet (3048 mm) between the driveway and all portions of the 25-foot area. See Figure R202.





a + b ≤ 25'	Lowest level may be a basement below grade if all these are met
c ≥ 10'	
d ≤ 22'	

FIGURE R202
STORY ABOVE GRADE PLANE

***

TOWNHOUSE. A single-family dwelling unit constructed in a group of three or more attached units in which each unit extends from foundation to roof and with open space on at least two sides.

Interpretation R202T: The required open space shall be either a yard, driveway, parking lot or public way.

***

[W] UNUSUALLY TIGHT CONSTRUCTION. Construction in which:

1. Walls ((~~and ceilings comprising the building thermal envelope have~~)) exposed to the outside atmosphere have a continuous water vapor retarder with a rating of 1 perm (((~~$5.7 \cdot 10^{-11}$ kg/Pa · s · m²~~)) 57 ng/ s · m² · Pa) or less with openings ((~~therein~~)) gasketed or sealed((~~.~~)); and

((~~2.~~)) ((~~Storm windows or weatherstripping is applied around the threshold and jambs of opaque doors and openable windows.~~)) Openable windows and doors meet the air leakage requirements of the *International Energy Conservation Code*, Section 502.1.4; and

((~~3.~~)) Caulking or sealants are applied to areas such as joints around window and door frames, between sole plates and floors, between wall-ceiling joints, between wall panels, at penetrations for plumbing, electrical and gas lines, and at other openings; or

2. Buildings built in compliance with the 1986 or later editions of the Washington State Energy Code WAC chapter 51-11, Northwest Energy Code, or Super Good Cents weatherization standards or equivalent.[

Interpretation R202U: Buildings in compliance with the 1986 or later edition of the Seattle Energy Code or Built Smart weatherization standards are considered unusually tight construction.

***

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Interpretation R202W: "Water heater" includes only those appliances that do not exceed pressure of 160 pounds per square inch, volume of 120 gallons and a heat input of 200,000 Btu/hr.

***

Section 4. The following sections of Chapter 3 of the International Residential Code, 2006 Edition, are amended as follows:

***

SECTION R301
DESIGN CRITERIA

***

TABLE R301.2(1)

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

((GROUND)) ROOF SNOW LOAD	WIND SPEED[d] (mph)	SEISMIC DESIGN CATEGORY[f]	SUBJECT TO DAMAGE FROM: Weathering[a]	Frost line depth[b]	Termite[c]	WINTER DESIGN TEMP[e]	ICE BARRIER UNDER-LAYMENT REQUIRED[h]	FLOOD HAZARDS[g]	AIR FREEZING INDEX[i]	MEAN ANNUAL TEMP[j]
25 psf	85	D2	Moderate	12"	none to slight	24°	No	(a) 1989 (b) May 16, 1995	250	52.8

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (i.e., "negligible," "moderate" or "severe") for concrete as determined from the Weathering Probability Map [Figure R301.2(3)]. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.

b. The frost line depth may require deeper footings than indicated in Figure R403.1(1). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.

c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.

d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)].Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.

e. ((~~The outdoor design dry bulb temperature shall be selected from the columns of 97½ percent values for winter from Appendix D of the *International Plumbing Code*. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official.~~)) The winter design temperature is taken from the *Washington State Energy Code with Seattle Amendments*.

f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.

g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the currently effective FIRM and FBFM, or other flood hazard map adopted by the community, as may be amended.

h. In accordance with Sections R905.2.7.1, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES". Otherwise, the jurisdiction shall fill in this part of the table with "NO".

i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99%) value on the National Climatic Data Center data table "Air Freezing Index- USA Method (Base 32°Fahrenheit)" at www.ncdc.noaa.gov/fpsf.html.

j The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°Fahrenheit)" at www.ncdc.noaa.gov/fpsf.html.

***

SECTION R302

((~~EXTERIOR WALL~~)) LOCATION ON LOT

((~~**R302.1 Exterior walls.** Construction, projections, openings and penetrations of exterior walls of dwellings and accessory buildings shall comply with Table R302.1. These provisions shall not apply to walls, projections, openings or penetrations in walls that are perpendicular to the line used to determine the fire separation distance. Projections beyond the exterior wall shall not extend more than 12 inches (305 mm) into the areas where openings are prohibited.~~

~~Exceptions:~~

~~1. Detached tool sheds and storage sheds, playhouses and similar structures exempted from permits are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.~~

~~2. Detached garages accessory to a dwelling located within 2 feet (610 mm) of a lot line are permitted to have roof eave projections not exceeding 4 inches (102 mm).~~

~~3. Foundation vents installed in compliance with this code are permitted.~~

~~TABLE R302.1~~
~~EXTERIOR WALLS~~

~~EXTERIOR WALL ELEMENT~~		~~MINIMUM FIRE-RESISTANCE RATING~~	~~MINIMUM FIRE SEPARATION DISTANCE~~
~~Walls~~	~~(Fire-resistance rated)~~	~~1 hour with exposure from both sides~~	~~0 feet~~
	~~(Not fire-resistance rated)~~	~~0 hours~~	~~5 feet~~
~~Projections~~	~~(Fire-resistance rated)~~	~~1 hour on the underside~~	~~2 feet~~
	~~(Not fire-resistance rated)~~	~~0 hours~~	~~5 feet~~
~~Openings~~	~~Not allowed~~	~~N/A~~	~~< 3 feet~~
	~~25% Maximum of Wall Area~~	~~0 hours~~	~~3 feet~~
	~~Unlimited~~	~~0 hours~~	~~5 feet~~
~~Penetrations~~	~~All~~	~~Comply with Section R317.3~~	~~< 5 feet~~
		~~None required~~	~~5 feet~~

~~N/A = Not Applicable.~~)).

R302.1 Exterior walls. Exterior walls with a fire separation distance less than 3 feet (914 mm) shall have not less than a one–hour fire–resistance rating with exposure from both sides. Projections shall not extend to a point closer than 2 feet (610 mm) from the line used to determine the fire separation distance.

Exception: Detached garages accessory to a dwelling located within 2 feet of a lot line shall be permitted to have roof eave projections not exceeding 4 inches.

Projections extending into the fire separation distance shall have not less than one–hour fire–resistive construction on the underside. The above provisions shall not apply to walls which are perpendicular to the line used to determine the fire separation distance.

Exception: Greenhouses, tool and storage sheds, playhouses and similar structures exempted from permits by Section R105.2 are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.

Interpretation I302.1: For purposes of Section R302.1, gutters 6 inches or less in width that are not an integral part of the structure are not considered projections.

R302.2 Openings. Openings shall not be permitted in the exterior wall of a dwelling or accessory building with a fire separation distance less than 3 feet (914 mm). This distance shall be measured perpendicular to the line used to determine the fire separation distance.

Exceptions:

1. Openings shall be permitted in walls that are perpendicular to the line used to determine the fire separation distance.
2. Foundation vents installed in compliance with this code are permitted.

R302.3 Penetrations. Penetrations located in the exterior wall of a dwelling with a fire separation distance of less than 3 feet (914 mm) shall be protected in accordance with Section R317.3.

Exception: Penetrations shall be permitted in walls that are perpendicular to the line used to determine the fire separation distance.

R302.4 Fire Service Features. Buildings shall comply with the provisions for fire department access and fire protection water supplies (hydrants) of Chapter 5 of the *International Fire Code*.

SECTION R303

LIGHT, VENTILATION AND HEATING

R303.1 Habitable rooms. All habitable rooms shall have an aggregate glazing area of not less than 8 percent of the floor area of such rooms. Ventilation shall comply with the Washington State Ventilation and Indoor Air Quality Code. ((~~Natural ventilation shall be through windows, doors, louvers or other approved openings to the outdoor air. Such openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants. The minimum openable area to the outdoors shall be 4 percent of the floor area being ventilated.~~))

Exception((s)):

((~~1. The glazed areas need not be openable where the opening is not required by Section R310 and an approved mechanical ventilation system capable of producing 0.35 air change per hour in the room is installed or a whole-house mechanical ventilation system is installed capable of supplying outdoor ventilation air of 15 cubic feet per minute (cfm) (7.8 L/s) per occupant computed on the basis of two occupants for the first bedroom and one occupant for each additional bedroom.~~

~~2.~~)) The glazed areas need not be installed in rooms where ((~~Exception 1 above is satisfied and~~)) 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.

((~~3. Use of sunroom additions and patio covers, as defined in Section R202, shall be permitted for natural ventilation if in excess of 40 percent of the exterior sunroom walls are open, or are enclosed only by insect screening.~~))

R303.2 Adjoining rooms. For the purpose of determining light ((~~and ventilation~~)) 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^2).

Exception: Openings required for light ((~~and/or ventilation~~)) shall be permitted to open into a thermally isolated sunroom addition or patio cover, provided that there is an openable area between the adjoining room and the sunroom addition or 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^2). ((~~The minimum openable area to the outdoors shall be based upon the total floor area being ventilated.~~))

***

((~~**R303.4 Opening location.** Outdoor intake and exhaust openings shall be located in accordance with Sections R303.4.1 and R303.4.2.~~

~~**R303.4.1 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. Where a source of contaminant is located within 10 feet (3048 mm) of an intake opening, such opening shall be located a minimum of 2 feet (610 mm) below the contaminant source.~~

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

~~**R303.4.2 Exhaust openings.** Outside exhaust openings shall be located so as not to create a nuisance. Exhaust air shall not be directed onto walkways.~~

~~**R303.5 Outside opening protection.** Air exhaust and intake openings that terminate outdoors shall be protected with corrosion-resistant screens, louvers or grilles having a minimum opening size of ¼ inch (6 mm) and a maximum opening size of ½ inch (13 mm), in any dimension. Openings shall be protected against local weather conditions. Outdoor air exhaust and intake openings shall meet the provisions for exterior wall opening protectives in accordance with this code.~~))

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R303.8 Required heating. ((~~When the winter design temperature in Table R301.2(1) is below 60°F (16°C), every~~)) 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, baths and toilet rooms at the design temperature specified in Table R301.2(1). The installation of one or more portable space heaters shall not be used to achieve compliance with this section.

[W] R303.8.1 Definitions. For the purposes of Sections R303.8.1 through R303.8.3 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.

R303.8.2 Primary heating source. Primary heating sources in all new and substantially remodeled buildings in designated areas shall not be dependent upon wood stoves.

R303.8.3 Solid fuel burning devices. No used solid fuel burning device shall be installed in new or existing buildings unless such device is United States Environmental Protection Agency certified or a pellet stove either certified or exempt from certification by the United States Environmental Protection Agency.

Exception: Antique wood cook stoves and heaters manufactured prior to 1940.

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SECTION R311

MEANS OF EGRESS

R311.1 General. Stairways, ramps, exterior egress balconies, hallways and doors shall comply with this section.

[W] Exception: Stairs or ladders within an individual dwelling unit used for access to areas of 200 square feet (18.6 m^2) or less, and not containing the primary bathroom or kitchen.

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R311.4 Doors.

R311.4.1 Exit door required. Not less than one exit door conforming to this section shall be provided for each dwelling unit. The required exit door shall provide for direct access from the habitable portions of the dwelling to the exterior without requiring travel through a garage. Access to habitable levels not having an exit in accordance with this section shall be by a ramp in accordance with Section R311.6 or a stairway in accordance with Section R311.5.

R311.4.2 Door type and size. The required exit door shall be a side-hinged door not less than 3 feet (914 mm) in width and 6 feet 8 inches (2032 mm) in height. Other doors shall not be required to comply with these minimum dimensions.

R311.4.3 Landings at doors. There shall be a floor or landing on each side of each exterior door. The floor or landing at the exterior door shall not be more than 1.5 inches (38 mm) lower than the top of the threshold. The landing shall be permitted to have a slope not to exceed 0.25 unit vertical in 12 units horizontal (2-percent).

Exceptions:

1. Where a stairway of two or fewer risers is located on the exterior side of a door, other than the required exit door, a landing is not required for the exterior side of the door provided the door, other than an exterior storm or screen door does not swing over the stairway.
2. The exterior landing at an exterior doorway, including exit doors, shall not be more than 7¾ inches (196 mm) below the top of the threshold, provided the door, other than an exterior storm or screen door does not swing over the landing.
3. The height of floors at exterior doors other than the exit door required by Section R311.4.1 shall not be more than 7¾ inches (186 mm) lower than the top of the threshold.

The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches (914 mm) measured in the direction of travel.

R311.4.4 Type of lock or latch. All egress doors shall be readily openable from the side from which egress is to be made without the use of a key or special knowledge or effort.

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SECTION R312

GUARDS

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R312.2 Guard opening limitations. Required guards on open sides of stairways, raised floor areas, balconies and porches shall have intermediate rails or ornamental closures which do not allow passage of a sphere 4 inches (102 mm) or more in diameter.

Exceptions:

1. The triangular openings formed by the riser, tread and bottom rail of a guard at the open side of a stairway are permitted to be of such a size that a sphere 6 inches (152 mm) cannot pass through.

R330.3. Windows and sliding doors. Dead bolts or other approved locking devices shall be provided on all sliding doors and openable windows. The lock shall be installed so that the mounting screws for the lock case are inaccessible from the outside.

Exception: Windows with sills located 10 feet or more above grade, or 10 feet or more above a deck, balcony or porch that is not readily accessible from grade except through a housing unit need not have operable inside latching devices.

R330.4 Alternate security devices. Subject to the approval of the building official, alternate security devices are permitted to be substituted for those required by this section. Alternate devices must have equal capability to resist illegal entry. The installation of the device shall not conflict with other requirements of this code and other ordinances regulating the safety of exiting.

SECTION R331

SOUND TRANSMISSION CONTROL

R331.1 General. Wall and floor-ceiling assemblies separating dwelling units shall provide sound insulation in accordance with this Section R331.

R331.1.1 Perimeter joints. Joints in the perimeter of such separating wall or floor-ceiling assembly shall be acoustically sealed with a permanent resilient material approved for the purpose. The separating wall or floor-ceiling assembly shall extend completely to and be sealed to another separating assembly or an exterior wall, roof or floor assembly.

R331.1.2 Penetrations. Conduits, ducts, pipes and vents within the wall or floor-ceiling assembly causing vibration shall be reasonably isolated from the building construction at points of support by means of resilient sleeves, mounts or underlayments. All other openings through which such conduits, ducts, pipes or vents pass shall have the excess opening fully sealed with insulative and permanently resilient materials approved for the purpose.

R331.1.3 Fire-resistance-ratings. Design and materials for sound transmission control shall not impair the fire-resistance-rating of separating walls or floor-ceiling assemblies required to be of fire-resistance-rated construction.

R331.2 Airborne sound. Airborne sound insulation for wall and floor–ceiling assemblies shall meet a Sound Transmission Class (STC) rating of 45 when tested in accordance with ASTM E 90.

R331.2.1 Outlet boxes. Electrical outlet boxes shall not be placed back-to-back and shall be offset by not less than 12 inches (305 mm) from outlets in the opposite wall surface. The back and sides of boxes shall be sealed with one-eighth-inch resilient sealant and backed by a minimum of 2-inch thick mineral fiber insulation or approved equivalent.

R331.3 Structural-borne sound. Floor-ceiling assemblies between dwelling units or between a dwelling unit and a public or service area within a structure shall have an Impact Insulation Class (IIC) rating of not less than 50 when tested in accordance with ASTM E 492. Floor covering may be included in the assembly to obtain the required ratings.

Exception: Floor assemblies in bathrooms are not required to meet the IIC rating of 50 where structural concrete floor systems are used.

R331.4 Tested assemblies. Field- or laboratory-tested wall or floor-ceiling designs having an STC or IIC of 50 or more may be used without additional field testing when, in the opinion of the building official, the tested design has not been compromised by flanking paths. Tests may be required by the building official when evidence of compromised separations is noted. Wall or floor-ceiling designs field tested by ASTM E 336 having a minimum FSTC or FIIC rating of 45 may be used.

R331.5 Field testing and certification. Field testing, when permitted to determine airborne sound transmission or impact sound insulation class, shall be done in accordance with ASTM E 492 under the supervision of an acoustical professional who is experienced in the field of acoustical testing and engineering and who shall forward certified test results to the building official that minimum sound insulation requirements stated above have been met.

R331.7 Sound transmission control systems. Generic systems listed in GA 600-00 may be accepted where a laboratory test indicates that the requirements of Section R331 are met by the system.

SECTION R332

FLOATING HOMES

R332.1 Definitions. Certain words and terms used in this section, unless clearly inconsistent with their context, are defined as follows:

R332.2 Moorage location. Every floating home moorage shall be located on privately-owned or privately-controlled premises in accordance with the Land Use Code.

R332.3 Land access. Every floating home moorage shall have not less than 20 feet (6096 mm) of land frontage abutting a public street sufficiently improved for automobile travel.

R332.4 Moorage walkways. Every floating home moorage shall have firm and substantial walkways with a net width of not less than 4 feet (1219 mm) and extending from land to every floating home site in the moorage.

R332.5 Moorage lighting. Every floating home moorage and the walkways to every floating home site shall be illuminated to provide safe access. All luminaires shall be listed for the use.

R332.6 Fire protection. Floating home moorages shall be provided with fire extinguishing equipment as follows:

1. **Portable fire-protection equipment.** One fire extinguisher, 2A, 20-B:C rating minimum, shall be provided in each required hose station. The fire chief shall designate the type and number of all other fire appliances to be installed and maintained in each floating home moorage.
2. **Standpipes.** All portions of floats exceeding 250 feet (76 500 mm) in distance from fire apparatus access and marine service stations shall be provided with an approved Class I standpipe system installed according to *International Building Code* Section 905 and the *International Fire Code*.

R332.7 Water service connections. Every floating home moorage shall have a water service connection and shall provide water service piping securely fastened and stabilized above water from the water service connection to an outlet connection at each floating home site on a floating home moorage. The water piping in every floating home in a floating home moorage shall be connected to the water service outlet serving the floating home and the connection shall be securely fastened and stabilized above high water line. Water service connections and water service piping shall be constructed, installed and maintained in accordance with applicable standards established by or pursuant to ordinance.

R332.8 Public sewer connection. Every floating home moorage any part of which is within 300 feet (91 440 mm) of a public sewer and every floating home moorage on Shilshole Bay, Salmon Bay, Lake Washington Ship Canal, Lake Union, Portage Bay, Union Bay and that portion of Lake Washington lying within the city limits of Seattle shall have a lawfully-installed connection to a public sewer.

R332.9 Local side sewer system. Every floating home moorage within the limits specified in Section R332.8 shall provide a local side sewer system for the collection of sewage from every floating home in the moorage. The local side sewer system shall be connected to the public sewer, shall have an inlet connection at each floating home site and shall be constructed, installed and maintained in accordance with this and all other applicable ordinances regulating the construction, alteration, repair and connection of side sewers.

R332.10 Connection to local side sewer system. Every floating home in a floating home moorage that is required under Section R332.8 to be connected to a public sewer shall be connected to the local side sewer system. Owners and operators of floating home moorages shall not permit any floating home to be moored at any moorage under their control unless the floating home is connected to the local side sewer system. It is a violation for any person to use, occupy or let any floating home for human habitation within the limits specified in Section R332.8 unless it is connected to the sewer system.

A reconnection permit is required for any floating home that is relocated from its original site of connection to a local side sewer system. Such reconnection is subject to the approval of the Director of Seattle Public Utilities.

R332.11 Sewer installation fees. The fee for the installation of any side sewer serving a floating home moorage is the fee provided by law for the connection to the public sewer of side sewers serving mobile home parks.

R332.12 Plumbing systems. All plumbing and plumbing systems in every floating home shall meet the requirements of the *Uniform Plumbing Code* except as otherwise approved by the Director of Public Health.

R332.13 Garbage disposal. Every floating home moorage shall be provided with adequate garbage storage and collection facilities, which shall be located in an accessible place on the moorage site. No garbage or refuse shall be thrown or dumped into the waters.

R332.14 Electrical service and wiring. Electrical service approved by City Light shall be provided to floating homes and floating home moorages. Electrical wiring and equipment in every floating home shall conform to requirements of the *Seattle Electrical Code*. No floating home shall be permitted to connect or reconnect to the electric utility's distribution system unless approved for such connection by the building official in accordance with the *Seattle Electrical Code*.

R332.15 New construction and alterations. All new construction of floating homes or major alterations thereto and all floating homes moved into city waters shall conform to the requirements for dwellings set forth in this code and all other applicable codes and ordinances regulating the design, construction, use and occupancy of such buildings and the required installations therein.

R332.16 Housing standards for existing floating homes. Every floating home shall comply with the minimum housing standards of the Seattle Housing and Building Maintenance Code except as otherwise approved by the building official in accordance with the Housing and Building Maintenance Code.

R332.17. Property lines. The boundaries of floating home moorage sites shall be considered the lot line for determining compliance with Section R302.

Interpretation R332.17: For the purposes of determining the required wall and opening protection and roof-covering requirements, distance shall be measured to the exterior wall of the home, and not to the float.

R332.18 Approval of moorage site plan required. Every floating home moorage shall continuously conform to a moorage site plan that has been approved by the building official. Such approval shall be obtained as follows: Three copies of the site plan, drawn to scale and completely dimensioned, and setting forth the address and legal description of the property on which the moorage is located and the name and address of the owner or operator of the moorage, shall be filed with the building official.

The moorage site plan shall show:

1. The dimensions of the floating home moorage site;
2. The location of abutting public waterways;
3. The location and dimensions of private waterways and land access to the moorage;
4. The location and identification of individual floating home sites;
5. The location and dimensions of off-street parking spaces;
6. The location and dimensions of walkways and any accessory structures or facilities;
7. The water service system;
8. The local side sewer system; and
9. The electrical service and lighting system.

The site plan shall be reviewed by the building official, the Fire Chief, the Director of Public Health, the Director of Seattle Public Utilities, and the Director of Transportation for conformance with the requirements of this code and other applicable ordinances. Upon approval by the building official, one copy of the approved site plan shall be retained in the office of the building official, one copy in the office of the Director of Public Health, and one copy, which shall be maintained on the premises of the floating home moorage, shall be returned to the owner or operator.

R332.19 Moorage register of ownership. Every owner or operator of a floating home moorage shall maintain a current register of every floating home moored on the premises, such register to record the name and address of the legal owner of each floating home and the registration number assigned to it by the King County Assessor. A copy of the register shall be made available upon request to any City department referred to in this chapter.

Section 5. The following sections of Chapter 4 of the International Residential Code, 2006 Edition, are amended as follows:

SECTION R402

MATERIALS

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R402.2 Concrete. Concrete shall have a minimum specified compressive strength of f_c, as shown in Table R402.2. Concrete subject to moderate or severe weathering as indicated in Table R301.2(1) shall be air entrained as specified in Table R402.2. The maximum weight of fly ash, other pozzolans, silica fume, slag or blended cements that is included in concrete mixtures for garage floor slabs and for exterior porches, carport slabs and steps that will be exposed to deicing chemicals shall not exceed the percentages of the total weight of cementitious materials specified in Section 4.2.3 of ACI 318. Materials used to produce concrete and testing thereof shall comply with the applicable standards listed in Chapter 3 of ACI 318.

Code Alternate R402.2: Five-sack 2000 psi and 5½-sack 2500 psi concrete mixes in accordance with Seattle Building Code Section 1905.2.3 and Table 1905.2 are equivalent to 3000 psi concrete for weathering potential. In addition, air-entrainment is not required to address weathering.

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[W] SECTION R403

FOOTINGS

R403.1 General. All exterior walls shall be supported on continuous solid or fully grouted masonry or concrete footings, wood foundations, or other approved structural systems which shall be of sufficient design to accommodate all loads ((~~according to~~)) specified in Section R301 and to transmit the resulting loads to the supporting soil within the limitations ((~~as~~)) determined from the ((~~character~~)) characteristics of the soil. Footings shall be supported on undisturbed natural soils or engineered fill. Foundation walls complying with Section R404 or stem walls complying with Section R403.1.3 shall be permitted to support exterior walls, exterior braced wall lines and exterior braced wall panels provided they are supported by continuous footings.

***

R403.1.2 ((~~Continuous footing~~)) Braced wall panels in Seismic Design Categories D_0, D_1 and D_2. The braced wall panels at exterior and interior walls of buildings located in Seismic Design Categories D_0, D1 and D_2 shall be supported by foundations. ((~~continuous footings. All required interior braced wall panels in buildings with plan dimensions greater than 50 feet (15 240 mm) shall also be supported by continuous footings.~~))

Exceptions:

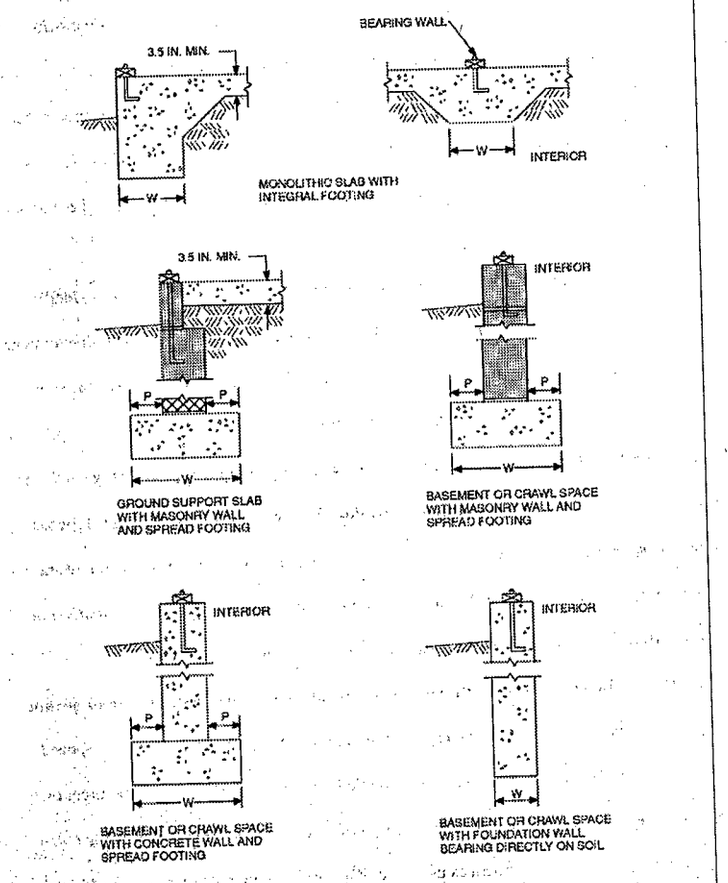
1. In buildings in Seismic Design Categories D_0 and D_1, and in one-story buildings in Seismic Design Category D_2, interior braced wall panels are not required to be supported by foundations, provided no building plan dimension perpendicular to the interior braced wall lines is greater than 50 feet.
2. In two-story buildings in Seismic Design Category D_2, interior braced wall panels are not required to be supported by foundations, provided all of the following conditions are met:
   - 2.1. No building plan dimension perpendicular to the interior braced wall lines exceeds 50 feet;
   - 2.2. The distances between braced wall lines do not exceed twice the building width measured parallel to the braced wall lines;
   - 2.3. The braced wall panels at the first story are continuously supported by floor joists, blocking or floor beams; and
   - 2.4. The heights of braced wall panels in under-floor spaces do not exceed 48 inches (1219 mm).

R403.1.2.1 Foundations. Foundations at braced wall panels shall be constructed of masonry or concrete foundation walls in accordance with Sections R402 and R404, and masonry or concrete footings in accordance with Sections R402 and R403.

Exceptions:

1. In under-floor spaces, cripple walls shall be permitted to substitute for masonry or concrete foundation walls provided they comply with the following:
   - a. They are located directly below the interior braced wall panels above;
   - b. They are braced in accordance with Sections R602.10.2 and R602.10.11.4 for cripple wall bracing; and
   - c. They are supported by footings complying with Sections R402 and R403, except that the footing of a foundation supporting an interior braced wall panel is not required to be continuous.
2. Footings of foundations supporting interior braced wall panels are not required to be continuous but shall be constructed beyond the ends of foundation walls, stem walls and cripple walls supporting braced wall panels for a minimum distance of 4 inches and a maximum distance of the footing thickness. The footing extension is not required at intersections with other footings.

R403.1.3 Seismic reinforcing in Seismic Design Categories D_0, D_1 and D_2. Concrete footings ((~~located in~~)) of buildings assigned to Seismic Design Categories D_0, D_1 and D_2, ((~~as established in Table R301.2(1),~~)) shall comply with this section and have minimum reinforcement as specified by Section R403.1.3.1 or R403.1.3.2. Bottom reinforcement shall be located a minimum of 3 inches (76 mm) ((~~clear~~)) from the bottom of the footing.



For SI: 1 inch = 25.4 mm.

FIGURE R403.1(1)
CONCRETE AND MASONRY FOUNDATION DETAILS

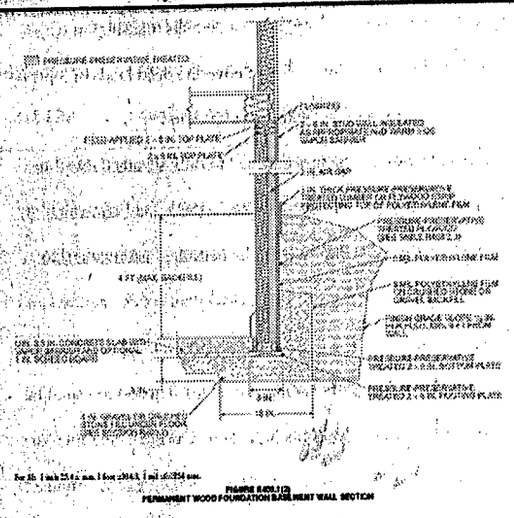


FIGURE R403.1.(2)
PERMANENT WOOD FOUNDATION BASEMENT WALL SECTION

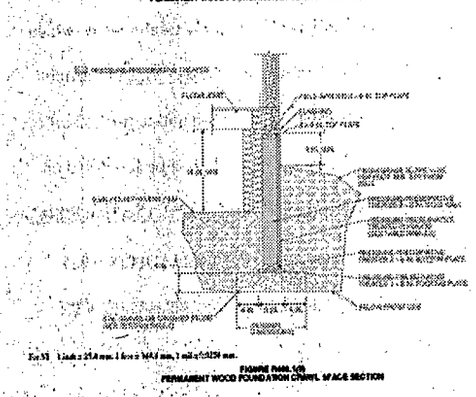


FIGURE R403.1(3)
PERMANENT WOOD FOUNDATION CRAWL SPACE SECTION

((~~In Seismic Design Categories D_0, D_1 and D_2 where~~)) Where a construction joint is created between a concrete footing and a concrete stem wall, ((~~a~~)) minimum vertical reinforcement of one No. 4 bar shall be ((~~installed~~)) provided at not more than 4 feet (1219 mm) on center. The ((~~vertical bar~~)) bars shall extend to 3 inches (76 mm) clear of the bottom of the footing, have a standard hook and extend ((~~a minimum of 14 inches (357 mm)~~)) into the stem wall the lesser of 2 inches (49 mm) clear of the top of the wall and 14 inches (357 mm).

((~~In Seismic Design Categories D_0, D_1 and D_2 where~~)) Where a solidly grouted masonry stem wall is supported on a concrete footing ((~~and stem wall~~)), ((~~a~~)) minimum vertical reinforcement of one No. 4 bar shall be ((~~installed~~)) provided at not more than 4 feet on center. The ((~~vertical bar~~)) bars shall extend to 3 inches (76 mm) clear of the bottom of the footing, ((~~and~~)) have a standard hook, and extend into the stem wall to 2 inches (49 mm) clear of the top of the wall.

((~~In Seismic Design Categories D_0, D_1 and D_2 masonry~~)) Masonry stem walls without solid grout and vertical reinforcing are not permitted.

Concrete and masonry stem walls shall comply with the requirements of Section R404 for foundation walls.

Exception: In detached one- and two-family dwellings ((~~which are~~)) of light-framed construction and three stories or less ((~~in height~~)) above grade, ((~~and constructed with stud bearing walls.~~)) plain concrete footings ((~~without longitudinal reinforcement supporting walls and isolated plain concrete footings~~)) supporting walls, columns or pedestals are permitted.

R403.1.3.1 ((~~Foundations with~~)) Foundation stem walls. ((~~Foundations with~~)) Foundation stem walls shall have installed a minimum of one No. 4 bar within 12 inches (305 mm) of the top of the stem wall and one No. 4 bar located 3 inches (76 mm) to 4 inches (102 mm) from the bottom of the footing.

R403.1.3.2 Slabs-on-ground with turned-down footings. Slabs-on-ground with turned-down footings shall have a minimum of one No. 4 bar at the top and bottom of the footing.

Exception: For slabs-on-ground cast monolithically with a footing, one No. 5 bar or two No. 4 bars shall be located in the middle third of the footing depth.

R403.1.4 Minimum depth. All exterior footings shall be placed at least 12 inches (305 mm) below the undisturbed ground surface. Where applicable, the depth of footings shall also ((~~conform to~~)) comply with Sections R403.1.4.1 through R403.1.4.2.

R403.1.4.1 Frost protection. Except where otherwise protected from frost, foundation walls, piers and other permanent supports of buildings and structures shall be protected from frost by one or more of the following methods:

1. Extend((~~ed~~)) below the frost line specified in Table R301.2.(1);
2. Construct((~~ing~~)) in accordance with Section R403.3;
3. Construct((~~ing~~)) in accordance with ASCE 32; or
4. Erect((~~ed~~)) on solid rock.

Exceptions:

1. Protection of freestanding accessory structures with an area of 600 square feet (56 m^2) or less, ((~~of light-framed construction,~~)) and with an eave height of 10 feet (3048 mm) or less shall not be required.
2. Protection of freestanding accessory structures with an area of 400 square feet (37 m^2) or less, of other than light-framed construction, with an eave height of 10 feet (3048 mm) or less shall not be required.
3. Decks not supported by a dwelling need not be provided with footings that extend below the frost line.

Footings shall not bear on frozen soil unless the frozen condition is of a permanent character.

R403.1.4.2 Seismic conditions. In Seismic Design Categories D_0, D_1 and D_2, interior footings supporting bearing or bracing walls and cast monolithically with a slab on grade shall extend to a depth of not less than 12 inches (305 mm) below the top of the slab.

* * *

R403.1.6 ((~~Foundation anchorage~~)) Anchorage at braced wall panels. ((~~When~~)) Where braced wall panels are supported ((~~directly on continuous~~)) by monolithic slabs, footings or foundations, the ((~~wall~~)) wood sole plates, wood sill plates or cold-formed steel bottom tracks shall be anchored to the footing, slab cast monolithically with a footing, or foundation in accordance with ((~~this section~~)) Section R403.1.6.

The wood sole or sill plate ((~~at exterior walls on monolithic slabs and wood sill plate~~)) shall be anchored to the monolithic slab, footing or foundation with anchor bolts spaced a maximum of 6 feet (1829 mm) on center. There shall be a minimum of two bolts per plate section with one bolt located not more than 12 inches (305 mm) or less than seven bolt diameters from each end of the plate section. ((~~In Seismic Design Categories D_0, D_1, and D_2, anchor bolts shall be spaced at 6 feet (1829 mm) on center and located within 12 inches (305 mm) of the ends of each plate section at interior braced wall lines when required by Section R602.10.9 to be supported on a continuous foundation.~~)) Bolts shall be at least $^1/_2$ inch (13 mm) in diameter and shall extend a minimum of 7 inches (178 mm) into masonry or concrete. ((~~Interior bearing wall sole plates on monolithic slab foundation shall be positively anchored with approved fasteners.~~)) A nut and washer shall be tightened to a snug-tight condition on each bolt ((~~of~~)) to the plate. ((~~Sills and sole plates shall be protected against decay and termites where required by Sections R319 and R320.~~)) Cold-formed steel framing systems shall be fastened to the wood sill plates or anchored directly to the foundation as required in Section R505.3.1 or R603.1.1.

Exceptions:

1. Foundation anchorage, spaced as required to provide equivalent anchorage to $^1/_2$-inch-diameter (13 mm) anchor bolts.
2. Walls 24 inches (610 mm) in total length or shorter connecting offset braced wall panels shall be anchored to the footing or foundation with a minimum of one anchor bolt located in the center third of the plate section and shall be attached to adjacent braced wall panels ((~~per~~)) as specified in Figure R602.10.5 at the corners.
3. Walls 12 inches (305 mm) in total length or shorter connecting offset braced wall panels shall be permitted to be connected to the footing or foundation without anchor bolts. The wall shall be attached to adjacent braced wall panels at corners ((~~per~~)) as specified in Figure R602.10.5 ((~~at corners~~)).

R403.1.6.1 Foundation anchorage in Seismic Design Categories C, D_0, D_1 and D_2. In addition to the requirements of Section R403.1.6, the following requirements ((~~shall~~)) apply to wood light-frame structures in Seismic Design Categories D_0, D_1 and D_2 and wood light-frame townhouses in Seismic Design Category C.

((~~1. Plate washers conforming to Section R602.11.1 shall be provided for all anchor bolts over the full length of required braced wall lines. Properly sized cut washers shall be permitted for anchor bolts in wall lines not containing braced wall panels.~~

~~2. Interior braced wall plates shall have anchor bolts spaced at not more than 6 feet (1829 mm) on center and located within 12 inches (305 mm) of the ends of each plate section when supported on a continuous foundation.~~

~~3. Interior bearing wall sole plates shall have anchor bolts spaced at not more than 6 feet (1829 mm) on center and located within 12 inches (305 mm) of the ends of each plate section when supported on a continuous foundation.~~

~~4. The maximum anchor bolt spacing shall be 4 feet (1219 mm) for buildings over two stories in height.~~

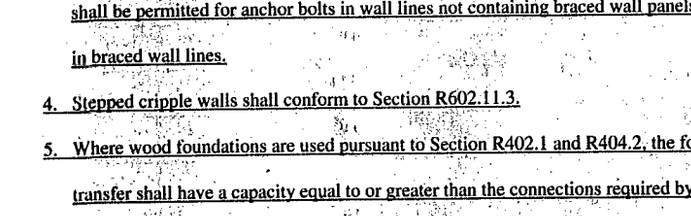
~~5. Stepped cripple walls shall conform to Section R602.11.3.~~

~~6. Where continuous wood foundations in accordance with Section R404.2 are used, the force transfer shall have a capacity equal to or greater than the connections required by Section R602.11.1 or the braced wall panel shall be connected to the wood foundations in accordance with the braced wall panel-to-floor fastening requirements of Table R602.3(1).~~))

1. Bearing walls and interior braced wall sill plates supported on a continuous foundation shall be anchored to footings or foundations with anchor bolts spaced at not more than 6 feet (1829 mm) on center and located within 12 inches (305 mm) from the ends of each plate section.
2. The maximum anchor bolt spacing shall be 4 feet (1219 mm) for buildings over two stories in height.
3. Plate washers complying with Section R602.11.1 shall be provided for all anchor bolts over the full length of required braced wall lines. Properly sized cut washers shall be permitted for anchor bolts in wall lines not containing braced wall panels or in braced wall lines.
4. Stepped cripple walls shall conform to Section R602.11.3.
5. Where wood foundations are used pursuant to Section R402.1 and R404.2, the force transfer shall have a capacity equal to or greater than the connections required by Section R602.11.1, or the braced wall panel shall be connected to the wood foundations in accordance with the braced wall panel-to-floor fastening requirements of Table R602.3(1).

R403.1.7 Footings on or adjacent to slopes. The placement of buildings and structures on or adjacent to slopes steeper than 1 unit vertical in 3 units horizontal (33.3-percent slope) shall conform to Sections R403.1.7.1 through R403.1.7.4.

R403.1.7.1 Building clearances from ascending slopes. In general, buildings below slopes shall be set a sufficient distance from the slope to provide protection from slope drainage, erosion and shallow failures. Except as provided in Section R403.1.7.4 and Figure R403.1.7.1, the following criteria will be assumed to provide this protection. Where the existing slope is steeper than one unit vertical in one unit horizontal (100-percent slope), the toe of the slope shall be assumed to be at the intersection of a horizontal plane drawn from the top of the foundation and a plane drawn tangent to the slope at an angle of 45 degrees (0.79 rad) to the horizontal. Where a retaining wall is constructed at the toe of the slope, the height of the slope shall be measured from the top of the wall to the top of the slope.



For SI: 1 foot = 304.8 mm.

FIGURE R403.1.7.1
FOUNDATION CLEARANCE FROM SLOPES

R403.1.7.2 Footing setback from descending slope surfaces. Footings on or adjacent to slope surfaces shall be founded in material with an embedment and setback from the slope surface sufficient to provide vertical and lateral support for the footing without detrimental settlement. Except as provided for in Section R403.1.7.4 and Figure R403.1.7.1, the following setback is deemed adequate to meet the criteria. Where the slope is steeper than one unit vertical in one unit horizontal (100-percent slope), the required setback shall be measured from an imaginary plane 45 degrees (0.79 rad) to the horizontal, projected upward from the toe of the slope.

R403.1.7.3 Foundation elevation. On graded sites, the top of any exterior foundation shall extend above the elevation of the street gutter at point of discharge or the inlet of an approved drainage device a minimum of 12 inches (305 mm) plus 2 percent. Alternate elevations are permitted subject to the approval of the building official, provided it can be demonstrated that required drainage to the point of discharge and away from the structure is provided at all locations on the site.

R403.1.7.4 Alternate setback and clearances. Alternate setbacks and clearances are permitted, subject to the approval of the building official. The building official is permitted to require an investigation and recommendation of a qualified engineer to demonstrate that the intent of this section has been satisfied. Such an investigation shall include consideration of material, height of slope, slope gradient, load intensity and erosion characteristics of slope material.

R403.1.8 Foundations on expansive soils. Foundation and floor slabs for buildings located on expansive soils shall be designed in accordance with Section 1805.8 of the *International Building Code.*

Exception: Slab-on-ground and other foundation systems which have performed adequately in soil conditions similar to those encountered at the building site are permitted subject to the approval of the building official.

R403.1.8.1 Expansive soils classifications. Soils meeting all four of the following provisions shall be considered expansive, except that tests to show compliance with Items 1, 2 and 3 shall not be required if the test prescribed in Item 4 is conducted:

1. Plasticity Index (PI) of 15 or greater, determined in accordance with ASTM D 4318.
2. More than 10 percent of the soil particles pass a No. 200 sieve (75 mm), determined in accordance with ASTM D 422.
3. More than 10 percent of the soil particles are less than 5 micrometers in size, determined in accordance with ASTM D 422.
4. Expansion Index greater than 20, determined in accordance with ASTM D 4829.

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SECTION R404
FOUNDATION AND RETAINING WALLS

R404.1 Concrete and masonry foundation walls. Concrete and masonry foundation walls shall be selected and constructed in accordance with the provisions of Section R404 or in accordance with ACI 318, ACI 332, NCMA TR68–A or ACI 530/ASCE 5/TMS 402 or other approved structural standards. When ACI 318, ACI 332 or ACI 530/ASCE 5/TMS 402 or the provisions of Section R404 are used to design concrete or masonry foundation walls, project drawings, typical details and specifications are not required to bear the seal of the architect or engineer responsible for design, unless otherwise required by the state law of the jurisdiction having authority.

((~~Foundation walls that meet all of the following shall be considered laterally supported:~~

~~1. Full basement floor shall be 3.5 inches (89 mm) thick concrete slab poured tight against the bottom of the foundation wall.~~

~~2. Floor joists and blocking shall be connected to the sill plate at the top of the wall by the prescriptive method called out in Table R404.1(1), or; shall be connected with an approved connector with listed capacity meeting Table R404.1(1).~~

~~3. Bolt spacing for the sill plate shall be no greater than per Table R404.1(2).~~

~~4. Floor shall be blocked perpendicular to the floor joists. Blocking shall be full depth within two joist spaces of the foundation wall, and be flat blocked with minimum 2-inch by 4-inch (51 mm by 102 mm) blocking elsewhere.~~

~~5. Where foundation walls support unbalanced load on opposite sides of the building, such as a daylight basement, the building aspect ratio, L/W, shall not exceed the value specified in Table R404.1(3). For such foundation walls, the rim board shall be attached to the sill with a 20 gage metal angle clip at 24 inches (610 mm) on center, with five 8d nails per leg, or an approved connector supplying 230 pounds per linear foot (3.36 kN/m) capacity.~~))

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((~~TABLE R404.1(1)~~

~~TOP REACTIONS AND PRESCRIPTIVE SUPPORT FOR FOUNDATION WALLS.~~

MAXIMUM WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT (feet)	HORIZONTAL REACTION TO TOP (plf) Soil Classes (Letter indicates connection types.) GW, GP, SW and SP soils	GM, GC, SM-SC and ML soils	SC, MH, ML-CL and inorganic CL soils
7	4	45.7 A	68.6 A	91.4 A
	5	80.3 A	133.9 B	178.6 B
	6	154.3 B	231.4 C	308.6 C
	7	245.0 C	367.5 C	490.0 D
8	4	40.0 A	60.0 A	80.0 A
	5	78.1 A	117.2 B	156.3 B
	6	135.0 B	202.5 B	270.0 C
	7	214.0 B	321.6 C	428.8 C
	8	320.0 C	480.0 C	640.0 D
9	4	35.6 A	53.3 A	71.1 A
	5	69.4 A	104.2 B	138.9 B
	6	120.0 B	180.0 B	240.0 C
	7	190.6 B	285.8 C	381.1 C
	8	284.4 C	426.7 C	568.9 D
	9	405.0 C	607.5 D	810.0 D

For SI: 1 foot = 304.8 mm, 1 pound = 0.454 kg, 1 plf = pounds per linear foot = 1.488 kg/m.

a. Loads are pounds per linear foot of wall. Prescriptive options are limited to maximum joist and blocking spacing of 24 inches on center.

b. Prescriptive Support Requirements:

Type Joist/blocking Attachment Requirement

A 3-8d per joist per Table R602.3(1).

B 1-20 gage angle clip each joist with 5-8d per leg.

C 1-1/4 inch thick steel angle. Horizontal leg attached to sill bolt adjacent to joist/blocking, vertical leg attached to joist/blocking with 1/2 inch minimum diameter bolt.

D 2-1/4 inch thick steel, angles, one on each side of joist/blocking. Attach each angle to adjacent sill bolt through horizontal leg. Bolt to joist/blocking with 1/2 inch minimum diameter bolt common to both angles.

~~TABLE R404.1(2)~~

~~MAXIMUM PLATE ANCHOR BOLT SPACING FOR SUPPORTED FOUNDATION WALL.~~

MAXIMUM WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT (feet)	ANCHOR BOLT SPACING (inches) Soil Classes GW, GP, SW	GM, GC, SM-SC	SC, MH, ML-CL
7	4	72	58	43
	5	44	30	22
	6	26	17	13
	7	16	11	8
	4	72	66	50

8	5	51	34	25
	6	29	20	15
	7	18	12	9
	8	12	8	6
9	4	72	72	56
	5	57	38	29
	6	33	22	17
	7	21	14	10
	8	14	9	7
	9	10	7	5

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

a. Spacing is based on 1/2 inch diameter anchor bolts. For 5/8 inch diameter anchor bolts, spacing may be multiplied by 1.27, with a maximum spacing of 72 inches.

TABLE R404.1(3)

MAXIMUM ASPECT RATIO, L/W FOR UNBALANCED FOUNDATIONS

MAXIMUM WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT (feet)	SOIL CLASSES		
		GW, GP, SW and SP soils	GM, GC, SM-SC and ML soils	SC, MH, ML-CL and inorganic CL soils
7	4	4.0	4.0	4.0
	5	4.0	3.4	2.6
	6	3.0	2.0	1.5
	7	1.9	1.2	0.9
8	4	4.0	4.0	4.0
	5	4.0	3.9	2.9
	6	3.4	2.3	1.7
	7	2.1	1.4	1.1
	8	1.4	1.0	0.7
9	4	4.0	4.0	4.0
	5	4.0	4.0	3.3
	6	3.8	2.6	1.9
	7	2.4	1.6	1.2
	8	1.6	1.1	0.8
	9	1.1	0.8	0.6

For SI: 1 foot = 304.8 mm.))

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. ((The minimum net area of ventilation openings shall not be less than 1 square foot (0.0929 m^2) for each 150 square feet (14 m^2) of under-floor space area. One such ventilating opening shall be within 3 feet (914 mm) of each corner of the building.))

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^2) for each ((150)) 300 square feet (((14)) 28 m^2) of under-floor area. In addition, a ground cover that meets the requirements of Section 502.1.6.7 of the Washington State Energy Code (chapter 51-11 WAC) shall be installed. One ventilating opening shall be within 3 feet (914 mm) of each corner of the building, 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 ¼ inch (6.4 mm):

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).

***

Section 6. The following sections of Chapter 6 of the International Residential Code, 2006 Edition, are amended as follows:

SECTION R602

WOOD WALL FRAMING

***

R602.3 Design and construction. Exterior walls of wood-light- framed construction shall be designed and constructed in accordance with the provisions of this chapter and Figures R602.3(1) and R602.3(2) or in accordance with AF&PA's NDS. Components of exterior walls shall be fastened in accordance with Tables R602.3(1) through R602.3(4). Exterior walls covered with foam plastic sheathing shall be braced in accordance with Section R602.10. Structural sheathing shall be fastened directly to structural framing members.

***

R602.3.4 Bottom (sole) plate. Studs shall have full bearing on a ((nominal)) 2-((by)) inch nominal (38 mm) or larger plate or sill having a width at least equal to the width of the studs.

***

R602.10 Wall bracing. All exterior walls shall be braced in accordance with this section. In addition, interior braced wall lines shall be provided in accordance with Section R602.10.11. For buildings in Seismic Design Categories D_0, D_1 and D_2, walls shall be constructed in accordance with the additional requirements of Sections ((R602.10.9, R602.10.11, and R602.11)) R602.10.11 through R602.11.3.

R602.10.1 Braced wall lines. Braced wall lines shall consist of braced wall panel construction in accordance with Section R602.10.3. The amount and location of bracing shall be in accordance with Table R602.10.1 and the amount of bracing shall be the greater of that required by the seismic design category or the design wind speed. Braced wall panels shall begin no more than 12.5 feet (3810 mm) from each end of a braced wall line. Braced wall panels that are counted as part of a braced wall line shall be in line, except that offsets out-of-plane of up to 4 feet (1219 mm) shall be permitted provided that the total out-to-out offset dimension in any braced wall line is not more than 8 feet (2438 mm).

R602.10.1.1 Spacing. Spacing of braced wall lines shall not exceed 35 feet (10 668 mm) on center in both the longitudinal and transverse directions in each story.

Exception: Spacing of braced wall lines not exceeding 50 feet shall be permitted where:

1. The wall bracing installed equals or exceeds the amount of bracing required by Table R602.10.1 multiplied by a factor equal to the braced wall line spacing divided by 35 feet and
2. The length-to-width ratio for the floor or roof diaphragm does not exceed 3:1.

TABLE R602.10.1
WALL BRACING

SEISMIC DESIGN CATEGORY OR WIND SPEED	CONDITION	TYPE OF BRACE[b,c]	AMOUNT OF BRACING[a,b,c]
Category A and B_1 ($S_s \leq 0.33g$ and $S_{ds} \leq 0.33g$) or 100 mph or less	One story Top of two or three story	Methods 1, 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less than 16% of braced wall line for Methods 3 or 25% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
	First story of two-story Second story of same story	Methods 1, 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less that 16% of braced wall line for Methods 3 or 25% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
	First story of three story	Methods 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less that 25% of braced wall line for Methods 3 or 35% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
Category C ($S_s \leq 0.67g$ and $S_{ds} \leq 0.50g$) or less than 110 mph	One story Top of two or three story	Methods 1, 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less that 20% of braced wall line for Methods 3 or 45% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
	First story of two-story Second story of three story	Methods 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less that 16% of braced wall line for Methods 3 or 25% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
	First story of three story	Methods 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less that 40% of braced wall line for Methods 3 or 90% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
Categories D_0 and D_1 ($S_s \leq 1.25g$ and $S_{ds} \leq 0.83g$) or less than 110 mph	One story Top of two or three story	Methods 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less that 20% of braced wall line for Methods 3 or 30% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
	First story of two-story Second story of three story	Methods 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less that 40% of braced wall line for Methods 3 or 60% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
	First story of three story	Methods 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less that 60% of braced wall line for Methods 3 or 85% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
Category D_2 or less than 110 mph	One story Top of two story	Methods 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less that 25% of braced wall line for Methods 3 or 40% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
	First story of two story	Methods 2, 3, 4, 5, 6, 7 or 8	Located in accordance with Section R602.10 and at least every 25 feet on center but not less that 50 % of braced wall line for Methods 3 or 75% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
	Cripple walls	Method 3	Located in accordance with Section R602.10 and at least every 25 feet on center but not less than 75% of braced wall line.

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.477 m/s.

a. Wall bracing amounts are based on a wall size that "A" footprint and framing amounts between walls are tributary to the wall. Interpolation between the values given in the table shall be permitted where a site specific S_{ds} value is determined in accordance with Section 1613.5 of the International Building Code.

b. Foundation cripple wall panels shall be treated in accordance with Section R602.11.2.

c. Methods of bracing shall be as described in Section R602.10.3. The alternate braced wall panels in accordance with Section R602.10.6.1 or R602.10.6.2 shall also be permitted.

d. The bracing amounts for Seismic Design Categories other than D_2 in Table R602.10.1 shall be doubled for walls with a stud height of 11 feet or less that are supporting structures that are considered to be unoccupied by the public and are accessory to a single-family dwelling whose seismic design category is not D_2. The height of the stud shall be measured vertically from the top of the floor framing member to the bottom of the lowest framing member supporting the roof. Interpolation between the values given in the table shall be permitted for a stud height of 9 feet or 10 feet. The bracing amounts shall not be less than required by Section R602.10.9.

e. Where the dead load of the roofing materials is 10 psf, the bracing amount shall be increased in accordance with Section R301.2.2.2.1. Bracing required for a site's wind speed shall not be adjusted.

R602.10.2 Cripple wall bracing.

R602.10.2.1 Seismic design categories other than D_2. In Seismic Design Categories other than D_2, cripple walls supporting exterior walls or interior braced wall panels as required in Section R403.1.2 and R403.1.2.1 shall be braced with an amount and type of bracing as required for the wall above in accordance with Table R602.10.1 with the following modifications for cripple wall bracing:

1. The percent bracing amount as determined from Table R602.10.1 shall be increased by 15 percent and
2. The wall panel spacing shall be decreased to 18 feet (5486 mm) instead of 25 feet (7620 mm).

R602.10.2.2 Seismic Design Category D_2. In Seismic Design Category D_2, cripple walls supporting exterior walls or interior braced wall panels as required in Section R403.1.2 and R403.1.2.1 shall be braced in accordance with Table R602.10.1.

R602.10.2.3 Redesignation of cripple walls. In any seismic design category, cripple walls are permitted to be redesignated as the first story walls for purposes of determining wall bracing requirements. If the cripple walls are redesignated, the stories above the redesignated story shall be counted as the second and third stories, respectively.

R602.10.3 Braced wall panel construction methods. The construction of braced wall panels shall be in accordance with one of the following methods:

1. Nominal 1-inch-by-4-inch (25 mm by 102 mm) continuous diagonal braces let in to the top and bottom plates and the intervening studs or approved metal strap devices installed in accordance with the manufacturer's specifications. The let-in bracing shall be placed at an angle not more than 60 degrees (1.06 rad) or less than 45 degrees (0.79 rad) from the horizontal.
2. Wood boards of 5/8 inch (16 mm) net minimum thickness applied diagonally on studs spaced a maximum of 24 inches (610 mm). Diagonal boards shall be attached to studs in accordance with Table R602.3 (1).
3. Wood structural panel sheathing with a thickness not less than $^5/_{16}$ inch (8 mm) for 16-inch (406 mm) stud spacing and not less than $^3/_8$ inch (9 mm) for 24-inch (610 mm) stud spacing. Wood structural panels shall be installed in accordance with Table R602.3(3).
4. One-half-inch (13 mm) or $^{25}/_{32}$-inch (20 mm) thick structural fiberboard sheathing applied vertically or horizontally on studs spaced a maximum of 16 inches (406 mm) on center. Structural fiberboard sheathing shall be installed in accordance with Table R602.3 (1).
5. Gypsum board with minimum $^1/_2$-inch (13 mm) thickness placed on studs spaced a maximum of 24 inches (610 mm) on center and fastened at 7 inches (178 mm) on center with the size nails specified in Table R602.3(1) for sheathing and Table R702.3.5 for interior gypsum board.
6. Particleboard wall sheathing panels installed in accordance with Table R602.3(4).
7. Portland cement plaster on studs spaced a maximum of 16 inches (406 mm) on center and installed in accordance with Section R703.6.
8. Hardboard panel siding when installed in accordance with Table R703.4.

Exception: Alternate braced wall panels constructed in accordance with Section R602.10.6.1 or R602.10.6.2 shall be permitted to replace any of the above methods of braced wall panels.

R602.10.4 Length of braced panels. For Methods 2, 3, 4, 6, 7 and 8 above, each braced wall panel shall be at least 48 inches (1219 mm) in length, covering a minimum of three stud spaces where studs are spaced 16 inches (406 mm) on center and covering a minimum of two stud spaces where studs are spaced 24 inches (610 mm) on center. For Method 5 above, each braced wall panel shall be at least 96 inches (2438 mm) in length where applied to one face of a braced wall panel and at least 48 inches (1219 mm) where applied to both faces.

Exceptions:

1. Lengths of braced wall panels for continuous wood structural panel sheathing shall be in accordance with Section R602.10.5.
2. Lengths of alternate braced wall panels shall be in accordance with Section R602.10.6.1 or Section R602.10.6.2.

R602.10.5 Continuous wood structural panel sheathing. When continuous wood structural panel sheathing is provided in accordance with Method 3 of Section R602.10.3 on all sheathable areas of all exterior walls, ((and interior braced wall lines, where required,)) including areas above and below openings, braced wall panel lengths ((shall be)) are not required to comply with Section R602.10.4 provided they are in accordance with Table R602.10.5. Wood structural panel sheathing shall be installed at corners in accordance with Figure R602.10.5. The bracing ((amounts)) percentages in Table R602.10.1 for Method 3 shall be permitted to be multiplied by a factor of 0.9 for exterior walls with a maximum opening height that does not exceed 85 percent of the wall height or a factor of 0.8 for exterior walls with a maximum opening height that does not exceed 67 percent of the wall height.

TABLE R602.10.5
LENGTH REQUIREMENTS FOR BRACED WALL PANELS IN A CONTINUOUSLY SHEATHED WALL[a,b,c]

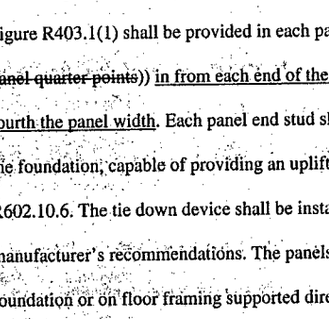
MINIMUM LENGTH OF BRACED WALL PANEL (inches)			MAXIMUM OPENING HEIGHT NEXT TO THE BRACED WALL PANEL (% of wall height)
8-foot wall	9-foot wall	10-foot wall	
48	54	60	100
32	36	40	85
24	27	30	67

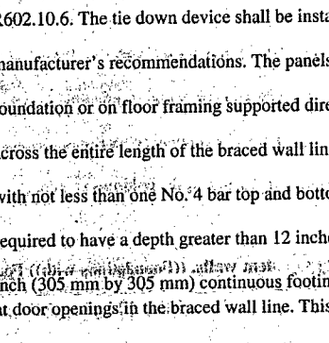
For SI: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 pound per square foot = 0.0479 kPa.

a. Linear interpolation shall be permitted.

b. Full-height sheathed wall segments on either side of garage openings that support ((light frame)) roofs of light-framed construction only, with roof covering dead loads of 3 psf or less shall be permitted to have a 4:1 ((aspect)) height-to-width ratio.

c. Walls on either or both sides of openings in garages attached to fully sheathed dwellings shall be permitted to be built in accordance with Section R602.10.6.2 and Figure R602.10.6.2 except that a single ((bottom)) sill plate shall be permitted and two anchor bolts shall be placed at 1/3 points. In addition, tie-down devices shall not be required and the vertical wall segment shall have a maximum 6:1 height-to-width ratio (with height being measured from top of header to the bottom of the sill plate). This option shall be permitted for the first story of two-story applications in Seismic Design Categories A through C.





For SI: 1 inch = 25.4 mm.
Gypsum board nails shown for clarity.

FIGURE R602.10.6
TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS STRUCTURAL PANEL SHEATHING SHOWING REQUIRED STUD-TO-STUD NAILING

R602.10.6 Alternate braced wall panel construction methods. Alternate braced wall panels shall be constructed in accordance with Sections R602.10.6.1 and R602.10.6.2.

R602.10.6.1 Alternate braced wall panels. Alternate braced wall ((lines)) panels constructed in accordance with one of the following provisions shall be permitted to replace each 4 feet (1219 mm) of braced wall panel as required by Section R602.10.4. The maximum height and minimum width of each panel shall be in accordance with Table R602.10.6:

1. In one-story buildings, each panel shall be sheathed on one face with $^3/_8$-inch-minimum-thickness (10 mm) wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Table R602.3(1) and blocked at all wood structural panel sheathing edges. Two anchor bolts installed in accordance with Figure R403.1(1) shall be provided in each panel. Anchor bolts shall be placed ((at panel quarter points)) in from each end of the panel a horizontal distance of one-fourth the panel width. Each panel end stud shall have a tie-down device fastened to the foundation, capable of providing an uplift capacity in accordance with Table R602.10.6. The tie down device shall be installed in accordance with the manufacturer's recommendations. The panels shall be supported directly on a foundation or on floor framing supported directly on a foundation which is continuous across the entire length of the braced wall line. This foundation shall be reinforced with not less than one No. 4 bar top and bottom. When the continuous foundation is required to have a depth greater than 12 inches (305 mm), a minimum 12-inch-by-12-inch (305 mm by 305 mm) continuous footing or turned down slab edge is permitted at door openings in the braced wall line. This continuous footing or turned down slab edge shall be reinforced with not less than one No. 4 bar top and bottom. This reinforcement shall be lapped 15 inches (381 mm) with the reinforcement required in the continuous foundation located directly under the braced wall line.
2. In the first story of two-story buildings, each braced wall panel shall be in accordance with Item 1 above, except that ((the)):
   2.1 The wood structural panel sheathing shall be ((installed)) provided on both faces,
   2.2 ((s))Sheathing edge nailing spacing shall not exceed 4 inches (102 mm) on center, and
   ((at least three anchor bolts shall be placed at one-fifth points))
   2.3 Anchor bolts shall be placed at the center of the panel width and in from each end of the panel a horizontal distance of one-fifth the panel width (three total).

R602.10.6.2 Alternate braced wall panel adjacent to a door or window opening. Alternate braced wall panels constructed in accordance with one of the following provisions are also permitted to replace each 4 feet (1219 mm) of braced wall panel as required by Section R602.10.4 for use adjacent to a window or door opening with a full-length header:

1. In one-story buildings, each panel shall have a length of not less than 16 inches (406 mm) and a height of not more than 10 feet (3048 mm). Each panel shall be sheathed on one face with a single layer of 3/8-inch-minimum-thickness (10 mm) wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Figure R602.10.6.2. The wood structural panel sheathing shall extend up over the solid sawn or glued-laminated header and shall be nailed in accordance with Figure R602.10.6.2. Use of a built-up header consisting of at least two 2 x 12s and fastened in accordance with Table R602.3(1) shall be permitted. A spacer, if used, shall be placed on the side of the built-up beam opposite the wood structural panel sheathing. The header shall extend between the inside faces of the first full-length outer studs of each panel. The clear span of the header between the inner studs of each panel shall be not less than 6 feet (1829 mm) and not more than 18 feet (5486 mm) in length. A strap with an uplift capacity of not less than 1000 pounds (4448 N) shall fasten the header to the side of the inner studs opposite the sheathing. One anchor bolt not less than 5/8-inch-diameter (16 mm) and installed in accordance with Section R403.1.6 shall be ((installed)) provided in the center of each sill plate. The studs at each end of the panel shall have a tie-down device fastened to the foundation with an uplift capacity of not less than 4,200 pounds (18 683 N).

   Where a panel is located on one side of the opening, the header shall extend between the inside face of the first full-length stud of the panel and the bearing studs at the other end of the opening. A strap with an uplift capacity of not less than 1000 pounds (4448 N) shall fasten the header to the bearing studs. The bearing studs shall also have a tie-down device fastened to the foundation with an uplift capacity of not less than 1000 pounds (4448 N).

The tie-down devices shall be an embedded-strap type, installed in accordance with the manufacturer's recommendations. The panels shall be supported directly on a foundation which is continuous across the entire length of the braced wall line. The foundation shall be reinforced with not less than one No. 4 bar top and bottom.

Where the continuous foundation is required to have a depth greater than 12 inches (305 mm), a minimum 12-inch-by-12-inch (305 mm by 305 mm) continuous footing or turned down slab edge is permitted at door openings in the braced wall line. This continuous footing or turned down slab edge shall be reinforced with not less than one No. 4 bar top and bottom. This reinforcement shall be lapped not less than 15 inches (381 mm) with the reinforcement required in the continuous foundation located directly under the braced wall line.

2. In the first story of two-story buildings, each wall panel shall be braced in accordance with Item 1 above, except that each panel shall have a length of not less than 24 inches (610 mm).

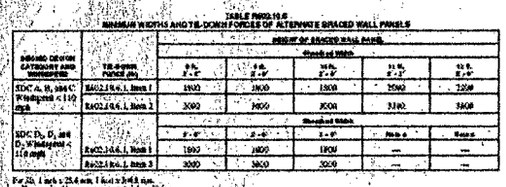


TABLE R602.10.5
MINIMUM WIDTHS AND TIE-DOWN FORCES OF ALTERNATE BRACED WALL PANELS

SEISMIC DESIGN CATEGORY AND WIND SPEED	METHOD (Table R602.10.1)	MINIMUM BRACED WALL PANEL LENGTH (Table R602.10.1)				
		Standard Wall				
		8 ft, 1 in. × 9 ft, 1 in.	10 ft, 1 in. × 9 ft, 1 in.	12 ft, 1 in. × 9 ft, 1 in.	14 ft, 1 in. × 9 ft, 1 in.	16 ft, 1 in. × 9 ft, 1 in.
SDC A, B, and C Windspeed < 110 mph	R602.10.6.1, Item 1	1000	1000	1000	1000	1000
	R602.10.6.1, Item 2	3000	3000	3000	3100	3400
		Standard Wall				
		8 ft × 9 ft	10 ft × 9 ft	12 ft × 9 ft	Note a	Note a
SDC D0, D1 and D2 Windspeed < 110 mph	R602.10.6.1, Item 1	1000	1000	1000	—	—
	R602.10.6.1, Item 2	3000	3000	3000	—	—

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.
a. Requires a 2-hour minimum fire rating.

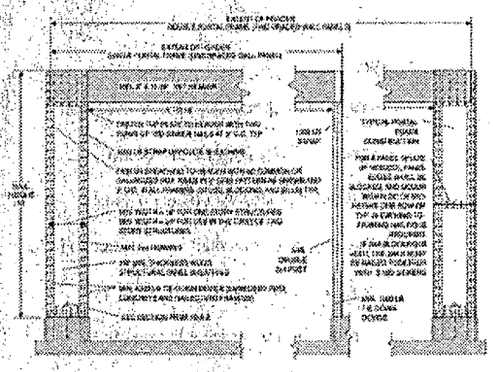


FIGURE R602.10.6
ALTERNATE BRACED WALL PANEL ADJACENT TO A DOOR OR WINDOW OPENING

R602.10.7 Panel joints. All vertical joints of panel sheathing shall occur over, and be fastened to, common studs. Horizontal joints in braced wall panels shall occur over, and be fastened to, common blocking of a minimum ((~~1½ inch (38 mm)~~)) 2 inches (51 mm) in nominal thickness.

Exception: Blocking is not required behind horizontal joints in Seismic Design Categories A and B and detached dwellings in Seismic Design Category C when constructed in accordance with Section R602.10.3, braced-wall-panel construction method 3 and Table R602.10.1, method 3, or where permitted by the manufacturer's installation requirements for the specific sheathing material.

R602.10.8 Connections. Braced wall ((~~line~~)) panel bottom (sole) plates shall be fastened to the floor framing and top plates shall be connected to the framing above in accordance with Table R602.3 (1). ((~~Sills~~)) Sill plates shall be fastened to the footing, foundation or slab in accordance with Sections R403.1.6 and R602.11. Where joists are perpendicular to the braced wall lines above, blocking shall be provided under and in line with the braced wall panels. Where joists are perpendicular to braced wall lines below, blocking shall be provided over and in line with the braced wall panels. Where joists are parallel to braced wall lines above or below, a rim joist or other parallel framing member shall be provided at the wall to permit fastening per Table R602.3(1). For buildings in Seismic Design Categories D_0, D_1 and D_2, braced wall panels shall also be fastened in accordance with Section R602.11.2.

R602.10.9 Interior braced wall support. This section is not adopted. See Section R403.1.2.

((~~In one-story buildings located in Seismic Design Category D_2, interior braced wall lines shall be supported on continuous foundations at intervals not exceeding 50 feet (15 240 mm). In two-story buildings located in Seismic Design Category D_2, all interior braced wall panels shall be supported on continuous foundations.~~

~~**Exception:** Two-story buildings shall be permitted to have interior braced wall lines supported on continuous foundations at intervals not exceeding 50 feet (15 240 mm) provided that:~~

~~1. The height of cripple walls does not exceed 4 feet (1219 mm).~~

~~2. First-floor braced wall panels are supported on doubled floor joists, continuous blocking or floor beams.~~

~~3. The distance between bracing lines does not exceed twice the building width measured parallel to the braced wall line.~~))

R602.10.10 Design of structural elements. Where a building, or portion thereof, does not comply with one or more of the bracing requirements in ((~~this section,~~)) Sections R602.10 through R602.10.9, those portions shall be designed and constructed in accordance with accepted engineering practice.

R602.10.11 Bracing in Seismic Design Categories D_0, D_1 and D_2. Structures located in Seismic Design Categories D_0, D_1 and D_2 shall ((~~have~~)) be provided with exterior and interior braced wall lines.

R602.10.11.1 Braced wall line spacing. Spacing between braced wall lines in each story shall not exceed 25 feet (7620 mm) on center in both the longitudinal and transverse directions.

Exception: In one- and two-story buildings, ((~~spacing between~~)) two adjacent braced wall lines shall not exceed 35 feet (10 363 mm) on center in order to accommodate ((~~one single room~~)) an area not exceeding 900 square feet (84 m^2) in each dwelling unit. Spacing between all other braced wall lines shall not exceed 25 feet (7620 mm).

R602.10.11.2 Braced wall panel location. Exterior braced wall lines shall have a braced wall panel located at each end of the braced wall line.

Exception: For braced wall panel construction Method 3 of Section R602.10.3, the braced wall panel shall be permitted to begin no more than 8 feet (2438 mm) from each end of the braced wall line provided the following is satisfied:

1. A minimum 24-inch-wide (610 mm) panel is applied to each side of the building corner and the two 24-inch-wide (610 mm) panels at the corner shall be attached to framing in accordance with Figure R602.10.5; or
2. The end of each braced wall panel closest to the corner shall have a tie-down device fastened to the stud at the edge of the braced wall panel closest to the corner and to the foundation or framing below. The tie-down device shall be capable of providing an uplift allowable design value of at least 1,800 pounds (8 kN). The tie-down device shall be installed in accordance with the manufacturer's recommendations.

R602.10.11.3 Collectors. A designed collector shall be provided if a braced wall panel is not located at each end of a braced wall line as indicated in Section R602.10.11.2, or, when using the Section R602.10.11.2 exception, if a braced wall panel is more than 8 feet (2438 mm) from each end of a braced wall line.

R602.10.11.4 Cripple wall bracing. In addition to the requirements of Section R602.10.2, where interior braced wall ((~~lines~~)) panels occur without a ((~~continuous~~)) foundation below, the length of parallel exterior cripple wall bracing shall be one and one-half times the length required by Table R602.10.1. Where cripple walls braced using Method 3 of Section R602.10.3 cannot provide this additional length, the capacity of the sheathing shall be increased by reducing the spacing of fasteners along the perimeter of each piece of sheathing to 4 inches (102 mm) on center.

R602.10.11.5 Sheathing attachment. Adhesive attachment of wall sheathing shall not be permitted in Seismic Design Categories C, D_0, D_1 and D_2.

R602.11 Framing and connections for Seismic Design Categories D_0, D_1 and D_2. The framing and connection details of buildings located in Seismic Design Categories D_0, D_1 and D2 shall be in accordance with Sections R602.11.1 through R602.11.3.

R602.11.1 Wall anchorage. Braced wall line ((~~sills~~)) sill plates shall be anchored to concrete or masonry foundations in accordance with Sections R403.1.6 and R602.11. For all buildings in Seismic Design Categories D_0, D_1 and D_2 and townhouses in Seismic Design Category C, plate washers, a minimum of 0.229 inch by 3 inches by 3 inches (5.8 mm by 76 mm by 76 mm) in size, shall be installed between the foundation sill plate and the nut. The hole in the plate washer is permitted to be diagonally slotted with a width of up to $^3/_{16}$ inch (5 mm) larger than the bolt diameter and a slot length not to exceed $1^3/_4$ inches (44 mm), provided a standard cut washer is placed between the plate washer and the nut.

R602.11.2 Interior braced wall panel connections. Interior braced wall ((~~lines~~)) panels shall be fastened to floor and roof framing in accordance with Table R602.3(1), to required foundations in accordance with Section R602.11.1, and in accordance with the following requirements:

1. Floor joists parallel to the top plate shall be toe-nailed to the top plate with at least 8d nails spaced a maximum of 6 inches (152 mm) on center.
2. Top plate laps shall be face-nailed with at least eight 16d nails on each side of the splice.

R602.11.3 Stepped foundations. Where stepped foundations occur, the following requirements apply:

1. Where the height of a required braced wall panel that extends from foundation to floor above varies more than 4 feet (1220 mm), the braced wall panel shall be constructed in accordance with Figure R602.11.3.
2. Where the lowest floor framing rests directly on a sill bolted to a foundation not less than 8 feet (2440 mm) in length along a line of bracing, the line shall be considered as braced. The double plate of the cripple stud wall beyond the segment of footing that extends to the lowest framed floor shall be spliced by extending the upper top plate a minimum of 4 feet (1219 mm) along the foundation. Anchor bolts shall be located a maximum of 1 foot and 3 feet (305 and 914 mm) from each end of the plate section at the step in the foundation.
3. Where cripple walls occur between the top of the foundation and the lowest floor framing, the bracing requirements for a story shall apply.
4. Where only the bottom of the foundation is stepped and the lowest floor framing rests directly on a sill bolted to the foundations, the requirements of Section R602.11.1 shall apply.

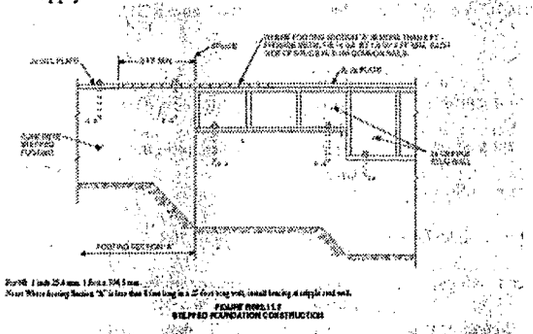


FIGURE R602.11.3
STEPPED FOUNDATION CONSTRUCTION

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SECTION R613

EXTERIOR WINDOWS AND GLASS DOORS

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[W] R613.4 Testing and labeling. Exterior windows and sliding doors shall be tested by an approved independent laboratory, and bear a label identifying manufacturer, performance characteristics and approved inspection agency to indicate compliance with AAMA/WDMA/CSA 101/I.S.2/A440. Exterior side-hinged doors shall be tested and labeled as conforming to AAMA/ WDMA/CSA 101/I.S.2/A440 or comply with Section R613.6.

Exceptions:

1. Decorative glazed openings.
2. Custom exterior windows and doors manufactured by a small business, are exempt from all testing requirements in Section R613 of the *International Residential Code* provided they meet the applicable provisions of Chapter 24 of the *International Building Code*.

R613.4.1 Comparative analysis. Structural wind load design pressures for window and door units smaller than the size tested in accordance with Section R613.4 shall be permitted to be higher than the design value of the tested unit provided such higher pressures are determined by accepted engineering analysis. All components of the small unit shall be the same as those of the tested unit. Where such calculated design pressures are used, they shall be validated by an additional test of the window or door unit having the highest allowable design pressure.

***

Section 7. The following section of Chapter 7 of the International Residential Code, 2006 Edition, is amended as follows:

SECTION R703

EXTERIOR COVERING

[W] R703.1 General. Exterior walls shall provide the building with a weather-resistant exterior wall envelope. The exterior wall envelope shall include flashing as described in Section R703.8. The exterior wall envelope shall be designed and constructed in a manner that prevents the accumulation of water within the wall assembly by providing a water-resistant barrier behind the exterior veneer as required by Section R703.2 and a means of draining water that enters the assembly to the exterior. Protection against condensation in the exterior wall assembly shall be provided in accordance with ((~~Chapter 11 of this code~~)) the Washington State Energy Code (chapter 51-11 WAC).

Exceptions:

1. A weather-resistant exterior wall envelope shall not be required over concrete or masonry walls designed in accordance with Chapter 6 and flashed according to Section R703.7 or R703.8.
2. Compliance with the requirements for a means of drainage, and the requirements of Section R703.2 and R703.8, shall not be required for an exterior wall envelope that has been demonstrated to resist wind-driven rain through testing of the exterior wall envelope, including joints, penetrations and intersections with dissimilar materials, in accordance with ASTM E 331 under the following conditions:

2.1 Exterior wall envelope test assemblies shall include at least one opening, one control joint, one wall/eave interface and one wall sill.[a] All tested openings and penetrations shall be representative of the intended end-use configuration.

2.2 Exterior wall envelope test assemblies shall be at least 4 feet (1219 mm) by 8 feet (2438 mm) in size.

2.3 Exterior wall assemblies shall be tested at a minimum differential pressure of 6.24 pounds per square foot (299 Pa).

2.4 Exterior wall envelope assemblies shall be subjected to a minimum test exposure duration of 2 hours.

The exterior wall envelope design shall be considered to resist wind-driven rain where the results of testing indicate that water did not penetrate: Control joints in the exterior wall envelope; joints at the perimeter of openings penetration; or intersections of terminations with dissimilar materials.

***

Section 8. The following section of Chapter 8 of the International Residential Code, 2006 Edition, is amended as follows:

((~~**R806.4 Conditioned attic assemblies.** Unvented conditioned attic assemblies (spaces between the ceiling joists of the top story and the roof rafters) are permitted under the following conditions:~~

~~1. No interior vapor retarders are installed on the ceiling side (attic floor) of the unvented attic assembly.~~

~~2. An air-impermeable insulation is applied in direct contact to the underside/interior of the structural roof deck. "Air-impermeable" shall be defined by ASTM E 283.~~

~~**Exception:** In Zones 2B and 3B, insulation is not required to be air impermeable.~~

~~3. In the warm humid locations as defined in Section N1101.2.1:~~

~~3.1. For asphalt roofing shingles: A 1-perm (5.7×10^{-11} kg/s · m^2 · Pa) or less vapor retarder (determined using Procedure B of ASTM E 96) is placed to the exterior of the structural roof deck; that is, just above the roof structural sheathing.~~

~~3.2. For wood shingles and shakes: a minimum continuous $^1/_4$ inch (6 mm) vented air space separates the shingles/shakes and the roofing felt placed over the structural sheathing.~~

~~4. In Zones 3 through 8 as defined in Section N1101.2, sufficient insulation is installed to maintain the monthly average temperature of the condensing surface above 45°F (7°C). The condensing surface is defined as either the structural roof deck or the interior surface of an air impermeable insulation applied in direct contact with the underside/interior of the structural roof deck. "Air impermeable" is quantitatively defined by ASTM E 283. For calculation purposes, an interior temperature of 68°F (20°C) is assumed. The exterior temperature is assumed to be the monthly average outside temperature.~~))

Section 9. The following section of Chapter 10 of the International Residential Code, 2006 Edition, is amended as follows:

SECTION R1004

FACTORY-BUILT FIREPLACES

R1004.1 General. Factory-built fireplaces shall be listed and labeled and shall be installed in accordance with the conditions of the listing. Factory-built fireplaces shall be tested in accordance with UL 127.

[W] R1004.1.1 Emission standards for factory-built fireplaces. After January 1, 1997, no new or used factory-built fireplace shall be installed in Washington state unless it is certified and labeled in accordance with procedures and criteria specified in the Washington State Building Code Standard 31-2.

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

[W] R1004.1.2 Emission standards for certified masonry and concrete fireplaces. After January 1, 1997, new certified masonry or concrete fireplaces installed in Washington state shall be tested and labeled in accordance with procedures and criteria specified in the Washington State Building Code Standard 31-2.

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

***

Section 10. The following section of Chapter 12 of the International Residential Code, 2006 Edition, is amended as follows:

SECTION R1201

GENERAL

[W] 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 2004 Edition of NFPA 58 (Liquefied Petroleum Gas Code) and the 2006 Edition of ANSI Z223.1/NFPA 54 (National Fuel Gas Code).

***

Section 11. The following sections of Chapter 20 of the International Residential Code, 2006 Edition, are amended as follows:

((~~**SECTION M2001**~~

~~**BOILERS**~~

~~**M2001.1 Installation.** In addition to the requirements of this code, the installation of boilers shall conform to the manufacturer's instructions. The manufacturer's rating data, the nameplate and operating instructions of a permanent type shall be attached to the boiler. Boilers shall have all controls set, adjusted and tested by the installer. A complete control diagram together with complete boiler operating instructions shall be furnished by the installer. Solid and liquid fuel-burning boilers shall be provided with combustion air as required by Chapter 17.~~

~~**M2001.1.1 Standards.** Oil-fired boilers and their control systems shall be listed and labeled in accordance with UL 726. Electric boilers and their control systems shall be listed in accordance with UL 834. Boilers shall be designed and constructed in accordance with the requirements of ASME CSD-1 and as applicable, the ASME *Boiler and Pressure Vessel Code*, Sections I and IV. Gas-fired boilers shall conform to the requirements listed in Chapter 24.~~

~~**M2001.2 Clearance.** Boilers shall be installed in accordance with their listing and label.~~

~~**M2001.3 Valves.** Every boiler or modular boiler shall have a shutoff valve in the supply and return piping. For multiple boiler or multiple modular boiler installations, each boiler or modular boiler shall have individual shutoff valves in the supply and return piping.~~

~~**Exception:** Shutoff valves are not required in a system having a single low-pressure steam boiler.~~

~~**M2001.4 Flood-resistant installation.** In areas prone to flooding as established in Table R301.2(1), boilers, water heaters and their control systems shall be located or installed in accordance with Section R323.1.5.~~

~~**SECTION M2002**~~

~~**OPERATING AND SAFETY CONTROLS**~~

~~**M2002.1 Safety controls.** Electrical and mechanical operating and safety controls for boilers shall be listed and labeled.~~

~~**M2002.2 Hot water boiler gauges.** Every hot water boiler shall have a pressure gauge and a temperature gauge, or combination pressure and temperature gauge. The gauges shall indicate the temperature and pressure within the normal range of the system's operation.~~

~~**M2002.3 Steam boiler gauges.** Every steam boiler shall have a water gauge glass and a pressure gauge. The pressure gauge shall indicate the pressure within the normal range of the system's operation. The gauge glass shall be installed so that the midpoint is at the normal water level.~~

~~**M2002.4 Pressure relief valve.** Boilers shall be equipped with pressure relief valves with minimum rated capacities for the equipment served. Pressure relief valves shall be set at the maximum rating of the boiler. Discharge shall be piped to drains by gravity to within 18 inches (457 mm) of the floor or to an open receptor.~~

~~**M2002.5 Boiler low-water cutoff.** All steam and hot water boilers shall be protected with a low-water cutoff control. The low-water cutoff shall automatically stop the combustion operation of the appliance when the water level drops below the lowest safe water level as established by the manufacturer.~~

~~**SECTION M2003**~~

~~**EXPANSION TANKS**~~

~~**M2003.1 General.** Hot water boilers shall be provided with expansion tanks. Nonpressurized expansion tanks shall be securely fastened to the structure or boiler and supported to carry twice the weight of the tank filled with water. Provisions shall be made for draining nonpressurized tanks without emptying the system.~~

~~**M2003.1.1 Pressurized expansion tanks.** Pressurized expansion tanks shall be consistent with the volume and capacity of the system. Tanks shall be capable of withstanding a hydrostatic test pressure of two and one-half times the allowable working pressure of the system.~~

~~**M2003.2 Minimum capacity.** The minimum capacity of expansion tanks shall be determined from Table M2003.2.~~

~~**TABLE M2003.2**~~
~~**EXPANSION TANK MINIMUM CAPACITY[a] FOR FORCED HOT WATER SYSTEMS**~~

~~SYSTEM VOLUME[b] (gallons)~~	~~PRESSURIZED DIAPHRAGM TYPE~~	~~NONPRESSURIZED TYPE~~
~~10~~	~~1.0~~	~~1.5~~
~~20~~	~~1.5~~	~~3.0~~
~~30~~	~~2.5~~	~~4.5~~
~~40~~	~~3.0~~	~~6.0~~
~~50~~	~~4.0~~	~~7.5~~
~~60~~	~~5.0~~	~~9.0~~
~~70~~	~~6.0~~	~~10.5~~
~~80~~	~~6.5~~	~~12.0~~
~~90~~	~~7.5~~	~~13.5~~
~~100~~	~~8.0~~	~~15.0~~

~~For SI: 1 gallon = 3.785 L, 1 pound per square inch gauge = 6.895 kPa, °C = [(°F) 32]/1.8.~~

~~[a] Based on average water temperature of 195°F, fill pressure of 12 psig and a maximum operating pressure of 30 psig.~~

~~[b] System volume includes volume of water in boiler, convectors and piping, not including the expansion tank.~~))

Section 12. Sections 2-27 of Ordinance 121521 and Sections 1-5 and 7-11 of Ordinance 122047 are repealed.

Section 13. The provisions of this ordinance are declared to be separate and severable. The invalidity of any clause, sentence, paragraph, subdivision, section or portion of this ordinance, or the invalidity of the application thereof to any person, owner, or circumstance shall not affect the validity of the remainder of this ordinance, or the validity of its application to other persons, owners, or circumstances.

Section 14. For a period of 60 days following the effective date of this ordinance, the Director may also accept and thereafter approve applications that are designed to comply with either the requirements of this Ordinance or the requirements of Ordinance 121521 as amended by Ordinance 122047.

Section 15. This ordinance shall take effect and be in force thirty (30) days from and after its approval by the Mayor, but if not approved and returned by the Mayor within ten (10) days after presentation, it shall take effect as provided by Municipal Code Section 1.04.020.

Passed by the City Council the 1st day of October, 2007, and signed by me in open session in authentication of its passage this 1st day of October, 2007.

NICK LICATA

President _____ of the City Council

Approved by me this 11th day of October, 2007.

Gregory J. Nickels, Mayor

Filed by me this 11th day of October, 2007.

JUDITH E. PIPPIN

City Clerk

Date of first publication in the Seattle Daily Journal of Commerce, October 19, 2007.

10/19 (216519)

108.6 Authority to condemn equipment. Whenever the code official determines that any equipment or portion thereof regulated by this code is hazardous to life, health or property, the code official shall order in writing that such equipment either be disconnected, removed or restored to a safe or sanitary condition, as appropriate. The written notice shall fix a date certain for compliance with such order. It is a violation for any person to use or maintain defective equipment after receiving such notice.

When any equipment or installation is to be disconnected, the code official shall give written notice of such disconnection and causes therefor within 24 hours to the serving utility, the owner and the occupant of the building, structure or premises. When any equipment is maintained in violation of this code, and in violation of a notice issued pursuant to the provisions of this section, the code official shall institute any appropriate action to prevent, restrain, correct or abate the violation.

108.7 Connection after order to disconnect. No person shall make connections from any energy, fuel or power supply nor supply energy or fuel to any equipment regulated by this code that has been disconnected or ordered to be disconnected by the code official, or the use of which has been ordered to be discontinued by the code official until the code official authorizes the reconnection and use of such equipment.

108.8 Liability. Nothing in this code is intended to be nor shall be construed to create or form the basis for any liability on the part of the City, or its officers, employees or agents, for any injury or damage resulting from the failure of equipment to conform to the provisions of this code, or by reason or as a consequence of any inspection, notice, order, certificate, permission or approval authorized or issued or done in connection with the implementation or enforcement of this code, or by reason of any action or inaction on the part of the City related in any manner to the enforcement of this code by its officers, employees or agents.

This code shall not be construed to lessen or relieve the responsibility of any person owning, operating or controlling any equipment, building or structure for any damages to persons or property caused by defects, nor shall the Department of Planning and Development or the City of Seattle be held to have assumed any such liability by reason of the inspections authorized by this code or any permits or certificates issued under this code.

108.9 Cooperation of other officials and officers. The code official may request, and shall before the code official is made pursuant to Section 112.3.

Nothing in this section limits or precludes any action or proceeding to enforce this chapter, and nothing obligates or requires the code official to issue a notice of violation prior to the imposition of civil or criminal penalties.

112.3 Review by the code official for notice of violation

112.3.1 Any person affected by a notice of violation issued pursuant to Section 112.2 may obtain a review of the notice by making a request in writing within ten days after service of the notice. When the last day of the period computed is a Saturday, Sunday, federal or City holiday, the period runs until 5:00 p.m. of the next business day.

The review shall occur not less than ten nor more than twenty days after the request is received by the code official unless otherwise agreed by the person requesting the review.

Any person aggrieved by or interested in the notice of violation may submit additional information to the code official.

112.3.2 The review shall be made by a representative of the code official who will review any additional information that is submitted and the basis for issuance of the notice of violation. The reviewer may request clarification of the information received and a site visit. After the review, the code official shall:

1. Sustain the notice; or
2. Withdraw the notice; or
3. Continue the review to a date certain; or
4. Amend the notice.

112.3.3 The code official shall issue an order containing the decision within 15 days of the date that the review is completed and shall cause the order to be mailed by regular first class mail to the persons requesting the review and the persons named on the notice of violation, addressed to their last known address.

112.4 Civil enforcement. Because civil actions to enforce Title 22 SMC are brought in Seattle Municipal Court pursuant to Section 112.5.2, orders of the code official issued under this chapter are not subject to judicial review pursuant to chapter 36.70C RCW.

112.5 Civil penalties.

112.5.1. Any person violating or failing to comply with the provisions of this code is subject to a cumulative civil penalty in an amount not to exceed $500 per day for each violation from the date the violation occurs or begins until compliance is achieved. In cases where the code official has issued a notice of violation, the violation will be deemed to begin, for purposes of determining the number of days of violation, on the date compliance is required by the notice of violation.

112.5.2. Civil actions to enforce this chapter shall be brought exclusively in Seattle Municipal Court, except as otherwise required by law or court rule. In any civil action for a penalty, the City has the burden of proving by a preponderance of the evidence that a violation exists or existed; the issuance of the notice of violation or of an order following a review by the Code official is not itself evidence that a violation exists.

112.6 Alternative criminal penalty. Anyone who violates or fails to comply with any order issued by the code official pursuant to this code or who removes, mutilates, destroys or conceals a notice issued or posted by the code official shall, upon conviction thereof, be punished by a fine of not more than $5000 or by imprisonment for not more than 365 days, or by both such fine and imprisonment. Each day's violation or failure to comply shall constitute a separate offense.

112.7 Additional relief. The code official may seek legal or equitable relief to enjoin any acts or practices and abate any condition when necessary to achieve compliance.

SECTION 113

RECORDING OF ORDERS AND NOTICES

113.1 Recording. The code official may record a copy of any order or notice with the Department of Records and Elections of King County. The code official may record with the Department of Records and Elections of King County a notice that a permit has expired without a final inspection after reasonable efforts have been made to provide a final inspection.

SECTION 114

RULES OF THE CODE OFFICIAL

114.1 Authority. The code official has authority to issue interpretations of this code and to adopt and enforce rules and regulations supplemental to this code as may be deemed necessary to clarify the application of the provisions of this code. Such interpretations, rules and regulations shall be in conformity with the intent and purpose of this code.

114.2 Procedure for adoption of rules. The code official shall promulgate, adopt and issue rules according to the procedures specified in the Administrative Code, Chapter 3.02 of the Seattle Municipal Code.

SECTION 115

CONSTRUCTION CODES ADVISORY BOARD

115.1 CCAB committee. A committee of the Construction Codes Advisory Board may examine proposed administrative rules, appeals and amendments relating to this code and related provisions of other codes and make recommendations to the code official and to the City Council for changes in this code. The committee will be called on as needed by the Construction Codes Advisory Board.

SECTION 116

PERMITS

116.1 Permits required. Except as otherwise specifically provided in this code, a permit shall be obtained from the code official prior to each installation, alteration, repair, replacement or remodel of any equipment or mechanical system regulated by this code. A separate mechanical permit is required for each separate building or structure.

116.2 Work exempt from permit.

116.2.1 Mechanical. A mechanical permit is not required for the work listed below.

1. Any portable heating appliance, portable ventilating equipment, or portable cooling unit, if the total capacity of these portable appliances does not exceed 40 percent of the cumulative heating, cooling or ventilating requirements of a building or dwelling unit and does not exceed 3 kW or 10,000 Btu input.
2. Any closed system of steam, hot or chilled water piping within heating or cooling equipment regulated by this code.
3. Minor work or the replacement of any component part of a mechanical system that does not alter its original approval and complies with other applicable requirements of this code.

116.2.2 Refrigeration. A mechanical permit is not required for the following refrigerant equipment:

1. Any self-contained refrigerating equipment for which an operating permit is not required.
2. Any self-contained refrigeration system that does not exceed three horsepower rating.


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