

- N. Inventory Map Corrections: The Planning Director may correct the location of a wetland or riparian boundary shown on the Local Wetland and Riparian Areas Inventory Maps when it has been demonstrated by a property owner or applicant that a mapping error has occurred and the error has been verified by DSL. Wetland delineations verified by DSL shall be used to automatically update and replace the City's Local Wetland Inventory mapping. No variance application shall be required for map corrections where approved delineations are provided.

10-7-5: DEVELOPMENT STANDARDS FOR TSUNAMI HAZARD OVERLAY AREAS

- A. Purpose. The purpose of the Tsunami Hazard Overlay Zone is to increase the resilience of the community to a local source (Cascadia Subduction Zone) tsunami by establishing standards, requirements, incentives, and other measures to be applied in the review and authorization of land use and development activities in areas subject to tsunami hazards. The standards established by this section are intended to limit, direct and encourage the development of land uses within areas subject to tsunami hazards in a manner that will:

1. Reduce loss of life;
2. Reduce damage to private and public property;
3. Reduce social, emotional, and economic disruptions; and
4. Increase the ability of the community to respond and recover.

Significant public and private investment has been made in development in areas which are now known to be subject to tsunami hazards. It is not the intent or purpose of this section to require the relocation of or otherwise regulate existing development within the Tsunami Hazard Overlay Zone. However, it is the intent of this section to control, direct and encourage new development and redevelopment such that, over time, the community's exposure to tsunami risk will be reduced.

- B. Definitions. Terms used in this subsection are defined within FCC 10-2-13.

- C. Applicability of Tsunami Hazard Overlay Zone. All lands identified as subject to inundation from the Extra Extra Large (XXL) magnitude local source tsunami event as set forth on the applicable Tsunami Inundation Map(s) (TIM) published by the Oregon Department of Geology and Mineral Industries (DOGAMI) are subject to the requirements of this section.

- D. Uses. In the Tsunami Hazard Overlay Zone, except for the prohibited uses set forth in FCC 10-7-5-E, all uses permitted pursuant to the provisions of the underlying zone may be permitted, subject to the additional requirements and limitations of this section.

- E. Prohibited Uses. Unless authorized in accordance with FCC 10-7-5-G, the following uses are prohibited in the specified portions of the Tsunami Hazard Overlay Zone:

1. In areas identified as subject to inundation from the Extra Extra Large (XXL) magnitude local source tsunami event as set forth on the Tsunami Inundation Map (TIM), the following uses are prohibited:
 - a. Hospitals and other medical facilities having surgery and emergency treatment areas.
 - b. Fire and police stations.
 - c. Structures and equipment in government communication centers and other facilities required for emergency response.
 - d. Buildings with a capacity greater than 250 individuals for every public, private or parochial school through secondary level or child care centers.
 - e. Buildings for colleges or adult education schools with a capacity of greater than 500 persons.

f. Jails and detention facilities.

2. In areas identified as subject to inundation from the Medium (M) magnitude local source tsunami event as set forth on the Tsunami Inundation Map (TIM), the following uses are prohibited:

a. Tanks or other structures containing, housing or supporting water or fire- suppression materials or equipment required for the protection of essential or hazardous facilities or special occupancy structures.

b. Emergency vehicle shelters and garages.

c. Structures and equipment in emergency preparedness centers.

d. Standby power generating equipment for essential facilities.

e. Covered structures whose primary occupancy is public assembly with a capacity of greater than 300 persons.

f. Medical facilities with 50 or more resident, incapacitated patients.

g. Residential uses, including manufactured home parks, of a density exceeding 10 units per acre.

h. Hotels or motels with more than 50 units.

3. Notwithstanding the provisions of FCC 10-8, the requirements of this subsection shall not have the effect of rendering any lawfully established use or structure nonconforming.

F. Use Exceptions. A use listed in FCC 10-7-5-E may be permitted upon authorization of a Use Exception in accordance with the following requirements:

1. Public schools may be permitted upon findings that there is a need for the school to be within the boundaries of a school district and fulfilling that need cannot otherwise be accomplished.

2. Fire or police stations may be permitted upon findings that there is a need for a strategic location.

3. Other uses prohibited by FCC 10-7-5-E may be permitted upon the following findings:

a. There are no reasonable, lower-risk alternative sites available for the proposed use;

b. Adequate evacuation measures will be provided such that life safety risk to building occupants is minimized; and,

c. The buildings will be designed and constructed in a manner to minimize the risk of structural failure during the design earthquake and tsunami event.

4. Applications, review, decisions, and appeals for Use Exceptions authorized by this subsection shall be in accordance with the requirements for a Type III procedure as set forth in FCC 10-1-1-6-3.

G. Evacuation Route Improvement Requirements. Except single family dwellings on existing lots and parcels, all new development, substantial improvements and land divisions in the Tsunami Hazard Overlay Zone shall incorporate evacuation measures and improvements, including necessary vegetation management, which are consistent with and conform to the adopted Evacuation Route Plan. Such measures shall include:

1. On-site improvements:

- a. Improvements necessary to ensure adequate pedestrian access from the development site to evacuation routes designated in the Evacuation Route Plan in all weather and lighting conditions.
 - b. Frontage improvements to designated evacuation routes that are located on or contiguous to the proposed development site, where such improvements are identified in the Evacuation Route Plan. Such improvements shall be proportional to the evacuation needs created by the proposed development.
 - c. Where identified in the Evacuation Route Plan as the only practicable means of evacuation, tsunami evacuation structure(s) of sufficient capacity to accommodate the evacuation needs of the proposed development.
2. Off-site improvements: Improvements to portions of designated evacuation routes that are needed to serve, but are not contiguous to, the proposed development site, where such improvements are identified in the Evacuation Route Plan. Such improvements shall be proportional to the evacuation needs created by the proposed development.
 3. Evacuation route signage consistent with the standards set forth in the Evacuation Route Plan. Such signage shall be adequate to provide necessary evacuation information consistent with the proposed use of the site.
 4. Evacuation route improvements and measures required by this subsection shall include, at a minimum, the following:
 - a. Improved streets and/or all-weather surface paths of sufficient width and grade to ensure pedestrian access to designated evacuation routes in all lighting conditions;
 - b. Improved streets and paths shall provide and maintain horizontal clearances sufficient to prevent the obstruction of such paths from downed trees and structure failures likely to occur during a Cascadia earthquake; and
 - c. Such other improvements and measures identified in the Evacuation Route Plan.
 5. When it is determined that improvements required by this subsection cannot be practicably accomplished at the time of development approval, payment in lieu of identified improvements shall be provided in accordance with.

H. Tsunami Evacuation Structures

1. All tsunami evacuation structures shall be of sufficient height to place evacuees above the level of inundation for the XXL local source tsunami event.
2. Tsunami evacuation structures are not subject to the building height limitations of this Title.

I. Flexible Development Option

1. The purpose of the Flexible Development Option is to provide incentives for, and to encourage and promote, site planning and development within the Tsunami Hazard Overlay Zone that results in lower risk exposure to tsunami hazard than would otherwise be achieved through the conventional application of the requirements of this Title. The Flexible Development Option is intended to:
 - a. Allow for and encourage development designs that incorporate enhanced evacuation measures, appropriate building siting and design, and other features that reduce the risks to life and property from tsunami hazard; and
 - b. Permit greater flexibility in the siting of buildings and other physical improvements and in the creation of new lots and parcels in order to allow the full realization of permitted development while reducing risks to life and property from tsunami hazard.

2. The Flexible Development Option may be applied to the development of any lot, parcel, or tract of land that is wholly or partially within the Tsunami Hazard Overlay Zone.
3. The Flexible Development Option may include any uses permitted outright or conditionally in any zone, except for those uses prohibited pursuant to FCC 10-7-5-D.
4. Overall residential density shall be as set forth in the underlying zone or zones. Density shall be computed based on total gross land area of the subject property, excluding street right-of-way.
5. Yards, setbacks, lot area, lot width and depth, lot coverage, building height and similar dimensional requirements may be reduced, adjusted or otherwise modified as necessary to achieve the design objectives of the development and fulfill the purposes of this section.
6. Applications, review, decisions, and appeals for the Flexible Development Option shall be in accordance with the requirements for a Type III procedure as set forth in FCC 10-1-1-6-3.
7. Approval of an application for a Flexible Development Option shall be based on findings that the following criteria are satisfied:
 - a. The applicable requirements of sub-paragraphs 2 and 4 of this subsection are met; and
 - b. The development will provide tsunami hazard mitigation and/or other risk reduction measures at a level greater than would otherwise be provided under conventional land development procedures. Such measures may include, but are not limited to:
 - i. Providing evacuation measures, improvements, way finding techniques and signage at a level greater than required by subsection F of this section;
 - ii. Providing tsunami evacuation structure(s) which are accessible to and provide capacity for evacuees from off-site;
 - iii. Incorporating building designs or techniques which exceed minimum structural specialty code requirements in a manner that increases the capacity of structures to withstand the forces of a local source tsunami; and
 - iv. Concentrating or clustering development in lower risk portions or areas of the subject property, and limiting or avoiding development in higher risk areas.

10-7-6: SITE INVESTIGATION REPORTS (SIR):

- A. Areas identified in Section 2 and 3 above, are subject to the site investigation requirements as presented in "Beach and Dune Techniques: Site Investigation Reports by Wilbur Ternyik" from the Oregon Coastal Zone Management Association's *Beaches and Dunes Handbook for the Oregon Coast* (OCZMA Handbook), Appendix 18 of the Florence Comprehensive Plan as modified by the City of Florence. No development permit (such as building permit or land use permit) subject to the provisions of this Title may be issued except with affirmative findings that:
 1. Upon specific examination of the site utilizing a Phase I Site Investigation Report (the checklist from the OCZMA Handbook, as modified by the City of Florence), it is found that the condition identified on the "Hazards Map" or "Soils Map" or "Beaches and Dunes Overlay Zone" or other identified problem area does not exist on the subject property; or
 - 1-2. As demonstrated by the Phase II Site Investigation Report that harmful effects could be mitigated or eliminated through, for example, foundation of structural engineering, setbacks or dedication of protected natural areas. (Amended by Ord. No. 10, Series 2009)

Site investigation requirements may be waived where specific standards, adequate to eliminate the danger to health, safety and property, have been adopted by the City. This exception would apply to flood-prone areas, which are subject to requirements of the National Flood Insurance Program and other problem areas which may be adequately protected through provisions of the Building Code. (Ord. 669, 5-17-82)

B. Permit Fee: A fee to offset the cost of time required to investigate and prepare Findings may be set by Council Resolution.

C. General Requirements for Phase II Site Investigation Reports shall include at least the following information. Additional information, commensurate with the level of hazard and site conditions shall be submitted.

1. Identification of potential hazards to life, proposed development, adjacent property, and the natural environment which may be caused by the proposed development.
2. Mitigation methods for protecting the subject property and surrounding areas from each potential hazard.
3. Acceptable development density.
4. Identification of soils and bedrock types.
5. Identification of soil depth.
6. Water drainage patterns.
7. Identification of visible landslide activity in the immediate area.
8. History of mud and debris flow.
9. In areas prone to landslide, mudflow and where slopes exceed 25%, reports shall identify the orientation of bedding planes in relation to the dip of the surface slope.
10. Recommendations for removal, retention, and placement of trees and vegetation.
11. Recommendations for placement of all structures, on site drives, and roads.
12. Recommendations for protecting the surrounding area from any adverse effects of the development. (Amended by Ord. No. 10, Series 2009)

D. Specific Standards for Phase II Site Investigation Reports will be determined on the basis of the information provided in the Phase I Site Investigation Report. At a minimum, specific standards shall address the following (may include more than one category listed below):

1. The SIR Phase II - Geologic Report shall follow the "Guidelines for Preparing Engineering Geologic Reports in Oregon" as adopted by the Oregon State Board of Geologist Examiners or shall meet the requirements for Site Investigation Reports as required by the Oregon State Board of Examiners for Engineering and Land Surveying (OSBEELS). The SIR Phase II – Geologic Report shall address the following:
 - a. An explanation of the site and scope of the study area (e.g. subdivision, by lot specific, or for public improvements)
 - b. An explanation of the degree the condition affects the property use in question;
 - a-c. An explanation of the measures to be employed to minimize detrimental impacts associated with the condition;

- d. An explanation of the condition-associated consequences the development and the loss-minimizing measures will have on the surrounding properties.
- 2. SIR Phase II dealing with Beach or Dune areas shall include the items as listed in the OCZMA Handbook, Implementation Techniques, Section III that begins on page 7.
 - a. Due to the sandy soils and the fragile nature of the vegetative covering, care shall be taken during any proposed construction in beaches and dune areas to minimize the amount of grading, excavation, removal of trees and other native vegetation in order to insure the stability of the soils.
 - b. All open sand area (pre-existing or newly created) shall be planted or stabilized as soon as practicable after construction is completed.
 - c. Using accepted re-vegetation techniques, sand areas shall be returned to their previous level of stability or to at least a conditionally stable level, following completion of construction. For large parcels or tracts, stabilization of the entire area may not be necessary as determined after consideration of a Site Investigation Report.
 - d. During extended construction periods, temporary sand stabilization measures shall be employed to minimize sand movement and erosion caused by the removal of groundcover and soil.
- 3. Slopes in the 12% to 25% range: Determine the presence of soil creep, fills, or signs of past instability. If hazards are present, engineering recommendations shall be provided. If conditions require recommendations for foundation construction outside of the Building Code (IBC), those recommendations shall be provided by an appropriately qualified professional engineer. If thorough examination of the site determines that no hazards are present, documentation by an appropriately qualified professional.
- 4. Slopes greater than 25%:
 - a. Subsurface exploration of areas above, below, and alongside known or suspected slides
 - b. Accurate identification and measurement of the limits of the slide mass
 - c. Identification of the stability of the slide mass and the mechanics of slide movement.
 - d. Identification of the orientation of bedding planes in relation to the dip of the surface slope
 - e. A site specific grading and erosion control plan for site stabilization and construction
 - f. The methodology for determining the site stabilization plan
 - g. Recommendation of suitable setbacks, keeping in mind the anticipated life of the structure or development.
- 5. Foredunes:
 - a. Identification of a surveyed mean high tide line
 - b. Determination of the ocean shore vegetation line

- c. Average annual rate that the shoreline is projected to migrate landward due to climate change (sea level rise, feet/year and increased storm intensity) and methodology used.
- d. Historic stability of beaches in the general area
- e. Life expectance of the structure
- f. Elevation of the structure
- g. Projected dune stabilization to protect site from wave action and methodology
- h. History and projection of ocean flooding and methodology

6. Properties along the Siuslaw River Estuary:

- a. Angle of repose for bluff material
- b. Mean high tide, and highest measured tide
- c. Extent of recent and historical cutbank, length of area and height of cut
- d. Area of wave overtopping and furnishing photographs or other evidence
- e. Current and historic stability of riverbank and rates of erosion in general area
- f. Projected rate of erosion and methodology
- g. Environmental resources present
- h. Impacts to be expected
- i. Description and photographs of current vegetation

7. Riprap or other Shoreland protective structures:

- a. Signed certification by the engineer or geologist that the protective structure shall withstand the life of the development that it is protecting; or with the property maintenance plan, the structure shall withstand the life of the development.
- b. Once the protective structure is competed the engineer or geologist shall provide a final summary that the protective structure was built according to the submitted plan.

8. Soils: The Site Investigation Report shall address the following development constraints for the soil types.

- a. Brallier - These are wetlands which should not be developed due to their resource value and severe development constraints.
- e.b. Dune Land - Development limitations on sand dunes can be slight to severe, depending on slope and whether adequate stabilization is done. These areas are superior to some of the other soil types in that there is no drainage problem. These areas are also known to include active sand dunes. Dune stabilization techniques should be addressed.

- c. Heceta - These are interdunal swales and deflation plains. The high water table and poor drainage make these soils generally unsuitable for development.
- d. Waldport - These are sand dunes which are covered with stabilization vegetation. Conditions are moderate to severe, depending on slope. The particular need here is to preserve existing vegetation and to stabilize soil which is disturbed.

Drainage is typically not a problem in areas with the following soil types. Areas with slopes greater than 12% should not be built on unless a site investigation determines the site to be buildable.

- a. Yaquina - These are somewhat poorly drained soils formed on an interdune position on old stabilized dunes. These areas are wet during the winter, but are better drained than Heceta. A site specific investigation would be required to determine location of swales and drainage channels.
- b. Netarts - These are old stabilized dunes. Soils are well-drained. The topography is undulating to hilly. Where slopes are less than 12% there are few development restrictions.
- c. Bohannon; Preacher/Bohannon/Slickrock - These areas have no restrictions except slope and suitability for forestland. They occur east of Munsel Lake Road in areas which are largely unbuildable due to slope. (Amended by Ord. No. 10, Series 2009)

10-7-67: REVIEW AND USE OF SITE INVESTIGATION REPORTS

- A. The Phase I Site Investigation Report shall be reviewed administratively through a Type II Review. If it is found that the condition identified on the "Hazards Map" or "Soils Map" or "Beaches and Dunes Overlay Zone" or other identified problem area does not exist on the subject property; no Phase II report is required and the Site Investigation process is terminated. If hazards are found to exist, a Phase II report and a Conditional Use Permit shall be required.

If a Phase II Site Investigation Report is required, the Phase II conclusions shall be submitted for Planning Commission review.

- B. Required Certifications and Inspections:

For any Phase II SIR submitted, the registered professional of record shall be required to:

1. Review final plans for development and submit a signed and stamped certification report that all recommendations have been incorporated into development plans.
 2. Review subgrade excavations and fills for structures and stormwater drainage and submit a signed and stamped certification report that construction is proceeding in accordance with approved plans.
 3. Perform interim inspections as necessary and a final inspection of the site and submit a signed and stamped certification report that the project as constructed complies with approved plans.
- C. Conditions of approval may be imposed and/or a bond may be required to be posted prior to issuance of permit to ensure that harmful effects such as erosion, sand encroachment, destruction of desirable vegetation including inadvertent destruction by moisture loss or root damage, spread of noxious weeds, damage to archaeological resources, are mitigated or eliminated.
 - D. Approval: The property owner shall record a Covenant of Release which outlines the hazard, restrictions and/or conditions that apply to the property and shall state, "The applicant recognizes

and accepts that this approval is strictly limited to a determination that the project as described and conditioned herein meets the land use provisions and development standards of the City Code and Comprehensive Plan current as of this date. This approval makes no judgment or guarantee as to the functional or structural adequacy, suitability for purpose, safety, maintainability, or useful service life of the project.”

E. Appeal: In the case of an appeal, the City shall hire a certified engineering geologist or other appropriate certified professional to review the Phase II Site Investigation Report. All costs incurred by the city to review the development shall be the responsibility of the applicant. (Ord. No. 10, Series 2009)

Amended by Ordinance No. 15, Series 1988

Section 10-7-3-D corrected from the reference to C-2 to 10-7-3-B. (12/11/07) Section 10-7-3-E and H amended by Ord. No. 24, Series 2008

Amended by Ord. No. 10, Series 2009

Section 10-7-1 amended by Ord. No. 3, Series 2013, Exhibit B (effective 7-31-13)

Section 10-7-4 added with Ordinance No. 2, Series 2013 (effective 10-5-13) and all subsequent sections renumbered

Sections 10-7-3, 10-7-4, and 10-7-6 amended by Ord. No. 11, Series 2016 (effective 11/16/16)

Sections 10-7-5 amended and Sections 10-7-1, 10-7-2, 10-7-3, 10-7-4, 10-7-5, 10-7-6, and 10-7-7 modified by Ord. No. XX, Series 201X (effective XX/XX/XX)