



**ORDINANCE NO. 27890**

**Adopt and Amend the 2009 International Building, Residential, Existing Building, and Mechanical Codes; the 2009 Uniform Plumbing Code, and the 2009 Washington State Energy Code**

Passed: June 15, 2010

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## ORDINANCE \_\_\_\_\_

AN ORDINANCE to be known as the Building Code, regulating the erection, construction, enlargement, alteration, repair, moving, removal, conversion, demolition, occupancy, equipment, use, height, area, heating, ventilating, comfort cooling, refrigeration and maintenance of buildings, structures and related equipment and plumbing in the City of Tacoma; providing for the issuance of permits; providing penalties for violation; adopting by reference the International Building Code (IBC), the International Residential Code, the International Existing Building Code, the International Mechanical Code and the Uniform Plumbing Code together with amendments thereto.

BE IT ORDAINED BY THE CITY OF TACOMA:

**Section 1.** That Chapter 2.02 of the Tacoma Municipal Code is hereby repealed and a new chapter 2.02 is reenacted, to read as follows:

### *Amendments to the 2009 International Building Code*

#### **2.02.010 ADOPTION OF INTERNATIONAL BUILDING, RESIDENTIAL, AND EXISTING BUILDING CODES.**

The 2009 Edition of the International Building Code ("IBC"), the 2009 IBC Standards, the 2009 International Residential Code (IRC), along with IRC Appendices G and R (Note: Appendix R is in the State amendments and not in the 2009 IRC), and the 2009 International Existing Building Code (IEBC), along with Appendix A and Resources A in the 2009 IEBC, adopted and published by the International Code Conference, Inc., are hereby adopted by this reference, pursuant to the provisions of Section 35.21.180, Revised Code of Washington, as the official Building Code of the City of Tacoma, such adoption by reference, however, to be subject to the amendments to the 2009 International Building Code, the 2009 International Building Code Standards and the 2009 International Residential Code as adopted by the Washington State Building Code Council, as set forth in the Washington Administrative Code (WAC) 51-50, and the City of Tacoma amendments to the adopted 2009 International Building Code, the 2009 International Building Code Standards, and the 2009 International Residential Code, as those amendments are hereinafter set forth.

#### **2.02.020 TITLE.**

This chapter shall be known as the "Building Code," may be cited as such, and will be referred to herein as "this code." Where reference is made to International Building Code or IBC; or reference is made to the International Residential Code or IRC; or reference is made to the International Existing Building Code or IEBC; the reference shall mean the 2009 edition of each of these documents as amended and adopted by the City of Tacoma, unless specifically stated otherwise.

#### **2.02.030 INTERNATIONAL PLUMBING CODE**

All references to the International Plumbing Code shall be interpreted as meaning the 2009 Uniform Plumbing Code as adopted and amended by the City of Tacoma, or if the subject being addressed is not regulated by the Uniform Plumbing Code, then the code adopted and amended by the City of Tacoma, which regulates the subject being addressed.

**Insert Pages 5 through 8 before IBC Page 1**

**2.02.040 AMENDMENT BY DELETION FROM THE 2009 IBC.**

IBC Chapter 34 is hereby deleted and omitted from the adoption of the 2009 IBC as the official Building Code of the City of Tacoma as adopted by this chapter and us replaced by the adoption of the 2009 International Existing Building Code.

**2.02.050 GENERAL AMENDMENTS.**

The following numbered chapters, sections, and tables of the IBC, in this Chapter by reference adopted, are amended to read as hereinafter set forth, and include any amendments made to these sections by the Washington State Building Council as set forth in WAC 51-50, and, as so amended, shall supersede that section or table so numbered in the IBC and shall be a part of the official Building Code of the City of Tacoma. The chapters, sections, and tables so amended are as follows:

IBC Section 105.2	IBC Section 705.2	IBC Section 3202.3
IBC Section 106.3.4	IBC Table 705.8	Chapter 29
IBC Section 105.5	IBC Section 708.13.1	IBC Section 3202.5
IBC Section 112	IBC Section 708.14.2	IBC Section 3401.4
IBC Section 113	IBC Section 903.2.10.1.4	IBC Section 3406
IBC Section 116	IBC Section 1020.1.8	IBC Section 3408
IBC Section 403.12	IBC Section 1503.4	Addition of IBC Chapter 36
IBC Table 503	IBC Section 1608	Addition of IBC Chapter 37
IBC Section 504.2	IBC Section 1609.1	
IBC Section 509.2	IBC Section 2405.6	

**2.02.060 WASHINGTON STATE BUILDING CODE COUNCIL AMENDMENTS DELETED FROM THE CITY OF TACOMA ADOPTION OF THE 2009 INTERNATIONAL BUILDING CODE**

The following IBC sections have been amended by the Washington State Building Code Council; however, the City of Tacoma deletes, the Washington State Building Code Council Amendment, and adopts the IBC section as stated in the 2009 International Building Code or as the section is amended by the City of Tacoma by this chapter.

IBC Section 108.1	IBC Section 903.2.1.2	IBC Chapter 34 All State
IBC Section 407.4.3	IBC Section 3103.1	Amendments.
IBC Section 708.14.2		

**2.02.070 WASHINGTON STATE BUILDING CODE COUNCIL AMENDMENTS.**

The following sections have been amended by the Washington State Building Code Council in WAC 51-50, and are herein adopted by the City of Tacoma. The amendments to these sections are not included in this ordinance, but are adopted by reference

:

IBC Section 105.3.1	IBC Section 420.4	IBC Section 907.2.9
IBC Chapter 2	IBC Section 422	IBC Section 907.2.10
IBC Section 305.2	IBC Section 708.14.1	IBC Section 909.6.3
IBC Section 308.1	IBC Section 710.4	IBC Section 911.1.2
IBC Section 308.2	IBC Section 712.9	IBC Section 1007.1
IBC Section 308.3	IBC Section 715.4.8	IBC Section 1007.8
IBC Section 308.5.2	IBC Section 902	IBC Section 1008.1.9.3
IBC Section 310.1	IBC Section 903.2.1.6.	IBC Section 1008.1.9.6
IBC Section 310.2	IBC Section 903.2.3	IBC Section 1009.15
IBC Section 403.5.4	IBC Section 903.2.8	IBC Section 1010.1
	IBC Section 907.2.8	IBC Section 1014.2.2

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IBC Section 1018.5	IBC Section 1208.2	IBC Section 2107
IBC Section 1018.6	IBC Section 1208.3	IBC Section 2108
IBC Section 1101.2	IBC Section 1210.5	IBC Section 2111
IBC Section 1106	IBC Section 1403	IBC Section 2114IBC Section
IBC Section 1107.6	IBC Section 1405.6.2	2405.3
IBC Section 1203.1	IBC Section 1609.1.1	Chapter 29
IBC Section 1203.2	IBC Section 1702.1	IBC Section 3002.4
IBC Section 1203.4	IBC Section 1715.5	IBC Section 3004.3
IBC Section 1203.6	IBC Section 2104.1	IBC Section 3006.2
IBC Section 1204	IBC Section 2104.5	IBC Section 3108.1
	IBC Section 2104.6	IBC Section 3109

**2.02.080 AMENDMENT TO IBC SECTION 102.4 REFERENCED CODES AND STANDARDS**

**102.4 Referenced codes and standards.** The codes and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between the provisions of this code and the referenced standards, the provisions of this code shall apply.

**Exception:** Referenced National Fire Protection Association (NFPA) Standards 13, 13R, 13D, 14, 20, 24 and 25 shall be the most current published editions.

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**2.02.090 AMENDMENT TO IBC SECTION 105.2—WORK EXEMPT FROM PERMIT**

**105.2 Work exempt from permit.** Exemptions 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. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 120 square feet (11 m<sup>2</sup>).
2. Fences not over 6 feet (1829 mm) high.
3. Oil derricks.
4. Retaining walls which 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 or impounding Class I, II or III-A liquids. A Fence supported by a retaining wall shall be considered a surcharge.
5. Water tanks supported directly on grade if the capacity does not exceed 5,000 gallons (18,925 L) and the ratio of height to diameter or width does not exceed 2:1.
6. Sidewalks, driveways, and on grade concrete patios with an aggregate not exceeding 2,000 Sq. Ft. (185.81 sq-M)
7. Residential Decks not exceeding 200 square-feet (18.58 m<sup>2</sup>) in area that are not more than 30 inches (762 mm) above grade at any point and do not serve a required exit door.
8. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
9. Temporary motion picture, television and theater stage sets and scenery.
10. Prefabricated swimming pools accessory to a Group R-3 occupancy, as applicable in Section 101.2, which are less than 24 inches (610 mm) deep, do not exceed 5,000 gallons (18,925 L) and are installed entirely above ground.
11. Shade cloth structures constructed for nursery or agricultural purposes and not including service systems.
12. Swings and other playground equipment accessory to detached one- and two-family dwellings.
13. Window awnings supported by an exterior wall which do not project more than 54 inches (1372mm) from the exterior wall and do not require additional support of Group R-3 and Group U occupancies.
14. Non-fixed and movable cases, counters and partitions not over 5 feet 9 inches (1753 mm) in height.

**Electrical:** See TMC Chapter 2.04

**Gas:**

1. Portable heating appliance.
2. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.

**Mechanical:**

1. Portable heating appliance.
2. Portable ventilation equipment.
3. Portable cooling unit.

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4. Steam, hot or chilled water piping within any heating or cooling equipment regulated by this code.
5. Replacement of any part which does not alter its approval or make it unsafe.
6. Portable evaporative cooler.
7. Self-contained refrigeration system containing 10 pounds (4.54 kg) or less of refrigerant and actuated by motors of 1 horsepower (746 W) or less.

**Plumbing:**

1. 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.
2. 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.

**105.2.1 Emergency repairs.** Where 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.

**105.2.2 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 standpipe, 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.

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

**105.2.4 Public Works Projects and Department of Transportation Projects.** A permit shall not be required for the construction of roads, highways, freeways, and other structures related to such construction, including but not limited to grading, excavation, filling, paving, construction of bridges and pedestrian overpasses, drainage, power, water, and channelization, constructed by or under contract to the City of Tacoma Public Works Department, or the Washington State Department of Transportation.

**Exceptions:**

1. Buildings and other structures not normally include in road or highway construction shall require building, and other construction permits.
2. Road or in right-of-way construction caused by development on private property shall require permits as required for the type of work.
3. Work in the right-of-way undertaken as the responsibility of the owner of abutting property including but not limited to off-site improvements as required within Section 2.02.380.

**2.02.100 AMENDMENT OF IBC SECTION 105.5--EXPIRATION.**

Every permit issued by the Building Official under the provisions of this code shall expire by limitation and shall become null and void if the Building Official or his/her representative has not verified, by inspection, that the work authorized by such permit has not commenced within six months from the date of the issuance of the building permit. Once work has commenced, the permit shall expire and become null and void if a minimum of ten percent of the work authorized by the permit is not completed in each six-month period from the date of the start of the work authorized by the building permit, such progress being verified by inspection by the Building Official or his/her representative. In no case shall a permit remain valid for more than five years from the date of the issuance of the building permit. In the event that a permit expires and becomes null and void before such work can be recommenced, a new permit shall be obtained and the fee therefore shall be one-half the amount required for a new permit for such work, provided:

1. No changes have been made, or will be made, to the original plans and specifications for such work;
2. Such suspension or abandonment has not exceeded one year;
3. A new code has not been adopted within the period since the date of the permit;
4. The permit is less than five years old.

Otherwise, the full permit fee shall be charged to issue a new permit to replace an expired permit.

Any permittee holding an unexpired permit may apply for an extension of the time within which he/she may commence work or delay work under the permit if he/she is unable, for good and satisfactory reasons, to commence work or continue work within the time required for action by this section. The request for extension shall be made in writing to the Building Official prior to the expiration of the permit. The Building Official may extend the time for action by the permittee for a period not exceeding six months. Permits may be extended more than once at the discretion of the Building Official. No permit shall be extended past the five-year maximum limit from the date of issuance of the building permit.

**Insert Page 11 Facing IBC Page 4**

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**2.02.110 AN AMENDMENT TO IBC SECTION 107.3.4—DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.**

**107.3.4 Design professional in responsible charge.**

**107.3.4.1 Design Professional.** For the purposes of this code, Design Professional shall mean a Washington State Licensed Architect governed by the Washington State Board of Registration for Architects, or a Washington State Licensed Engineer governed by the Washington State Board of Registration for Professional Engineers and Land Surveyors.

**107.3.4.2 General.** When it is required that documents be prepared by a registered design professional, the building official shall be authorized to require the owner to engage and designate on the building permit application a registered design professional who shall act as the registered design professional in responsible charge. If the circumstances require, the owner shall designate a substitute registered design professional in responsible charge who shall perform the duties required of the original registered design professional in responsible charge. The building official shall be notified in writing by the owner if the registered design professional in responsible charge is changed or is unable to continue to perform the duties.

The registered design professional in responsible charge shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building.

**107.3.4.3 Deferred submittals.** For the purposes of this section, deferred submittals are defined as those portions of the design that are not submitted at the time of the application and that are to be submitted to the building official within a specified period.

Deferral of any submittal items shall have the prior approval of the building official. The registered design professional in responsible charge shall list the deferred submittals on the construction documents for review by the building official.

Documents for deferred submittal items shall be submitted to the registered design professional in responsible charge who shall review them and forward them to the building official with a notation indicating that the deferred submittal documents have been reviewed and been found to be in general conformance to the design of the building. The deferred submittal items shall not be installed until the design and submittal documents have been approved by the building official.

**2.02.120 AMENDMENT TO IBC SECTION 107 BY ADDING A SUBSECTION 107.6— EXPIRATION OF PLAN APPROVAL OR ABANDONMENT OF APPLICATION**

**107.6 Expiration of plan approval or abandonment of application for permit.**

**107.6.1 Expiration of Plan Approval.** Once the plans have been approved and the permit is ready to be issued, the contact person listed on the application shall be notified by telephone, e-mail, or regular first class mail. The approval of plans shall expire 180 calendar days from the date that the contact person was notified that the permit was ready. The review may be extended 180 calendar days provided the contact person or another authorized person requests the extension prior to the expiration of the plan approval in writing to the Building Official. For good and sufficient reason, the approval of plans may be extended more than once for additional blocks of 180 calendar days provided a request for extension is filed with the Building Official prior to the expiration of the approval, and provided the codes under which the permit was originally approved have not changed since the plans were approved. Approval of plans shall not be extended beyond two years from the date of notification.

**Insert Page 13 facing IBC Page 6**

**107.6.2 Abandonment of application for permit.** In the event an applicant for a permit is non-responsive to requests for additional information during the plan review for greater than 90 calendar days the application for permit shall expire and the contact person shall be notified in accordance with IBC section 107.6.3. The application may be kept active by notifying the Plans Examiner of record in writing that the application should remain active prior to the expiration of the application. No application for permit shall be allowed to remain active after one year of non-response or inactivity by the applicant.

**107.6.3 Notification.** When the approval of plans or the application for permit expires the contact person shall be notified in writing that the review and approval or application has expired, and that the plans need to be retrieved from the permit counter within 30 calendar days or the plans may be destroyed.

**2.02. 130 AMENDMENT TO SECTION 111—CERTIFICATE OF OCCUPANCY OR COMPLETION**

**111.1 Use and occupancy.** No building or structure shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made until the building official has issued a certificate of occupancy or a certificate of completion, as appropriate for the building or structure. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction.

**Exception:** Certificates of occupancy are not required for work exempt from permits under Section 105.2

**111.2 Certificate issued.** After the building official inspects the building or structure and finds no violations of the provisions of this code or other laws that are enforced by the department of building safety, the building official shall issue a certificate of occupancy or completion that contains the following as applicable to the project:

1. The building permit number.
2. The address of the structure.
3. The name and address of the owner.
4. A description of that portion of the structure for which the certificate is issued.
5. A statement that the described portion of the structure has been inspected for compliance with the requirements of this code for the occupancy and division of occupancy and the use for which the proposed occupancy is classified.
6. The name of the building official.
7. The edition of the code under which the permit was issued.
8. The use and occupancy, in accordance with the provisions of Chapter 3.
9. The type of construction as defined in Chapter 6.
10. The design occupant load, for buildings with assembly or meeting rooms with an occupant load in excess of fifty.
11. If an automatic sprinkler system is provided, whether the sprinkler system is required, and what type of system is being provided.
12. Any special stipulations and conditions of the building permit.

**111.3 Temporary occupancy.** The building official is authorized to issue a temporary certificate of occupancy or certificate of completion before the completion of the entire work covered by the permit, provided that such portion or portions shall be occupied or used safely. The building official shall set a time period during which the temporary certificate of occupancy is valid.

**111.4 Revocation.** The building official is authorized to, in writing, suspend or revoke a certificate of occupancy or completion issued under the provisions of this code wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.

**Insert Page 15 to 18 facing IBC Page 8**

**2.02.140 AMENDMENT TO SECTION 113—BOARD OF APPEALS**

**Section 113 in the 2009 International Building Code shall be replaced in its entirety with the following:**

**113.1. The Board of Building Appeals.** The Board of Building Appeals, as created by TMC 2.17, is the properly designated board of appeals for the IBC, as adopted by the City of Tacoma and the State of Washington. The Board of Building Appeals, within the authority granted it by TMC 2.17, shall:

1. Hear appeals properly filed in accordance with TMC 2.17 from interpretations made by the Building Official.
2. Upon a properly filed request, in accordance with TMC 2.17, determine the suitability of alternate materials and/or methods of construction to those specified within the Codes assigned to the Board's authority.

**113.2. Limitations of Authority.** The Board of Building Appeals shall have no authority relative to interpretation of the administrative provisions to the codes assigned to the Board's authority, nor shall the Board be empowered to waive requirements of these codes or to grant variances, unless specifically granted in TMC Chapter 2.17.

**2.02.150 AN AMENDMENT TO IBC SECTION 114 VIOLATIONS**

**114.1 Unlawful acts.** It shall be unlawful for any person, firm, corporation, or other legal entity to erect, construct, alter, extend, repair, move, remove, demolish or occupy any building, structure or equipment regulated by this chapter or by the codes adopted and amended by TMC Title 2, or cause same to be done, in conflict with or in violation of any of the provisions of these codes.

**114.2 Notice of violation and Civil Penalties.** Any person who violates any of the provisions of this code, or any other code which references section 2.02.150, in the discretion of the Building Official may be assessed monetary penalties upon determination that a violation exists.

**114.3. Notice of Violation.** The notice of violation will be one of the following:

- 114.3.1 Prepared and sent by first-class mail to owner of the property, or to the owners legal representative and to the person in control of the property, if different from the owner or a legal representative; or
- 114.3.2 Personally served upon the Owner of the property, or to the owners legal agent and to the person in control of the property, if different from the owner or a legal representative; or
- 114.3.3 Posting of a Notice of Violation, such as a Stop Work Order or a Correction Notice, on the property in a conspicuous manner which is likely to be discovered.

**114.4. Notice of Violation content.** The Notice of Violation shall contain the following:

- 114.4.1 The address of the site and the specific details of the condition(s) which is (are) to be corrected;
- 114.4.2 A specified timeframe for correcting the violation or submitting an acceptable work schedule.
- 114.4.3 The citation penalties that may be imposed in the event that the condition is not corrected within the timeframe indicated on the Notice of Violation;
- 114.4.4 The procedure that may be implemented if civil penalties in excess of \$1,000.00 are assessed in trying to correct the violation(s); and
- 114.4.5 The name, address and telephone number of the regulatory agency and the inspector issuing the Notice of Violation.

**114.5 Penalties.** At the end of the specified timeframe, the site will be reinspected to see if the violation has been corrected in accordance with instructions on the Notice of Violation. If the violation has been corrected the inspection will be recorded as having been passed, or the case closed as appropriate. If the violation has not been corrected a second



Notice of Violation will be issued and a civil penalty of \$250.00 may be assessed. The monetary penalties for violations shall be as follows:

114.5.1 First and subsequent civil penalties \$250.00;

114.5.3 Civil penalties will continue to accumulate until the violation is corrected, or, if the total assessed penalty exceeds \$1000.00, a Certificate of Complaint may be filed with the Pierce County Auditor to be attached to the title of the property. A copy of the Certificate of Complaint shall be sent to the Property Owner and parties of interest, if different from the owner.

**114.6** Each day that a property or person is not in compliance with the provisions of this code may constitute a separate violation.

Penalties shall be billed to the property owner or, if appropriate, the permit holder. Penalties unpaid after 60 calendar days may be collected in any lawful means, including but not limited to, referral to a collection agency.

#### **114.7 Administrative Reviews by the Building Official**

**114.7.1 General.** A person, firm, corporation or other legal entity to whom a Notice of Violation or a civil penalty has been issued relative to the violation of this chapter and the codes adopted and amended by this chapter, may request an administrative review of the violation(s) cited in the Notice of Violation or for the civil penalties assessed pursuant to enforcement.

**114.7.2. How to request administrative review.** A person, firm, or corporation may request an administrative review of the violation(s) being cited in the Notice of Violation or of a civil penalty assessed by filing a written request with the Building Official, sent to the attention of the contact listed within the Notice of Violation, within seven calendar days of the notification date of violation(s) or the date a civil penalty is assessed. The request shall state, in writing, the reasons the Building Official should consider the violation(s) cited in the Notice of Violation as not being violations of TMC Title 2 or the codes and amendments adopted by TMC Title 2 by reference, or why the Building Official should negate or reduce the civil penalty. Failure to state the basis for the review in writing shall be cause for dismissal of the review. Upon receipt of the request for administrative review, the Building Official shall review the information provided.

**114.7.3 Decision of Building Official.** After considering all of the information provided, the Building Official shall determine whether a violation has occurred, and shall affirm, vacate, suspend, or modify the Notice of Violation or the amount of any monetary penalty assessed. The Building Official's decision shall be delivered in writing to the appellant by first class mail. If the administrative review is for the violation, the Building Official's decision shall include an official interpretation of the code sections for which the Notice of Violation was issued.

**114.8 Appeals of the administrative review by the Building Official.** The official interpretation of the code provisions, cited as being the basis for the Notice of Violation being issued, made in the administrative review decision by the Building Official shall be appealed directly to the Board of Building Appeals, in accordance with the provisions of TMC Chapter 2.17. Said appeal shall be filed within seven calendar days of receipt of the Building Official's decision, with the secretary of the Board of Building Appeals and with the City Clerk. If such an appeal is successful any civil penalties that may have been assessed will be withdrawn.

If the interpretation of the sections that were the basis for the Notice of Violation being issued are not being contested, but the issuance of a civil penalty or the amount of the civil penalty is being appealed, then the appeal shall be filed within seven calendar days of the date of notification with the City Clerk to be heard by the Hearing Officer. The Hearing Officer and the proceedings in regard to appeals filed under this section shall be defined and conducted in accordance with the requirements of TMC Chapter 8.30. The Hearing Officer shall issue a Findings of Fact and Order, based on the hearing, in writing, delivered to the appellant by first class mail.

**114.9 Alternate Criminal Penalty** Any person who violates or fails to comply with any of the provisions referenced in TMC Title 2 and the codes adopted by reference and amended within TMC Title 2 or any other code which references TMC section 2.02.150 may be guilty of a misdemeanor and upon conviction thereof may be

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subject to a fine in an amount not exceeding \$1000 or subject to imprisonment in jail of not more than 180 days or both a fine and imprisonment. Each day a person or entity violates or fails to comply with a provision referenced in TMC Title 2 and the codes adopted and amended within Title 2.02 may be considered a separate violation.

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**2.02. 160 AMENDMENT TO IBC SECTION 403.5.3.2—STAIRWAY DOOR OPERATION**

**403.5.3.2 Stairway door operation.** See Section 2.02.280 City of Tacoma Amendment to Section 1020 by Addition of a new subsection 1020.1.8—Re-Entry Requirements.

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2.02. 170 AMENDMENT TO TABLE 503--ALLOWABLE HEIGHT AND BUILDING AREAS

**TABLE 503**  
**ALLOWABLE HEIGHT AND BUILDING AREAS<sup>a</sup>**  
 Height limitations shown as stories and feet above grade plane.  
 Area limitations as determined by the definition of "Area, building", per story

GROUP	Height(feet)	TYPE OF CONSTRUCTION									
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V		
		A	B	A	B	A	B	HT	A	B	
		UL	160	65	55	65	55	65	50	40	
		STORIES (S)									
		AREA (A)									
A-1	S	UL	5	3	2	3	2	3	2	1	
	A	UL	UL	15,500	8,500	14,000	8,500	15,000	11,500	5,500	
A-2	S	UL	11	3	2	3	2	3	2	1	
	A	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000	
A-3	S	UL	11	3	2	3	2	3	2	1	
	A	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000	
A-4	S	UL	11	3	2	3	2	3	2	1	
	A	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000	
A-5	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	
	A	UL	UL	UL	UL	UL	UL	UL	UL	UL	
B	S	UL	11	5	3 <sup>f</sup>	5	3 <sup>f</sup>	5	3 <sup>e</sup>	2	
	A	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000	
E	S	UL	5	3	2	3	2	3	1	1	
	A	UL	UL	26,500	14,500	23,500	14,500	25,500	18,000	9,500	
F-1	S	UL	11	4	2	3	2	4	2	1	
	A	UL	UL	25,000	15,500	19,000	12,000	33,500	14,000	8,500	
F-2	S	UL	11	5	3 <sup>f</sup>	4	3 <sup>f</sup>	5	3	2	
	A	UL	UL	37,500	23,000	28,500	18,000	10,500	21,000	13,000	
H-1	S	1	1	1	1	1	1	1	1	NP	
	A	21,000	16,500	11,000	7,000	9,500	7,000	10,500	7,500	NP	
H-2 <sup>d</sup>	S	UL	3	2	1	2	1	2	1	1	
	A	21,000	16,500	11,000	7,000	9,500	7,000	10,500	7,500	3,000	
H-3 <sup>d</sup>	S	UL	6	4	2	4	2	4	2	1	
	A	UL	60,000	26,500	14,000	17,500	13,000	25,500	10,000	5,000	
H-4	S	UL	7	5	3	5	3	5	3	2	
	A	UL	UL	37,500	17,500	28,500	17,500	36,000	18,000	6,500	
H-5	S	4	4	3	3	3	3	3	3	2	
	A	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000	
I-1	S	UL	9	4	3 <sup>f</sup>	4	3 <sup>f</sup>	4	3	2	
	A	UL	55,000	19,000	10,000	16,500	10,000	18,000	10,500	4,500	
I-2	S	UL	4	2	1	1	NP	1	1	NP	
	A	UL	UL	15,000	11,000	12,000	NP	12,000	9,500	NP	
I-3	S	UL	4	2	1	2	1	2	2	1	
	A	UL	UL	15,000	10,000	10,500	7,500	12,000	7,500	5,000	
I-4	S	UL	5	3	2	3	2	3	1	1	
	A	UL	60,500	26,500	13,000	23,500	13,000	25,500	18,500	9,000	
M	S	UL	11	4	2	4	2	4	3 <sup>e</sup>	1	
	A	UL	UL	24,000	12,500	18,500	12,500	20,500	14,000	9,000	
R-1	S	UL	11	4	4 <sup>f</sup>	4	4 <sup>f</sup>	4	3 <sup>e</sup>	2	
	A	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000	
R-2	S	UL	11	4	4 <sup>f</sup>	4	4 <sup>f</sup>	4	3 <sup>e</sup>	2	
	A	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000	
R-3	S	UL	11	4	4	4	4	4	3	3	
	A	UL	UL	UL	UL	UL	UL	UL	UL	UL	
S-1	S	UL	11	4	2	3	2	4	3	1	
	A	UL	48,000	26,000	17,500	26,000	17,500	25,500	14,000	9,000	
S-2 <sup>b,c</sup>	S	UL	11	5	3 <sup>f</sup>	4	3 <sup>f</sup>	5	4	2	
	A	UL	79,000	39,000	26,000	39,000	26,000	38,500	21,000	13,500	
U <sup>c</sup>	S	UL	5	4	2	3	2	4	2	1	
	A	UL	35,500	19,000	8,500	14,000	8,500	18,000	9,000	5,500	

For SI: 1 foot = 305 mm, 1 square-foot = 0.0929 m<sup>2</sup>  
 A = building area per story. S = stories above grade plane, UL = Unlimited, NP = Not Permitted

See Footnotes to this table on the next page.

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- a. See the following sections for general exceptions to Table 503.
  - 1. Section 504.2, Allowable height increase due to automatic sprinkler system installation.
  - 2. Section 506.2, Allowable area increase due to street frontage.
  - 3. Section 506.3, Allowable area increase due to automatic sprinkler system installation.
  - 4. Section 507, Unlimited area buildings.
- b. For open parking structures, see Section 406.3
- c. For private garages, see Section 406.1
- d. See Section 415.5 for limitations
- e. See Tacoma Amendment to Section 504.2
- f. An automatic fire sprinkler system conforming to section 903.3.1.1 shall be provided throughout the building when the building is more than two stories in height.

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**2.02. 180 AMENDMENT TO SECTION 504.2—AUTOMATIC SPRINKLER SYSTEM INCREASE**

**504.2 Automatic sprinkler System increase.** Where a building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, the value specified in Table 503 for maximum height is increased by 20 feet (6096 mm) and the maximum number of stories is increased by one story. These increases are permitted in addition to the area increase in accordance with Sections 506.2 and 506.3. For Group R buildings protected throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.2, the value specified in Table 503 for maximum height is increased by 20 feet (6096 mm) and the maximum number of stories is increased by one story, but shall not exceed four stories or 60 feet (18 288 mm), respectively.

**Exceptions:**

1. Buildings or portions of buildings, classified as a Group I-2 of Type IIB, III, IV or V construction.
2. Buildings or portions of buildings, classified as a Group H-1, H-2, H-3 or H-5.
3. Fire-resistance rating substitution in accordance with Table 601, Note d.
4. For Group R, Group B, and or Group M Occupancies in buildings constructed of Type VA construction the number of stories may be increased by a maximum of two stories provided:
  - 4.1 The building is sprinklered in accordance with Section 903.3.1.1 of this code, with quick response sprinkler heads installed.
  - 4.2 The height in feet for the type VA construction may be increased to 65 feet, which if constructed over type IA construction in accordance with the provisions of section 509.2 may be measured from the three-hour fire resistive horizontal assembly, separating the type IA construction from the type VA construction, provided the elevation of the finished floor of the highest occupied floor (Or occupied roof) does not exceed 75 feet above the elevation of the lowest Fire Department Access to the building.
  - 4.3 Vertical Exit enclosures shall be constructed as smokeproof enclosures or pressurized stair enclosures in accordance with Section 909.20.
  - 4.4 For the purposes of this exception, standby power shall be provided for all exit enclosure pressurization systems used to meet subsection 4.3 above and shall be installed in accordance with sections 403.4.7 and 909.20.6.2, and the National Electric Code as adopted and amended by the City of Tacoma. Connection ahead of the main service disconnect switch shall be permitted for the standby power when standby power is not otherwise required to be provided by a generator.
  - 4.5 Emergency power systems shall be provided in accordance with section 403.4.8
  - 4.6 Walls separating dwelling units or sleeping units, and corridor walls in Group B and Group R, Divisions 1 and 2 Occupancies shall be constructed as 1-hour fire-resistance rated construction as provided in IBC Section 708. Reduction of the fire resistance rating is not permitted.
  - 4.7 All Exterior walls, including those with a fire separation distance of more than 5 feet, shall be of not less than 1-hour fire-resistive rated construction for fire exposure from both the interior and exterior sides of the walls.
  - 4.8 Structural observation is provided during construction in accordance with Sections 1702 and 1709.1 with special attention to wood shrinkage.



**2.02.190 AMENDMENT TO SECTION 509.2 HORIZONTAL BUILDING SEPARATION ALLOWANCE**

**509.2 Horizontal building separation allowance** A building shall be considered to be divided into two separate and distinct buildings for the purpose of determining area limitations, continuity of firewalls, limitation of number of stories and type of construction, when all of the following conditions are met:

1. The buildings are separated with a horizontal assembly having a minimum 3-hour fire-resistance rating.
2. The building below the horizontal assembly is of Type IA construction.
3. The number of basements and stories below the 3-hour fire resistive horizontal assembly shall not be limited, provided the overall height restrictions for the entire building structure above and below the 3-hour fire resistive horizontal assembly comply with item 8 below, and entire building above and below the 3-hour fire resistive horizontal exit are provided with an automatic fire sprinkler system complying with IBC Section 903.3.1.1 with quick response or other sprinkler heads, approved by the Building Official..
4. Shaft, stairway, ramp or escalator enclosures through the horizontal assembly shall have not less than a 2-hour fire-resistance rating with opening protectives in accordance with Section 715.4.
5. Vertical Exit enclosures shall be smokeproof enclosures if the stair enclosures above the three hour occupancy separation are in type-VA construction exceed 4 stories above the three hour occupancy separation or by the high-rise provisions in IBC section 403.

**Exception:** Where the enclosure walls below the 3-hour fire resistive horizontal assembly have not less than a 3-hour fire-resistance rating with opening protectives in accordance with Table 715.4, the enclosure walls extending above the 3-hour fire resistive horizontal assembly shall be permitted to have a 1-hour fire-resistance rating provided:

1. The building above is not required to be of Type I construction; and
  2. The enclosure connects less than four stories, and
  3. The enclosure opening protectives above the 3-hour fire resistive horizontal assembly has a minimum 1-hour fire protection rating.
6. The building above the 3-hour fire resistive rated horizontal assembly shall be permitted to have multiple Groups A occupancy uses, each with an occupant load of less than 300, and/or Group B, M, R, and/or Group S occupancies.
  7. The building below the 3-hour fire resistive horizontal assembly shall be protected throughout by an approved automatic sprinkler system in accordance with Section 903.3.1.1 and shall be permitted any of the following occupancies:
    - 7.1 Group S-2 parking garage used for the parking and storage of private motor vehicles;
    - 7.2 Multiple Group A, each with an occupant load of less than 300;
    - 7.3 Group B;
    - 7.4 Group M;
    - 7.5 Group R; and
    - 7.6 Uses incidental to the operation of the building (including entry lobbies, mechanical rooms, storage areas and similar uses).

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8. The maximum building height in feet shall not exceed 65 feet in height measured from the top of the 3 hour fire-resistive separation, and that the finish floor level of the highest occupied floor shall not exceed 75 feet above the lowest fire department access to the building, whichever provides the lesser height.

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**2.02.200 AMENDMENT TO IBC SECTION 705.2 – PROJECTIONS**

705.2 Projections. Cornices, eave overhangs, exterior balconies and similar projections extending beyond the exterior wall shall conform to the requirements of this section and Section 1406. Exterior egress balconies and exterior exit stairways shall also comply with Sections 1019 and 1026, respectively. Projections shall not extend beyond the distance set forth in IBC Table 705.8 as amended by TMC Section 2.02.210.

Buildings on the same lot and considered as portions of one building in accordance with Section 705.3 are not required to comply with this section.

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2.02.210 AMENDMENT TO IBC TABLE 705.8 – OPENING PROTECTION AND PROJECTIONS.

**TABLE 705.8**  
**MAXIMUM AREA OF EXTERIOR WALL OPENINGS AND PROJECTING ELEMENTS BASED ON**  
**FIRE SEPARATION DISTANCE AND DEGREE OF OPENING PROTECTION**

Fire Separation Distance (feet)	Degree of Opening Protection	Allowable Area <sup>a</sup>	Projections
0 to less than 3 <sup>b,c</sup>	Unprotected, Nonsprinklered (UP, NS)	Not Permitted	No closer than 2 Ft to property line
	Unprotected Sprinklered (UP, S) <sup>i</sup>	Not Permitted	No closer than 2 Ft to property line
	Protected (P)	Not Permitted	No closer than 2 Ft to property line
3 to less than 5 <sup>d,c</sup>	Unprotected, Nonsprinklered (UP, NS)	Not Permitted	1 Ft
	Unprotected Sprinklered (UP, S) <sup>i</sup>	15%	One half the distance to property line, but not closer than 2 Ft to property line
	Protected (P)	15%	One third the distance to Property line if nonsprinklered, one half the distance if sprinklered, but not closer than 2 Ft to the property line.
5 to less than 10 <sup>e,f</sup>	Unprotected, Nonsprinklered (UP, NS)	10% <sup>h</sup>	One third the distance to the property line.
	Unprotected Sprinklered (UP, S) <sup>i</sup>	25%	One half the distance to the property line.
	Protected (P)	25%	One third the distance to Property line if nonsprinklered, one half the distance if sprinklered
10 to less than 15 <sup>e,f,g</sup>	Unprotected, Nonsprinklered (UP, NS)	15% <sup>h</sup>	One third the distance to the property line.
	Unprotected Sprinklered (UP, S) <sup>i</sup>	45%	One half the distance to the property line.
	Protected (P)	45%	One third the distance to Property line if nonsprinklered, one half the distance if sprinklered
15 to less than 20 <sup>f,g</sup>	Unprotected, Nonsprinklered (UP, NS)	25%	One third the distance to the property line.
	Unprotected Sprinklered (UP, S) <sup>i</sup>	75%	One half the distance to the property line.
	Protected (P)	75%	One third the distance to Property line if nonsprinklered, one half the distance if sprinklered
20 to less than 25 <sup>f,g</sup>	Unprotected, Nonsprinklered (UP, NS)	45%	One third the distance to the property line.
	Unprotected Sprinklered (UP, S) <sup>i</sup>	No Limit	One half the distance to the property line.
	Protected (P)	No Limit	One third the distance to Property line if nonsprinklered, one half the distance if sprinklered
25 to less than 30 <sup>f,g</sup>	Unprotected, Nonsprinklered (UP, NS)	70%	One third the distance to the property line.
	Unprotected Sprinklered (UP, S) <sup>i</sup>	No Limit	One half the distance to the property line.
	Protected (P)	No Limit	One third the distance to Property line if nonsprinklered, one half the distance if sprinklered
30 or greater	Unprotected, Nonsprinklered (UP, NS)	No Limit	Not closer than 20 Ft to the property line
	Unprotected Sprinklered (UP, S) <sup>i</sup>	Not Required	Not closer than 15 Ft to the property line
	Protected (P)	Not Required	Not closer than 15 Ft to the property line

For SI: 1 foot = 304.8 mm

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

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

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

a. Values indicated are the percentage of the area of the exterior wall, per story.

b. For the requirements for fire walls of buildings with differing heights, see Section 706.6.1.

c. For openings in a fire wall for buildings on the same lot, see Section 706.8.

d. The maximum percentage of unprotected and protected openings shall be 25 percent for Group R-3 occupancies.

e. Unprotected openings shall not be permitted for openings with a fire separation distance of less than 15 feet for Group H-2 and H-3 occupancies.

f. The area of unprotected and protected openings shall not be limited for Group R-3 occupancies, with a fire separation distance of 5 feet or greater.

g. The area of openings in an open parking structure with a fire separation distance of 10 feet or greater shall not be limited.

h. Includes buildings accessory to Group R-3.

i. Not applicable to Group H-1, H-2 and H-3 occupancies.

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**2.02.220 AMENDMENT TO IBC SECTION 708.13.1—REFUSE AND LAUNDRY CHUTE ENCLOSURES**

**708.13.1 Refuse and laundry chute enclosures.** A shaft enclosure containing a refuse or laundry chute shall not be used for any other purpose and shall be enclosed in accordance with Section 708.4. Openings into the shaft, including those from access rooms and termination rooms, shall be protected in accordance with this section and Section 715. Openings into chutes shall not be located in corridors or along exit balconies. Doors shall be self- or automatic closing upon the actuation of a smoke detector in accordance with Section 715.4.8.3, except that heat-activated closing devices shall be permitted between the shaft and the termination room.

**Insert Page 31 through 34 Facing IBC Page 106**

**2.02. 230 AMENDMENT TO IBC SECTION 708.14.2—ENCLOSED ELEVATOR LOBBY PRESSURIZATION ALTERNATIVE.**

**708.14.2 Enclosed elevator lobby pressurization alternative.** Where elevator hoistway pressurization is provided in lieu of required enclosed elevator lobbies, the pressurization system shall comply with this section.

**708.14.2.1 Pressurization requirements.** Elevator hoistways shall be pressurized to maintain a minimum positive pressure of 0.10 inches of water column (25 Pa) and a maximum positive pressure of 0.25 inches of water column (67 Pa) with respect to adjacent occupied space on all floors. This pressure shall be measured at the midpoint of each hoistway door, with all hoistway doors on the floor of primary recall open and all other hoistway doors closed. Then the test shall be run again with the doors on the floor of secondary recall open, and all the other hoistway doors closed. The opening and closing of hoistway doors at each level must be demonstrated during this test. The supply air intake shall be from an outside, uncontaminated source located a minimum distance of 20 feet (6096 mm) from any air exhaust system or outlet.

**708.14.2.2 Rational analysis.** A rational analysis complying with section 909.4 shall be submitted with the construction documents

**708.14.2. 3 Ducts for system.** Any duct system that is part of the pressurization system shall be protected with the same fire-resistance rating as required for the elevator shaft enclosure.

**708.14.2. 4 Fan system.** The fan system provided for the pressurization system shall be as required by this section.

**708.14.2. 4.1 Fire resistance.** When located within the building, the fan system that provides the pressurization shall be protected with the same fire-resistance rating required for the elevator shaft enclosure.

**708.14.2. 4.2 Smoke detection.** The fan system shall be equipped with a smoke detector that will automatically shut down the fan system when smoke is detected within the system.

**708.14.2. 4.3 Separate systems.** A separate fan system shall be used for each bank of elevators.

**708.14.2. 4.4 Fan capacity.** The supply fan shall either be adjustable with a capacity of at least 1,000 cfm (0.4719 m<sup>3</sup>/s) per door, or that specified by a registered design professional to meet the requirements of a designed pressurization system.

**708.14.2. 5 Standby power.** The pressurization system shall be provided with standby power from the same source as other required emergency systems for the building.

**708.14.2. 6 Activation of pressurization system.** The elevator pressurization system shall be activated upon activation of the building fire alarm system or upon activation of the elevator lobby smoke detectors.

**708.14.2. 7 Special inspection.** Special inspection for performance shall be required in accordance with Section 909.18.8. System acceptance shall be in accordance with Section 909.19.

**708.14.2. 8 Marking and identification.** Detection and control systems shall be marked in accordance with Section 909.14.

**708.14.2. 9 Control Diagrams.** Control diagrams shall be provided in accordance with Section 909.15.

**708.14.2. 10 Control Panel.** A control panel complying with Section 909.16 shall be provided.

**708.14.2. 11 System response time.** Hoistway pressurization systems shall comply with the requirements for smoke control system response time in Section 909.17.

**708.14.2.12 Exit Enclosure Pressurization.** When the elevator pressurization alternative is used, exit enclosures which open onto spaces that the elevators also open onto, regardless of building height shall be mechanically pressurized in accordance with the provisions of Sections 909.20 and 1020.1.7 for the pressurization alternative to a smokeproof enclosure.



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**Exception:** If the pressurization of the stair enclosure(s) is provided only because the elevators are pressurized, and an automatic fire-sprinkler systems is not otherwise required for the building, the automatic fire sprinkler system required by section 909.20.5 may be omitted.

**708.14.2.13 Hoistway venting.** Hoistway venting required by Section 3004 need not be provided for pressurized elevator shafts.

**708.14.2.14 Machine rooms.** Elevator machine rooms shall be pressurized in accordance with this section unless separated from the hoistway shaft by construction in accordance with Section 707.

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**2.02. 240 AMENDMENT TO IBC SECTION 1002 DEFINITIONS BY ADDITION OF A  
DEFINITION FOR LOBBY**

**LOBBY.** A room, foyer, entrance hall, or space dedicated to being an arrival point or an exit point to a building, which is also part of the exit system for the building, and which has direct access to the exterior of the building from which a public street or space may be reached.

**Insert Page 35 Facing IBC Page 218**

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**2.02. 250 AMENDMENT TO IBC CHAPTER 10 BY ADDITION OF SECTION 1010.11—  
ENCLOSURES UNDER RAMPS**

**1010.11 Enclosures under ramps.** Enclosures under ramps shall meet the requirements of IBC Section 1009.6.3 enclosures under stairways.

**Insert Page 37 Facing IBC Page 234**

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**2.02. 260 AMENDMENT TO IBC SECTION 1015.2.2—THREE OR MORE EXITS OR EXIT ACCESS DOORWAYS.**

**1015.3 Three or more exits or exit access doorways.** Where access to three or more exits is required each required exit door or exit access doorway shall be arranged so as to be separated a minimum distance from all other required exit doors or exit access doorways in accordance with the distances prescribed in Section 1015.2.1. Two doors or doorways closer than the prescribed distance in Section 1015.2.1 shall be considered a single exit.

**Insert Page 40 Facing IBC Page 239**



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**2.02. 270 AMENDMENT TO IBC SECTION 1022 BY ADDITION OF A NEW SUBSECTION  
1022.10 — RE-ENTRY REQUIREMENTS.**

1022.10 **Re-entry requirements.** Every vertical exit enclosure door, smoke-proof enclosure vestibule door and smoke-proof stair enclosure door shall allow re-entry from the vertical exit enclosure, smoke-proof enclosure vestibule, or smoke-proof stair enclosure to the interior of the building, or an automatic release shall be provided to unlock, but not unlatch, all stair enclosures, smoke-proof enclosure vestibules, and smoke-proof stair enclosure doors to allow re-entry. Such automatic release shall be actuated by the initiation of the building fire alarm system or by a power failure.

EXCEPTIONS: 1. Selected doors on vertical exit enclosures shall be permitted to be equipped with hardware that prevents re-entry into the interior of the building provided that:

1.1. There are at least two levels where it is possible to leave the vertical exit enclosure, smoke-proof enclosure vestibule, or smoke-proof stair enclosure, and

1.2. There shall be not more than four floors intervening between floors where it is possible to leave such enclosures;

1.3. Doors permitting re-entry are identified as such on the stair side of the door, with signs having letters a minimum of one inch high on a contrasting background.

2. Correctional facilities and other facilities classed as Group I Occupancies, where the personal freedom of occupants is required to be regulated.

3. Vertical exit enclosures, smoke-proof enclosure vestibules, and smoke-proof stair enclosures serving four or fewer stories.

4. Vertical exit enclosure doors, smoke-proof enclosure vestibule doors, and doors from smoke-proof stair enclosures to smoke-proof enclosure vestibules which serve one individual dwelling unit in group r, division 2, occupancies may be locked from the stair enclosure, smoke-proof enclosure vestibule, or smoke-proof stair enclosure side of the door.

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**2.02. 280 AMENDMENT TO IBC SECTION 1027.1 EXIT DISCHARGE—GENERAL**

**1027.1 General.** Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building. The combined use of Exceptions 1 and 2 below shall not exceed 50 percent of the number and capacity of all of the required exits.

**Exceptions:**

1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through lobby areas on the level of discharge provided all of the following are met:
  - 1.1. Such exit enclosures egress to a free and unobstructed path of travel through the lobby to an exterior exit door and such exit is readily visible and identifiable from the point of termination of the exit enclosure.
  - 1.2. The entire area of the level of discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
  - 1.3. The egress path from the exit enclosure on the level of discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of discharge with access to the egress path shall either be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of exits.
2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:
  - 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
  - 2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
  - 2.3. The area is separated from the remainder of the level of exit discharge by construction providing protection at least the equivalent of approved wired glass in steel frames.
  - 2.4. The area is used only for means of egress and exits directly to the outside.
3. Stairways in open parking garages complying with Section 1020.1, Exception 5, are permitted to egress through the open parking garage at the level of exit discharge.
4. Horizontal exits complying with Section 1025 shall not be required to discharge directly to the exterior of the building.

**2.02. 290 AMENDMENT TO IBC SECTION 1503.4--ROOF DRAINAGE**

**1503.4.1 General.** Roofs shall be sloped a minimum of 1 unit vertical in 48 units horizontal (2% slope) for drainage unless designed for water accumulation in accordance with Chapter 16, and approved by the Building Official.

**1503.4.2 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. Roof drainage shall be directed away from the building and discharged to the storm sewer or to other approved disposal systems. Roof drainage shall not be connected to, or allowed to infiltrate into the footing drain system.

**1503.4.3 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 two inches 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 may be installed in adjacent parapet walls with the inlet flow line located not more than two inches above the low point of the adjacent roof.

Overflow drains shall discharge to an approved location and shall discharge at a point above the ground, which can be readily observed. Overflow drains shall not be connected to roof drain lines.

**1503.4.4 Concealed Piping.** Roof drains and overflow drains, where concealed within the construction of the building, shall be installed in accordance with the Plumbing Code.

**1503.4.5 Over Public Property.** Roof drainage water from a building shall not be permitted to flow over public property.

**EXCEPTION:** Group R-3 and Group U Occupancies.

**1503.4.6 Gutters.** Gutters and leaders placed on the outside of buildings other than Group R-3, private garages and buildings of type V construction shall be of noncombustible material or a minimum of Schedule 40 plastic pipe.

**Insert Page 45 Facing IBC Page 288**

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**2.02. 300 AMENDMENT TO IBC SECTION 1608—SNOW LOADS.**

**1608Snow loads.** Roofs shall be designed for a snow load of 25 pounds per square-foot applied at roof level, except that if the live load determined by Section 1607, is greater than the snow load, then the live load shall be the roof design load.

Potential unbalanced accumulation of snow at valleys, parapets, roof structures, and offsets in roofs of uneven configuration shall be considered.

The extra load caused by snow sliding off a sloped roof onto a lower roof shall be determined in accordance with Section 7.9 of ASCE 7-05.

The 25-pound-per-square-foot snow load may be reduced by 0.125 pounds-per-square-foot for each degree of roof pitch over 20 degrees.

**2.02. 310 AMENDMENT TO IBC SECTION 1609.1—WIND LOADS – APPLICATIONS**

**1609.1 Applications.** Buildings, structures and parts thereof shall be designed to withstand the minimum wind loads prescribed herein. Decreases in wind loads shall not be made for the effect of shielding by other structures.

Unless a topographical analysis is done, or the topographical effects as published by the City of Tacoma are used, the design wind speed for the City of Tacoma shall be 85 mile per hour, 3 second gust, with a  $K_{ZT}$  Factor of 2.00 (Which is equivalent to a 120 mile per hour 3 second gust, with a  $K_{ZT}$  factor of 1.00). If a topographical analysis is done, or the topographical effects as published by the City of Tacoma are used, the basic design wind speed shall be 85 miles per hour with the appropriate calculated  $K_{ZT}$  factor applied, and the analysis shall be in accordance with the provisions of this code and ASCE 7-05.

(Note: The remaining subsections of this section shall remain as published in the 2009 IBC)

**Insert Page 48 Facing IBC Page 315**



**2.02. 320 AMENDMENT TO IBC SECTION 1613.1—EARTHQUAKE LOADS--SCOPE BY ADDITION OF EXCEPTION 5.**

**1613.1 Scope.** Every structure, and portion thereof, including nonstructural components that are permanently attached to structures and their supports and attachments, shall be designed and constructed to resist the effects of earthquake motions in accordance with ASCE 7, excluding Chapter 14 and Appendix 11A. The seismic design category for a structure is permitted to be determined in accordance with Section 1613 or ASCE 7.

**Exceptions:**

1. Detached one- and two-family dwellings, assigned to Seismic Design Category A, B or C, or located where the mapped short-period spectral response acceleration,  $S_s$ , is less than 0.4 g.
2. The seismic-force-resisting system of wood-frame buildings that conform to the provisions of Section 2308 are not required to be analyzed as specified in this section.
3. Agricultural storage structures intended only for incidental human occupancy.
4. Structures that require special consideration of their response characteristics and environment that are not addressed by this code or ASCE 7 and for which other regulations provide seismic criteria, such as vehicular bridges, electrical transmission towers, hydraulic structures, buried utility lines and their appurtenances and nuclear reactors.
5. The minimum value of the seismic response factor,  $C_s$ , shall be  $0.044S_{DS}I$  and shall be equal to or greater than 0.01. This amends equation 12.8-5 in ASCE 7-05 to read:

$$C_s = 0.044S_{DS}I \geq 0.01$$

**Insert Page 49 Facing IBC Page 340**

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**2.02.330 AMENDMENT TO IBC SECTION 1613 BY ADDITION OF A NEW SUBSECTION 1613.8—  
TENSION-ONLY BRACING**

**1613.8 Tension-Only Bracing.** The body of the tension element, in a tension-only bracing assembly, shall be designed for the seismic load effect including the Overstrength Factor in accordance with ASCE 7, section 12.4.3.

**Insert Page 52 Facing IBC Page 345**

2.02. 340 AMENDMENT TO IBC SECTION 2405 BY ADDITION OF A NEW  
SUBSECTION 2405.6--LOCATION OF SLOPED GLAZING AND SKYLIGHTS.

**2405.6** Sloped glazing and skylights shall not be located closer to property lines or the center-line of adjoining public ways where, due to proximity to the property line or the center-line of an adjoining public way, openings in walls are prohibited, or are required to be protected by the provisions of Section 704.

**Insert Page 53 Facing IBC Page 524**

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**2.02. 350 AMENDMENT TO IBC SECTION 3202.3 – ENCROACHMENTS 8 FEET OR MORE ABOVE GRADE.**

3202.3 Encroachments 8 feet or more above grade.

Encroachments 8 feet (2438 mm) or more above grade shall comply with Sections 3202.3.1 through 3202.3.4

**3202.3.1 Awnings and marquees.**

For the purposes of this section the following terms shall be defined as follows:

**Awning.** An architectural projection that provides weather protection, identity or decoration and is wholly supported by the building to which it is attached. An awning is comprised of a lightweight, rigid skeleton structure over which a covering is attached. (Note: This is the same definition as is in Chapter 2 – Definitions.)

**EXCEPTION:** Exterior supports may be permitted in a street right-of-way if issued a street occupancy permit.

**Marquee** is a permanent roofed structure attached to and supported entirely by the building and that projects into the public right-of-way. The Marquee shall include any object or decoration attached to or part of the marquee structure.

Awnings and marquees shall be constructed so as to support applicable loads as specified in Chapter 16. Awnings and marquees with less than 16.5 feet (5029 mm) clearance above the sidewalk shall not extend into or occupy more than two-thirds the distance from the property line to the face of the curb, but in no case shall extend closer than two feet to the curb. All portions of awnings and marquees shall be not less than 8 feet above any public walkway.

**3202.3.2 Windows, balconies, architectural features and mechanical equipment.**

Where the vertical clearance above grade to projecting windows, balconies, architectural features or mechanical equipment is more than eight feet (2438 mm), 1 inch (25mm) of encroachment is permitted for each additional 1 inch (25 mm) of clearance above 8 feet (2438 mm), but the maximum encroachment shall be 4 feet (1219 mm). No usable floor space shall be added to the building by such projections unless the air rights for the street where the projection occurs are vacated by City of Tacoma ordinance.

**3202.3.3 Encroachments 16.5 feet or more above grade.**

Upon issuance of a Street Occupancy Permit by the Public Works Department or upon vacation of the air rights over the street by ordinance and subject to the conditions of the street occupancy permit or vacation, encroachments 16.5 feet (5029 mm) or more above grade shall not be limited. No usable floor space shall be added to the building by such projections unless the air rights for the street where the projection occurs are vacated by City of Tacoma ordinance.

**Exception:** Encroachments into street right-of-ways which are also the right-of-way for railroads or light-rail shall be a minimum of 24 feet clear above the elevation of the top of railroad or light-rail rails.

**3202.3.4 Pedestrian walkways.**

The installation of a pedestrian walkway over a public right-of-way shall require that the air rights above the right-of-way be vacated by City of Tacoma ordinance. The vertical clearance from the public right-of-way to the lowest part of the pedestrian walkway shall be subject to the approval of the Public Works Department, but in no case shall be less than 16.5 feet (5029 mm) minimum.

**Exception:** Pedestrian walkways over street right-of-ways which are also the right-of-way for railroads or light-rail shall be a minimum of 24 feet clear above the elevation of the top of railroad or light-rail rails.

**Insert Page 55 and 56 before IBC Page 565**

**2.02. 360 AMENDMENT TO CHAPTER 32 BY ADDITION OF A NEW IBC SECTION 3202.5--  
ENTRYWAY CANOPIES.**

Sec. 3202.5.1 General. Upon issuance of a Street Occupancy Permit by the Public Works Department, and subject to the conditions of said Street Occupancy Permit, entryway canopies may be installed at one building entrance on each street on which the building fronts. When permitted by the Street Occupancy Permit, the canopy support structure may be in the public right-of-way. For the purposes of this section, entryway canopies are defined as a shelter, not to exceed thirty feet in width, extending from a building entrance toward the street curb, to provide weather protection for persons arriving at the building by motor vehicle.

Sec. 3202.5.2 Construction. Entryway canopies shall be constructed of non-combustible materials.

EXCEPTIONS: 1. Entryway canopies attached to buildings of Type V construction may be constructed of combustible one-hour fire-resistive construction, provided that supports within the public right-of-way for a minimum height of eight feet are of non-combustible construction.

2. Canopies 12 feet or less in width may be covered with fire-retardant treated fabric.

Sec. 3202.5.3 Projection. Entryway canopies may extend to two feet from the face of the curb. Entryway canopies shall extend not less than two-thirds the distance from the face of the building to the face of the curb, unless the that would bring the canopy closer than two feet from the face of the curb, in which case the entryway canopy shall extend to two feet from the face of the curb.

Sec. 3202.5.4 Design. Entryway canopies shall be designed for full vertical and lateral loads, as prescribed within the design sections of the Building Code. Exposure C conditions shall be used for the wind-load design.

Sec. 3202.5.5 Width. The width of entryway canopies shall not exceed 30 feet.

Sec. 3202.5.6 Height. The overall height of entryway canopies shall not exceed 15 feet. The minimum clearance under entryway canopies shall be eight feet, except for the canopy supports.

Sec. 3202.7 Clearance. Entryway canopies and their supports shall provide a minimum clearance of two feet from the face of the street curb. There shall be a minimum clearance between the building and the supports of the canopy to allow for an unobstructed width of the street sidewalk (in no case less than eight feet).



**2.02. 370 AMENDMENT BY ADDITION OF A NEW CHAPTER 36 TO THE IBC—CITY OF TACOMA—, CLEARING AND GRADING CODE.**

**Sec. 3601--PURPOSE.**

The purpose of this chapter is to safeguard life, limb, property, water quality, and the public welfare by regulating grading, clearing, site surface and slope maintenance and associated erosion control.

**Sec. 3602--SCOPE.**

This chapter sets forth rules and regulations to:

1. Control grading and clearing, which shall include, but not be limited to the removal of vegetative material, grubbing and all earthwork construction, including cuts, fills, embankments, retaining walls, and associated erosion control;
2. Prevent the interruption of existing drainage courses;
3. Establish criteria for when repair and maintenance of moderate to steep slopes is required;
4. Establish the administrative procedure for issuance of Clearing and Grading permits; and
5. Provide for approval of plans and the inspections of grading and clearing projects.

The standards for testing listed below are adopted standards in addition to the standards in IBC Chapter 35.

- A ASTM D 1556, In-Place Density of Soils by the Sand-Cone Method
- B ASTM D 2167, In-Place Density of Soils by the Rubber-Balloon Method
- C ASTM D 2922, In-Place Moisture Content of Soils by Nuclear Methods
- D ASTM D 2937, In-Place Density of Soils by the Drive-Cylinder Method
- E ASTM D 3017, In-Place Density of Soils by Nuclear Methods

**Sec. 3603--PERMITS REQUIRED.**

Sec. 3603.1 Permits Required. Except as specified in subsection 3603.3, no person shall do any grading and/or clearing in the City of Tacoma without first having obtained a Clearing and Grading permit from the Building Official.

**Sec. 3603.2 Application.** Application for a clearing and grading permit shall be accompanied by plans and, as applicable, specifications, and shall conform to the provisions of IBC Section 106. In addition, the application shall state the estimated quantities of excavations, fills, grubbing, and relocation of soil in cubic yards and the area to be graded or cleared in square feet. Prior to plan submittal the applicant shall determine whether the proposed project is located in a Critical Area as governed by TMC 13.11 and so state on the permit application.

Sec. 3603.3 Grading and Clearing Prohibited. No permits to perform grading and/or clearing during the period from October 1st through April 30th shall be issued.

EXCEPTION: The Building Official may approve a grading, and clearing plan, prepared by a civil engineer which is designed in accordance with the Recognized Engineering Practices that address surface water runoff during the winter season (October 1 to April 30), and issue a permit based on such plan.

Sec. 3603.4 Exempted Work. A grading and clearing permit is not required for the following unless such work is in a Critical Area governed by TMC Chapter 13.11; however, all such work is subject to application of the Recognized Engineering Practices to mitigate the anticipated conditions:

**Insert Pages 57 through 70 follow IBC Page 606**

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1. Grading, to include grubbing, less than 50 cubic yards or an area not to exceed 7,000 square feet, whichever is less, performed in a 2 year period.
2. All clearing less than one acre in area meeting at least one of the following:
  - a. Activities in preparation for site surveying, or other associated work. This does not permit grubbing or activities that cause soil disturbance.
  - b. Clearing within ten feet of the perimeter of buildings.
  - c. General property and utility maintenance, landscaping, or gardening in pre-existing developed land.
3. An excavation below finished grade for basements and footings of a building, retaining wall, or other structure authorized by a valid building permit. This shall not exempt any fill made with the material from such excavation, or exempt any excavation having an unsupported height greater than five feet after the completion of such structure.
4. Refuse disposal sites controlled by other regulations.
5. Hazardous waste remediation under the jurisdiction of other agencies.
6. Excavation on private property for wells, tunnels, or utilities. Backfill is also exempt, provided it is not transported off site, or the backfill is not imported from off-site. Other filling with the material from such excavation requires a permit. This does not exempt the Contractor from being required to follow Recognized Engineering Practices.
7. Mining, quarrying, excavating, processing or stockpiling rock, sand, gravel, aggregate or clay where local regulation is pre-empted by state or federal law. Such operations shall follow Recognized Engineering Practices and be in compliance with the COTSWMM.
8. Exploratory excavations under the direction of a civil engineer or geologist. This shall not exempt any fill made with the material from such excavation. Clearing or grading to construct an access road to an exploratory site shall require a permit if construction requires more than 50 cubic yards of grading or disturbs an area more than 7,000 square feet, whichever is less.
9. Clearing associated with routine maintenance by utility agencies or companies. This does not exempt the utility agencies or companies from being required to follow Recognized Engineering Practices.
10. Clearing or grading in the right-of-way associated with street, alley, or sewer work approved by the Public Works Department or road maintenance conducted in accordance with the Regional Road Maintenance Program.
11. Removal of trees or other vegetation, which cause sight distance obstructions at intersections so determined by the City of Tacoma Traffic Engineer.
12. Removal of hazardous trees on private property provided no more than 50 cubic yards of grading is required and no more than 7,000 square feet of area is disturbed, whichever is less.
13. Forest practices under the jurisdiction of other agencies.
14. Graves in legally established cemeteries.

Exemption from the permit requirements of this chapter shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this chapter or any other laws or ordinances of the City of Tacoma.

**Sec. 3604—EMERGENCY GRADING**

Emergency Clearing and Grading activities, which if not performed immediately would substantially endanger life or property, are exempt from permits prior to beginning work only to the extent necessary to meet the emergency. Permits authorizing the emergency work will be required as soon as practical after starting work.

**Sec. 3605—SLOPE STABILITY HAZARDS.**

The owner of the property upon which a landslide or other slope stability hazard has occurred shall be required to repair the slope for the following conditions:

1. The landslide or slope stability hazard has occurred within 50 feet of a building structure.
2. Where determined by the Building Official to be a hazard to life, limb, property or the public welfare.
3. Where determined by the Building Official to adversely affect the safety, use, or stability of a public way or drainage channel.

The owner of the property, upon which the landslide or slope stability hazard is located, or other person or agent in control of said property, upon receipt of notice in writing from the Building Official, shall, within the period specified therein, repair or eliminate the hazard and be in conformance with the requirements of this code. Repair measures must be in conformance with a plan designed by a civil engineer.

**Sec. 3606--DEFINITIONS.**

For the purposes of this chapter, the definitions listed herein shall be construed as specified in this section.

AS-GRADED is the extent of surface conditions on completion of grading.

BENCH is a relatively level step excavated into earth material on which fill is to be placed.

RECOGNIZED ENGINEERING PRACTICES is the most current effective practices, science, and methods which are used to manage surface water, erosion, and soil/slope stability and which may include, but not be limited to, the most current version of the COTSWMM.

CIVIL ENGINEER is a professional engineer licensed in the State of Washington and specialized in the design, analysis and supervision of the construction of public and private works, especially roads, excavations, grading, filling, drainage, and erosion control.

CLEARING means the removal of vegetative material and includes, but is not limited to the removal of logs, cutting of scrub-shrubs, trees or any vegetative material in a manner that does not disturb or expose the surface of the native soil. Clearing does not include normal property maintenance, such as pruning of trees and shrubbery, lawn mowing, and removal of noxious or nuisance vegetation.

COMPACTION is the densification of a fill by mechanical means.

COTSWMM is the most current version of the City of Tacoma Surface Water Management Manual.

CRITICAL AREAS – as defined in TMC 13.11 include the following ecosystems: areas with a critical recharging effect on aquifers used for drinking water, fish and wildlife habitat conservation areas, frequently flooded areas, geologically hazardous areas, wetlands, and streams.

DRAINAGE SYSTEM is a system, which includes natural or artificial means of conveyance or control of surface waters prior to delivery to a legal point of disposal and may include one or more of the following components:

- 1) Drainage Course - a natural open depression, which carries away surface water.
- 2) Drainage Facility – a structure used for the purpose of conveyance or control of surface water.
- 3) Drainage Channel - an artificial open depression, which carries away surface water.

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**EARTHWORK** is the operations connected with the construction of embankments of earth or excavation of earth (cut) or placement of earth (fill).

**EMBANKMENT** is a raised structure of earth or gravel designed to retain water or to carry a roadway.

**EROSION** is the wearing away of the ground surface as a result of the movement of wind, water, ice, or any other means.

**EROSION CONTROL** is any approved method of preventing the migration of soil by water, wind, ice, tracking by mechanical equipment, or any other means.

**EXCAVATION** is the mechanical removal of soil.

**FILL** is dumping or placing, by artificial means, any material on any soil or sediment surface, including temporary stockpiling of material and is also the material placed in such a manner.

**GEOLOGICALLY HAZARDOUS AREA** means an area that is susceptible to erosion, landslides, severe risk of earthquake damage, or other geological events. Geologically hazardous areas are regulated and defined in TMC Chapter 13.11. They include, but are not limited to, erosion hazard areas, landslide hazard areas, moderate and steep slopes, and seismic hazard areas.

**GEOLOGIST** – a scientist experienced and knowledgeable in the practice of subsurface soil and bedrock investigations, and analysis of mineralogy, landforms and geological processes.

**GEOTECHNICAL ENGINEER** -- is a civil engineer experienced and knowledgeable in the practice of subsurface soil investigation and analysis, settlement analysis, hydro-geological investigation, and earthwork, retaining wall, and foundation design.

**GRADE** is the vertical elevation of the ground surface.

- 1) Existing grade is the grade prior to grading.
- 2) Rough grade is the stage at which the grade approximately conforms to the approved plan.
- 3) Finish grade is the final grade of the site, which conforms to the approved plan.

**GRADING** is any excavating or filling or combination thereof.

Regular Grading is the grading involving the relocation of soil on any lot, parcel or group of lot or parcels being simultaneously developed.

Engineered Grading is the grading, as designed by a civil engineer, involving the relocation of soil on any lot, parcel or group of lot or parcels being simultaneously developed.

**GRUBBING** is removal of roots or stumps in a manner that clears or breaks and exposes the surface of the native soil.

**KEY** is a designed excavation in the soil beneath a fill slope to hold the fill in place.

**SPECIAL INSPECTION** is the inspection required by this chapter to be performed by, or under the supervision of a civil engineer, and shall include, but not be limited to compaction testing, inspection of retaining wall construction, excavations, fills and other grading activities, and inspection for soil/slope stability. Inspections shall be either continuous or periodic as defined as follows:

1. Continuous – the full-time observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed.
2. Periodic – the part-time or intermittent observation of work requiring special inspection by an approved special inspector who is present in the area where the work has been or is being performed and at the completion of the work.

SLOPE is an inclined ground surface, the inclination of which is expressed as a percent ratio of the vertical distance to the horizontal distance and is categorized as follows:

1. Level to Shallow Slope – a slope less than 25 percent.
2. Moderate Slope - a slope greater than or equal to 25 percent and less than 40 percent.
3. Steep Slope - a slope greater than or equal to 40 percent

SOIL is any unconsolidated material composed of naturally occurring discrete solid particles with void spaces between.

TERRACE is a relatively level step constructed in the face of a graded slope surface for drainage control, maintenance, or aesthetic purposes.

**Sec. 3607—CLEARING AND GRADING REQUIREMENTS.**

**Sec. 3607.1--Clearing Requirements**

**Sec. 3607.1.1 General.** All clearing not exempt under Section 3603.4 shall require a plan in sufficient clarity to indicate the nature and extent of the work. The plans shall contain the location of the work, limiting dimensions of the proposed clearing, including any setbacks, and the location of any existing improvements or structures where work is to be performed, and the location of any existing improvements or structures within 50 feet of the proposed clearing area. The plans for clearing shall also contain provisions for the preservation of natural land and water features, vegetation, drainage, and other indigenous features of the site. Clearing associated with engineered grading work or within geohazard areas shall require a plan prepared by a civil engineer or approved hydrologist or forest management expert, unless otherwise approved by the Building Official.

**Sec 3607.1.2 Erosion and Drainage.** Erosion control measures will be required in conformance with the COTSWMM, and will be reviewed and subject to approval of the Building Official.

Clearing shall be accomplished in a manner that will not create, or contribute to, flooding, erosion or increased turbidity, siltation or other forms of pollution. Clearing shall be conducted so as to expose the smallest practical area of soil to erosion for the least possible time, consistent with the construction schedule. Provisions shall be made for interim erosion control measures.

Clearing shall be accomplished in a manner that will not create, or contribute to, landslides, accelerated soil creep, settlement and subsidence on the subject property and/or adjoining properties.

**Sec 3607.1.3 Site Cleanup.** Vegetative material from the cleared site shall be removed or chipped in an approved manner, within 60 days from the completion of the operation. Chipped material deposited on an interim basis shall be protected from becoming a fire hazard.

**Sec. 3607.2--Grading Requirements.**

**Sec. 3607.2.1 General** Grading in excess of 500 cubic yards shall be performed in accordance with an approved grading plan prepared by a civil engineer, and shall be designated as Engineered Grading. The requirement for a civil engineer may be waived by the Building Official on a case-by- case basis.

Grading involving more than 50 cubic yards but less than 500 cubic yards shall be designated Regular Grading unless the permittee chooses to have the grading performed as Engineered Grading, or the Building Official determines that special conditions or unusual hazards exist, or that work is located in a Critical Area, in which case grading shall conform to the requirements for Engineered Grading

The grading plan shall show the existing grade and finished grade in contour intervals of sufficient clarity to indicate the nature and extent of the work and show in detail that it complies with the requirements of this code. The plans shall show the existing grade on adjoining properties, including public rights-of-way, for a minimum of 50 feet from the proposed grading area, but not less than is necessary to provide sufficient detail to identify how grade changes

will conform to the requirements of this code. The plan shall also identify all drainage courses and surface water flow to and from the site, both existing and proposed.

**3607.2.2--Excavations.** Unless otherwise recommended in an approved soils engineering report, excavations shall conform to the provisions of this section. The slope of excavated surfaces shall be no steeper than is safe for the intended use, and shall be no steeper than two horizontal to one vertical (50 percent). Steeper slopes, if specifically addressed in the soils engineering report may be authorized by the Building Official.

Exceptions:

An excavated surface may be at a slope of 1.5 horizontal to 1 vertical (67 percent) provided that all of the following are met:

1. It does not support structures or surcharges.
2. It is protected against erosion.
3. It is no more than 8 feet in height.
4. It is approved by the Building Official.

**Sec. 3607.2.3--Fills.**

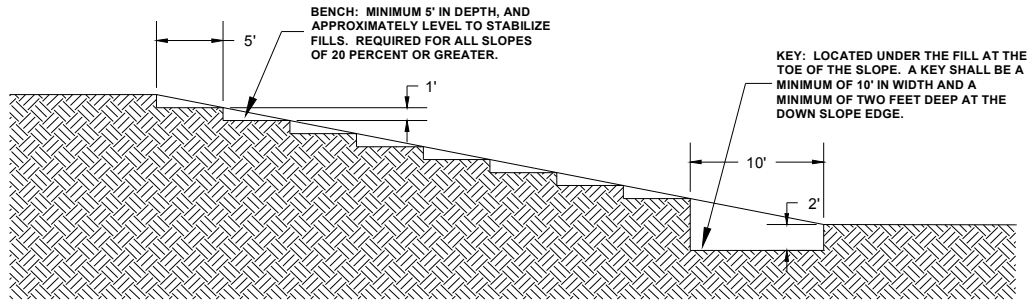
Sec. 3607.2.3.1 General. Unless otherwise recommended in an approved soils engineering report, fills shall conform to the provisions of this section.

**Exception:** These provisions may be waived by the Building Official for minor fills not intended to support structures, sanitary or storm sewers, sidewalks, and private or public roads.

Sec. 3607.2.3.2 Surface Preparation. The ground surface shall be prepared to receive fill by removing vegetation, topsoil and other unsuitable materials, and scarifying the ground to provide a bond with the fill material.

Sec. 3607.2.3.3 Benches and Keys. Where existing grade is at a slope steeper than 5 horizontal to 1 vertical (20 percent) and the depth of the fill exceeds 5 feet, benching and keying shall be provided. Benches shall be essentially level and a minimum of 5 feet in width. Keys shall be at the toe of the fill slope in undisturbed native soil and be placed beneath the fill. They shall be at least 10 feet in width and 2 feet in depth... (See Figure 3606.3.3)

Sec. 3607.2.3.4 Fill Material. Fill material shall not include organic, frozen or other deleterious materials. Except as approved by the Building Official, no rock, broken concrete or similar irreducible material greater than 12 inches in any dimension shall be included in fills.



**FIGURE 3606.3.3**

Sec. 3607.2.3.5 Compaction. All fills supporting buildings and other structures shall be compacted to a minimum of 90 percent Modified Proctor in accordance with ASTM D1557, , or as specified by the civil engineer of record. Lifts shall not exceed 12 inches in depth. Special inspection to verify compaction is required for fills supporting buildings or other structures. The number and frequency of field tests shall be specified by the civil engineer of record. Compaction in existing or future City rights of way shall be in accordance with the requirements of the City of Tacoma Public Works Department, Construction Division.

Sec. 3607.2.3.6 Maximum Slope. The slope of fills shall be no steeper than is safe for the intended use. Fill slopes shall not be steeper than two horizontal to one vertical, unless justified by a soils engineering report.

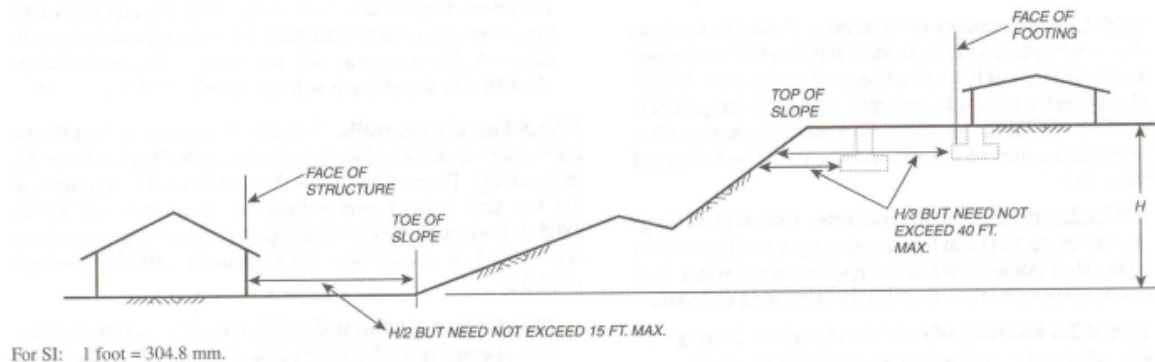
**Sec. 3607.2.4--Setbacks.**

Sec. 3607.2.4.1 General. Cut and fill slopes shall be set back from site boundaries in accordance with this section. Setback dimensions shall be horizontal distances measured perpendicular to the site boundary. Setback dimensions shall be as shown in Figure 3607.4, unless alternate setbacks are approved by the Building Official and/or a soils engineering report. The Building Official may require greater setbacks to protect public property.

Sec. 3607.2.4.2 Slope Setbacks. The top of slopes shall not be graded closer to the face of the footing than one-third of the vertical height of the slope with a maximum of 40 feet (Figure 3607.4). The setback may need to be increased for any required interceptor drains. The toe of slopes shall be graded not closer to the face of the structure than one-half the height of the slope, with a maximum of 15 feet.

Sec. 3607.2.4.3 Special Provisions. Where a graded slope is to be located near the site boundary and the adjacent off-site property is developed, special precautions shall be incorporated into the work as the Building Official and/or soil engineering report deem necessary to protect the adjoining property from damage as a result of such grading. These precautions may include, but are not limited to:

1. Additional setbacks.
2. Provisions for retaining walls or similar structures.
3. Terracing,
4. Erosion protection of slopes, and other provisions for the control of surface water.



**FIGURE 3607.4**  
**FOUNDATION CLEARANCES FROM SLOPES**

**Sec. 3607.2.5—Terracing and Associated Drainage.**

Sec. 3607.2.5.1.General. Unless otherwise recommended by a civil engineer, terracing and associated drainage facilities shall conform to the provisions of this section:

Exception: Terracing and associated drainage facilities are not required where the ground slope is not steeper than three horizontal to one vertical (33 percent), and provided surface water runoff and erosion are controlled.

Sec. 3607.2.5.2 Terrace. Terraces at least 6 feet in width shall be established at not more than 30-foot vertical intervals on all cut or fill slopes to control surface drainage and debris, except that where only one terrace is required, it shall be at mid-height. For cut or fill slopes greater than 60 feet and up to 120 feet in vertical height, one terrace at approximately mid-height shall be 12 feet in width. Terrace widths and spacing for cut and fill slopes greater than 120 feet in height shall be designed by a civil engineer and approved by the Building Official. Terraces shall be backsloped and cross sloped to capture surface water and to direct it to swales, ditches, and/or interceptor drains. Suitable access shall be provided to permit proper cleaning and maintenance.

**Sec. 3608--SURFACE WATER DRAINAGE**

3608.1 General. All drainage facilities shall be designed per the requirements of the COTSWMM. Site drainage shall not be directed onto/across adjacent properties without first obtaining necessary easements from the property owner and approval of the Public Works Department. All existing and proposed drainage courses shall be identified on the plans. Existing drainage shall be maintained unless an alternative drainage system is provided that is approved by the Building Official. When approved by the Building Official, site drainage may be discharged into public streets, but may not drain directly over the public sidewalks and driveways. Recorded easements are required prior to issuance of the grading permit. Connections to the City storm drainage system require a separate permit.

3608.2 Swales and Ditches: Swales or ditches, where provided, shall have a minimum gradient of 50 horizontal to 1 vertical (two percent) where paved and a minimum gradient of 20 horizontal to 1 vertical (five percent) otherwise. Paving for swales and ditches shall be with reinforced concrete not less than three inches in thickness, or other material approved by the Building Official. Unpaved swales and ditches shall be grass or rock lined. They shall have a minimum depth at the deepest point of 12 inches where paved and 24 inches where unpaved, and a minimum width of 5 feet. A single run of swale or ditch shall not collect runoff from a tributary area exceeding 13,500 square feet of horizontal projected area without discharging to a private or public storm sewer pipeline.

3608.3 Interceptor Drains. Interceptor drains shall be installed along the top of all slopes receiving drainage from a tributary width greater than 40 feet, measured horizontally. Interceptor drains shall be paved with a minimum of three inches of concrete or gunite, or other material approved by the Building Official. They shall have a minimum depth of 12 inches and a minimum paved width of three feet, measured horizontally across the drain. The slope of the drain shall be approved by the Building Official, but shall not be less than 50 horizontal to 1 vertical (2 percent).



Discharge from the drain shall be accomplished in a manner to prevent erosion and shall be approved by the Building Official.

3608.4 Subsurface Drains: Cut and fill slopes shall be provided with subsurface drainage as necessary for stability. Subsurface drains shall be designed by a civil engineer.

3608.5 Disposal. All drainage facilities shall be designed to carry waters to the nearest practicable drainage-way that is approved by the Building Official or other approving agency as a safe place to deposit such waters. Erosion of ground in the area of discharge shall be prevented by installation of non-erosive down drains or other devices.

**Sec. 3609--EROSION CONTROL and TEMPORARY SURFACE WATER CONTROL**

**Sec. 3609.1 Erosion and Sediment Control.** The faces of cleared or graded slopes shall be prepared and maintained to control erosion. Such control shall consist of approved erosion and sediment control best engineering practices. Permanent protection for slopes shall be installed as soon as practicable and prior to calling for final approval.

**Sec. 3609.2 – Thresholds.** A Construction Stormwater Pollution Prevention Plan (SWPPP) is required for all projects proposing to:

1. Add or replace 2,000 square feet or more of impervious surface;  
and/or
2. Disturbing 7,000 square feet or more of land.

**Sec. 3609.3 Erosion and Sediment Control (ESC) Lead.** For all sites or projects requiring engineered grading in excess of 500 cubic yards, either a civil engineer or other person possessing an approved certificate for erosion and sediment control training shall be identified in the Construction SWPPP and shall be on-site or on-call at all times. Certification may be through the Washington State Department of Transportation/Associated General Contractors (WSDOT/AGC) Construction Site Erosion and Sediment Control Certification Program or any equivalent local or national certification and training program as approved by the Building Official.

**Sec. 3609.4 Special Approved Discharge Permit (Construction Dewatering).**

All discharges during construction to the City sewer system (storm or sanitary) require prior City approval. Discharge to the City sewer system during construction may require a separate Special Approved Discharge permit.

**Sec. 3610--SOILS ENGINEERING REPORT.**

3610.1 Soils Engineering Report. A soils engineering report will be required for the following conditions:

1. Clearing or grading in an area with moderate to steep slopes (greater than 25 percent slopes).
2. Grading that will require a cut or fill greater than 10 feet in height vertically.
3. Grading in excess of 5,000 cubic yards, except where grading consists of fills less than 2 feet in depth on level to shallow slopes.
4. Grading that may impact support or stability of public right-of-way, existing building foundations or adjacent property.
5. Grading work that will include installing retaining walls greater than 8 feet in height, or walls supported by soil nailing or tiebacks.
6. Grading in areas where previous grading or uncontrolled filling has been conducted without a grading permit.
7. Where groundwater seepage has been identified on the site.
  
8. As required by the Building Official.

The soils engineering report shall include, but not be limited to:

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1. Data regarding a description of geology of the site, the nature, distribution, and strength of existing soils
2. Design criteria for retaining walls or similar structures
3. Conclusions and recommendations for filling and grading procedures
4. Design criteria for corrective measures, including buttress fills, when necessary
5. Stability analysis of moderate and steep slopes
6. Opinion on adequacy for the intended use of sites to be developed by the proposed grading as affected by geotechnical engineering and geologic factors
7. Design parameters for and evaluation of the geologic impact of proposed retaining wall structures and soil nails and tiebacks on adjacent properties and City rights-of-way. Soil nails or tiebacks extending into public right-of-way are required to obtain a street occupancy permit from the City of Tacoma, and where extending into private property, a recorded easement is required prior to issuing said permits. Soil nailing and tiebacks shall be required to comply with the City of Tacoma Soil Nail Policy.

**Sec. 3610.2 Liquefaction Study.** For sites with mapped maximum considered spectral response accelerations at short periods (Ss) greater than 0.5g as determined by IBC Section 1613, a study of the liquefaction potential of the site shall be provided, and the recommendations incorporated in the plans.

Exception: A liquefaction study is not required where the Building Official determines from established local data that liquefaction potential is low.

**Sec. 3611--CLEARING, GRADING AND EROSION CONTROL INSPECTIONS.**

**Sec. 3611.1 General.** Grading operations for which a permit is required shall be subject to inspection by the Building Official. Special inspection of grading operations shall be provided by a civil engineer retained to provide such services in accordance with this section and IBC Chapter 17 for engineered grading and as required by the Building Official for regular grading.

**Sec. 3611.2 Civil Engineer.** The civil engineer shall provide inspection within such engineer's area of technical specialty, which shall consist of the following:

- Observation and review as to the establishment of line, grade, and surface drainage of the development area.
- Observation during grading and testing for required compaction to verify required compaction called for in the specifications has been met.
- Observation during the preparation of the natural ground, placement of fill, and construction of retaining walls to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this chapter.

Revised plans or recommendations relating to conditions differing from the approved plans or soil engineering report shall be submitted to the Building Official.

**Sec. 3611.3 Erosion Control Inspector.** For engineered grading, or where required by the Building Official, either a civil engineer or other person possessing an approved certificate for erosion and sediment control training shall provide inspection of erosion and sediment control at the site. The erosion control inspector shall report to the Building Official and be responsible for assuring that all erosion control systems are installed and maintained until the site has been permanently stabilized. It shall also be the responsibility of this inspector to supervise the proper removal of temporary erosion control systems at the end of the project.

**Sec. 3611.4 Permittee.** The permittee shall be responsible for the work to be performed in accordance with the approved plans and specifications and in conformance with the provisions of this code. The permittee shall engage consultants, if required, to provide special inspections on a timely basis. The permittee shall act as a coordinator

between the consultants, the contractor, and the Building Official. In the event of changed conditions, the permittee shall be responsible for informing the Building Official of such changes and shall provide revised plans for approval. The permittee is ultimately responsible for providing and maintaining erosion control at all times until the site has been permanently stabilized. During periods of construction inactivity, the permittee must ensure the erosion control is functioning properly.

**Sec. 3611.5 Building Official.** The Building Official shall inspect the project at the critical stages of work requiring approval to determine that adequate control is being exercised by the professional consultants. The Building Official may require special inspection and testing by a civil engineer. When the Building Official has cause to believe that geologic factors may be involved, the grading will be required to conform to engineered grading requirements.

**Sec. 3611.6 Notification of Noncompliance.** If, in the course of fulfilling their respective duties under this chapter, the civil engineer finds that the work is not being done in conformance with this chapter or the approved grading plans, the discrepancies shall be reported immediately to the Building Official.

**Sec. 3611.7 Transfer of Responsibility.** If the civil engineer of record is changed during grading, the work shall be stopped until the replacement has agreed in writing to accept their responsibility within the area of technical competence for approval upon completion of the work. It shall be the duty of the permittee to notify the Building Official in writing of such change prior to the recommencement of such grading.

#### **Sec. 3612--COMPLETION OF WORK.**

**Sec. 3612.1 Final Reports.** Upon completion of the rough grading work and at the final completion of the work, the Building Official may require a Completion Report, which may include, but not be limited to, the following:

1. A record drawing prepared by the civil engineer showing original ground surface elevations, as-graded ground surface elevations, lot drainage patterns, and the locations and elevations of surface drainage facilities and the outlets of subsurface drains. The civil engineer shall also provide a signed and stamped letter certifying the private storm drainage system was constructed as designed.
2. A report prepared by the civil engineer including locations and elevations of field density tests, summaries of field and laboratory tests, observations and testing during retaining wall construction, as-constructed locations, elevations, and details of subsurface drains, and comments on any changes made during grading and their effect on the recommendations made in the approved soil engineering report.
3. Reports of erosion control inspections performed by either the civil engineer or other person possessing an approved certificate for erosion and sediment control training, details of replacement or maintenance of erosion and sediment control systems and cleanup of any spills during grading activities.

**Sec. 3612.2 Notification of Completion.** The permittee shall notify the Building Official when the clearing and grading operation is ready for final inspection. Final approval shall not be given until all work, including installation of all drainage facilities and their protective devices, and all erosion control measures have been completed in accordance with the final approved clearing and grading plan, and the required reports have been submitted.

#### **Sec. 3613--BONDS.**

**Sec. 3613.1--Bonds.** The Building Official may require bonds in such form and amounts as may be deemed necessary to assure that the work, if not completed in accordance with the approved plans and specifications, will be corrected to eliminate hazardous conditions.

In lieu of a surety bond, the applicant may file a cash bond or assignment of funds with the Building Official in an amount equal to that which would be required in the surety bond.

**2.02.380 AMENDMENT BY ADDITION OF A NEW IBC CHAPTER 37 — OFF-SITE IMPROVEMENTS.**

**3701. Off-Site Improvements.** All new building construction, all new site uses, change of uses, all moved buildings moved onto a site from off-site, and all alterations or additions to buildings presently existing on the building site, except single family and two family dwellings and garage and utility buildings (Group U occupancies), with a cost greater than 50 percent of evaluation of the existing building shall comply with the following regulations. The evaluation of the existing building shall be determined from the latest available Building Valuation Data as published by the International Code Council in its Building Safety Journal, or on its internet website. The evaluation table will be applied to the floor area of the existing building for the existing occupancy as if it were new construction.

3702 Definitions:

For the purposes of this Chapter the following definitions shall apply:

**ALL NEW CONSTRUCTION** shall mean: new buildings, new site uses or changes of use, and moved buildings.

**BUILDING SITE** shall be a platted or unplatted parcel of land unified as a single property for the purpose of constructing a single building or a group of buildings being constructed as a unified project.

**COMMERCIAL CONSTRUCTION** shall mean all construction other than residential construction (as defined below).

**LOT FRONTAGE** is the length of a building site abutting one or more dedicated city streets, whether improved or unimproved.

**PUBLIC WAY** is any street, alley or similar parcel of land essentially unobstructed from the ground to the sky, which is deeded, dedicated or otherwise permanently appropriated to the public for public use and having a clear width of not less than 10 feet (3048 mm).

**RESIDENTIAL CONSTRUCTION** shall mean single family dwellings, or two family dwellings and garages and utility buildings as regulated by the 2006 IRC or single family dwellings, or two family dwellings classed as Group R, Division 3 and garages and utility buildings classed as Group U occupancies by the 2006 IBC, constructed on a single parcel of property.

**STREET FRONTAGE** is the abutment of privately owned property along one side of a dedicated street between the intersections of dedicated streets, alleys or other public ways.

**3703. Access to Property.** Access to all new construction, and all newly established access to existing buildings and sites within the City of Tacoma, shall be so graded that the finished driveway grade does not exceed a 15 percent slope, unless a design is approved by the City Engineer. Driveway approaches shall be in accordance with TMC 10.14 (Driveway Ordinance). Changes of driveway grade shall be gradual, such that no vehicle clearances are reduced to a point where the vehicle comes in contact with the surface of the driveway. Vehicles in this case shall mean commercially-produced-unmodified vehicles, which might normally use the driveway, including emergency vehicles where applicable. Grades shall be established using the property side of the sidewalk alignment.

**3704 All Construction:** New construction including Residential Construction, but excluding detached garages and utility buildings (Group U occupancies), which have existing improvements such as sidewalks, curbs, gutters, and paving, shall replace said improvements that are broken, damaged or hazardous. Pavement shall also be required to be replaced when it does not meet the current standard pavement section for residential or arterial streets contained in the Public Works Department Design Manual

**3705 Commercial Construction:** All new commercial construction shall install street improvements to Public Works Department Standards and constructed in accordance with the Public Works Department Design Manual and the City of Tacoma Surface Water Management Manual (COTSWMM) for the location, including, but not limited to, street paving, concrete curbs and gutters, storm water drainage, utility relocation, and sidewalks on all lot frontages facing on dedicated street rights-of-way. When a lot adjoins an alley or street intersection, improvements

shall also be installed at the alley or street intersection. Alleys shall be improved to City of Tacoma standards when any access to the site is provided from the alley.

**3706 Curbs, Gutters, Paving and Drainage Required for Residential Construction.** Construction of Single Family or Two Family Dwelling buildings shall require the development of cement concrete curb and gutter, paving, and drainage of all dedicated streets along the lot frontages, except, in cases where the topography or other conditions make it impractical, the Building Official may modify this street regulation. Such development of cement concrete curb and gutter, paving, and drainage shall be to minimum Public Works Department Standards and constructed in accordance with the Public Works Department Design Manual and the City of Tacoma Surface Water Manual for the location. Drainage shall meet Public Works Department Standards. The same criteria used for determining the placement of sidewalks for Single Family and two Family Dwelling Buildings, set forth in Section 3707, shall be used to determine placement of cement concrete curb and gutter and associated paving.

**3707 Sidewalks Required for Residential Development.** All new single family or two family dwelling buildings shall install City of Tacoma approved standard sidewalks when any of the following criteria applies:

3707.1. Sidewalks exist on the site, or sites, adjacent to the site to be built on, or

3707.2. Sidewalks exist on the majority of the developed sites in the area, or

3707.3. There is sufficient undeveloped property in the street frontages on both sides of the street that, when developed either by itself or when added to lot frontages already containing sidewalks, the majority of the street frontages on both sides of the street will have sidewalks, or

3707.4. The development involves more than one site and warrants sidewalks as part of the overall development.

3708. All new building construction all new site uses, change of uses, all moved buildings moved onto a site from off-site, and all alterations or additions to buildings presently existing on the building site, except Single Family and two Family dwelling buildings and garages and utility buildings (Group U occupancies), with a cost greater than 50 percent of the evaluation of the existing building (as defined at beginning of this section.) shall provide for surface and subsurface drainage to the satisfaction of the Public Works Department. Drainage shall meet Public Works Department Standards. Satisfactory surface drainage shall include, but not be limited to:

3708.1. Conveying all site drainage to the street gutter or storm sewer. Connection to the City storm sewer shall be at a storm sewer structure, unless otherwise approved by the Public Works Department.

3708.2. Conveying all site drainage to an approved engineered infiltration system. Infiltration systems are only allowed when City storm sewers are not available and require prior Public Works approval. Infiltration systems shall be designed per Public Works Department standards.

Sec. 3709. The City Engineer or designated representative may waive or modify the requirements of Chapter 37 where it is determined to be not practical or in the best interests of the City of Tacoma.

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**Passed: June 15, 2010**

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**Passed: June 15, 2010**





**2.02. 540 AMENDMENT TO IRC SECTION R105.2 WORK EXEMPT FROM PERMIT**

**R105.2 Work exempt from permit.** Permits shall not be required for the following. Exemption from the 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. Building:

1. 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>).
2. Reroofing of single family or duplex residential buildings, provided the existing roof is removed prior to reroofing and that the new roofing material does not exceed five (5) pounds per square foot.
3. Fences not over 6 feet (1829 mm) high.
4. 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.
5. Water tanks supported directly upon grade if the capacity does not exceed 5,000 gallons (18927 L) and the ratio of height to diameter or width does not exceed 2 to 1.
6. Sidewalks, driveways, and on grade concrete patios with an aggregate area not exceeding 2,000 Sq. Ft. (185.81 sq-M).
7. Painting, papering, tiling, carpeting, cabinets, countertops and similar finish work.
8. Prefabricated swimming pools that are less than 24 inches (610 mm) deep.
9. Swings and other playground equipment.
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. Decks not exceeding 200 square-feet (18.58 m<sup>2</sup>) in area that are not more than 30 inches (762 mm) above grade at any point and do not serve the exit door required by Section R311.4.

Gas:

1. Portable heating, cooking or clothes drying appliances.
2. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.
3. Portable fuel cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.

Mechanical:

1. Portable heating appliance.
2. Portable ventilation appliances.
3. Portable cooling unit.
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 cooler.
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.

**Insert Page 73 and 74 before IRC Page 3**

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

The stopping of leaks in drains, water, soil, waste or vent pipe; provided, however, that if any concealed trap, drainpipe, 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 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.

**R105.2.2 Repairs.** Application or notice to the building official is not required for ordinary repairs to structures. 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 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.

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**2.02. 550 AMENDMENT TO SECTION R112—BOARD OF APPEALS**

**Section R112 in the 2009 International Residential Code shall be replaced in its entirety with the following:**

**R112.1. The Board of Building Appeals.** The Board of Building Appeals, as created by TMC 2.17, is the properly designated board of appeals for the IRC, as adopted by the City of Tacoma and the State of Washington. The Board of Building Appeals, within the authority granted it by TMC 2.17, shall:

1. Hear appeals properly filed in accordance with TMC 2.17 from interpretations made by the Building Official.
2. Upon a properly filed request, in accordance with TMC 2.17, determine the suitability of alternate materials and/or methods of construction to those specified in the Residential Code.

**R112.2. Limitations of Authority.** The Board of Building Appeals shall have no authority relative to interpretation of the administrative provisions of this code, nor shall the Board be empowered to waive requirements of this code or grant variances.

**Insert Page 76 Facing IRC Page 7**

**Ordinance No. 27890**  
**June 15, 2010**

**2.02. 560 AMENDMENT TO IRC SECTION R113—VIOLATIONS**

Section R113-Violations in the 2009 International Residential Code is hereby deleted, and replaced by reference by TMC 2.02.150.

**Insert Page 77 Facing IRC Page 8**

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**June 15, 2010**

**2.02. 570 AMENDMENT TO IRC TABLE R301.2 (1)—CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA**

**TABLE R301.2 (1)  
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA**

ROOF SNOW LOAD	WIND DESIGN		SEISMIC DESIGN CATEGORY <sup>f</sup>	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP <sup>e</sup>	ICE BARRIER UNDER LAYMENT REQUIRED <sup>h</sup>	FLOOD HAZARDS <sup>g</sup>	AIR FREEZING INDEX <sup>i</sup>	MEAN ANNUAL TEMP <sup>j</sup>
	SPEED <sup>d</sup> (mph)	Topographic effects <sup>k</sup>		Weathering <sup>a</sup>	Frost line depth <sup>b</sup>	Termite <sup>c</sup>					
25 PSF	85	$K_{zt} = 2$	D <sub>1</sub>	Moderate	12 Inch.	Moderate to Heavy	20° F	No	3/25/1986 See TMC Chapter 2.12	350	50° F

For SI: 1 pound per square foot = 0.0479 ken/m<sup>2</sup>, 1 mile per hour = 1.609 km/h.

- 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 in accordance with the Washington State Energy Code, as adopted and amended by the City of Tacoma in TMC Chapter 2.10.
- 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 Flood Insurance Study and (c) the panel numbers and date(s) of all currently effective FIRMs and FBFMs, or other flood hazard map adopted by the community, as 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](http://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](http://www.ncdc.noaa.gov/fpsf.html).
- k. The design wind speed for Tacoma shall be 85 mile per hour, 3 second gust, with a  $K_{ZT}$  Factor of 2.00. (Which is the same as a 120 mile per hour 3 second gust, with a  $K_{ZT}$  factor of 1.00), unless a topographical analysis is done, or the topographical effects as published on the City of Tacoma Web Site are used. If a topographical analysis is done, or the topographical effects as published on the City of Tacoma are used the basic design wind speed shall be 85 miles per hour with the appropriate  $K_{ZT}$  factor applied, and the analysis shall be in accordance with the provisions of the International Building Code and/or ASCE 7-05.

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**2.02. 580 AMENDMENT TO IRC SECTION R301.2.3-SNOW LOADS.**

Section R301.2.3 in the 2009 International Residential Code is hereby deleted, and replaced by reference to TMC 2.02.300.

**Insert Page 82 Facing IRC Page 47**

**2.02. 590 AMENDMENT TO IRC CHAPTER 3, BY ADDITION OF SECTION R324 –FIRE  
SPRINKLER SYSTEMS.**

An automatic sprinkler system shall be installed throughout every building which is a group of townhouses, as defined in the 2009 International Residential Code, which contains five or more townhouse units. Such fire sprinkler system shall be designed and installed in accordance with IBC Section 903.3.1.1, IBC Section 903.3.1.2, or 903.3.1.3.

For the purposes of this IRC section, fire walls shall not be considered as dividing townhouses into separate buildings.

**Insert Pages 83 through 85 with Page 83 Facing IRC Page 70**

**2.02. 600 MANUFACTURED HOMES**

**2.02.590 Manufactured Homes.** Manufactured homes, as defined by Title 46 of the Revised Code of Washington (“RCW”) (“Motor Vehicles”), shall be permitted to be installed in the City, subject to the following conditions:

A. Manufactured homes to be installed in the City shall be new, which means any manufactured home required to be titled under Title 46 RCW which has not been previously titled to a retail purchaser and which is not a “used mobile home” as defined in RCW 82.45.032(2), which states:

(2) “Used mobile home” means a mobile home which has been previously sold at retail and has been subjected to tax under Washington State RCW chapter 82.08, or which has been previously used and has been subjected to tax under Washington State RCW chapter 82.12, and which has substantially lost its identity as a mobile unit at the time of sale by virtue of its being fixed in location upon land owned or leased by the owner of the mobile home and placed on a foundation (posts or blocks) with fixed pipe connections with sewer, water, and other utilities.

B. The Building Official shall be responsible for issuing all permits, including Department of Labor and Industries permits issued under Chapter 43.22 RCW, in accordance with an interlocal agreement under Chapter 39.34 RCW, for alterations, remodeling, or expansion of manufactured housing located within City limits.

C. All manufactured homes shall be comprised of at least two fully-enclosed parallel sections, each of not less than 12 feet wide by 36 feet long.

D. Manufactured homes shall be set upon a permanent foundation, as defined by the Housing and Urban Development (“HUD”) handbook “Permanent Foundation Guide for Manufactured Housing,” which is sufficient to resist wind and seismic lateral forces, as well as the gravity loads as specified in the IRC, as adopted and amended in TMC 2.02.

“Permanent Foundation” for manufactured homes is defined in the HUD handbook, “Permanent Foundation Guide for Manufactured Housing,” as:

**Definition of Permanent Foundation.** Permanent foundations must be constructed of durable materials; i.e., concrete, mortared masonry, or treated wood – and be site-built. It shall have attachment points to anchor and stabilize the manufactured home to transfer all loads, herein defined, to the underlying soil or rock. The permanent foundations shall be structurally designed for the following:

1. Vertical stability.

- a. Rated anchorage capacity to prevent uplift and overturning due to wind or seismic forces, whichever controls. Screw-in anchors are not considered a permanent anchorage.
- b. Footing size to prevent overloading the soil-bearing capacity and avoid soil settlement. Footing shall be reinforced concrete to be considered permanent.
- c. Base of footing below maximum frost-penetration depth.
- d. Encloses a basement or crawl space with a continuous wall (whether bearing or non-bearing) that separates the basement or crawl space from the backfill, and keeps out vermin and water.

2. Lateral Stability. An anchorage system with a tested and rated or engineered load capacity to prevent sliding due to wind or seismic forces, whichever controls, in the transverse and longitudinal directions.

E. The space from the bottom of the manufactured home to the ground shall be enclosed by concrete or an approved concrete product. Such concrete product may be designed to support the manufactured home for gravity and lateral loads, or may be decorative.

F. All manufactured homes shall be originally constructed with a composition or wood shake or shingle, coated metal, excluding zinc galvanized metal, or similar roof of not less than 3:12 pitch.

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- G. All manufactured homes shall have exterior siding similar in appearance to siding materials commonly used on conventional site-built, IRC-compliant, single-family residences.
- H. The roof shall be designed to support 25 pounds per square foot snow load, in conformance with TMC 2.02.300.
- I. Manufactured homes installed within the City shall meet the Washington State Energy Code, as adopted and amended by TMC 2.10.
- J. Light and ventilation in manufactured homes shall meet the requirements of Section R303 of the IRC.

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**Amendments to the 2009 International Existing Building Code**

**2.02.700 GENERAL AMENDMENTS.**

The following numbered chapters, sections, and tables in the International Existing Building Code (IEBC), adopted in this chapter by reference, are amended to read as hereinafter set forth, and include any amendments made to these sections by the Washington State Building Council as set forth in WAC 51-50, and, as so amended, shall supersede that section or table so numbered in the IEBC and shall be a part of the official Building Code of the City of Tacoma. The chapters, sections, and tables so amended are as follows:

IEBC Section 105.5	IEBC Section 301	IEBC Section 907
IEBC Section 112	IEBC Section 305.1.2	IEBC Section 1201
IEBC Section 113	IEBC Section 307.1	IEBC Section A107
IEBC Section 202	IEBC Section 503.2	IEBC Section A113.9

**2.02.710 WASHINGTON STATE BUILDING CODE COUNCIL AMENDMENTS DELETED FROM THE CITY OF TACOMA ADOPTION OF THE 2009 INTERNATIONAL EXISTING BUILDING CODE**

The following IEBC sections have been amended by the Washington State Building Code Council; however, the City of Tacoma deletes, the Washington State Building Code Council Amendment, and adopts the IEBC section as stated in the 2009 International Existing Building Code or as the section is amended by the City of Tacoma by this chapter.

IEBC Section 101.4	IEBC Section 101.7	IEBC Section 307.1
IEBC Section 101.4	IEBC Section 102.4.1	IEBC Chapter 12

**2.02.720 WASHINGTON STATE BUILDING CODE COUNCIL AMENDMENTS.**

The following sections have been amended by the Washington State Building Code Council in WAC 51-50, Appendix M and are herein adopted by the City of Tacoma. The amendments to these sections are not included in this ordinance, but are adopted by reference:

IEBC Section 101.4.1	IEBC Section 711	IEBC Section 1103.7
IEBC Section 101.4.2	IEBC Section 807.4.1	IEBC Section 1103.9
	IEBC Section 807.4.2	IEBC Section 1104.1
IEBC Section 202 (Work Area)	IEBC Section 807.4.3	IEBC Section 1105.10
IEBC Section 405.1	IEBC Section 808	IEBC Section 1105.14
IEBC Section 607	IEBC Section 912.1.1	
IEBC Section 704	IEBC Section 1101.1	

**2.02.730 AMENDMENT TO IEBC SECTION 105.2—WORK EXEMPT FROM PERMIT.**

Section 105.2 in the 2009 International Existing Building Code is hereby deleted, and replaced by reference by TMC Section 2.02.090.

**2.02.740 AMENDMENT TO IEBC SECTION 105.5—EXPIRATION**

Section 105.5 in the 2009 International Existing Building Code is hereby deleted, and replaced by reference by TMC Section 2.02.100 and TMC Section 2.02.120.

**2.02.750 AMENDMENT TO IEBC SECTION 112—BOARD OF APPEALS**

**IEBC Section 112 in the 2009 International Existing Building Code shall be replaced in its entirety with the following:**

**EB112.1. The Board of Building Appeals.** The Board of Building Appeals, as created by TMC 2.17, is the properly designated board of appeals for the International Existing Building Code, as adopted by the City of Tacoma. The Board of Building Appeals, within the authority granted it by TMC 2.17, shall:

1. Hear appeals properly filed in accordance with TMC 2.17 from interpretations made by the Building Official.
2. Upon a properly filed request, in accordance with TMC 2.17, determine the suitability of alternate materials and/or methods of construction to those specified in the Existing Building Code.

**EB112.2. Limitations of Authority.** The Board of Building Appeals shall have no authority relative to interpretation of the administrative provisions of this code, nor shall the Board be empowered to waive requirements of this code or grant variances.

**2.02.760 AMENDMENT TO IEBC SECTION 113—VIOLATIONS**

Section 113 in the 2009 International Existing Building Code is hereby deleted, and replaced by reference by TMC Section 2.02.150.

**2.02.770 AMENDMENT TO IEBC SECTION 202 GENERAL DEFINITIONS, BY ADDITION OF A DEFINITION OF SUBSTANTIAL RENOVATION OR CONSTRUCTION**

**Substantial renovation or construction.** Shall be defined as meaning remodeling, alteration or reconstruction of, and/or addition to, an existing building within a two-year period, the cost of which exceeds 50 percent of the value of the building as calculated using the latest Building Valuation Data published by the International Code Council. The two year period shall be measured from the issuance date of the initial building permit for the project.

**2.02.780 AMENDMENT OF IEBC SECTION 301—GENERAL BY ADDITION OF A NEW SUBSECTION EB301.3 RENOVATION**

**EB301.3 Renovation.** No building shall undergo substantial renovation or construction unless the entire building is made to comply with the 2009 International Building Code.

EXCEPTION: Seismic restoration of buildings, other than essential facilities as defined in the building code, may use force levels and the design procedures set forth in the IEBC, as adopted and amended by the City of Tacoma.

**2.02.790 AMENDMENT OF IEBC SECTION 305.1.2 –EXISTING FIRE ESCAPES**

305.1.2 **Existing fire escapes.** When approved by the Building Official existing fire escapes may continue to be accepted as a component in the means of egress in existing buildings only.

**2.02. 800 AMENDMENT OF IEBC SECTION 307.1 – CHANGE OF OCCUPANCY.**

**EB307.1 Conformance.** No change shall be made in the use or occupancy of any building that would place the building in a different division of the same group of occupancy or in a different group of occupancies, unless such building is made to comply with the requirements of the *International Building Code* for such division or group of occupancy. Subject to the approval of the building official, the use or occupancy of existing buildings shall be permitted to be changed and the building is allowed to be occupied for purposes in other groups without conforming to all the requirements of the *International Building Code* for those groups, provided the new or proposed use is less hazardous, based on life, fire risk and seismic risk, than the existing use. Fire, life and seismic safety requirements required for the new occupancy, but not required for the old occupancy, shall be provided regardless of whether the new occupancy is considered less hazardous than the old occupancy. The relative hazard of occupancies shall be determined using IEBC Chapter 9 as amended in this Chapter.

**2.02.810 AMENDMENT OF IEBC SECTION 503 – FIRE PROTECTION – BY ADDITION OF A NEW SUBSECTION EB 503.2**

**EB503.2 Group R-1 and R-2 occupancies.** Where Repairs as defined by the International Existing Buildings Code, are undertaken to buildings of Group R-1 or Group R-2



occupancies, automatic fire sprinkler systems shall be provided when required by the International Fire Code (IFC) as adopted and amended in TMC Chapter 3.02.

**2.02.820 AMEND SECTION 603 OF THE IEBC – FIRE PROTECTION – BY ADDITION OF A NEW SUBSECTION EB603.2**

**EB603.2 Group R-1 and R-2 occupancies.** Where Repairs as defined by the International Existing Buildings Code, are undertaken to buildings of Group R-1 or Group R-2 occupancies, automatic fire sprinkler systems shall be provided when required by the International Fire Code (IFC) as adopted and amended in TMC Chapter 3.02.

**2.02.830 AMENDMENT OF IEBC SECTION 907 – CHANGE OF OCCUPANCY—STRUCTURAL**

**EB907.1 Gravity loads.** Buildings or portions thereof subject to a change of occupancy where such change in the nature of occupancy results in higher uniform or concentrated loads based on Tables 1607.1 and 1607.6 of the *International Building Code* shall comply with the gravity load provisions of the *International Building Code*.

**Exception:** Structural elements whose stress is not increased by more than 5 percent.

**EB907.2 Snow and wind loads.** Buildings and structures subject to a change of occupancy where such change in the nature of occupancy results in higher wind or snow occupancy categories based on Table 1604.5 of the *International Building Code* shall be analyzed and shall comply with the applicable wind or snow load provisions of the *International Building Code*.

**Exception:** Where the new occupancy with a higher importance factor is less than or equal to 10 percent of the total building floor area. The cumulative effect of the area of occupancy changes shall be considered for the purposes of this exception.

**EB907.3 Seismic loads.** Existing buildings with a change of occupancy shall comply with the seismic provisions of Sections EB907.3.1 and EB907.3.2.

**EB907.3.1 Compliance with the *International Building Code*.** Where a building or portion thereof is subject to a change of occupancy that results in the building being assigned to a higher seismic occupancy category based on Table 1604.5 of the *International Building Code*; or where such change of occupancy results in a reclassification of a building to a higher hazard category as shown in EB Table 907, the building shall conform to the seismic requirements of the *International Building Code* for the new occupancy group.

**Exceptions:**

1. Specific detailing provisions required for a new structure are not required to be met where it can be shown that an acceptable level of performance and seismic safety is obtained for the applicable seismic use group using reduced *International Building Code* level seismic forces as specified in Section EB506.1.1.3. The rehabilitation procedures shall be approved by the code official and shall consider the regularity, overstrength, redundancy and ductility of the lateral-load-resisting system within the context of the existing detailing of the system.
2. Where the area of the new occupancy with a higher hazard category is less than or equal to 10 percent of the total building floor area and the new occupancy is not classified as Seismic Use Group IV. For the purposes of this exception, where a structure is occupied for two or more occupancies not included in the same seismic use group, the structure shall be assigned the classification of the highest seismic use group corresponding to the various occupancies. Where structures have two or more portions that are structurally separated, each portion shall be separately classified. Where a structurally separated portion of a structure provides required access to, required egress from or shares life safety components with another portion having a higher seismic use group, both portions shall be assigned the higher seismic use group. The cumulative effect of the area of occupancy changes shall be considered for the purposes of this exception.

**EB907.3.2 Access to Seismic Use Group IV.** Where the change of occupancy is such that compliance with Section EB907.3.1 is required and the seismic use group is a Category IV, the operational access to such Seismic Use Group IV existing structure shall not be through an adjacent structure.

**Exception:** Where the adjacent structure conforms to the requirements for Seismic Use Group IV structures. Where operational access is less than 10 feet (3048 mm) from an interior lot line or less than 10 feet (3048 mm) from another structure, access protection from potential falling debris shall be provided by the owner of the Seismic Use Group IV structure.

**EB TABLE 907-HAZARD CATEGORIES AND CLASSIFICATIONS EARTHQUAKE SAFETY**

<b>RELATIVE HAZARD</b>	<b>OCCUPANCY CLASSIFICATION</b>
1	H-1, H-4 with highly toxic materials I-2 (Hospitals) B (Fire, Rescue, and Police Stations) B (Emergency Preparedness Centers) B (Primary Communication Centers) S (Post-Earthquake Recovery Vehicle Garages) F (Power Generating Stations and Other Utility Facilities required for emergency backups)
2	A, E, I-1, I-2 (All Others), I-3, H-2, H-3 F (Power Generating Stations and Other Public Utilities not Listed in Relative Hazard 1) B (Used for Adult Education and with an Occupant Load > 500) Any Building with an Occupant Load > 500
3	R-1, R-2
4	F-1, S-1, H-4 (All Others)
5	B (All Others), F-2, M, S-2
6	R-3, U

**2.02.840 AMENDMENT OF IEBC CHAPTER 12--RELOCATED OR MOVED BUILDINGS**

Sec 1201 General

**Section 1201.1.** Buildings or structures moved into or within the City of Tacoma shall comply with the provisions of the construction codes, including but not limited to the building code, mechanical code, fire code, plumbing code, electrical code, energy code and barrier free code for new buildings or structures.

EXCEPTION: Group R, Division 3, buildings or structures are not required to comply if:

1. The original occupancy classification is not changed. And
2. The original building is not substantially remodeled or rehabilitated. For the purposes of this section only, a Group R, Division 3 building shall be considered to be substantially remodeled when the costs of remodeling within a two year period beginning on the date the alteration permit is issued, exceed 60 percent of the value of the building as calculated using the Building Valuation Table published by the International Code Council, exclusive of the costs relating to preparation, construction, demolition, or renovation of foundations.

Off-site improvements shall be provided in accordance with section 2.02.380, as if the building is a new building, when the building is moved onto the site from some other location, and shall be provided as if the building was added to or remodeled when the building is moved within the site.

Both a building permit and a moving permit shall be required to move a building onto a site within the City of Tacoma. No moving permit shall be issued until a building permit is issued for the building.

Prior to issuing a building permit for a building to be moved onto a site within the City of Tacoma, the permittee shall post a performance bond, or other financial security acceptable to the Building Official, to be used to demolish the building if the conditions set forth in Sections 1201.1 and 1201.2, and all other applicable codes and regulations of the City of Tacoma, have not been complied with within the times specified in said sections. The amount of the bond shall be established by the Building Official and shall be sufficient to cover costs of demolishing the building, disposing of all demolition debris, cleaning the property of any and all litter and debris, and grading the property so that no unsafe conditions remain.

The following shall be conditions of any permits issued to move a building onto a site within the City of Tacoma:

Sec. 1201.1.1. The foundation required for the building shall be completed, and the building placed on the foundation, in accordance with the provisions of this code, within 30 days of the date the building permit is issued.

Sec. 1201.1.2. All construction required to bring the building into conformance with the provisions of the construction codes for new buildings, and all other applicable codes and regulations of the City of Tacoma shall be completed, and a final inspection of the work passed, within 180 days of the date the building permit is issued.

Any permittee may apply for an extension of the time to meet one or both of the requirements specified in 1201.1.1 and 1201.1.2, above, for a good and satisfactory reason. The maximum extensions of time which may be granted by the Building Official to complete said work shall be: 30 additional days to complete the work specified in 3408.1.1; and 180 additional days to complete the work specified in 1201.1.2, above.

If the permittee fails to comply with all of the conditions of the permit within the time limits described above, the Building Official shall demolish the moved building, dispose of all demolition debris, clean the property of any and all litter and debris, and grade the property so that no unsafe conditions remain. All of the City's costs therefore shall be charged against the permittee's bond or other financial security.

**1201.2 Conformance.** Buildings or structures moved into or within the jurisdiction shall comply with the provisions of this code, the International Residential Code (WAC 51-51), the International Mechanical Code (WAC 51-52), the International Fire Code (WAC 51-54), the Uniform Plumbing Code and Standards (WAC 51-56 and 51-57), and the Washington State Energy Code (WAC 51-11) for new buildings or structures.

**Exception:** Group R-3 buildings or structures are not required to comply if:

1. The original occupancy classification is not changed, and
2. The original building is not substantially remodeled or rehabilitated. For the purposes of this section only, a Group R, Division 3 building shall be considered to be substantially remodeled when the costs of remodeling within a two year period beginning on the date the alteration permit is issued, exceed 60 percent of the value of the building as calculated using the Building Valuation Table published by the International Code Council, exclusive of the costs relating to preparation, construction, demolition, or renovation of foundations.

#### **2.02.850 AMENDMENT OF IEBC APPENDIX SECTION A107—QUALITY CONTROL.**

EB Sec. A107.1 Pointing preparation and mortar pointing shall be performed with special inspection.

EXCEPTION: At the discretion of the Building Official, incidental pointing may be performed without special inspection.

EB Sec. A107.2 Masonry Shear Tests. In-place shear tests shall comply with IEBC Section A106.3.3.1. Testing of masonry for determination of tensile-splitting strength shall comply with Section A106.3.3.2

EB Sec. A107.3 Existing Wall Anchors. Existing wall anchors utilized as all or part of the required tension anchors shall be tested in pullout according to the testing criteria set forth in Section A107.4. The minimum number of anchors tested shall be in accordance with Section A107.4, but not less than four per floor, with two tests at walls with joists framing into the wall and two tests at walls with joists parallel to the wall, but not less than ten percent of the total number of existing tension anchors at each level.

EB Sec. A107.4 New Bolts. Twenty-five percent of all new embedded bolts resisting only shear forces in unreinforced masonry walls shall be tested using a calibrated torque wrench in accordance with 1997 UBC Standard 21-7.

All new embedded bolts resisting tension forces or a combination of tension and shear forces shall be subject to periodic special inspection in accordance with IBC Chapter 17 prior to placement of the bolt and grout or adhesive in the drilled hole. A portion of the bolts resisting tension forces shall be tested in accordance with the following schedule:

Total Number of Anchors to be Installed	Number of Anchors to be Tested
Less than 5 Anchors	All the Anchors Installed
5 to 25 Anchors	5 Anchors Plus 40% of Anchors in Excess of 5
25 to 100 Anchors	13 Anchors Plus 16% of Anchors in Excess of 25
100 to 200 Anchors	25 Anchors Plus 10% of Anchors in Excess of 100
200 to 500 Anchors	35 Anchors Plus 5% of Anchors in Excess of 200
Over 500 Anchors	10% of the Anchors

Tension testing of existing and new bolts shall be performed in accordance with the following:

The test apparatus shall be supported by the masonry wall. The distance between the anchor and the test apparatus supports shall not be less than 80 percent of the wall thickness for existing anchors and equal to the embedment depth for new embedded bolts. Existing wall anchors shall be given a preload of 300 pounds prior to establishing a datum for recording elongation. The tension test load reported shall be recorded at 1/8-inch relative movement of the existing anchor and the adjacent masonry surface. New embedded tension bolts shall be subject to direct tension load not less than three times the design load, but not less than 1,500 pounds, and shall be held for ten minutes (ten percent deviation). In the event that failures of the anchors occur prior to reaching the level of three times the design load, a design load equal to one-fourth of the lowest failure load shall be assigned to the bolts.

New through bolts need not be tension tested. Values for the tension on new through bolts shall be calculated using the masonry shear values established by in-plane-shear tests and good engineering practice.

Shear capacity of new or existing bolts or anchors shall be established by testing. A minimum of five percent of the bolts or anchors resisting shear shall be tested. Shear testing of bolts shall be performed as follows:

Bolts or anchors resisting shear shall be tested in pairs, and shall be spaced sufficiently apart to allow installation and operation of the testing apparatus. A plate or angle shall be fastened to each of the pair of bolts or anchors to be tested. The plate or angle shall have a rectangular surface contact to the wall not more than four inches in either dimension, except that a larger contact area may be permitted by the Building Official if steel channels, angles or plates are to be anchored to the wall as the shear transfer mechanism in the actual design. Loads are to be applied simultaneously to the bolts or anchors through the angles or plates by test apparatus located between the bolts or anchors, with a line of force not to exceed two inches from the face of the wall. The test apparatus may either pull or push on the bolts or anchors.

The load applied to the bolts or anchors shall be three times the design shear load and shall be maintained for ten minutes. In the event the bolts or anchors fail prior to reaching the level of three times the design load, the design load shall be established at one-fourth of the lowest failure load.

**2.02.860 AMENDMENT OF IEBC APPENDIX SECTION A113.9—SECONDARY LOAD PATHS.**

**The following replaces the entire IEBC Appendix Section A113.9—Truss and beam supports:**

EB Sec. A113.9 Secondary Load Paths.

Primary or secondary framing supported by unreinforced masonry bearing walls or columns shall be provided with an independent secondary vertical load path constructed to support all dead and live loads. A full snow load on the roof need not be included, but a minimum ten pounds per square-foot live load shall be assumed for the roof.

Hollow clay tile or hollow concrete tile masonry walls used, as shear walls shall be provided with an independent secondary lateral load path capable of carrying the design lateral loads for the shear walls.

A 50 percent increase in the allowable stresses will be allowed in the materials used to construct the secondary load paths.

**EXCEPTION:** The secondary load path for secondary support masonry bearing walls, for other than hollow clay tile, or hollow concrete tile, may be omitted where it can be shown that the dead

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load of the bearing wall plus the superimposed dead load supported by the bearing wall is sufficient to prevent the wall from going into tension under out-of-plane bending, when seismic loads are applied to the wall.



## **Earthquake Recording Instrumentation**

### **2.02.1000 EARTHQUAKE RECORDING INSTRUMENTATION**

There is hereby established in the City of Tacoma a strong-motion instrumentation program for the purpose of administering the program and of acquiring strong-motion instruments and installing and maintaining such instruments as needed in representative geologic environments and structures throughout the City, and for dangerous building abatement.

The Building Official shall organize and monitor the strong-motion instrumentation program with the advice of the Board of Building Appeals.

The Building Official shall purchase and install instruments in representative structures and geologic environments throughout the City as deemed necessary and desirable by the Building Code Board of Appeals.

The Building Official shall negotiate with a competent agency an agreement by which such agency shall maintain and service the strong-motion instruments installed. The Building Official shall negotiate with appropriate agencies to interpret all records from the instruments and make the records and interpretations available to all interested parties.

The City of Tacoma shall collect a fee from all applicants for building permits, which shall be equal to ten percent of the building permit fee.

All fees collected pursuant to this section shall be deposited in the Earthquake Recording Instrumentation Program Fund. Said fund may be used to support earthquake preparedness activities, as well as to support the Earthquake Recording Instrumentation Program.

The Building Official shall notify the building owner at the time of reviewing the plans for the proposed construction if the earthquake recording instruments are required for his building. The owner of the building shall provide, at no cost to the City, suitable space, acceptable to the Building Official, for his equipment to be installed and maintained. (Ord. 24862 § 1; passed Mar. 19, 1991)

**Insert at a convenient location in the IBC**





**Amendments to the 2009 Uniform Plumbing Code**

**Section 3.** That Chapter 2.06 of the Tacoma Municipal Code is hereby repealed in its entirety and a new chapter 2.06 is reenacted to read as follows:

**2.06.010 ADOPTION OF THE UNIFORM PLUMBING CODE.**

The 2009 Edition of the Uniform Plumbing Code and the International Association of Plumbing and Mechanical Officials (IAPMO) Installation Standards, together with appendices A, B, D, E, F, and I (hereinafter referred to as the Uniform Plumbing Code), adopted and published by the International Association of Plumbing and Mechanical Officials is hereby adopted by this reference, pursuant to the provisions of Section 35.21.180, Revised Code of Washington, as the official Plumbing Code of the City of Tacoma. Such adoption by reference shall be subject to the amendments to the Uniform Plumbing Code hereinafter set forth.

(Note: Where reference is made to International Building Code or IBC; or reference is made to the International Residential Code or IRC; or reference is made to the International Existing Building Code or IEBC; the reference shall mean the 2009 edition of each of these documents as amended and adopted by the City of Tacoma, unless specifically stated otherwise.)

**2.06.020 CONFLICTS WITH THE CITY OF TACOMA SURFACE WATER MANUAL**

If there is a conflict between the 2009 Uniform Plumbing Code as adopted and amended in this chapter and the City of Tacoma Surface Water Management Manual, the City of Tacoma Surface Water Management Manual shall govern.

**2.06.030 ADOPTION OF WASHINGTON STATE BUILDING CODE COUNCIL AMENDMENTS TO THE 2009 UNIFORM PLUMBING CODE.**

The amendments to the 2009 Edition of the Uniform Plumbing Code as developed by the Washington State Building Code Council under the authority of RCW 19.27 and as set forth in WAC Sections 51-56 and 51-57 are hereby adopted by this reference.

Part II of UPC Chapter 7 has been deleted by the Washington State Building Code Council Amendments, including UPC Sections 713 through 723, and Tables 7-7 and 7-8. City sewer availability, building sewers (from a point 2 feet after passing through or under the building foundation), and private sewage disposal systems shall be in accordance with the "*City of Tacoma Side Sewer and Sanitary Sewer Availability Manual*".

**2.06.040 AMENDMENTS BY DELETION OR LIMITATION.**

Sections 103.4, Table No. 1-1, and 1101.11.2.2.2 are hereby deleted from the City of Tacoma adoption of the 2009 Uniform Plumbing Code. Section 908.2, shall only apply to buildings constructed under the 2009 International Residential Code and Group R, Division 2 residential buildings which have 4 or less dwelling units, and have gross floor area of less than 5000 square-feet, and have no more than two usable floors including usable space in basements.

**Insert Page 97 and 98 before UPC Page 1**

**2.06.050 BOARD OF BUILDING APPEALS**

The Board of Building Appeals, as created by Tacoma Municipal Code (TMC) 2.17, is the properly designated board of appeals for the Plumbing Code. The Board of Building Appeals, within the authority granted it by TMC 2.17, shall:

1. Hear appeals of interpretations made by the Building Official, properly filed in accordance with TMC 2.17, and
2. On a properly filed request, in accordance with TMC 2.17, determine the suitability of alternate materials and/or methods of construction as compared to those specified in the Plumbing Code.

Limitations of Authority. The Board of Building Appeals shall have no authority relative to interpretation of the administrative provisions of this code, nor shall the Board be empowered to waive requirements of this code or grant variances.

**2.06.060 GENERAL AMENDMENTS**

The following numbered sections and numbered tables of the Uniform Plumbing Code, in this chapter by reference adopted, are amended to read as hereinafter set forth; and, as so amended, shall supersede that section or table so numbered in the Uniform Plumbing Code, and shall be a part of the official Plumbing Code of the City of Tacoma. The sections and tables are as follows:

101.5.1	103.3.4	305.2
102.3	218	

**2.06.070 AMENDMENT TO UPC SECTION 101.5.1—ADDITIONS, ALTERATIONS, OR REPAIRS**

101.5.1 Additions, Alterations, or Repairs. Additions, Alterations, or repairs may be made to any plumbing system without requiring the existing plumbing system to comply with all the requirements of this code, provided the addition, alteration, or repair conforms to that required for a new plumbing system. Additions, alterations or repairs shall not cause an existing system to become unsafe, insanitary, or overloaded.

**Exception:** Buildings which are substantially renovated shall be inspected for inflow and infiltration sources per the requirements of TMC 12.08.720. Substantial renovation for the purposes of this section shall be defined as meaning remodeling, alteration of and/or addition to, an existing building within a two-year period the cost of which exceeds 60 percent of the value of the building as calculated using the latest Building Valuation Table (BVT) as published by the International Code Council.

**2.06.080 AMENDMENT TO UPC SECTION 102.3 VIOLATIONS AND PENALTIES**

Section 102.3 in the 2009 Uniform Plumbing Code is hereby deleted, and replaced by reference by TMC 2.02.150.

**Insert Page 99 Facing UPC Page 2**

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**2.06.090 AMENDMENT TO UPC SECTION 103.3.4 EXPIRATION**

Every permit issued by the Building Official under the provisions of this code shall expire by limitation and become null and void if the work authorized by such permit is not commenced within 180 days from the date of such permit, or if the work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days. Before such work can be recommenced, a new permit shall be first obtained, and provided the code under which the original permit was issued has not been changed, the fee therefore shall be one-half the amount required for a new permit for such work, provided no changes have been made or will be made in the original plans and specifications for such work. If suspension or abandonment of the work has exceeded one year, or the code under which the original permit was issued has changed, or the original plans and specifications have been or will be changed, the full new permit fee shall be charged. For the purposes of this code, all time limitations shall be considered met only when verified by inspection by the Building Official or his designate representative.

Any permittee holding an unexpired permit may apply for an extension of the time within which he/she may commence work under the permit if he/she is unable to commence work within the time required by this section, or if, for good and satisfactory reasons, he/she needs to suspend work for more than 180 days. Upon written request by the permittee, showing that circumstances beyond the control of the permittee have prevented action from being taken, the Building Official may extend the time for action by the permittee for a period not exceeding 180 days. No permit shall be extended more than once. In order to renew action on a permit after expiration, the permittee shall pay a new full permit fee. The written request for an extension of a permit must be received prior to the permit's expiring.

**Insert Page 101 Facing UPC Page 4**

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**2.06.100 AMENDMENT TO UPC SECTION 218.0— P - DEFINITIONS BY REDEFINING  
“PRIVATE SEWER”**

Private Sewer – A building sewer that receives the discharge from more than one (1) building drain and conveys it to a public sewer, private sewage disposal system, or other point of disposal.

Private sewers shall only be permitted in accordance with the *“City of Tacoma Side Sewer and Sanitary Sewer Availability Manual”*.

**Insert Page 104 Facing UPC Page 17**



**2.06.110 AMENDMENT TO UPC SECTION 305.2—**

When a public sewer is not available, alternative methods of waste disposal shall be determined in accordance with the *“City of Tacoma Side Sewer and Sanitary Sewer Availability Manual”*.

**Insert Page 105 Facing UPC Page 22**

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**Amendments to the 2009 International Mechanical Code**

**Section 4.** That Chapter 2.07 of the Tacoma Municipal Code is hereby repealed in its entirety and a new chapter 2.07 is reenacted to read as follows:

**2.07.010 ADOPTION OF THE INTERNATIONAL MECHANICAL CODE.**

The 2009 Edition of the International Mechanical Code, together with Appendix A (hereinafter referred to as the "International Mechanical Code"), and the 2009 Edition of the International Fuel Gas Code, adopted and published by the International Code Conference, and the Standards for liquefied petroleum gas installations shall be the 2004 Edition of NFPA 58 (Liquefied Petroleum Gas Code) and the 2009 Edition of ANSI Z223.1/NFPA 54 (National Fuel Gas Code), is hereby adopted by this reference, pursuant to the provisions of Section 35.21.180 RCW, as the official Mechanical Code of the City of Tacoma, and may be referred to as the Tacoma Mechanical Code.

Such adoption by reference shall be subject to the amendments to the International Mechanical Code hereinafter set forth.

(Note: Where reference is made to International Building Code or IBC; or reference is made to the International Residential Code or IRC; or reference is made to the International Existing Building Code or IEB; the reference shall mean the 2009 edition of each of these documents as amended and adopted by the City of Tacoma, unless specifically stated otherwise.)

**2.07.020 ADOPTION OF WASHINGTON STATE BUILDING CODE COUNCIL AMENDMENTS TO THE 2009 INTERNATIONAL MECHANICAL CODE.**

The amendments to the 2009 Edition of the International Mechanical Code, the 2009 Edition of the International Fuel Gas Code and the Standards for liquefied petroleum gas installations, the 2004 Edition of NFPA 58 (Liquefied Petroleum Gas Code) and the 2009 Edition of ANSI Z223.1/NFPA 54 (National Fuel Gas Code) as developed by the Washington State Building Code Council and as set forth in WAC 51-52, are hereby adopted by this reference.

**2.07.030 ADMINISTRATION**

The administration of the International Fuel Gas Code and the Standards for liquefied petroleum gas installations: the 2004 Edition of NFPA 58 (Liquefied Petroleum Gas Code) and the 2009 Edition of ANSI Z223.1/NFPA 54 (National Fuel Gas Code) as adopted in this chapter shall be administered in accordance with Chapter 1 of the International Mechanical Code as adopted in this chapter and as herein amended.

**2.07.040 GENERAL AMENDMENTS.**

The following numbered sections of the International Mechanical Code are amended to read as hereinafter set forth: 106.4.3, 108, and 109, and shall also apply to the 2009 International Fuel Gas Code and the 2009 Edition of ANSI Z223.1/NFPA 54 (National Fuel Gas Code).

**2.07.050 AMENDMENT TO IMC SECTION 106.4.3 - EXPIRATION.**

**106.4.3.1 Expiration.** Every permit issued by the Building Official under the provisions of this code shall expire by limitation and shall become null and void if the Building Official or his/her representative has not verified, by inspection, that the work authorized by such permit has not commenced within 180 days from the date of the permit. Once work has commenced, the permit shall expire and become null and void if a minimum of ten percent of the work authorized by the permit is not completed in each 180 day period from the date of the issuance of the building permit, such progress being verified by inspection by the Building Official or his/her representative. In no case shall a permit remain valid for more than five years. In the event that a permit expires and becomes null and void before such work can be recommenced, a new permit shall be obtained and the fee therefore shall be one-half the amount required for a new permit for such work, provided:

1. No changes have been made or will be made to the original plans and specifications for such work;
2. Such suspension or abandonment has not exceeded one year;
3. A new code has not been adopted within the period since the date of the permit;
4. The permit is less than five years old.

Otherwise, the full permit fee shall be charged to issue a new permit to replace an expired permit.

**106.4.3.2 Extension of unexpired permits.** A permittee holding an unexpired permit may apply for an extension of the time within which he/she may commence work or delay work under the permit if he/she is unable, for good and satisfactory reasons, to commence work or continue work within the time required for action by this section. The request for extension shall be made in writing to the Building Official prior to the expiration of the permit. The Building Official may extend the time for action by the permittee for a period not exceeding 180 days. No permit shall be extended more than once, nor shall the permit be extended past the five-year maximum limit.

**Insert Page 109 Facing IMC Page 4**

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**2.07.060 AMENDMENT TO IMC SECTION 108—VIOLATIONS**

Section 108 in the 2009 International Mechanical Code is hereby deleted, and replaced by reference by TMC 2.02.150.

**Insert Page 111 Facing IMC Page 6**

**2.07.070 AMENDMENT OF IMC SECTION 109 - BOARD OF BUILDING APPEALS**

**Section 109 in the 2009 International Mechanical Code shall be replaced in its entirety with the following:**

**109.1. The Board of Building Appeals.** The Board of Building Appeals, as created by TMC 2.17, is the properly designated board of appeals to the Tacoma Mechanical Code. The Board of Building Appeals, within the authority granted it by TMC 2.17, shall:

1. Hear appeals properly filed in accordance with TMC 2.17 from interpretations made by the Building Official.
2. Upon a properly filed request, in accordance with TMC 2.17, determine the suitability of alternate materials and/or methods of construction to those specified in the Tacoma Mechanical Code.

**109.2. Limitations of Authority.** The Board of Building Appeals shall have no authority relative to interpretation of the administrative provisions of this code, nor shall the Board be empowered to waive requirements of this code or grant variances.



**Section 6.** That TMC Chapter 2.10 is repealed in its entirety and a new Chapter 2.10 is reenacted to read as follows:

**Amendments to Chapter 2.10 of the Tacoma Municipal Code—Adoption of the  
Washington State Energy Code**

**2.10.010 ADOPTION OF THE WASHINGTON STATE ENERGY CODE.**

The Washington State Energy Code, as developed, adopted, and periodically updated by the Washington State Building Code Council under the authority of RCW 19.27A.020, and as set forth in WAC 51-11, is hereby adopted by reference, pursuant to the provisions of RCW 35.21.180, as the Official Energy Code of the City of Tacoma. (Ord. 26795 § 1; passed Apr. 3, 2001; Ord. 25148 § 1; passed Jul. 21, 1992; Ord. 22716 § 1; passed Jul. 22, 1982)

**2.10.020 ADMINISTRATION.**

The Tacoma Energy Code shall be administered in accordance with the administrative provisions of the Building Code as adopted and amended by Chapter 2.02 of the Tacoma Municipal Code. Penalties for violations shall be prescribed in accordance with the provisions set forth in Chapter 2.02 of the Official Code of the Tacoma Municipal Code. (Ord. 26795 § 3; passed Apr. 3, 2001; Ord. 25148 § 1; passed Jul. 21, 1992; Ord. 22716 § 1; passed Jul. 22, 1982)

**Section 6.** That TMC Chapter 2.12 is repealed in its entirety and a new Chapter 2.12 is reenacted to read as follows:

Chapter 2.12

**FLOOD HAZARD AND COASTAL HIGH HAZARD AREAS**

**2.12.010 FINDINGS OF FACT AND PURPOSE.**

- A. The Flood Hazard Areas and Coastal High Hazard Areas of the City of Tacoma are subject to periodic inundation by flood waters which endangers life and property, presents health and safety hazards, disrupts commerce and governmental services, and necessitates extraordinary public expenditures for flood protection and relief, all of which adversely affect the public health, safety, and general welfare.
- B. These flood losses are caused by the natural accumulation and ponding of flood waters and the cumulative effect of obstructions in flood hazard areas which increase flood heights and velocities. Developments which are inadequately flood proofed, elevated, or otherwise protected from flood damage also contribute to the flood loss.
- C. It is the purpose of this chapter to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:
  - 1. To protect human life and health by preventing the hazardous use of flood-prone lands;
  - 2. To minimize expenditure of public money for remedial flood control measures;
  - 3. To minimize the need for rescue and relief efforts associated with flooding which are generally undertaken at the expense of the general public;
  - 4. To minimize damage to public facilities and utilities such as water and gas mains; electric, telephone, and sewer lines; streets; and bridges located in flood hazard areas;
  - 5. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions; and
  - 6. To qualify the City for participation in the National Flood Insurance Program, thereby giving the citizens of Tacoma the opportunity to purchase flood insurance with particular emphasis on those in Flood Hazard Areas or Coastal High Hazard Areas.
- D. To accomplish its purposes, this chapter includes methods and provisions for:
  - 1. Restricting or prohibiting developments which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
  - 2. Requiring that developments vulnerable to floods, including facilities which serve such developments, be protected against flood damage at the time of initial construction;
  - 3. Controlling filling, grading, dredging, and other development which may increase flood damage within the A1-30 and V1-V30 zones on the City's FIRM maps; and
  - 4. Preventing and regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas. (Ord. 26839 § 1; passed Jul. 31, 2001: Ord. 23571 § 2; passed Mar. 25, 1986)

**2.12.020 DEFINITIONS.**

Unless specifically defined below, words or phrases used in this chapter shall be interpreted so as to give them the meaning they have in common usage and to give this chapter its most reasonable application.

**“Appeal”** means a request for a review of the Building Official's interpretation of any provision of this chapter or a request for a variance.

**“Base flood”** means the flood having a 1 percent chance of being equaled or exceeded in any given year, also referred to as the “100-year flood.”

**“Base flood elevation” (BFE)** means the actual elevation (in mean sea level) of the water surface of the base flood determined by the Federal Flood Insurance Administration or any qualified person or agency described in Section 2.12.030.B hereof.

**“Basement”** means any area of the building having its floor sub-grade (below ground level) on all sides.

**“BFE”** is an abbreviation for “Base Flood Elevation”.

**“Breakaway walls”** means any type of walls, whether solid or lattice, and whether constructed of concrete, masonry, wood, metal, plastic, or any other suitable building material, which are not part of the structural support of the building and which are so designed as to break away, under abnormally high tides or wave action, without damage to the structural integrity of the building on which they are used or any buildings to which they might be carried by flood waters.

**“Building official”** means the Planning Manager of the City of Tacoma Community and Economic Development Department, Building and Land Use Services, or that person designated by the Planning Manager of the City of Tacoma Community and Economic Development Department, Building and Land Use Services, to administer the requirements set forth in this chapter.

**“City”** means the City of Tacoma or the City Council of Tacoma.

**“Coastal high hazard area”** means the area subject to high velocity waters, including, but not limited to, storm surge or tsunamis, designated on the City’s FIRM maps as Zone V1.

**“Development”** means any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation, or drilling operations or storage of equipment or materials located within the area of special flood hazard.

**“Expansion to a preexisting manufactured home park or manufactured home subdivision”** means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, either final site grading or pouring of concrete pads, or the construction of streets).

**“FEMA”** is an abbreviation for the “Federal Emergency Management Agency”.

**“FIRM”** is an abbreviation for “Flood Insurance Rate Map”.

**“FIS”** is an abbreviation for “Flood Insurance Study”.

**“Flood” or “flooding”** means a general and temporary condition of partial or complete inundation of normally dry land areas from:

1. The overflow of inland or tidal waters; and/or
2. The unusual and rapid accumulation of runoff or surface waters from any source.

**“Flood hazard area”** means the area within the flood plain which consists of the floodway, floodway fringe, or adjacent land or any other land that has been identified within the respective boundaries (Zones A, A1-30, and V1-30) indicated on the Flood Insurance Rate Maps (“FIRM”).

**“Flood Insurance Rate Map” (“FIRM”)** means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the City.

**“Flood insurance study” (FIS)** means the official report provided by the Federal Insurance Administration which includes flood profiles, the Flood Boundary-Floodway Map, and the water surface elevation of the base flood.

**“Floodway”** means the channel of a river or other watercourse and the adjacent land areas which must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

**“Lowest Floor:”** means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a building’s lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance found at Section 5.2-1(2), (i.e. provided there are adequate flood ventilation openings).

**“Manufactured (mobile) home”** means a structure which is transportable in one or more sections, built on a permanent chassis, and designed to be used with or without a permanent foundation when connected to the required utilities. It does not include recreational vehicles or travel trailers.

**“Mean high tide” (“mean high water”)** means the mean height of tidal high waters at a particular point or station over a period of time. For purposes herein, the cycle of change covers a 19-year period, and mean high water is the average of the high waters over that 19-year period as defined by the United States Geodetic Survey.

**“Mean sea level”** means the average height of the sea for all stages of the tide, and in the City shall mean 0.58 feet National Geodetical Vertical Datum (N.G.V.D. 1929), which is also National Oceanic and Atmospheric Administration Datum (N.O.A.A.). See diagram at end of this chapter entitled “City of Tacoma Coastal Flood Elevation Data.”

**“New construction”** means new structures, where no structure is present prior to construction, for which the “start of construction” commenced on or after the adoption date of this chapter, or September 1, 2001, whichever is later.

**“New manufactured home park or manufactured home subdivision”** means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale, for which the construction of facilities for servicing the lot (including, at a minimum, the installation of utilities, either final site grading or the pouring of concrete pads, and the construction of streets) is completed on or after the effective date of this chapter.

**“Preexisting manufactured home park or manufactured home subdivision”** means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale, for which the construction of facilities for servicing the lot on which the manufactured home is to be affixed (including, at a minimum, the installation of utilities, either final site grading or the pouring of concrete pads, and the construction of streets) is completed before the effective date of this chapter.

**“Start of construction”**, includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the state of excavation, or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations, or the erection of temporary forms; nor does it include the installation of the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure.

**“Structure”** means a walled and roofed building or manufactured home which is principally above ground.

**“Substantial Damage”** means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

**“Substantial improvement”** means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either:

1. Before the improvement or repair is started, or
2. If the structure has been damaged and is being restored, before the damage occurred.

For the purposes of definition, “substantial improvement” is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure.

The term does not, however, include either:

1. Any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which have been previously identified by the local code enforcement official which are solely necessary to assure safe conditions; or
2. Any alteration of a structure listed on the National Register of Historic Places or a recognized state Inventory of Historic Places.

**“Variance”** means a grant of relief from the requirements of this chapter which permits construction in a manner which would otherwise be prohibited by this chapter. (Ord. 26839 § 2; passed Jul. 31, 2001; Ord. 23571 § 2; passed Mar. 25, 1986)

#### **2.12.030 GENERAL PROVISIONS.**

- A. Lands to which this chapter applies. This chapter shall apply to all Flood Hazard Areas and Coastal High Hazard Areas within the jurisdiction of the City (Zones A, A1-30, and V1-30 on the FIRM).
- B. Basis for Establishing the Areas of Special Flood Hazard. The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled “The Flood Insurance Study for the City of Tacoma,” dated December 1, 1983, and any revisions thereto, with an accompanying Flood Insurance Rate Map (FIRM), and any revisions thereto, are hereby adopted by reference and declared to be a part of this chapter. The best available information for flood hazard area identification as outlined in section 2.12.030 C shall be the basis for regulation until a new FIRM is issued that incorporates data utilized under section 2.12.030 C.
- C. The Flood Insurance Study and maps shall provide the base information by which the provisions of this chapter shall be administered. When base flood elevation data has not been provided (in A or V Zones) in accordance with section 2.12.030 B, Basis for Establishing the Areas of Special Flood Hazard, the Building Official shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source, in order to administer this chapter.
- D. The Flood Insurance Study and maps are on file at the City of Tacoma, Community and Economic Development Department, Building and Land Use Services, Tacoma Municipal Building, 747 Market Street, Suite 345, Tacoma, WA 98402-3769.
- E. Information to be obtained and maintained. Where the base flood elevation data is provided through the Flood Insurance Study, FIRM, or in accordance with Section 2.12.030 C, the City shall obtain from the building permit applicant, and shall maintain a record of the actual (as-built) elevation (in relation to mean sea level) of the lowest floor (including basements), of all new or substantially improved structures within a Flood Hazard Area or Coastal High Hazard Area, and whether the structure contains a basement. This information shall be maintained by the Building and Land Use Services Division of the Public Works Department and be available for public inspection. Section B of the Elevation Certificate shall be completed by the Building Official, or his authorized designee.
- F. Compliance. No structure or land shall be hereafter constructed, located, extended, converted, or altered without full compliance with the terms of this chapter and other applicable regulations.
- G. Interpretation. In the interpretation and application of this chapter, all provisions shall be:
- H. Considered as minimum requirements;
- I. Liberally construed in favor of the governing body; and
- J. Deemed neither to limit nor repeal any other powers granted under state statutes.
- K. Warning and disclaimer of liability. The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This chapter does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be

free from flooding or flood damages. This chapter shall not create liability on the part of the City, any officer or employee thereof, or the Federal Insurance Administration for any flood damages which result from reliance on this chapter or any administrative decision lawfully made hereunder. (Ord. 26839 § 3; passed Jul. 31, 2001; Ord. 26386 § 19; passed Mar. 23, 1999; Ord. 23571 § 2; passed Mar. 25, 1986)

**2.12.040 GENERAL STANDARDS FOR FLOOD HAZARD PROTECTION.**

In all Flood Hazard Areas and Coastal High Hazard Areas, the following general standards for flood hazard protection shall apply:

- A. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure. Manufactured homes located in flood hazard protection areas shall be provided with permanent foundations, as necessary to meet this subsection and the provisions for foundations listed in the City's amendments to the International Residential Code, as adopted and amended by TMC Chapter 2.02.
- B. All new construction and substantial improvements shall be:
  - 1. Constructed with materials and utility equipment resistant to damage by flood waters;
  - 2. Constructed using methods and practices which minimize flood damage; and
  - 3. Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be elevated or otherwise designed or located so as to prevent water from entering and accumulating within the components during conditions of flooding.
- C. Utilities shall be designed and installed under the following provisions:
  - 1. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
  - 2. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters; and
  - 3. New on-site waste disposal systems for new construction shall be prohibited.
  - 4. Water wells shall be located on high ground that is not in a floodway, or subject to flooding and shall also meet WAC 173-160-171.
- D. All subdivision proposals shall:
  - 1. Be consistent with the need to minimize flood damage;
  - 2. Have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;
  - 3. Have adequate drainage provided to reduce exposure to flood damage;
  - 4. Where base flood elevation data has not been provided or is not available from another authorized source, it shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or 5 acres (whichever is less).
- E. AE and A1-30 Zones with Base Flood Elevations but No Floodways. In areas with base flood elevations (but a regulatory floodway has not been designated), no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.
- F. Floodways. Located within areas of special flood hazard established in Section 2.12.030 B are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters that can carry debris, and increase erosion potential, the following provisions apply:

1. Prohibit encroachments, including fill, new construction, substantial improvements, and other development unless certification by a registered professional engineer is provided demonstrating through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels during the occurrence of the base flood discharge.
2. Construction or reconstruction of residential structures is prohibited within designated floodways, except for:
  - a. Repairs, reconstruction, or improvements to a structure which do not increase the ground floor area; and
  - b. Repairs, reconstruction or improvements to a structure , the cost of which does not exceed 50 percent of the market value of the structure either
    - (i) Before the repair or construction is started, or
    - (ii) If the structure has been damaged, and is being restored, before the damage occurred.

Any project for improvement of a structure to correct existing violations of state or local health, sanitary or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or to structures identified as historic places, may be excluded in the 50 percent.
3. If Section 2.12.040 F is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of TMC Chapter 2.12.

**G. Critical Facilities.** Construction of new critical facilities shall be, to the extent possible, located outside the limits of the Special Flood Hazard Areas (SFHA) (100-year floodplain). Construction of new critical facilities shall be permissible within the SFHA if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three feet above BFE or to the height of the 500-year flood whichever is higher. Access to and from the critical facilities should be protected to the height utilized above. Flood proofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood elevation shall be provide to all critical facilities to the extent possible.

**Exception:** In areas where the flood hazard is tidal flooding, critical facilities need only be elevated to the height of the 500 year flood.

- H. A registered professional engineer shall certify that the standards of this chapter are satisfied. (Ord. 26839 § 4; passed Jul. 31, 2001; Ord. 23571 § 2; passed Mar. 25, 1986)

#### **2.12.050 SPECIFIC STANDARDS FOR FLOOD HAZARD PROTECTION.**

- A. In all Flood Hazard Areas (Zones A and A1-30), the following specific standards for flood hazard protection shall apply:
1. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to or above base flood elevation.

**Exception:** Residential structures in Coastal A zones shall have lowest floor, including a basement, elevated to or above the base flood elevation plus one foot.

(Note: It is recommended that the lowest floor, including basements, be elevated a minimum of one foot above base flood elevation to increase safety and reduce insurance premiums.) Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood waters. Designs for meeting this requirement must be certified by a registered professional engineer or must meet or exceed the following minimum criteria:

- a. A minimum of two openings, having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding, shall be provided;
  - b. The bottom of all openings shall be no higher than one foot above grade; and
  - c. Openings may be equipped with screens, louvers, or other coverings or devices, provided that they permit the automatic entry and exit of floodwaters.
  - d. Below grade crawl space areas may be constructed in accordance with the Federal Emergency Management Agency (FEMA) Technical Bulletin 11-01, which states:
    - (i) The interior grade of a crawlspace below the BFE must not be more than 2 feet below the lowest adjacent exterior grade (LAG), shown as D in Figure 3.
    - (ii) The height of the below-grade crawlspace, measured from the interior grade of the crawlspace to the top of the crawlspace foundation wall must not exceed 4 feet (shown as L in Figure 3) at any point. The height limitation is the maximum allowable unsupported wall height according to the engineering analyses and building code requirements for flood hazard areas. This limitation will also prevent these crawlspaces from being converted into habitable spaces.
    - (iii) There must be an adequate drainage system that removes floodwaters from the interior area of the crawlspace. The enclosed area should be drained within a reasonable time after a flood event. The type of drainage system will vary because of the site gradient and other drainage characteristics, such as soil types. Possible options include natural drainage through porous, well-drained soils and drainage systems such as perforated pipes, drainage tiles, or gravel or crushed stone drainage by gravity or mechanical means.
    - (iv) The velocity of floodwaters at the site should not exceed 5 feet per second for any crawlspace. For velocities in excess of 5 feet per second, other foundation types should be used. Below-grade crawlspace construction in accordance with the requirements listed above will not be considered basements.
2. New construction and substantial improvement of any commercial, industrial, or other nonresidential structure shall either have the lowest floor, including basement, elevated to the level of the base flood elevation. (It is recommended that the lowest floor, including basements, be elevated a minimum of one foot above base flood elevation to increase safety and reduce insurance premiums.) Or, together with attendant utility and sanitary facilities, shall:
- a. Be flood proofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;
  - b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. The design of such components shall be certified by a registered professional engineer, that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications, and plans. Such certifications shall be submitted to the Building Official; and
  - c. Non-residential structures that are elevated and not flood proofed shall meet the same standards set for space below the lowest floor, as described in Section 2.12.050.A.1.
  - d. For all new or substantially improved flood proofed nonresidential structures where the flood elevation data is provided through the FIS, FIRM, or in accordance with Section 2.12.030 B 1,
    - (i) Obtain and record the elevation (in relation to mean sea level) to which the structure was flood proofed.
    - (ii) Flood proofing certifications required in section 2.12.030 C .



3. Manufactured homes.
  - a. All manufactured homes to be placed or substantially improved within flood hazard zones shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to or above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement. (It is recommended that the lowest floor, be elevated a minimum of one foot above base flood elevation to increase safety and reduce insurance premiums.)

This applies to manufactured homes:

    - (i) Outside of a manufactured home park or subdivision,
    - (ii) In a new manufactured home park or subdivision,
    - (iii) In an expansion to an existing manufactured home park or subdivision, or
    - (iv) In an existing manufactured home park or subdivision on a site which a manufactured home has incurred "substantial damage" as the result of a flood; and
  - b. Manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision that are not subject to the above manufactured provisions be elevated so that either:
    - (i) The lowest floor of the manufactured home is elevated to or above the base flood elevation, or
    - (ii) The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.
4. Recreational vehicles placed on sites with special flood hazard areas (A1-A30, AH, AE, VI-V30, and VE) on the community's FIRM must either:
  - a. Be on site for fewer than 180 consecutive days;
  - b. Be fully licensed and ready for highway use, on its wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or
  - c. Meet the elevation and anchoring requirements for manufactured homes.
- B. In all Coastal High Hazard Areas (Zones V1-30, VE, and V), the following specific standards for flood hazard protection for all structures (including residential, commercial, and manufactured homes) shall apply:
  1. All new construction in Zones V, V1-V30, and VE shall be located landward of the reach of mean high tide.
  2. All new construction and substantial improvement shall be elevated so that the bottom of the lowest supporting (horizontal) member is elevated to or above the base flood elevation, with all space below the lowest supporting member open so as not to impede the flow of water, except for breakaway walls, as provided for in Section 2.12.020.
  3. New construction or substantial improvements shall be elevated on pilings or columns and shall be securely anchored thereto. The pile or column foundation attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a 1 percent chance of being equaled or exceeded in any given year.
  4. Pilings or columns used as structural support shall be designed and anchored so as to withstand all applied loads of the base flood flow. A registered professional engineer or architect shall develop or review the structural design, specification, and plans for the construction, and shall certify that the design methods of construction to be used are in accordance with accepted standards of practice for meeting the provision of Sections 2.12.050.B.2 and 3 above.

5. Obtain the elevation (in relation to mean sea level) of the bottom of the lowest horizontal structural member of the lowest floor of all new and substantially improved structures in Zones V1-V30 and VE. The Building Official shall maintain a record of all such information.
6. Provide that all new construction and substantial improvements within Zones V1-30, VE, and V on the community's FIRM have the space below the lowest floor either free of obstruction or constructed with non-supporting breakaway walls, open wood lattice work, or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system. For the purposes of this section, a breakaway wall shall have a design safe loading resistance of not less than ten pounds per square foot and no more than 20 pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of 20 pounds per square foot (either by design or when so required by local or state codes) may be permitted only if a registered professional engineer or architect certifies that the designs proposed meet the following conditions:
  - a. Breakaway wall collapse shall result from water loads less than that which would occur during the base flood; and
  - b. The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components. Maximum wind and water loading values to be used in this determination shall each have a 1 percent chance of being equaled or exceeded in any given year (100-year mean recurrence interval).
7. If breakaway walls are utilized, such enclosed space shall be useable solely for parking of vehicles, building access, or storage. Such space shall not be used for human habitation.
8. The use of fill for structural support of buildings shall be prohibited.
9. Man-made alteration of sand dunes, which would increase potential flood damages, shall be prohibited.
10. Prior to construction, plans for any structure which will have breakaway walls must be submitted to the Building Official for approval.
11. Any alteration, repair, reconstruction, or improvement to a structure, started after the enactment of this chapter, shall not enclose the space below the lowest floor unless breakaway walls are used, as provided for in Section 2.12.020. (Ord. 26839 § 5; passed Jul. 31, 2001; Ord. 23571 § 2; passed Mar. 25, 1986)

**2.12.060 PERMITS – APPROVAL REQUIRED.**

No building permit for structures or the development or use of land shall be issued by the City within a Flood Hazard Area or Coastal High Hazard Area, unless approved by the Building Official. Such approval shall be based on a review of the provisions set forth in this section and the technical findings and recommendations of City departments including, but not limited to, the Fire Department and the Public Works Department. Permits shall not be issued until the Building Official has reviewed all development permits to determine that all necessary permits have been obtained from those Federal, State, or local governmental agencies from which prior approval is required. Where elevation data is not available either through the Flood Insurance Study, FIRM, or from another authoritative source (Section 2.12.030 B 1), applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Compliance with the provisions of this section does not obviate the need to obtain other permits which may be required pursuant to state or federal law, including approvals required from the Washington State Department of Social and Health Services and/or Department of Ecology relating to water and/or sewer systems which ensure that water and sewer systems will be designed to avoid infiltration, inflow, or impairment. Failure to elevate at least two feet above grade in these zones may result in higher flood insurance rates. (Ord. 26839 § 6; passed Jul. 31, 2001; Ord. 23571 § 2; passed Mar. 25, 1986)

**2.12.070 PROCEDURAL REQUIREMENTS.**

A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 2.12.030 B. The permit shall be for all structures including manufactured homes, as set forth in the "Definitions", and for all development including fill and other activities, also as set forth in the "Definitions".

City building permits which relate to the development and use of land within a Flood Hazard Area or Coastal High Hazard Area shall be applied for with the Community and Economic Development Department, Building and Land Use Services. If it appears that the property may lie in a Flood Hazard Area or Coastal High Hazard Area, the Building and Land Use Services Division shall require the property owner to submit additional information as necessary to determine if, in fact, the property lies within a Flood Hazard Area or Coastal High Hazard Area, and, if the development is located in an unnumbered A-zone, base flood elevation data shall be provided by the applicant. If it is determined that the property lies within a Flood Hazard Area or Coastal High Hazard Area, the applicant shall be required by the Building and Land Use Services Division to submit such surveys, plans, and supporting documents as are necessary to determine the applicability of City regulations to the proposed structure, development, or use. The Building and Land Use Services Division shall consider not only the individual structure, development, or use, but shall also consider it in combination with existing and future similar structures, developments, and uses. Whenever technical information is furnished to the City by an applicant for a building permit, the City shall consider such report in acting upon the requested permit.

The Building Official shall, within a reasonable time, indicate in a letter to the applicant for a building permit and other known parties of interest, approval or disapproval of the requested building permit, and, if approved, the conditions of approval.

The cumulative effect of any proposed development, where combined with all other existing and anticipated development, shall not increase the water surface elevation of the base flood more than one foot at any point.

Whenever any alteration or relocation of any watercourse is proposed, the Building Official shall:

- A. Notify adjacent communities and the Washington State Department of Ecology prior to any alteration or relocation of a watercourse, and submit such notifications to the Federal Insurance Administration;
- B. Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished. (Ord. 26839 § 7; passed Jul. 31, 2001; Ord. 23571 § 2; passed Mar. 25, 1986)

**2.12.080 VARIANCE PROCEDURE – BOARD OF BUILDING APPEALS.**

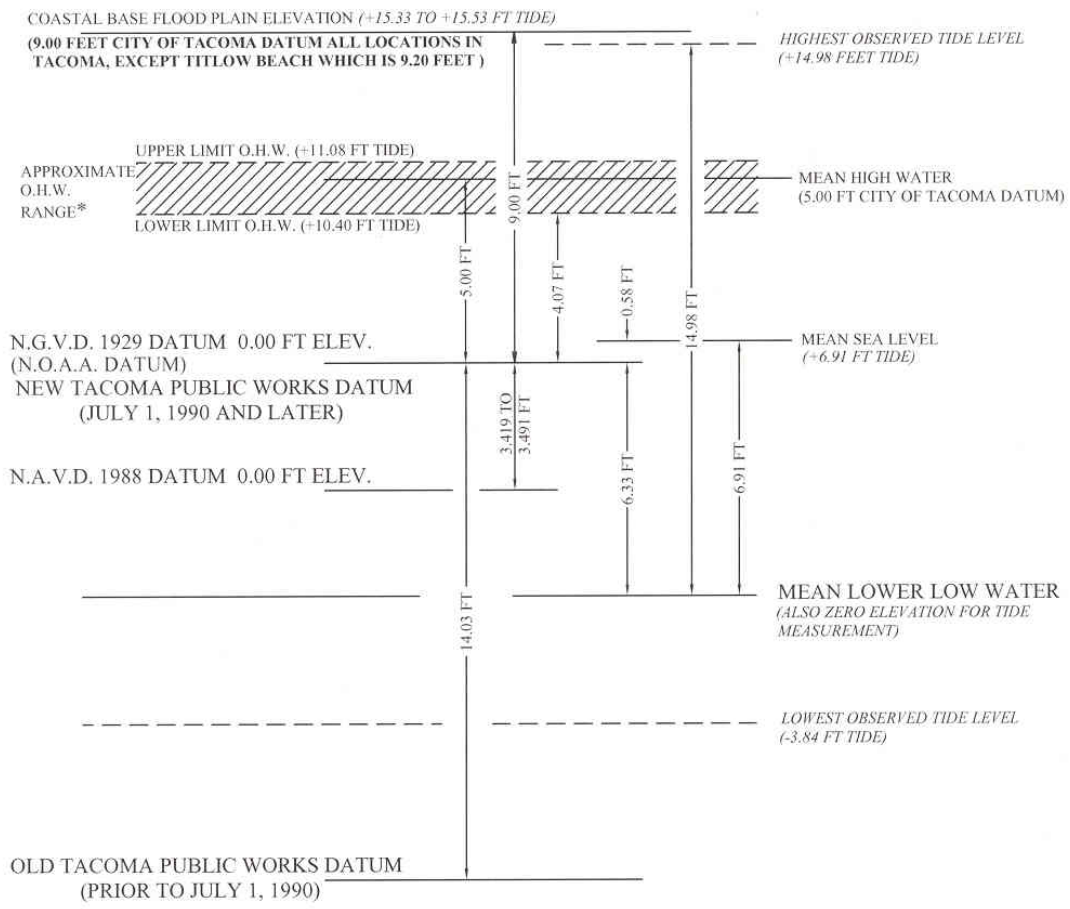
- A. The Board of Building Appeals, as established by the City, shall hear and decide appeals and requests for variances from the requirements of this chapter. It shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Building Official in the enforcement or administration of this chapter.
- B. Variances may be issued for the reconstruction, rehabilitation, or restoration of structures listed on the National Register of Historic Places or the state Inventory of Historic Places, without regard to the procedures set forth in the remainder of this chapter.
- C. Variances shall be issued only upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- D. Variances shall be issued only upon:
  - 1. A showing of good and sufficient cause;
  - 2. A determination that failure to grant the variance would result in exceptional hardship to the applicant; and
  - 3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, or create nuisances or conflict with existing local laws or ordinances.

- E. In passing upon such applications, the Board of Building Appeals shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this chapter, and:
  - 1. The danger that materials may be swept onto other lands to the injury of others;
  - 2. The danger to life and property due to flooding or erosion damage;
  - 3. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
  - 4. The importance of the services provided by the proposed facility to the community;
  - 5. The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
  - 6. The compatibility of the proposed use with existing and anticipated development;
  - 7. The relationship of the proposed use to the policies of the Generalized Land Use Plan for that area;
  - 8. The safety of access to the property in times of flood for ordinary and emergency vehicles;
  - 9. The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and
  - 10. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, water systems, streets, and bridges.
- F. Upon consideration of the factors of Section 2.12.080.D and the purposes of this chapter, the Board of Building Appeals may attach such conditions to the granting of variances as it deems necessary to further the purposes of the chapter.
- G. Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a lowest floor elevation below the base flood elevation, and that the cost of flood insurance will be commensurate with the increased risk resulting from the granting of the variance.
- H. The Buildings Official shall maintain the records of all opposed actions and report any variances to the Federal Insurance Administration upon request. (Ord. 26839 § 8; passed Jul. 31, 2001; Ord. 23571 § 2; passed Mar. 25, 1986)

**2.12.090 APPEALS.**

- A. The decision of the Building Official to approve or disapprove a building permit in a Flood Hazard Area or Coastal High Hazard Area may be appealed to the Board of Building Appeals. The requested building permit shall not be issued during the appeal period.
- B. The Board of Building Appeals shall consider all technical evaluations, all relevant standards, and the criteria specified in Section 2.12.080.E hereof.
  - 1. The Board of Building Appeals shall prepare a written report and decision containing findings and conclusions which show how its decision implements the purposes of this chapter and is consistent with the criteria, standards, and limitations of this chapter.
  - 2. The decision of the Board of Building Appeals shall be final and conclusive unless, within 20 calendar days from the day of the decision, an aggrieved party obtains a writ of certiorari from the Superior Court of Washington for Pierce County for the purpose of review of the action taken.

# CITY OF TACOMA RELATIONSHIP BETWEEN DATUMS AND COASTAL FLOOD ELEVATION DATA



(O.H.W.) ORDINARY HIGH WATER  
 (N.G.V.D.) NATIONAL GEODETICAL VERTICAL DATUM (1929)  
 (N.O.A.A.) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
 ALSO TACOMA PUBLIC WORKS DATUM AFTER JULY 1, 1990  
 (N.A.V.D.) NORTH AMERICAN VERTICAL DATUM (1988)

\* ORDINARY HIGH WATER (O.H.W.) IS ESTABLISHED BY ASSESSMENT OF BIOLOGICAL INDICATORS FOR THE SPECIFIC SITE. THE ELEVATION WILL VARY FROM SITE TO SITE. O.H.W. IS NOT LIMITED TO THIS RANGE, BUT USUALLY FALLS WITHIN IT.

September 9, 2009

## **WATERFRONT STRUCTURES AND MARINA CODE**

### **2.13.010 TITLE.**

Chapter 2.13 of the TMC shall be known as the Waterfront Structures and Marina Code (WFS&MC).

### **2.13.020 SCOPE.**

This chapter shall pertain to and regulate the fire protection and construction of waterfront structures and marinas, as defined herein, which shall be subject to all requirements of the codes and ordinances of the City of Tacoma relating to other structures, including but not limited to the Building Code, Residential Code, Mechanical Code, Fire Code, Plumbing Code, Electrical Code, Energy Code, Land Use Regulatory Code, Flood Plain Code, and the Shoreline Management Act as officially adopted by the City of Tacoma, except as may be specifically limited, modified, or amended herein.

EXCEPTION: This Chapter shall not apply to existing waterfront structures where the International Residential Code is applicable, or classified as Group R, Division 3 occupancies, as defined in the International Building Code.

### **2.13.030 IFC CHAPTER 45 AND THE WASHINGTON STATE BUILDING CODE COUNCIL AMENDMENTS**

The International Fire Code (IFC) Chapter 45—Marinas and the Washington State Building Code Council amendments to IFC Chapter 45 are adopted as part of the City of Tacoma's Fire Code and are specifically included in the City of Tacoma's Water Front Structures and Marina Code by reference.

### **2.13.040 EXISTING INSTALLATIONS.**

Except as specifically provided within this chapter, facilities regulated by this chapter, and in existence at the time of the adoption of this chapter may have their existing use or occupancy continued, subject to the provisions of the building and fire codes, if such occupancy was an approved use at the time of the adoption of this chapter on March 31, 1992.

### **2.13.050 DEFINITIONS.**

The following terms used in the succeeding sections of this chapter relating to waterfront structures and marinas shall have the meanings herein indicated. Where specific terms are not defined within this section, their meaning shall be as defined using chapter 4 of the International Building Code as adopted and amended by Chapter 2.02 of the Official Code of the City of Tacoma, or the International Fire Code as adopted and amended by Chapter 3.02 of the Official Code of the City of Tacoma.

#### **A. DEFINITIONS:**

APPROACH WAY: A structure used to gain access to a pier or wharf, but not used to moor vessels.

#### **B. DEFINITIONS:**

BEAM: Maximum overall width of a vessel.

BERTH: A place where a vessel may be secured to a fixed or floating structure and left unattended.

**BOAT HOUSE:** A boat house shall be a specific type of vessel designed to be moored to a main float system to enclose and protect another vessel or vessels from the elements. The construction of boat houses shall be regulated by this ordinance and the building and fire codes.

**BUILDING CODE:** The International Building, the International Residential, and the International Existing Building Codes, published by the International Code Council as adopted and amended by Chapter 2.02 of the TMC.

**BUILDING OFFICIAL:** The Planning Manager of the City of Tacoma Community and Economic Development Department, Building and Land Use Services.

**C. DEFINITIONS:**

**CORROSION RESISTANT STEEL:** For the purposes of this ordinance, unless specifically stated otherwise, corrosion resistant steel shall mean steel which is galvanized, painted or otherwise coated to retard corrosion, or any uncoated steel alloy which is defined by The American Society for Testing and Materials (ASTM) specifications as corrosion resistant.

**D. DEFINITIONS:**

**DATUM:** is the zero point established by the City of Tacoma Public Works Department for measuring elevations. NOAA datum and the City of Tacoma Public Works Datum as of July 1, 1990 are approximately interchangeable. (Tacoma Public Works Datum and NOAA Datum have a zero point which would correspond approximately with +14.03 feet according to the old City of Tacoma Public Works Datum. (Datum published prior to July 1, 1990.))

**DECK:** That element of a waterfront structure which provides the lowest floor level or platform for use, under which occur only the structural support system for the structure, and no usable space.

**DRY BOAT STORAGE:** A building, which is either open or subdivided into stalls and is used primarily for the dry storage of vessels, or a building for the dry storage of vessels in racks.

**E. DEFINITIONS:**

**F. DEFINITIONS:**

**FIRE CHIEF:** Chief of the City of Tacoma Fire Department.

**FIRE CODE:** The International Fire Code published by the International Code Council, as adopted and amended by Chapter 3.02 of the TMC.

**FLOAT:** A floating structure normally used as a point of transfer for passengers and/or goods, and/or for mooring purposes.

1. **Finger Float:** A narrow float connected to a main float, which defines the length of a berth and separates that berth from adjacent berths.

2. **Float System:** A combinations of a main float and finger floats, either open or covered, designed to be used to moor vessels.

3. **Main Float:** A float connected by a gangway to the shore or to a waterfront structure, being restrained laterally by an anchorage system, normally of piles, but free to move vertically, and which provides access to berths. Finger floats may be attached to one or both sides of main floats.

**G. DEFINITIONS:**

GANGWAY: A bridge affording access from shore, or a waterfront structure to a main float.

**H. DEFINITIONS:**

**I. DEFINITIONS:**

I.B.C. International Building Code. See Definition of Building Code.

I.B.C. STANDARDS: International Building Code Standards shall mean the referenced standards listed in the International Building Code, the International Residential Code, and the International Existing Building Code, as applicable to the subject and existing conditions.

I.F.C. International Fire Code. See Definition of Fire Code.

I.F.C. STANDARDS: International Fire Code Standards shall mean the referenced standards listed in the International Fire Code. **J. DEFINITIONS:**

**K. DEFINITIONS:**

**L. DEFINITIONS:**

LENGTH, VESSELS: For the purposes of this code, vessel length shall be the overall length of the vessel including, but not limited to, bowsprits, overhangs, swimming platforms and dinghies.

LIMIT LINE FOR OBSTRUCTIONS: Is the imaginary vertical plane along a water access aisle, which is the limit beyond which obstructions are not permitted to encroach into the water access aisle.

**M. DEFINITIONS:**

MARINA: Any portion of the ocean or inland water, either naturally or artificially protected, for the mooring, servicing or safety of vessels and shall include artificially protected works, the public or private lands ashore, and structures or facilities provided within the enclosed body of water and ashore for the mooring or servicing of vessels or the servicing of their crews or passengers.

MEAN HIGH WATER: 5.00 feet City of Tacoma or NOAA Datum. (See the definition of Datum).

MEAN LOWER LOW WATER: Minus 6.33 feet City of Tacoma or NOAA Datum. (See the definition of Datum).

MEAN SEA LEVEL: Mean sea level is the zero point for tide measurement, and is 0.58 feet City of Tacoma or NOAA Datum established by the National Oceanic and Atmospheric Administration (NOAA). (See the definition of Datum).

MOOR: The act of securing a vessel into a berth at a pier, wharf, or float system.

**N. DEFINITIONS:**

NOAA: National Oceanic and Atmospheric Administration.

NOMINAL SIZE (Lumber): The commercial size designation of width and depth, in standard sawn lumber and glue-laminated lumber grades; somewhat larger than the standard net size of dressed lumber, in accordance with DOC PS 20 for sawn lumber and with the AF&PA NDS for structural glued laminated lumber.

**O. DEFINITIONS:**

**P. DEFINITIONS:**



**PIER:** A fixed waterfront structure, usually of greater length projecting from the shore than the width, constructed of timber, stone, concrete, steel, or other material, having a deck and projecting from the shore over waters subject to the Shoreline Management Act so that vessels may be moored alongside for loading and unloading or for storage or repairs. For the purpose of this code, where the word "pier" is used it shall be construed as including "wharf". (Note: This definition supersedes the definition set forth in IFC Chapter 45).

PSF: Pounds per square-foot

**Q. DEFINITIONS:**

**R. DEFINITIONS:**

**S. DEFINITIONS:**

**SUBSTRUCTURE:** That portion of a waterfront structure below and including the deck.

1. **COMBUSTIBLE SUBSTRUCTURES.** A substructure which does not qualify as either a fire resistive substructure or a noncombustible substructure.

2. **FIRE RESISTIVE SUBSTRUCTURES.** A noncombustible substructure with all elements, including the deck, having a four hour fire-resistive rating, except that wood piles or wood cribwork or steel piles, which are not fire rated, may be used if they do not extend above Mean Lower Low Water.

3. **NONCOMBUSTIBLE SUBSTRUCTURES.** A noncombustible substructure with only the deck having a four hour fire-resistive rating, except that wood piles or wood cribwork may be used if they do not extend above Mean Lower Low Water.

**SUPERSTRUCTURE:** That portion of a waterfront structure constructed above the deck.

**T. DEFINITIONS:**

**U. DEFINITIONS:**

**V. DEFINITIONS:**

**VESSEL:** A motorized and/or wind powered watercraft, other than seaplanes on the water, used or capable of being used as a means of transportation. Non-transportation vessels, such as houseboats and boathouses, are included in this definition. (Note: This definition supersedes the definition set forth in IFC Chapter 45).

See the definition of Boat House.

**W. DEFINITIONS:**

**WATERFRONT STRUCTURE:** A structure or improvement which at any time is over water subject to the Shoreline Management Act, and is constructed with a deck supported on piles or other types of open structural framing, where the under-deck area facing the water remains unenclosed except for fender systems.

**WHARF:** A fixed waterfront structure, usually of greater width along the shoreline than the length projecting from the shore, constructed of timber, stone, concrete, steel, or other material, having a deck built over, along and parallel to waters subject to the Shoreline Management Act so that vessels may be moored alongside for loading and unloading, or for storage or repairs. For the purpose of this code, where the word "wharf" is used it shall be construed as including "pier". (Note: This definition supersedes the definition set forth in IFC Chapter 45).

**X. DEFINITIONS:**

**Y. DEFINITIONS:**

**Z. DEFINITIONS:**

**2.13.060 WATERFRONT STRUCTURES**

**a. GENERAL.**

All piers, wharves and waterfront structures as herein defined shall comply and conform to all of the requirements set forth herein.

**b. PROTECTION AGAINST MECHANICAL DAMAGE.**

Waterfront structures shall be designed for impact loads from vessels and floating debris.

Regardless of the type of construction of the substructure, fender systems may be built of wood members with a minimum nominal dimension of four inches and a minimum nominal area of forty-eight square inches, provided the outside face of said fender system is located no more than three feet inside the outermost edge of the deck.

**c. COMBUSTIBLE SUBSTRUCTURES.**

**1. PILES AND STIFFENING MEMBERS.**

The piling and cross bracing of those portions of the substructure which are over water at any time shall be so designed to allow the passage of a six-foot wide boat for access to all points for the purpose of inspection, maintenance or repair.

**2. PIER DECKS AND SUPPORTS**

- A. Pile caps shall consist of sawed or glue-laminated timber not less than eight-inch nominal minimum dimension and ninety-six square inches nominal cross-sectional area.
- B. Deck framing members shall be not less than six-inch nominal minimum dimension and seventy-two square inches nominal cross-sectional area.
- C. Deck planking on the deck framing shall be not less than four inches in nominal thickness and on this shall be laid a wearing surface of two-inch nominal wood sheathing, or a layer of concrete or asphalt, or other material of equivalent durability. The sheathing and deck planks shall be laid at right angles, except that in the driveways the sheathing may be laid diagonally.

**EXCEPTION** Pier decks without superstructures may have decks of wood decking or planking of not less than three inches nominal thickness.

- D. Pier decks of composite laminated wood and concrete construction shall be acceptable, provided that the wood decking or planking used shall be not less than two inches in nominal thickness and shall be pressure preservative treated in accordance with the Building Code.
- E. Piers and walkways which are ten feet or less in width may be constructed with caps and girders which have a minimum nominal width and depth of six-inches. Beams and other members shall have a minimum nominal width of three inches. Wood decking or planking may have a nominal thickness of two inches; and bracing may have a minimum nominal dimension of two inches.

**3. AUTOMATIC FIRE SPRINKLING OF COMBUSTIBLE SUBSTRUCTURES.**

- A. GENERAL. All combustible substructures shall be provided with a complete automatic fire sprinkler system, in accordance with IBC Section 903.3.1.1 (N.F.P.A. 13), in the under-deck areas.
- B. STANDARDS. Installation of sprinkler equipment shall be in accordance with the Building Code, Fire Code, and the Fire Code Standards. In those parts of waterfront structures where automatic fire sprinkler systems are subject to damage by floating debris, such as beneath depressed sections of pier decks, deviations from the strict application of the standards will be permitted and alternative methods of protection may be required. Where damage to sprinkler equipment by floating objects may occur, adequate provision shall be made to prevent such damage.
- C. ADDITIONAL PROVISIONS In addition to the standards referred to in subsection B hereof, the following provisions shall apply:
  - i. Sprinkler systems, including fittings and hangers, used in under-deck areas shall be protected from corrosion in accordance with NFPA Standards for the Construction and Fire Protection of Marine Terminals, Piers and Wharves, current edition...
  - ii. Water supply mains on substructures without superstructures shall be installed in under-deck space. If it is inadvisable to install mains in the under-deck space, they may be installed in the superstructure or on the deck of the substructure, with approval from the Building and Fire Officials.
  - iii. Automatic fire sprinkler systems and supply piping subject to freezing shall be installed as dry pipe systems.
  - iv. Automatic fire sprinkler systems installed in waterfront structures shall be maintained in accordance with the Fire Code.

**4. SUBDIVISION OF COMBUSTIBLE SUBSTRUCTURES.**

All substructures of combustible construction shall have the under-deck area subdivided as follows:

- A. FIRE WALLS. Fire walls shall be required in combustible substructures at intervals not to exceed 450 feet in each direction. Fire walls shall also be provided at each location a fire wall occurs in a superstructure located on the substructure and shall constitute a continuation of the fire walls in the superstructure. Substructure fire walls shall be of reinforced concrete having a fire resistance of at least four hours, except that fire walls made of other approved noncombustible materials may be used, provided they are equivalent in stability and have an equivalent fire resistance. Walls shall be free of holes and shall extend from the deck down to Mean Lower Low Water. Where aprons or platforms are built along the sides of the waterfront structure, fire walls shall extend to the outside edges of such aprons or platforms.
- B. FIRE STOPS. Spacing between fire walls and fire stops or between fire stops shall not exceed 150 feet. Fire stops shall fit tightly up against the deck and around any structural members or pipes that pass through the fire stop so that an effective barrier to fire and draft will be maintained. Fire stops shall be constructed of wood planking built up to a thickness of six inches and securely fastened to the supporting structure, or they may be of other construction approved by the Building

Official. Fire stops shall extend from the deck down to Mean Lower Low Water. Where aprons or platforms are built along the sides of the waterfront structure, fire stops shall extend to the outside edges of such aprons or platforms.

**d. FIRE FLOW REQUIRED.**

A water supply for fire flow shall be provided in accordance with the Fire Code..

**e. WATER SUPPLY AND DESIGN OF SYSTEM.**

Water may be supplied from the municipal water system or any other water supply meeting the approval of the Fire Code Official. The minimum residual water pressure shall be 20 psi at all fire hydrants. Private water systems shall be designed and installed in accordance with the applicable requirements of referenced standards NFPA 24, Standard for the Installation of Private Fire Service Mains and their Appurtenances.

**f. SUPERSTRUCTURES.**

**1. GENERAL.**

Superstructures shall comply with all the provisions of the Building and Fire Codes. Superstructures which are required by the provisions of the Building Code to be either type IA or type IB construction shall be constructed on fire-resistive substructures. Superstructures which are required by provisions of Building Code to be either IIA or IIB construction shall be constructed on noncombustible substructures.

**2. AUTOMATIC FIRE SPRINKLER SYSTEMS.**

All superstructures shall be provided with an automatic fire sprinkler system complying with the provisions of the Building Code, and the Fire Code. Area and height limits for superstructures may be increased as permitted by the Building Code for automatic fire sprinkler systems.

**EXCEPTION:** Automatic fire sprinkler systems need not be installed in superstructures constructed on noncombustible substructures as defined herein, provided that all of the following conditions are met:

- i. The aggregate area of all superstructures on the substructure does not exceed 1500 square feet, and
- ii. The aggregate occupant load of the superstructures, as calculated in accordance with the provisions of the Building Code, does not exceed fifteen, and
- iii. The occupancy classification of the superstructures on the substructure is Group B, Group F, Division 2 or Group S, Division 2 occupancies as defined in the Building Code.

**2.13.070 DRY BOAT STORAGE**

**a. GENERAL.**

Dry boat storage shall meet all requirements of the Building and Fire Codes for a Group S, Division 1 Occupancy, and the requirements set forth within this section.

**b. AUTOMATIC FIRE SPRINKLER SYSTEMS.**

When required by the building code or fire code dry boat storage shall have an automatic fire sprinkler system installed throughout which meets the requirements of an IBC Section

903.3.1.1 system (N.F.P.A. 13 system) and N.F.P.A. 303 Fire Protection Standards for Marinas.

**c. AREA.**

Dry boat storage shall be limited in area as set forth in the Building Code for Group S, Division 1 Occupancies, including allowing increases for yards, and automatic fire sprinkler systems, except as modified within this section:

**d. CONSTRUCTION TYPE:**

Dry boat storage may be constructed of any type of construction permitted by the Building Code for a group S, division 1 occupancy, except an automatic fire sprinkler system shall not be substituted for one-hour fire resistive construction.

In non-rated types of construction, floors in multistory dry boat storage buildings shall be of one-hour fire-resistive construction, or heavy timber construction as defined in the Building Code.

**e. HEIGHT:**

Dry boat storage shall be limited in height in accordance with the provisions of the Building Code..

**f. RACK STORAGE OF BOATS:**

Rack storage shall meet the following conditions:

1. Rack boat storage buildings or structures shall be a maximum of one story in height and constructed entirely of noncombustible construction conforming to the requirements for type IA, IB, IIA or IIB construction for a group S, division 1 occupancy. Buildings or structures housing rack boat storage shall be fully protected with an automatic fire sprinkler system meeting the requirements of IBC section 903.3.1.1. The allowable area for the building may be increased by open areas around the building in accordance with the building code, and for the automatic fire sprinkler system, The automatic fire sprinkler system shall not be used to increase the building height beyond the one story maximum height limitation, but may be used to increase the height of the building in feet in accordance with the building code.
2. Interior longitudinal walls shall not be permitted. Interior noncombustible transverse walls which are a minimum of two-hour fire-resistive fire walls shall be permitted for the purposes of dividing the rack boat storage buildings into two or more structures for purposes of area limitation. No other transverse walls shall be permitted. Except for the first level of the rack storage, there shall be no floors and no permanent catwalks.
3. Rack structures shall be limited to a maximum of three levels of boat storage. An automatic fire sprinkler system shall be installed within all boat storage racks in accordance with the building and fire codes and reference standards N.F.P.A 13, Standard for the Installation of Sprinkler Systems and N.F.P.A. 303 Fire Protection Standard for Marinas, so as to provide coverage of all stored boats.

**EXCEPTION:** Additional levels of boat storage within a rack may be permitted, provided technical assistance in the form of a technical opinion and report will be required in accordance with the Fire Code to evaluate

the level of safety of the proposed design. However, when this provision is used, the maximum number of in rack storage racks shall not exceed five.

4. A Class I standpipe system designed and installed with reference standard N.F.P.A 14, Standard for Installation of Standpipe and Hose systems shall be provided for all rack boat storage structures.
5. Rack structures shall be designed to support the weight of all the boats plus the weight of water any two boats in a vertical storage column may collect in the event that the automatic fire sprinkler systems are triggered.
6. Boats shall be prepared for storage in racked storage by:
  - A. Disconnecting the battery while the boat is in storage. An adequately sized power disconnect switch shall be provided for this purpose.
  - B. The bilge drain plug shall be removed.
  - C. A water impermeable boat cover shall be installed to cover all open parts of the boat while being stored in the rack. The cover when installed shall be taut and shall not have sags or other concavities which will collect water. (Note: the cover is to prevent filling the boats with water in the event that the automatic fire sprinkler systems are triggered.)

#### 2.13.080 MARINAS

**a. GENERAL:**

Marinas, because of their character, present unique problems in providing access for fire-fighting purposes, for providing water supply, and for providing exiting. In order to mitigate these problems all Marinas shall conform to the provisions of this section and the Fire Code.

**b. FLOAT SYSTEM LAYOUT.**

**1. Water Access Aisles:**

- A. Where vessels are moored to a main float system on either side of the maneuvering aisle such that the berths are not parallel to the maneuvering aisle, the clear distance between the limit lines for obstructions, measured perpendicular to the maneuvering aisle, shall be a minimum of 1.25 times the length of the longest vessel served but not less than forty (40) feet.

Vessels in berths between finger floats may extend a maximum of five (5) feet beyond the ends of the finger floats into the access aisle, thereby establishing the limit line for obstructions. The extension into the access aisle shall be measured to the furthest extension of the vessel which shall include but not be limited to bowsprits, overhangs, swimming platforms and dinghies.

Where vessels are housed in boat houses, the boat houses may extend to the limit line for obstructions. The maneuvering aisle shall be established by assuming a center line between or along the rows of boat houses. The limit lines for obstructions shall be established at points on both sides of the assumed center line of not less than five-eighths (5/8) of the longest boat house along the aisle, but not less than twenty feet. The centerline shall be relatively straight down the aisle length, with no changes of direction by less than a 40 foot radius, except at the ends of aisles where additional maneuvering room is provided. Where vessels are housed in boat houses, and the water access aisles exceed 300 feet in length the limit lines for obstructions shall be not less than 40 feet on each side of the assumed center line for the entire length of the aisle.

**EXCEPTION:** Where water access aisles exceed 300 feet, the Fire Chief may allow narrower water access aisles where site conditions require or permit narrower water access aisles, and alternate fireboat access is possible.

- B. Where vessels are moored parallel to and on one side of a water access aisle, the water access aisle widths shall be not less than forty (40) feet, plus 1.25 times the beam of the largest vessel expected to be moored at the facility. If vessels are moored parallel to and on both sides of an access aisle, the access aisle shall be not less than forty (40) feet, plus 2.5 times the beam of the largest vessel expected to be moored at the facility.
- C. Water access routes and entries for vessels to a marina facility, shall be not less than forty (40) feet in width.

**2.**

**2. FIRE DEPARTMENT ACCESS PASSAGES:**

Access passages along uncovered finger floats, through covered boat storage sheds or between boat houses shall be provided between the water access aisles and the main floats, at intervals not to exceed two-hundred (200) feet. When vessels are moored on both sides of main floats the access passages shall be staggered by one-hundred (100) feet from one side to the other. Access Passages shall extend to the limit line for obstructions.

Fire Department access passages shall have a minimum unobstructed width of forty-eight (48) inches. Toe rails or curbs a minimum of five (5) inches in height shall be provided along both sides of access passages. The clear distance between the toe rails shall be not less than forty-one (41) inches.

**3. MAIN FLOAT LENGTH:**

No portion of a main float shall exceed one-thousand (1000) feet in distance from the bottom of a gangway providing access to the shore or to a waterfront structure. The position of the bottom of the gangway shall be measured at Mean Higher High Water (+5.00 Feet NOAA Datum).

For fuel dispensers on a float system see the Fire Code provisions for marine service stations.

**4. MAIN FLOAT WIDTHS:**

Main floats shall provide an unobstructed pathway with minimum dimensions of forty-four (44) inches in width by seven (7) feet in height, which shall be maintained the length of the main float at all times.

**5. FINGER FLOAT WIDTHS:**

Finger floats shall be not less than thirty-six (36) inches in width.

**6. GANGWAY WIDTH:**

Gangways shall have a minimum clear width of forty-four (44) inches. Handrails may extend a maximum of 3.5 inches into the required width on each side.

**7. GANGWAY SLOPE:**

Gangways which are ramps shall not slope more than one (1) vertical to two and one-half (2.5) horizontal when tide is at Mean Lower Low Water (-6.33 Feet NOAA Datum). Cleats and a nonslip surface shall be provided on ramp gangways. Gangways constructed with self-leveling stairs shall provide treads runs of not less than eleven (11) inches nor more than eighteen (18) inches, and risers of not less than four (4) inches nor more than seven (7) inches. An approved nonslip surface shall be applied to all stair treads.

**8. GANGWAY HANDRAILS AND GUARDRAILS:**

Guardrails shall be provided on both sides of gangways. Guardrails shall be a minimum of forty-two (42) inches in height measured perpendicular to the slope of the gangway surface. Guardrails shall be provided with intermediate bars or a pattern spaced to prevent a sphere four (4) inches in diameter from passing through. Handrails shall be provided on both sides of the gangway and shall be placed thirty-four (34) inches measured perpendicular to the slope of the gangway surface. The grip portion of the handrail shall be of a graspable shape not less than one and one-half (1.5) inches nor more than two (2) inches in diameter, and there shall be a space of one and one-half (1.5) inches between the backside of the handrail and the guardrail.

**c. COVERED MOORAGE SIZE AND SPACING LIMITATIONS**

Covered moorage shall be considered to be of two types, enclosed and open. Enclosed covered moorage are boat houses which are enclosed on three or more sides. Open covered moorage are roof structures which are generally supported on posts or frames, and which are open on two or more sides. The area of covered moorages shall be subject to the limitations set forth in the following table:

ALLOWABLE AREAS FOR COVERED MOORAGES <sup>2, 3, 4, 5, 6</sup>

Building Code Type of Construction	Allowable Single Boat House Area <sup>1</sup>	Allowable Area for Boat Covers and Area of Combined Boat Houses <sup>7</sup>
VB	3000 sq-ft	9000 sq-ft
IIB	3000 sq-ft	17,500 sq-ft

Footnotes:

<sup>1</sup> Sidewalls for all new boat houses, for all new enclosed boat covers and all boat houses relocated from other locations outside the marina in question, shall be sheathed with corrosion resistant steel. Aluminum, wood and plastic siding materials shall be prohibited.

<sup>2</sup> Provide smoke venting for all new structures and for all structures relocated from other locations outside of the marina in question in accordance with IFC Chapter 45 as amended by the Washington State Building Code Council.

<sup>3</sup> Clearances for calculated area increases shall be in accordance with the building code.

<sup>4</sup> Unroofed areas to separate adjacent covered moorage areas on the same float system shall be a minimum of sixteen (16) feet or 33 percent of the longest finger float whichever is greater. Unroofed areas may be used for moorage.

<sup>5</sup> The areas listed in the table, including those for single boat houses may be tripled if the boat house or the covered boat moorages are provided throughout with an automatic fire sprinkler system. The area of individual boat houses may be tripled if the boat house alone is fire sprinklered, but no area increase is permitted for the combined boat house areas unless all the boat houses and open boat covers are fire sprinklered.

<sup>6</sup> Draft curtains shall be provided in accordance with IFC Chapter 45 as amended by the Washington State Building Code Council; however, if draft stops are constructed of sheet metal, the sheet metal shall be steel, with rust protection.

<sup>7</sup> The areas of open boat covers and the combined area of boat houses may be increased for yards or open spaces in accordance with the provisions of the Building Code. The area of individual boat houses shall not be increased for yards or open spaces.



**d. STRUCTURAL DESIGN CRITERIA**

**1. VERTICAL DESIGN LOADS.**

- A. Float systems including the finger floats shall be designed to support all dead loads plus a superimposed live load of twenty (20) pounds per square-foot over their entire walking surface.
- B. Covers or boat houses supported by a float system shall be designed to support all dead loads plus a snow load of twenty (20) pounds per square-foot. Float systems supporting covers or boat houses shall be designed to support the dead loads and snow loads contributed by the covers or boat houses plus the live and dead loads prescribed in item A above. Snow sliding off upper roofs onto floats or lower roofs shall be taken into consideration in the design.
- C. Float systems, including the finger floats shall be designed to withstand a minimum concentrated load at any location on the walking surfaces of five-hundred (500) pounds, without causing any of the elements of the float system to tilt more than six (6) degrees from level (10.5% Slope). The concentrated load is to be located at any thirty (30) by thirty (30) inch square on the walking surface and shall be applied simultaneously with the uniform load. Snow loading on covers or boat houses may be reduced to ten (10) pounds per square-foot while applying the concentrated loads.
- D. Gangways shall be designed to support a minimum of fifty (50) pounds per square-foot live load over their horizontal projected area at Mean High Water, along with all dead loads. Gangways shall also be designed to support a concentrated load of one-thousand pounds (1000) pounds on any thirty (30) by thirty (30) inch square on the gangway; however the concentrated load need not be applied simultaneously with the required uniform live load. The reaction of the gangway under full load shall not cause the main float to tilt out of level by more than six (6) degrees (10.5% slope).

**2. WIND DESIGN LOADS**

The float systems and their anchorages shall be designed to withstand wind as prescribed in the building code; however the design wind load need not exceed twenty (20) pounds per square-foot. The wind load shall be applied to the projected areas of the covers, boat houses and moored vessels. It shall be assumed that all berths are occupied. Covers and boat house structures shall be designed to withstand wind uplift loads as prescribed in the Building Code.

**3. STRESSES INDUCED BY WAVES**

- A. Vertical Loads: Float systems shall be designed to carry all dead loads, plus 20 PSF live load on all walking surfaces, plus 20 PSF snow load on all covers supported by the float system, over a span of not less than ten (10) feet. The float system shall be able to carry these loads over the design spans in both the transverse and longitudinal directions. The design spans shall be located along the floats system for analysis to produce the greatest stresses along the float system.
- B. Lateral Loads: In addition to the wind loads, float systems and their anchorage systems shall be designed to resist lateral loads induced by wave action. Unless supported by a dynamic analysis, those float systems and their anchorage systems protected by breakwaters or otherwise sheltered from wind and waves or are subject to waves with heights of two (2) feet or less, shall be designed to withstand lateral loads of not less than one-half (1/2) gravity. Those float systems exposed to open water, or subject to waves in excess of two (2) feet in height shall be designed to withstand lateral loads of not less than full gravity. The calculation of lateral forces shall be based on the total dead load of the float system and all structures supported by the float system.

**4. SPECIAL LOADS**

Guardrail and Handrail Assemblies: Guardrail and Handrail assemblies shall be designed to withstand a load of not less than twenty (20) pounds per lineal foot applied horizontally at the top most rail of the guardrail and handrail assembly.

**5. SPECIAL CONSIDERATIONS**

Provision shall be made to prevent individual boat houses from "hammering" into each other.

**e. CONSTRUCTION MATERIALS:**

**1. FLOTATION MATERIALS:**

A. Timber logs and other wood flotation shall not be used within float systems in Marinas.

**EXCEPTION:** Wood flotation may be approved by the Building Official when unusual circumstances warrant its use.

B. Foam flotation shall meet the following minimum specifications:

i. Physical Properties:

Density: Not less than 0.9 pounds per cubic foot. (ASTM D-1622)

Compressive Strength: Not less than 10 psi. (ASTM D-1621)

Flexural Strength: Not less than 25 psi ultimate strength. (ASTM C-203)

Moisture Absorption: The maximum water absorption shall be not greater than four (4) percent when tested by the immersion method. (ASTM C-272)

ii. Chemical Properties:

Hydrocarbon Resistance: Foam flotation to be used within flotation systems shall be resistant to the chemical reaction with hydrocarbon fuels and lubricants or protected by an approved encapsulation system.

iii. Protection from Mechanical Damage:

Foam flotation systems shall be protected from direct contact by vessels, floating debris and foot traffic by wood or concrete decking and wood or concrete fender or skirt systems.

C. Steel or metal flotation systems are not permitted in salt water applications but may be used in fresh water marinas.

**EXCEPTION:** The Building Official may permit steel or metal flotation systems in applications which are temporary. Approvals shall be limited to a maximum of one-year. An additional year may be approved if, on inspection after the first year, it is determined that the flotation system is in good condition.

D. Concrete pontoon floats shall be constructed using an approved concrete design mix of not less than six (6) sacks of cement per cubic yard, and a 28 day ultimate strength of not less than 4000 pounds per square inch. The concrete mix shall meet ACI specifications for use within a salt water environment and to provide corrosion resistance for the structural, temperature and shrinkage reinforcement within the concrete pontoons. Concrete pontoon reinforcing shall be epoxy coated. The interior cavity of the concrete pontoons shall be filled with foam flotation meeting the requirements of this code.

E. Fueling Floats: All floats used for fuel docks shall have a Portland cement concrete or other approved nonabsorbent surface impervious to fuel spillage.

**2. DECKING, FENDER, AND FLOAT ENCASEMENT MATERIALS:**

Decking, fender and float encasement materials shall be sized to withstand the design loads, both vertical and horizontal as prescribed by this code. Materials shall be compatible with the marine environment.

Wood materials shall be pressure treated meeting AWWA Standard U1 and M4 for the species, product, preservative, and end use.

Concrete materials shall have a minimum compressive stress of 4000 psi at 28 days. Concrete mixes shall have a minimum of six (6) sacks of cement per cubic yard.

Metal materials shall be galvanized, painted or otherwise coated to retard corrosion, and if necessary cathodically protected.

**3. BOAT HOUSE AND BOAT COVER FRAMING:**

Boat house and boat cover framing shall be sized to meet the design criteria prescribed in this code, for vertical, horizontal and uplift loads.

Materials shall meet the requirements for decking, fenders and float encasement as prescribed in item No. 2 above for a minimum distance of three (3) feet above the float system. From three (3) feet above the float system, framing materials shall comply with the Building Code.

**4. BOAT HOUSE AND BOAT SHED ROOF AND WALL COVERINGS:**

Boat house and boat shed roof and wall coverings shall be galvanized or painted steel. Approved wood-based structural panels manufactured with exterior glue may be used in boat houses, under the steel roof or wall covering, to provide vertical and/or lateral strength. Such structural panels shall not be directly exposed to the weather, and shall not be used in locations which become submerged or are subject to water splash.

**EXCEPTION:** Approved wood-based structural panels manufactured with exterior glue may be used in open boat covers for the construction of gusset plates.

**f. DRAFT CURTAINS:**

Draft curtains shall be provided in accordance with IFC Chapter 45 as amended by the Washington State Building Code Council; however, if draft stops are constructed of sheet metal, the sheet metal shall be steel, with rust protection.

The effective date for this ordinance shall be July 1, 2010.

Passed: June 15, 2010