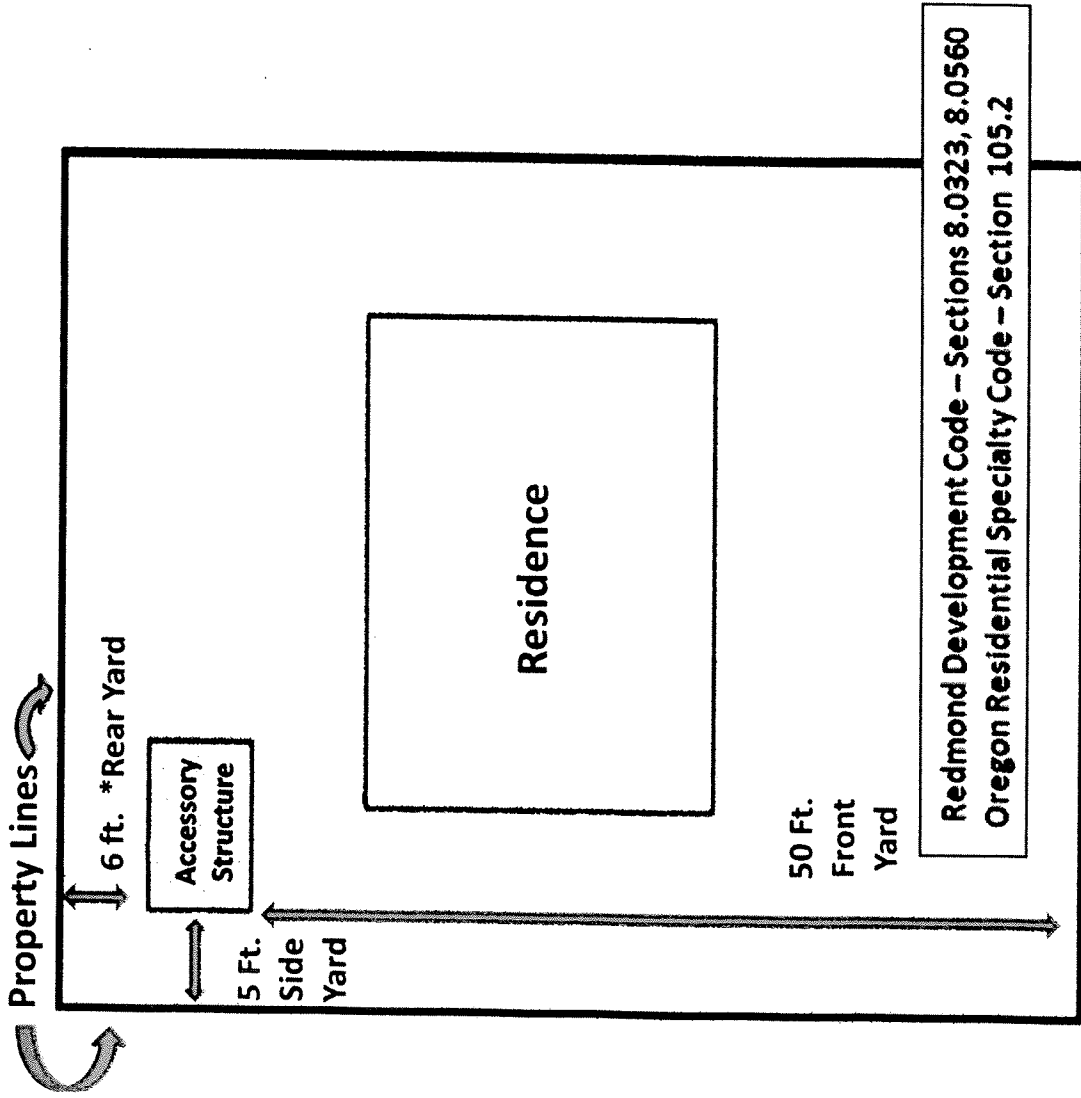


**City of Redmond  
Community Development Department**



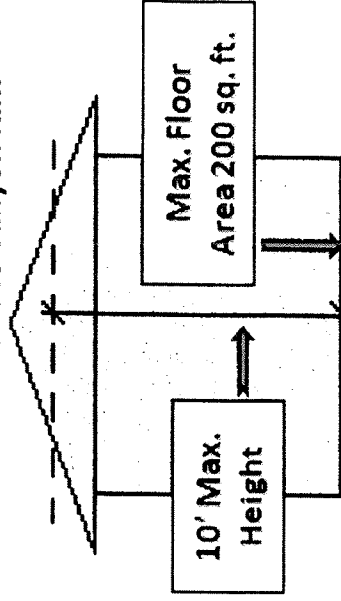
**Accessory Structure Location**

A building permit is not required if the accessory structure meets the size and height requirements shown below and is provided with not less than the minimum setbacks to the property lines as shown

The minimum setbacks apply for all structures whether anchored to a foundation or the movable type

**\*Note:** If the rear yard abuts an alley the minimum setback may be reduced to 5 feet

**-Contact the Planning Department for setbacks for the Canyon Rim**



10 foot maximum height measured from the finished floor to the average height of the roof and a maximum of 200 sq. ft. or less in size.

Structures exceeding either of these (2) measurements require a building permit

For more Info: Planning – (541) 923-7722  
Building – (541) 923-7721

**8.0560 Exception to Yard and Height Requirements for Detached Non-Habitable Accessory Buildings.** Detached accessory buildings shall be located not less than 50 feet from the front line and shall not project into the required side yard on the street side of a corner lot. Where no alley exists, accessory buildings shall be located not less than six feet from the rear lot line, but in no event may a structure encroach on a public utility easement. Where an alley does exist, accessory buildings shall be located not less than five feet from the rear lot line or alley. The following standards shall apply:

1. All such structures shall meet all clear vision standards.
2. All such structures shall not exceed a height of 30 feet.
3. Setbacks for garages and carports next to alleys shall be as follows:
  - A. 20' when garage door or carport opening faces the alley
  - B. 5' when garage door or carport opening does not face the alley

**8.0323 Minimum Standards for the Construction or Alteration of a Detached Accessory Structure (non-dwelling).**

1. The maximum lot coverage for any accessory structures requiring a building permit shall be no more than a total of 35% of the lot size. A Conditional Use Permit is required for the construction of any accessory structure or garage which is over 1,500 sq. ft. or over 80% of the size of the residence, whichever is less.
2. Any accessory structure other than the vehicular opening of a garage shall be set back at least 5 feet from any property line, except as otherwise required by clear vision.
3. Accessory structures requiring a building permit shall meet all solar requirements.
4. Detached accessory structures shall not be located in any required front or side yard setback.
5. Vehicle entrances into detached garages or carports shall be set back no less than 20' from any alley.

## CHAPTER 8 DEVELOPMENT REGULATIONS

### EXCEPTIONS

- 8.0550 Exception to Lot Size Requirements.** If a lot or the aggregate of contiguous lots or parcels platted prior to the effective date of these standards has an area or dimension which does not meet the requirements of these standards, the lot or aggregate holdings may be put to use permitted subject to the other requirements of the zone in which the property is located. Lots that are pre-existing in residential zones that are below the minimum size for a single family dwelling shall be limited to one single family dwelling per lot.
- 8.0555 Exception to Yard Requirements.** The Hearings Body may increase the yard requirement when a yard abuts a street which the City has designated for future widening. The Hearings Body may permit a lesser front yard requirement if structures on abutting lots do not meet the front yard requirements of the zone in which it is located.
- 8.0557 Exception to Building Setback Requirements.** Any parcel of land or portion thereof which is taken by or is dedicated to a public or semi-public entity for a road, canal, railroad, utility or other public use shall be exempt from the building setback requirements set forth by the Redmond Development Code standards when such dedication of land reduces a setback for an existing building or structure. Such setback shall be treated as a non-conforming setback by the City and shall be subject to those Code regulations and provisions that regulate non-conforming uses.
- 8.0560 Exception to Yard and Height Requirements for Detached Non-Habitable Accessory Buildings.** Detached accessory buildings shall be located not less than 50 feet from the front line and shall not project into the required side yard on the street side of a corner lot. Where no alley exists, accessory buildings shall be located not less than six feet from the rear lot line, but in no event may a structure encroach on a public utility easement. Where an alley does exist, accessory buildings shall be located not less than five feet from the rear lot line or alley. The following standards shall apply:
1. All such structures shall meet all clear vision standards.
  2. All such structures shall not exceed a height of 30 feet.
  3. Setbacks for garages and carports next to alleys shall be as follows:
    - A. 20' when garage door or carport opening faces the alley
    - B. 5' when garage door or carport opening does not face the alley
- 8.0565 Exception to Building Height Limitations.** Except for the aviation requirements set forth in Section 8.0230, the following types of structures or structural parts are not subject to the building height limitations prescribed in Sections 8.0100-8.0295: chimneys, church spires, belfries, domes, monuments, fire and hose towers, observation towers, flag poles, air traffic navigational equipment, cooling towers, elevator shafts and other similar projections. Prior to construction of these structures or structural parts, a site plan shall be required in accordance with Site & Design Review Standards unless exempted by Code, or at the discretion of the Community Development Director or Hearings Body.
- 8.0570 Divided Legal Lots and Parcels.** A single legal lot or parcel of record may be considered as a divided lot or parcel for the purposes of these standards if it is divided by a major irrigation canal, railroad, or major topographic feature, or by a city, county, state or federal road. No right-of-way width less than 50 feet shall constitute an



ture or premises unsafe, dangerous or hazardous, the *building official* or designee is authorized to enter the structure or premises at reasonable times to inspect or to perform the duties imposed by this code, provided that if such structure or premises be occupied that credentials be presented to the occupant and entry requested. If such structure or premises be unoccupied, the *building official* shall first make a reasonable effort to locate the owner or other person having charge or control of the structure or premises and request entry. If entry is refused, the *building official* shall have recourse to the remedies provided by law to secure entry.

**R104.7 Department records.** The *building official* shall keep official records, as dictated by OAR 166-150-0020 where a county has jurisdiction; OAR 166-200-0025 where a city has jurisdiction; and OAR 166 Division 300 et al for the cities and counties where the State of Oregon has jurisdiction. Such records shall be retained in the official records for the period indicated in the respective OARs noted above. The building official shall maintain a permanent record of all permits issued in flood hazard areas, including copies of inspection reports and certifications required in Section R109.1.3. (See also Section R106.5)

**R104.8 Liability.** Not adopted by the State of Oregon.

**R104.9 Approved materials and equipment.** Materials, equipment and devices approved by the *building official* shall be constructed and installed in accordance with such approval.

**R104.9.1 Used materials and equipment.** Used materials, equipment and devices shall not be reused unless approved by the *building official*.

**R104.10 Modifications.** Wherever there are practical difficulties involved in carrying out the provisions of this code, the *building official* shall have the authority to grant modifications for individual cases, upon application of the owner or owner's representative, provided the *building official* shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, life and fire safety or structural requirements. The details of action granting modifications shall be recorded and entered in the jurisdiction's files.

**R104.10.1 Areas prone to flooding.** (Adopted by the State of Oregon for optional use in municipalities.) The *building official* shall not grant modifications to any provision related to areas prone to flooding as established by the local jurisdiction without the granting of a variance to such provisions by the board of appeals.

**R104.11 Alternative materials, design and methods of construction and equipment.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the *building official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength,

effectiveness, fire resistance, durability and safety. Compliance with the specific performance-based provisions of the current editions of the *Oregon Specialty Codes* in lieu of specific requirements of this code shall also be permitted as an alternate. For the process governing alternate rulings acceptable statewide, see ORS 455.060.

ORS 455.060 is not part of this code but is reproduced here for the reader's convenience:

**455.060 Rulings on acceptability of material, design or method of construction; effect of approval; fees.**

(1) Any person who desires to use or furnish any material, design or method of construction or installation in the state, or any building official, may request the Director of the Department of Consumer and Business Services to issue a ruling with respect to the acceptability of any material, design or method of construction about which there is a question under any provision of the state building code. Requests shall be in writing and, if made by anyone other than a building official, shall be made and the ruling issued prior to the use or attempted use of such questioned material, design or method.

(2) In making rulings, the director shall obtain the approval of the appropriate advisory board as to technical and scientific facts and shall consider the standards and interpretations published by the body that promulgated any nationally recognized model code adopted as a specialty code of this state.

(3) A copy of the ruling issued by the director shall be certified to the person making the request. Additional copies shall be transmitted to all building officials in the state. The director shall keep a permanent record of all such rulings, and shall furnish copies thereof to any interested person upon payment of such fees as the director may prescribe.

(4) A building official or inspector shall approve the use of any material, design or method of construction approved by the director pursuant to this section if the requirements of all other local ordinances are satisfied.

**R104.11.1 Tests.** Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *building official* shall have the authority to require tests as evidence of compliance to be made at no expense to the *jurisdiction*. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the *building official* shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the *building official* for the period required for retention of public records.

## SECTION R105 PERMITS

**R105.1 Required.** A permit shall be obtained through application to the building official when constructing, enlarging, altering, repairing, moving or changing the occupancy, or installing any electrical, gas, mechanical or plumbing system regulated by this code. This requirement applies to an owner, contractor or authorized agent who constructs, enlarges, alters, repairs, moves, changes the occupancy of a building or structure; or for

the purpose of erecting, installing, enlarging, altering, repairing, converting or replacing any electrical, gas, mechanical or plumbing system..

**R105.2 Work exempt from permit.** Exemption from *permit* requirements of this code shall not be deemed to 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 this *jurisdiction*. *Permits* shall not be required for the following:

**Building:**

1. Nonhabitable one-story detached *accessory structures* used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 200 square feet (18.58 m<sup>2</sup>) and a height of 10 feet (3048 mm) measured from the finished floor level, to the average height of the roof surface.
2. Except for barriers around swimming pools as required in Appendix G, fences not over 6 feet (1829 mm) high.
3. Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge.
4. Water tanks supported directly upon *grade* if the capacity does not exceed 5,000 gallons (18 927 L) and the ratio of height to diameter or width does not exceed 2 to 1.
5. Concrete sidewalks, slabs, platforms and driveways.
6. Painting, papering, tiling, carpeting, cabinets, counter tops, interior wall, floor or ceiling covering and similar finish work.
7. Prefabricated swimming pools accessory to a Group R-3 occupancy where the pool walls are entirely above the adjacent grade. Barrier requirements found in Appendix G are not exempt.
8. Swings and other playground equipment.
9. Patio and porch covers not over 200 square feet (11 m<sup>2</sup>) and supported by an exterior building wall.
10. Window awnings supported by an exterior wall which do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support.
11. Nonbearing partitions, except when such partitions create habitable rooms.
12. Replacement or repair of siding not required to be fire-resistive.
13. Retrofitted insulation.
14. Masonry repair.
15. Porches and decks, where the floor or deck is not more than 30 inches (762 mm) above adjacent grade measured at any point within 3 feet (914 mm) horizontally of the floor or deck, and where in the case of a covered porch, the covered portion of the porch does not come closer than 3 feet (914 mm) to property lines.
16. Gutters and downspouts.

17. Door and window replacements (where no structural member is changed).
18. Re-roofing, where replacement or repair of roofing does not exceed 30 percent of the required live load design capacity and the roof is not required to be fire-resistive.

**Exceptions:**

1. Permits for re-roofing are required for structures in wildfire hazard zones as provided in Section R324; and
  2. Structures falling within the scope of Section R317.2.
  3. Permits for re-roofing are required where more than 15 percent of the existing space sheathing is removed to facilitate the installation of new sheathing.
19. Plastic glazed storm windows.
  20. Framed-covered nonhabitable accessory buildings not more than 500 square feet (46.45 m<sup>2</sup>) in area, one story in height and not closer than 3 feet (914 mm) to a property line, where the structure is composed of a rigid framework that supports a fabric membrane.

Unless otherwise exempted, separate plumbing, electrical and mechanical permits may be required for the above exempted items. In addition, all new construction and substantial improvements (including the placement of prefabricated buildings and certain building work exempt from permit under Section R105.2) shall be designed and constructed with methods, practices and materials that minimize flood damage in accordance with this code, FEMA regulations and ASCE 24.

**Electrical:**

1. *Listed* cord-and-plug connected temporary decorative lighting.
2. Minor repair work, including the replacement of lamps or the connection of *approved* portable electrical *equipment* to *approved* permanently installed receptacles.

**Mechanical:**

1. Portable heating appliances, cooking or clothes drying *appliances*.
2. Portable ventilation *appliances*.
3. Portable cooling units.
4. Steam, hot- or chilled-water piping within any heating or cooling *equipment* regulated by this code.
5. Replacement of any minor part that does not alter approval of *equipment* or make such *equipment* unsafe.
6. Portable evaporative coolers.
7. Self-contained refrigeration systems containing 10 pounds (4.54 kg) or less of refrigerant or that are actuated by motors of 1 horsepower (746 W) or less.

8. Portable-fuel-cell *appliances* that are not connected to a fixed piping system and are not interconnected to a power grid.

### || Plumbing:

The stopping of leaks in drains, water, soil, waste or vent pipe; provided, however, that if any concealed trap, drain-pipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work and a *permit* shall be obtained and inspection made as provided in this code.

The clearing of stoppages or the repairing of leaks in pipes, valves or fixtures, and the removal and reinstallation of water closets, provided such repairs do not involve or require the replacement or rearrangement of valves, pipes or fixtures.

**R105.2.1 Emergency repairs.** Where mechanical *equipment* replacements and repairs must be performed in an emergency situation, the *permit* application shall be submitted within the next working business day to the *building official*.

For electrical emergency repairs, see ORS 479.570 and OAR 918-309-0080. For plumbing emergency repairs, see OAR 918-780-0035 and 918-785-0200.

**Note:** ORS 479.570, OAR chapter 918, divisions 309, 780 and 785 are available online at [www.bcd.oregon.gov](http://www.bcd.oregon.gov).

**R105.2.1.1 Structural temporary repairs.** For temporary (180 days) structural supports, structural replacement or repairs performed in an emergency on an existing structure, the authority having jurisdiction shall be notified within 72 hours and permit application for the temporary work shall be submitted within the next 10 business days.

**R105.2.2 Repairs.** Application or notice to the *building official* is not required for ordinary repairs to structures, replacement of lamps or the connection of *approved* portable electrical *equipment* to *approved* permanently installed receptacles. Such repairs shall not include the cutting away of any wall, partition or portion thereof, the removal or cutting of any structural beam or load-bearing support, or the removal or change of any required means of egress, or rearrangement of parts of a structure affecting the egress requirements; nor shall ordinary repairs include *addition* to, *alteration* of, replacement or relocation of any water supply, sewer, drainage, drain leader, gas, soil, waste, vent or similar piping, electric wiring or mechanical or other work affecting public health or general safety.

**R105.2.3 Public service agencies.** A *permit* shall not be required for the installation, alteration or repair of generation, transmission, distribution, metering or other related *equipment* that is under the ownership and control of public service agencies by established right.

**R105.3 Application for permit.** To obtain a *permit*, the applicant shall first file an application therefor in writing on a form

furnished by the department of building safety for that purpose. 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, street address or similar description that will readily identify and definitely locate the proposed building or work.
3. Indicate the use and occupancy for which the proposed work is intended.
4. Be accompanied by *construction documents* and other information as required in Section R106.1.
5. State the valuation of the proposed work.
6. Be signed by the applicant or the applicant's authorized agent.
7. Give such other data and information as required by the *building official*.

**R105.3.1 Action on application.** The *building official* shall examine or cause to be examined applications for permits and amendments thereto within a reasonable time after filing. If the application or the *construction documents* do not conform to the requirements of pertinent laws, the *building official* shall reject such application in writing stating the reasons therefor. If the *building official* is satisfied that the proposed work conforms to the requirements of this code and laws and ordinances applicable thereto, the *building official* shall issue a *permit* therefor as soon as practicable.

**R105.3.1.1 Determination of substantially improved or substantially damaged existing buildings in flood hazard areas.** Adopted by the State of Oregon for optional use in municipalities. For applications for reconstruction, rehabilitation, *addition* or other improvement of existing buildings or structures located in an area prone to flooding as established by the local jurisdiction, the *building official* shall examine or cause to be examined the *construction documents* and shall prepare a finding with regard to the value of the proposed work. For buildings that have sustained damage of any origin, the value of the proposed work shall include the cost to repair the building or structure to its predamaged condition. If the *building official* finds that the value of proposed work equals or exceeds 50 percent of the market value of the building or structure before the damage has occurred or the improvement is started, the finding shall be provided to the board of appeals for a determination of substantial improvement or substantial damage. Applications determined by the board of appeals to constitute substantial improvement or substantial damage shall require all existing portions of the entire building or structure to meet the requirements of Section R322.

**R105.3.2 Time limitation of application.** An application for a *permit* for any proposed work shall be deemed to have been abandoned 180 days after the date of filing unless such application has been pursued in good faith or a *permit* has

been issued; except that the *building official* is authorized to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

**R105.4 Validity of permit.** The issuance or granting of a *permit* shall not be construed to be a *permit* for, or an *approval* of, any violation of any of the provisions of this code or of any other ordinance of the *jurisdiction*. Permits presuming to give authority to violate or cancel the provisions of this code or other ordinances of the *jurisdiction* shall not be valid. The issuance of a *permit* based on *construction documents* and other data shall not prevent the *building official* from requiring the correction of errors in the *construction documents* and other data. The *building official* is also authorized to prevent occupancy or use of a structure where in violation of this code or of any other ordinances of this *jurisdiction*.

**R105.5 Expiration.** Every *permit* issued shall become invalid unless the work authorized by such *permit* is commenced within 180 days after its issuance, or if the work authorized by such *permit* is suspended or abandoned for a period of 180 days after the time the work is commenced. The *building official* is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

**R105.6 Suspension or revocation.** The *building official* is authorized to suspend or revoke a *permit* issued under the provisions of this code wherever the *permit* is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

**R105.7 Placement of permit.** The building *permit* or copy thereof shall be kept on the site of the work until the completion of the project.

**R105.8 Responsibility.** It shall be the duty of every person who performs work for the installation or repair of building, structure, electrical, gas, mechanical or plumbing systems, for which this code is applicable, to comply with this code. It shall be the duty of every contractor who performs work or enters into contract for work to comply with adopted state and local rules and regulations concerning licensing.

**R105.9 Preliminary inspection.** Before issuing a *permit*, the *building official* is authorized to examine or cause to be examined buildings, structures and sites for which an application has been filed.

**SECTION R106  
CONSTRUCTION DOCUMENTS**

**R106.1 Submittal documents.** Submittal documents consisting of *construction documents*, and other data shall be submitted in two or more sets with each *permit* application. The *construction documents* shall be prepared by a registered *design professional* where required by the statutes of the *jurisdiction* in which the project is to be constructed. Where special conditions exist, the *building official* is authorized to require additional *construction documents* to be prepared by a registered *design professional*.

ORS 672.107 is not part of this code but is reproduced here for the reader's convenience:

**672.107 Structural engineer registration for performing engineering services on significant structures; rules.**

(1) For purposes of this section:

(a) "Significant structure" means:

- (A) Hazardous facilities and special occupancy structures, as defined in ORS 455.447;
- (B) Essential facilities, as defined in ORS 455.447, that have a ground area of more than 4,000 square feet or are more than 20 feet in height;
- (C) Structures that the Director of the Department of Consumer and Business Services determines to have irregular features; and
- (D) Buildings that are customarily occupied by human beings and are more than four stories or 45 feet above average ground level.

(b) "Significant structure" does not mean:

- (A) One-family and two-family dwellings and accompanying accessory structures;
- (B) Agricultural buildings or equine facilities, both as defined in ORS 455.315; or
- (C) Buildings located on lands exempt from Department of Consumer and Business Services enforcement of building code regulations.

(2) Consistent with ORS 672.255, the State Board of Examiners for Engineering and Land Surveying shall adopt rules establishing standards of competence in structural engineering analysis and design relating to seismic influence.

(3) An engineer may not provide engineering services for significant structures unless the engineer possesses a valid professional structural engineer certificate of registration issued by the board.

**Exceptions:**

1. The *building official* is authorized to waive the submission of *construction documents* and other data not required to be prepared by a registered *design professional* if it is found that the nature of the work applied for is such that reviewing of *construction documents* is not necessary to obtain compliance with this code.
2. Plans, calculations and specifications, diagrams and other data prepared and designed by an architect or an engineer licensed by the state to practice as such are not required for the following work, provided the building official determines that the work is not of a highly technical nature or there is unreasonable potential risk to life and/or safety of the structure:
  - 2.1. The erection, enlargement or alteration of any building, or any appurtenance thereto, where the resulting building has a ground area of 4,000 square feet (372 m<sup>2</sup>) or less and is not more than 20 feet (6096 mm) in height from the top surface of the lowest floor to the highest interior overhead finish (see ORS 671.030).
  - 2.2. A single-family dwelling, a farm agricultural building, nonfarm agricultural building, or accessory building to a single-family dwelling.



1503.3 Coping. Parapet walls shall be properly coped with noncombustible, weatherproof materials of a width no less than the thickness of the parapet wall.

1503.4 Roof ventilation. Intake and exhaust vents shall be provided in accordance with Section 1203.2 and the manufacturer's installation instructions.

**SECTION 1504  
ROOF DRAINAGE**

1504.1 General. When required by the building official, a drainage system which may include gutters, drains or necessary associated piping shall be installed. Roofs shall be sloped a minimum of 1 unit vertical in 48 units horizontal (2-percent slope) for drainage unless designed for water accumulation in accordance with Section 1611.2 and approved by the building official.

1504.2 Roof drains. Unless roofs are sloped to drain over roof edges, roof drains shall be installed at each low point of the roof.

Roof drains shall be sized and discharged in accordance with the *Plumbing Code*.

1504.3 Overflow drains and scuppers. Where roof drains are required, overflow drains having the same size as the roof drains shall be installed with the inlet flow line located 2 inches (51 mm) above the low point of the roof, or overflow scuppers having three times the size of the roof drains and having a minimum opening height of 4 inches (102 mm) may be installed in the adjacent parapet walls with the inlet flow line located 2 inches (51 mm) above the low point of the adjacent roof.

Overflow drains shall discharge to an approved location and shall not be connected to roof drain lines.

1504.4 Concealed piping. Roof drains and overflow drains, where concealed within the construction of the building, shall be installed in accordance with the *Plumbing Code*.

1504.5 Over public property. Roof drainage water from a building shall not be permitted to flow over public property.

Exception: Group R-3 and U occupancies.

**SECTION 1505  
PERFORMANCE REQUIREMENTS**

1505.1 Wind resistance of roofs. Roof decks and roof coverings shall be designed for wind loads in accordance with Chapter 16 and Sections 1505.2, 1505.3 and 1505.4.

1505.1.1 Wind resistance of asphalt shingles. Asphalt shingles shall be installed in accordance with Section 1508.2.7. For roofs located where the basic wind speed in accordance with Figure 1609 is 110 mph or greater, asphalt shingles shall be tested in accordance with ASTM D 3161, Class F. As an alternative, load and wind resistance of asphalt shingle roof coverings shall be determined in accordance with Section 1609.5.2.

1505.2 Wind resistance of clay and concrete tile. Clay and concrete tile roof coverings shall be connected to the roof deck in accordance with Chapter 16.

1505.2.1 Alternative test method. Testing the acceptability of special fastening methods using the methodology in this section is permitted. The wind-induced uplift force on the shingle shall be determined using the method in UL 2390. The resistance of the shingle to the uplift force shall be determined using ASTM D 6381. Shingles passing this test shall be considered suitable for roofs located where the basic wind speed per Figure 1609 is as given in Table 1505.2.1.

Classification requires that the resistance of the shingle to wind uplift, measured using the method in ASTM D 6381, exceed the calculated load imposed by wind in the applicable zone as determined using UL 2390.

Classification by this method applies to buildings less than 60 feet (18 288 mm) high and with Wind Exposures B and C only in an Occupancy Category of I or II. Wrappers of shingle bundles that have been qualified using this alternative method shall be labeled with the tested wind classification and reference UL 2390/ASTM D 6381.

**TABLE 1505.2.1  
ROOF COVERING CLASSIFICATION  
USING ALTERNATIVE METHOD**

MAXIMUM BASIC WIND SPEED (mph)	ASTM D 6381 CLASSIFICATION
90	Class D
120	Class G
150	Class H

For SI: 1 mile per hour = 0.447m/s.

1505.3 Wind resistance of nonballasted roofs. Roof coverings installed on roofs in accordance with Section 1508 that are mechanically attached or adhered to the roof deck shall be designed to resist the design wind load pressures for cladding in Chapter 16.

1505.3.1 Other roof systems. Roof systems with built-up, modified bitumen, fully adhered or mechanically attached single-ply through fastened metal panel roof systems, and other types of membrane roof coverings, shall also be tested in accordance with FM 4450, FM 4470, UL 580 or UL 1897.

1505.3.2 Metal panel roof systems. Metal panel roof systems through fastened or standing seam shall be tested in accordance with UL 580 or ASTM E 1592.

Exception: Metal roofs constructed of cold-formed steel, where the roof deck acts as the roof covering and provides both weather protection and support for structural loads, shall be permitted to be designed and tested in accordance with the applicable referenced structural design standard in Section 2209.1.

1505.4 Ballasted low-slope roof systems. Ballasted low-slope (roof slope < 2:12) single-ply roof system coverings installed in accordance with Section 1508 shall be designed in accordance with Section 1505.8 and ANSI/SPRI RP-4.

1505.5 Edge securement for low-slope roofs. Low-slope membrane roof system metal edge securement, except gutters, shall be designed and installed for wind loads in accordance with Chapter 16 and tested for resistance in accordance with ANSI/SPRI ES-1, except the basic wind speed shall be determined from Figure 1609.

**1101.6 Building Subdrains.** Building subdrains located below the public sewer level shall discharge into a sump or receiving tank, the contents of which shall be automatically lifted and discharged into the drainage system as required for building sumps.

**1101.7 Areaway Drains.** All open subsurface space adjacent to a building serving as an entrance to the basement or cellar of a building shall be provided with a drain or drains. Such areaway drains shall be two (2) inches (50 mm) minimum diameter for areaways not exceeding one hundred (100) square feet (9.3 m<sup>2</sup>) in area, and shall be discharged in the manner provided for subsoil drains not serving continuously flowing springs or groundwater (see Section 1101.5.2). Areaways in excess of one hundred (100) square feet (9.3 m<sup>2</sup>) shall not drain into subsoil. Areaway drains for areaways exceeding one hundred (100) square feet (9.3 m<sup>2</sup>) shall be sized according to Table 11-2.

**1101.8 Window Areaway Drains.** Window areaways not exceeding ten (10) square feet (0.9 m<sup>2</sup>) in area may discharge to the subsoil drains through a two (2) inch (50 mm) pipe. However, window areaways exceeding ten (10) square feet (0.9 m<sup>2</sup>) in area shall be handled in the manner provided for entrance areaways (see Section 1101.7).

**1101.9 Filling Stations and Motor Vehicle Washing Establishments.** Public filling stations and motor vehicle washing establishments shall have the paved area sloped toward sumps or gratings within the property lines. Curbs not less than six (6) inches (152 mm) high shall be placed where required to direct water to gratings or sumps.

**1101.10 Paved Areas.** Where the occupant creates surface water drainage, the sumps, gratings, or floor drains shall be piped to a storm drain or an approved water course.

**1101.11 Roof Drainage.**

**1101.11.1 Primary Roof Drainage.** Roof areas of a building shall be drained by roof drains or gutters. The location and sizing of drains and gutters shall be coordinated with the structural design and pitch of the roof. Unless otherwise required by the Authority Having Jurisdiction, roof drains, gutters, vertical conductors or leaders, and horizontal storm drains for primary drainage shall be sized based on a storm of sixty (60) minutes duration and 100-year return period.

**1101.11.2 Secondary Roof Drainage.**

**1101.11.2.1** Where parapet walls or other construction extends above the roof and creates areas where storm water would become trapped if the primary roof drainage

system failed to provide sufficient drainage, an independent secondary roof drainage system consisting of scuppers, standpipes, or roof drains shall be provided. Secondary roof drainage systems shall be sized in accordance with Section 1101.11.1 of this code. Overflow drains shall be the same size as the roof drains with the inlet flow line two (2) inches (51 mm) above the low point of the roof and shall be installed independent from the roof drains.

**1101.11.2.2** Where secondary roof drainage is provided by means of roof drains or standpipes, the secondary system shall be separate from the primary system and shall discharge independently at grade or other approved point of discharge.

**1101.11.2.3** Where secondary roof drainage is provided, the overflow level(s) into the secondary system shall be determined by the structural design of the roof, including roof deflection, at a level not less than two (2) inches (51 mm) above the level of the primary drain. An allowance shall be made to account for the required overflow head of water above the secondary inlets. The elevation of the secondary inlet plus the required overflow head shall not exceed the maximum allowable water level on the roof.

**1101.11.2.4** Scuppers shall be sized as rectangular weirs, using hydraulic principles to determine the required length and resulting overflow head. Secondary roof drains and standpipes shall be sized according to Table 11-1. Where standpipes are used, the head allowance required under Section 1101.11.2.3 shall be not less than one and one-half (1-1/2) inches (38 mm).

**1101.11.3 Equivalent Systems.** When approved by the Authority Having Jurisdiction, the requirements of Sections 1101.11.1 and 1101.11.2 shall not preclude the installation of an engineered roof drainage system that has sufficient capacity to prevent water from ponding on the roof in excess of that allowed in the roof structural design with a rainfall rate of at least twice that for a 100-year, 60-minute storm and with a blockage in any single point in the storm drainage system.

**1101.12 Cleanouts.**

**1101.12.1** Cleanouts for building storm drains shall comply with the requirements of Section 719.0 of this code.