

SECTION 3.510: FLOOD HAZARD OVERLAY ZONE (FH)

- (1) **PURPOSE:** It is the purpose of the FH zone to promote the public health, safety and general welfare and to minimize public and private losses or damages due to flood conditions in specific areas of unincorporated Tillamook County by provisions designed to:
 - (a) Protect human life and health;
 - (b) Minimize expenditure of public money for costly flood control projects;
 - (c) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the public;
 - (d) Minimize prolonged business interruptions;
 - (e) Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazards;
 - (f) Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
 - (g) Ensure that potential buyers are notified that property is in an area of special flood hazard; and
 - (h) Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.
 - (i) Maintain the functions and values associated with Special Flood Hazard Areas which reduce the risk of flooding.
- (2) **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 Tillamook County” dated September 28, 2018, with an accompanying Flood Insurance Rate Maps (FIRMs), are hereby adopted by reference and declared to be a part of this ordinance. The Flood Insurance Study and the FIRM are on file at the Tillamook County Department of Community Development at 1510-B Third Street, Tillamook, OR 97141. The best available information for flood hazard area identification as outlined in this Section shall be the basis for regulation until a new FIRM is issued that incorporates data utilized under this Section.
- (3) **CONTENT:** In order to accomplish this purpose, this Section of the Land Use Ordinance includes methods and provisions for:

- (a) Restricting or prohibiting uses 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;
 - (b) Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
 - (c) Maintaining the natural and existing flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
 - (d) Minimizing and controlling filling, grading, dredging, and other development which may increase flood damage or may increase flood hazards in other areas;
 - (e) Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or may increase flood hazards in other areas;
 - (f) Encouraging mitigation and restoration programs in "exchange" (/in addition to) for alteration of Special Flood Hazard Areas, existing and natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters
- (4) **DEFINITIONS:** Unless specifically defined below or in Article XI of this ordinance, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application.

AREA OF SHALLOW FLOODING: A designated AO, AH, AR/AO, AR/AH, or VO zone on a community's Flood Insurance Rate Map (FIRM) with a 1 percent or greater annual chance of flooding to an average depth of 1 to 3 feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow. (Note: Flood Zones are included in this definition (NFIP definition CFR 59.1) that are not located in Tillamook County.)

ADDITION: An alteration to an existing structure that results in any increase in its ground floor area.

BASE FLOOD: Flood having a one percent chance of being equaled or exceeded in any given year. Also referred to as the "100-year flood". Designation on maps always includes the letters A, A1-A30, AE, AO, V, V1-V30 or VE.

BASEMENT: Any area of a building having its floor subgrade (below ground level) on all sides.

BREAKAWAY WALL: A wall that is not a part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading

forces, without causing damage to the elevated portion of the building or supporting foundation system.

COASTAL HIGH HAZARD AREA: An area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. The area is designated on the FIRM as Zone V1-V30, VE or V.

CONDITIONAL LETTER OF MAP REVISION (CLOMR): Letter from FEMA commenting on whether a proposed project, if built as proposed, would meet the minimum National Flood Insurance Program standards for proposed hydrology changes. If the project, built as proposed, revises the Flood Insurance Rate Map and/or Flood Insurance Study, a Letter of Map Revision (LOMR) is required to be submitted no later than six months after project completion.

CRITICAL FACILITY: A facility for which even a slight chance of flooding might be too great. Critical facilities include, but are not limited to schools, nursing homes, hospitals, police, fire and emergency response installations, installations which produce, use or store hazardous materials or hazardous waste.

DEVELOPMENT: 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, drilling operations or the storage of equipment or materials located within the area of special flood hazard.

ENHANCEMENT: The process of improving upon the natural functions and/or values of an area or feature which has been degraded by human activity.

FILL: Any material such as, but not limited to, sand, gravel, soil, rock or gravel that is placed on land including existing and natural floodplains, or in waterways, for the purposes of development or redevelopment.

FLOOD OR FLOODING:

- (a) A general and temporary condition of partial or complete inundation of normally dry land areas from:
 - (1) The overflow of inland or tidal waters.
 - (2) The unusual and rapid accumulation or runoff of surface waters from any source.
 - (3) Mudslides (i.e., mudflows) which are proximately caused by flooding as defined in paragraph (a)(2) of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.
- (b) The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a

natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in paragraph (a)(1) of this definition.

FLOOD BOUNDARY & FLOODWAY MAP: Historical maps issued by the Federal Emergency Management Agency where the boundaries of the area of special flood hazards applicable to Tillamook County have been designated as Zones A, AE or A1-A30.

FLOOD INSURANCE RATE MAP (FIRM): An official map of a community, on which the Federal Insurance Administrator has delineated both the special hazard areas and the risk premium zones applicable to the community. A FIRM that has been made available digitally is called a Digital Flood Insurance Rate Map (DFIRM).

FLOOD INSURANCE STUDY: The official report provided by the Federal Insurance Administrator that includes flood profiles, the Flood Insurance Rate Map, Flood Boundary & Floodway Map, and the water surface elevation of the base flood.

FLOOD PLAIN: Any land area susceptible to being inundated by water from the sources specified in the flood(ing) definition.

FLOOD PLAIN MANAGEMENT REGULATIONS: The provisions of this ordinance in addition to the Land Division Ordinance, building codes, health regulations, and other applications of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

FLOODWAY, REGULATORY: The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot. The regulatory floodway is delineated by the Federal Emergency Management Agency on the Flood Insurance Study, Flood Insurance Rate Map and/or the Flood Boundary and Floodway Map.

HIGHEST ADJACENT GRADE: The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

HIGHWAY READY: The status of a recreational vehicle that is on wheels or a jacking system, is attached to the site by quick disconnect type utilities and security devices only, and has no permanently attached additions. 'Highway Ready' includes having a plan and making provision to remove the unit in the event of flood.

HYDROSTATIC LOADS: Loads caused by water either above or below the ground surface, free or confined, which is either stagnant or moves at very low velocities, of up to five (5) feet per second. These loads are equal to the product of the water pressure times the surface area on which the water acts. The pressure at any point is equal to the product

of the unit weight of water (62.5 pounds per cubic foot) multiplied by the height of water above that point or by the height to which confined water would rise if free to do so.

HYDRODYNAMIC LOADS: Loads induced on buildings or structures by the flow of flood water moving at moderate or high velocity around the buildings or structures or parts thereof, above ground level when openings or conduits exist which allow the free flow of flood waters. Hydrodynamic loads are basically of the lateral type and relate to direct impact loads by the moving mass of water, and to drag forces as the water flows around the obstruction.

IRREVOCABLY COMMITTED: Any platted area with improved streets, sewer, water, and fire districts, as well as established commercial and high density residential uses as of June 2, 1978.

LETTER OF MAP CHANGE (LOMC): An official FEMA determination, by letter, to amend or revise effective Flood Insurance Rate Maps and/or Flood Insurance Studies. LOMC's are issued in the following categories:

- (a) Letter of Map Amendment (LOMA): An amendment to the Flood Insurance Rate Maps based on technical data showing that an existing structure, parcel of land or portion of a parcel of land that has not been elevated by fill (natural grade) was inadvertently included in the special flood hazard area because of an area of naturally high ground above the base flood.
- (b) Letter of Map Revision (LOMR):
 - (1) LOMR-F (Letter of Map Revision based on Fill) is a letter from FEMA stating that an existing structure or parcel of land that has been elevated by fill would not be inundated by the base flood.
 - (2) A LOMR revises the current Flood Insurance Rate Map and/or Flood Insurance Study to show changes to the floodplains, floodways or flood elevations. LOMRs are generally based on manmade alterations that affected the hydrologic or hydraulic characteristics of a flooding source and thus result in modification to the existing regulatory floodway, the effective base flood elevation, or the special flood hazard area. A Conditional Letter of Map Revision (CLOMR) may be approved by FEMA prior to issuing a permit to start a project if the project has a potential to affect the special flood hazard area.

LOWEST FLOOR: The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking or 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.

MANUFACTURED DWELLING: Any of the following type of structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities:

Residential Trailer: a structure, greater than 400 square feet, constructed for movement on the public highways that was constructed before January 1, 1962.

Mobile Home: A structure having at least 400 square feet of floor area and which is transportable in one or more sections. A structure constructed for movement on the public highways that was constructed between January 1, 1962 and June 15, 1976, and met the construction requirements of Oregon mobile home law in effect at the time of construction.

Manufactured Dwelling: A structure constructed for movement on the public highways, after June 15, 1976, that was constructed in accordance with federal manufactured housing construction and safety standards and regulations in effect at the time of construction.

MANUFACTURED DWELLING PARK OR SUBDIVISION: A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

MANUFACTURED DWELLING PARK OR SUBDIVISION, EXISTING: A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufacture homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, an either final site grading or the pouring of concrete pads) is completed before August 1, 1978, the effective date of the floodplain management regulations.

MEAN SEA LEVEL: Specific Datum NAVD 88

MECHANICAL EQUIPMENT: Electrical, heating, ventilation, plumbing, and air conditioning equipment, storage tanks and other service facilities.

MITIGATION: The reduction of adverse effects of a proposed project by considering, in the following order:

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action;
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action by monitoring and taking appropriate measures; and

- (e) Mitigating for the impact by replacing or providing comparable substitute floodplain areas.

NEW CONSTRUCTION: For the purposes of determining insurance rates, structures for which the “start of construction” commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, *new construction* means structures for which the *start of construction* commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

PERMANENT FOUNDATION: A natural or manufactured support system to which a structure is anchored or attached. A ‘permanent foundation’ is capable of resisting flood forces and may include posts, piles, poured concrete or reinforced block walls, properly compacted fill, or other systems of comparable flood resistivity and strength.

REACH: A hydraulic engineering term used to describe longitudinal segments along a stream of water. A reach will generally include a segment of the flood hazard area where flood heights are primarily controlled by man-made or natural obstructions or constrictions. In an urban area an example of a reach would be the segment of a stream or river between two consecutive bridge crossings.

RECONSTRUCTION: The repair of a structure damaged by any cause (not limited to flooding) without increasing the floor area of the structure.

RECREATIONAL VEHICLE: A vehicle built on a single chassis; 400 square feet or less when measured at the largest horizontal projection; designed to be self-propelled or permanently towable by a light duty truck; designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel or seasonal use; and includes the following:

- (a) **CAMPER:** A structure containing a floor that is designed to be temporarily mounted upon a motor vehicle, and which is designed to provide facilities for temporary human habitation.
- (b) **MOTOR HOME:** A motor vehicle with a permanently attached camper, or that is originally designed, reconstructed or permanently altered to provide facilities for temporary human habitation.
- (c) **TRAVEL TRAILER:** A trailer that is capable of being used for temporary human habitation, which is not more than eight feet wide, and except in the case of a tent trailer, has four permanent walls when it is in the usual travel position.
- (d) **SELF-CONTAINED RECREATIONAL VEHICLE:** A vehicle that contains a factory-equipped, on-board system for the storage and disposal of gray water and sewage.

REHABILITATION: Any improvements and repairs made to the interior and exterior of an existing structure that do not result in an increase in the ground floor area of the structure. Examples include remodeling a kitchen, gutting a structure and redoing the interior, or adding a second story.

REINFORCED PIER: A pier with a footing adequate to support the weight of the manufactured dwelling under saturated soil conditions. Concrete blocks may be used if vertical steel reinforcing rods are placed in the hollows of the blocks and the hollows are filled with concrete or high strength mortar. Dry stacking concrete blocks does not constitute a ‘reinforced pier’.

REPETITIVE LOSS: Flood-related damages sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before damage occurred.

RESTORATION: The process of returning a disturbed or altered area or feature to a previously existing natural condition. Restoration activities reestablish the ecological structure, function, and/or diversity to that which occurred prior to impacts caused by human activity.

SPECIAL FLOOD HAZARD AREA (SFHA): Zones on Flood Insurance Rate Maps that depict the land in the floodplain within a community that is subject to a one percent or greater chance of flooding in any given year. Special Flood Hazard Area is synonymous with “Area of Special Flood Hazard.” Special Flood Hazard Areas on Flood Insurance Rate Maps are always designated as Zones A, A1-A30, AE, AO, V, V1-V30 or VE.

START OF CONSTRUCTION: Includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement occurred within 180 days of the permit date. The actual start means either the first placement of permanent construction of the 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 dwelling on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of street and/or walkways; nor does it include excavation for a basement, footings, piers, or foundation or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

STRUCTURE: For the purposes of this Section, a walled and roofed building, a modular or temporary building, or a gas or liquid storage tank that is principally above ground.

SUBSTANTIAL DAMAGE: Damage of any origin sustained by a structure where 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: Any reconstruction, rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the start of construction of the improvement. The term includes structures which have incurred substantial damage regardless of the actual repair work performed. The market value of the structure is:

- (1) The real market value of the structure prior to the start of the initial repair or improvement. Substantial Improvements shall be calculated cumulatively over a five year period using the real market value in County Assessor records at the beginning of the five year period; or
- (2) In the case of damage, the real market value of the structure prior to the damage occurring.

The term substantial improvement does not, however, include either:

- (3) 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 local code enforcement prior to substantial improvement or substantial damage and which are solely necessary to assure safe living conditions, or
- (4) Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places provided that the alteration will not preclude the structure's continued designation as a historic structure.

WATER SURFACE ELEVATION: Heights, in relation to mean sea level, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

- (5) **GENERAL STANDARDS:** In all areas of special flood hazards the following standards are required:

LETTER OF MAP REVISION

- (a) If hydrologic and hydraulic analysis indicates an increase in flood levels, the applicant shall obtain a Conditional Letter of Map Revision (CLOMR) from FEMA before any encroachment, including fill, new construction, substantial improvement, or other development is permitted. Upon completion of the project, but no later than six months after project completion, a Letter of Map Revision (LOMR) shall be submitted to FEMA to reflect the changes on the FIRM and/or

Flood Insurance Study. A LOMR is required only when the CLOMR documents an increase in flood levels during the occurrence of the base flood or where post-development conditions do not reflect what was proposed on the CLOMR.

ANCHORING

- (b) All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.
- (c) All manufactured dwellings must likewise be anchored to prevent flotation, collapse or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors (See FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for techniques). A certificate signed by a registered architect or engineer which certifies that the anchoring system is in conformance with FEMA regulations shall be submitted prior to final inspection approval.

CONSTRUCTION MATERIALS AND METHODS

- (d) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- (e) All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
- (f) Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be elevated to prevent water from entering or accumulating within the components during conditions of flooding. In Flood Zones A, A1-A30, AE, V, V1-V30 or VE, such facilities shall be elevated three feet above base flood elevation. In Flood Zone AO, such facilities shall be elevated above the highest grade adjacent to the building, a minimum of one foot above the depth number specified on the FIRM (at least two feet above the highest adjacent grade if no depth number is specified).

UTILITIES

- (g) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood water into the system.
- (h) 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.

- (i) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding, consistent with Oregon Department of Environmental Quality (DEQ) standards.

SUBDIVISION AND PARTITION PROPOSALS

- (j) All subdivision and partition proposals governed by the Land Division Ordinance shall be consistent with the need to minimize flood damage.
- (k) All subdivision and partition proposals governed by the Land Division Ordinance shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.
- (l) All subdivisions and partition proposals governed by the Land Division Ordinance shall have adequate drainage provided to reduce exposure to flood damage.
- (m) Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision and partition proposals governed by the Land Division Ordinance and other proposed developments which contain at least 50 lots or 5 acres (whichever is less).

REVIEW OF BUILDING AND MANUFACTURED DWELLING PERMITS

- (n) Where elevation data is not available either through the Flood Insurance Study or from another authoritative source, applications for building permits and/or manufactured dwelling 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 floodings, etc., where available. Failure to elevate at least three feet above grade in these zones may result in higher insurance rates.

SMALL ACCESSORY STRUCTURES

- (o) Relief from elevation or floodproofing as required for structures in A, AE or A1-A30 zones per Section 3.510(6) and AO zones per Section 3.510(11) may be granted for accessory structures that are:
 - (1) Less than 200 square feet and do not exceed 10 feet in height;
 - (2) Not temperature controlled;
 - (3) Not used for human habitation and are used solely for parking of vehicles or storage of items having low damage potential when submerged;
 - (4) Not used to store toxic material, oil or gasoline, or any priority persistent pollutant identified by the Oregon Department of Environmental Quality

unless confined in a tank installed in compliance with this ordinance or stored at least one foot above base flood elevation;

- (5) Constructed in accordance with anchoring and construction materials and methods standards in Section 3.510(5)(a) through (h); and
 - (6) If in an A, AE or A1-A30 zone, constructed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or must meet or exceed the following requirements:
 - i. 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;
 - ii. The bottom of all openings shall be no higher than one foot above grade; and
 - iii. Openings may be equipped with screens, louvers, or other coverings or devices provided they permit the automatic entry and exit of floodwaters.
 - (7) The cost of flood insurance for a structure permitted to be built with a lowest floor elevation below the base flood elevation will be commensurate with the increased risk resulting from the reduced lowest floor elevation.
- (6) **SPECIFIC STANDARDS FOR A ZONES (A, AE or A1-A30):** In all areas of special flood hazards where base flood data has been provided as set forth in Section 3.510(2) or other base flood data are utilized, the following provisions are required:

RESIDENTIAL CONSTRUCTION

- (a) New construction and substantial improvement of any residential structure, including manufactured dwellings, shall have the lowest floor, including basement, at a minimum of three feet above base flood elevation.
- (b) 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 floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or must meet or exceed the following minimum criteria:
 - (1) 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.
 - (2) The bottom of all openings shall be no higher than one foot above grade.

- (3) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

NONRESIDENTIAL CONSTRUCTION

- (c) New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall have either the lowest floor including basement elevated to three feet above the level of the base flood elevation or higher; or, together with attendant utility and sanitary facilities, shall:
 - (1) Be floodproofed so that the portion of the structure that lies below the portion that is three feet or more above the base flood level is watertight with walls substantially impermeable to the passage of water.
 - (2) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
 - (3) Be certified by a registered professional engineer or architect that the design and methods of construction are in compliance 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 provided to the Community Development Director.
 - (4) Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described for residential construction in Section 3.510(6)(a) and (b).
 - (5) Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g. a building constructed to the base flood level will be rated as one foot below that level).

(7) MANUFACTURED DWELLINGS

- (d) Any manufactured dwelling which incurs substantial damage as the result of a flood, must be elevated to the standards listed in (e) or (f) below.
- (e) All manufactured dwellings to be placed or substantially improved within Zones A, AE or A1-30 shall be elevated on a permanent foundation such that the lowest floor of the manufactured dwelling is at or above three feet above the base flood elevation and shall be securely anchored to an adequately anchored foundation system in accordance with Section 3.510(5) and requirements of the Oregon Residential Specialty Code.

- (f) Manufactured dwellings to be placed or substantially improved on sites in a Velocity (V1-V30, VE and V) Zone, that are not subject to the above manufactured dwelling provisions, shall be elevated so that:
 - (1) The lowest floor of the manufactured home is elevated to a minimum of three feet above the base flood elevation, or
 - (2) The manufactured dwelling 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 are securely anchored to an adequately designed foundation system to resist flotation, collapse and lateral movement in accordance with requirements of the Oregon Residential Specialty Code. Electrical crossover connections shall be a minimum of 12 inches above base flood elevation.

- (8) **RECREATIONAL VEHICLES:** Recreational vehicles may occupy a site in a Special Flood Hazard Area for periods of 180 consecutive days or less provided they are fully licensed and highway ready. Recreational vehicles are on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices and has no permanently attached additions. Recreational vehicles that do not meet these criteria become manufactured dwellings and must be anchored and elevated pursuant to this ordinance.

- (9) **SPECIFIC STANDARDS FOR FLOODWAYS:** Located within areas of special flood hazard established in Section 3.510(2) are areas designated as regulatory floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles, and erosion potential, the following provisions apply:
 - (a) Encroachments in the regulatory floodway including fill, new construction, substantial improvements and other development are prohibited unless certification is provided by a professional registered civil engineer demonstrating through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that such encroachment shall not result in any increase in flood levels during the occurrence of the base flood discharge.
 - (b) If Subsection 9(a) is satisfied, all new construction and substantial improvement shall comply with all applicable flood hazard reduction provisions of Section 3.510(5) and (6).
 - (c) If hydrologic and hydraulic analysis indicates an increase in flood levels, the applicant shall obtain a Conditional Letter of Map Revision (CLOMR) from FEMA before any encroachment, including fill, new construction, substantial improvement, or other development, in the regulatory floodway is permitted. Upon completion of the project, but no later than six months after project completion, a Letter of Map Revision (LOMR) shall be submitted to FEMA to reflect the changes on the FIRM and/or Flood Insurance Study. A LOMR is required only when the

CLOMR documents an increase in flood levels during the occurrence of the base flood or where post-development conditions do not reflect what was proposed on the CLOMR.

- (d) Projects for stream habitat restoration may be permitted in the floodway provided:
 - (1) The civil engineer shall, as a minimum, provide a feasibility analysis and certification that the project was designed to keep any rise in 100-year flood levels as close to zero as practically possible and that no structures will be impacted by a potential rise in flood elevation; and,
 - (2) An agreement to monitor the project, correct problems, and ensure that flood carrying capacity remains unchanged is included as part of the local approval.
- (e) Before a Regulatory Floodway is determined in an A1-A30 or AE Zone: In areas where a regulatory floodway has not been designated, no new construction, substantial improvements or other development (including fill) shall occur within an AE Zone designated on the community's Flood Insurance Rate Map, 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) As noted in "The Flood Insurance Study for Tillamook County" as revised on September 28, 2018, certain areas of Tillamook County are subject to heavy tidal influence and sheet flows. Floodways are not applicable in this type of flooding. Thus, the following areas are not subject to the requirement of Section (9)(e) above:
 - (1) Nehalem River downstream of cross-section A
 - (2) Nestucca River where it joins Nestucca Bay
 - (3) Tillamook River
 - (4) Wilson River from cross-sections A to Y
 - (5) Trask River from cross-sections A to AF
 - (6) Kilchis River downstream of cross-section C
- (10) **SPECIFIC STANDARDS FOR COASTAL HIGH HAZARD AREAS (V, VE or V1-V30 ZONES):** Located within areas of special flood hazard established in Section 3.510(2) are Coastal High Hazard Areas. These areas have special flood hazards associated with high velocity waters from tidal surges and, therefore, in addition to meeting all provisions in this Section the following provisions shall apply to residential, non-residential, manufactured dwellings and other development in Coastal High Hazard Areas:
 - (a) All new construction and substantial improvements in Zones V1-V30, VE and V shall be elevated on pilings and columns so that:

- (1) The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to or above one foot above the base flood level: and
 - (2) The pile or column foundation and structure 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 one percent chance of being equaled or exceeded in any given year (100-year mean recurrence interval).
- (b) A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of (a)(1) and (a)(2) above. A certificate shall be submitted, signed by the registered professional engineer or architect that the requirements of this Section will be met.
- (c) Obtain the elevation (in relation to mean sea level) of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) of all new and substantially improved structures in Zones V1-30, VE, and V and whether or not such structures contain a basement. The Community Development Director shall maintain a record of all such information.
- (d) All new construction shall be located landward of the reach of mean high tide.
- (e) Provide that all new construction and substantial improvements 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 purpose of this Section a breakaway wall shall have a design safe loading resistance of not less than 10 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:
- (1) Breakaway wall collapse shall result from a water load less than that which would occur during the base flood; and
 - (2) 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 (structural and nonstructural). Maximum wind and water loading values to be used in this determination shall each have a one percent

chance of being equaled or exceeded in any given year (100-year mean recurrence interval).

- (f) If breakaway walls are utilized, such enclosed space shall be usable solely for parking of vehicles, building access, or storage. Such space shall not be used for human habitation.
 - (g) Prohibit the use of fill for structural support of buildings.
 - (h) Prohibit man-made alteration of sand dunes, including vegetation removal, which would increase potential flood damage.
- (11) **SPECIFIC STANDARDS FOR AREAS OF SHALLOW FLOODING (AO ZONE):** Shallow flooding areas appear on FIRM's as AO zones with depth designations. The base flood depths in these zones range from 1 to 3 feet where a clearly defined channel does not exist, or where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. In these areas the following provisions apply:
- (a) Require adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.

RESIDENTIAL

- (b) New construction and substantial improvements of residential structures (including manufactured dwellings) within AO zones shall have the lowest floor (including basement) elevated above the highest grade adjacent to the building, a minimum of one foot above the depth number specified on the FIRM (at least two feet above the highest adjacent grade if no depth number is specified).

NON-RESIDENTIAL

- (c) New construction and substantial improvements of nonresidential structures, including manufactured dwellings used for non-residential purposes, within AO zones shall either:
 - (1) Have the lowest floor (including basement) elevated above the highest grade adjacent to the building, a minimum of one foot above the depth number specified on the FIRM (at least two feet above the highest adjacent grade if no depth number is specified); or
 - (2) Together with attendant utility and sanitary facilities, be completely floodproofed to one foot above the depth number specified on the FIRM so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects

of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect as in Subsection (6)(c)(3) of this Section.

- (12) **WARNING AND DISCLAIMER OF LIABILITY:** The degree of flood protection required by this ordinance 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 ordinance does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of Tillamook County, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.
- (13) **SPECIAL ADMINISTRATIVE PROVISIONS FOR FH ZONE:**
- (a) **Designation of the Local Administrator:** The Community Development Director of Tillamook County is hereby appointed to administer and implement the provisions of this Flood Hazard Overlay Zone by granting or denying development permit applications in accordance with its provisions.
- (b) **Duties of the Community Development Director shall include, but not be limited to:**
- (1) Review of all Floodplain Development Permits for construction and other development within an Area of Special Flood Hazard identified on the Flood Insurance Rate Map to assure that the requirements of this Section have been satisfied and that all other necessary permits have been obtained from those federal, state or local governmental agencies from which prior approval is required.
 - (2) Review all other permit applications to determine compliance with this Section.
 - (3) Notify adjacent communities and the Department of Land Conservation and Development prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration.
 - (4) Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capability is not diminished.
 - (5) Provide base flood elevation and structure elevation requirements to the Building Official.

- (6) Determine if structures meet substantial improvement or substantial damage thresholds.
- (7) Where base flood elevation data is provided through the Flood Insurance Study or required within this Section, obtain and record on an Elevation Certificate the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement.
- (8) For all new or substantially improved floodproofed structures:
 - (a) Verify and record the actual elevation (in relation to mean sea level), and
 - (b) Maintain the floodproofing certifications required in this Section.
- (9) Maintain for inspection in perpetuity the affidavits of certification required in this Section. Affidavits of certification, such as elevation certificates, V zone certification, floodproofing, breakaway walls, floodway no-rise, etc., are required to be submitted by the permit applicant for elevations and structural requirements as specified in this Section, both pre- and post-construction, utilizing forms provided for this purpose by FEMA. Elevations may be certified by a licensed surveyor or a registered professional architect or engineer. Structural requirements may be certified by a registered professional architect or engineer.
- (10) Where interpretation is needed requiring the boundaries of the areas of special flood hazard, the Community Development Director will make the necessary interpretation. The person contesting the ruling of the Community Development Director shall be given a reasonable opportunity to appeal the ruling as provided in Section 3.510(15).
- (11) When base flood elevation has not been provided as set forth in Section 3.510(2), the Community Development Director shall obtain, review and reasonably utilize any base flood data and floodway available from federal, state, or other source in order to administer the provisions of Section 3.510.
- (12) All records pertaining to the provisions of this Section shall be maintained in the Tillamook County Community Development Department and shall be open for public inspection.
- (13) When a Variance is granted, the Community Development Director shall give written notice that the structure will be allowed to be built with the lowest floor elevation at or below base flood elevation, and that the cost of flood insurance will be commensurate with the increased risk resulting from the lowest floor elevation.

- (c) Restrict the location of structures placed on undeveloped parcels between Brooten Road and the Nestucca River, from the Woods Bridge downstream to map cross-section line F on the amended floodway map for the Nestucca River.

Such structures shall occupy no more than 62.5% of the lot width of the parcel to be built upon. This requirement does not apply if the structure is built upon pilings with the area beneath the structure open to permit passage of flood water.

Any such structure shall comply with all other requirements of this Section and shall provide a regulatory floodway analysis for structures in the floodway. The intent of this Subsection is to maintain a minimum of 1000 feet of open space on the east bank of the Nestucca River, between Brooten Road and the river, from the Woods Bridge structure downstream to map cross-section line F on the amended floodway map for the Nestucca River.

- (d) Publicly owned open land recreation parks and accessory restroom facilities, where allowed in the underlying zone, shall be allowed in floodplain areas below the base flood elevation. The accessory restroom facilities shall be located outside of floodplain areas if possible. If it is not possible, the restroom structures shall be located:

- (1) On the highest portion of the park grounds; and
- (2) Be wet-floodproofed; and
- (3) Maintain riparian setbacks; and
- (4) Adequate backflow valves shall be installed;

If the structure is located in a designated floodway, it shall conform to 1 through 4 above and shall be small enough and positioned so that it will not divert floodwaters. Any structure located within the regulatory floodway must have a floodway analysis to assure there is no-rise in base flood elevation.

- (e) All residential and non-residential development and substantial improvements, within the Pacific City Airport Overlay Zone where the height is restricted by the PAO zone, below that allowed by the underlying zone, shall conform to the FH zone regulations except that the lowest floor elevation and the floodproofing shall be certified at the base flood elevation given on the FIRM maps instead of the required three foot above base flood elevation level. Any structure located within the regulatory floodway must have a floodway analysis to assure there is no-rise in base flood elevation.

- (14) **DEVELOPMENT PERMIT PROCEDURES:** A development permit shall be obtained before construction or development begins within any area of special flood hazard zone.

The permit shall be for all structures including manufactured dwellings, and for all development including fill and other development activities, as set forth in the Definitions contained in this Section of the Land Use Ordinance.

- (a) Application for a development permit shall be made on forms furnished by the Community Development Director and shall include but not necessarily be limited to: plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question, existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing. Specifically, the following information in 3.510(14)(a)(1)–(4) is required and Development Permits required under this Section are subject to the Review Criteria put forth in Section 3.510(14)(b):
 - (1) Elevation in relation to mean sea level of the lowest floor, including basement, of all structures as documented on an Elevation Certificate;
 - (2) Elevation in relation to mean sea level to which any proposed structure will be floodproofed as documented on an Elevation Certificate;
 - (3) If applicable, certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in Subsection (6)(c)(3) of this Section; and
 - (4) Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.
- (b) Development Permit Review Criteria
 - (1) The fill is not within a Coastal High Hazard Area.
 - (2) Fill placed within the Regulatory Floodway shall not result in any increase in flood levels during the occurrence of the base flood discharge.
 - (3) The fill is necessary for an approved use on the property.
 - (4) The fill is the minimum amount necessary to achieve the approved use.
 - (5) No feasible alternative upland locations exist on the property.
 - (6) The fill does not impede or alter drainage or the flow of floodwaters.
 - (7) If the proposal is for a new critical facility, no feasible alternative site is available.
 - (8) For creation of new, and modification of, Flood Refuge Platforms, the following apply, in addition to (14)(a)(1-4) and (b)(1-5):

- i. The fill is not within a floodway, wetland, riparian area or other sensitive area regulated by the Tillamook County Land Use Ordinance.
- ii. The property is actively used for livestock and/or farm purposes,
- iii. Maximum platform size = 10 sq ft of platform surface per acre of pasture in use, or 30 sq ft per animal, with a 10-ft wide buffer around the outside of the platform,
- iv. Platform surface shall be at least 1 ft above base flood elevation,
- v. Slope of fill shall be no steeper than 1.5 horizontal to 1 vertical,
- vi. Slope shall be constructed and/or fenced in a manner so as to prevent and avoid erosion.

Conditions of approval may require that if the fill is found to not meet criterion (5), the fill shall be removed or, where reasonable and practical, appropriate mitigation measures shall be required of the property owner. Such measures shall be verified by a certified engineer or hydrologist that the mitigation measures will not result in a net rise in floodwaters and be in coordination with applicable state, federal and local agencies, including the Oregon Department of Fish and Wildlife.

- (c) Before approving a development permit application for other than a building, the Community Development Director may determine that a public hearing should be held on the application. Such hearing shall be held before the Planning Commission and a decision made by the Planning Commission in accordance with the provisions of Article X.

(15) APPEALS, REDUCTIONS AND VARIANCES:

- (a) An appeal of the ruling of the Community Development Director regarding a requirement of this Section may be made to the Tillamook County Planning Commission pursuant to Section 10.100.
- (b) Reductions of the "3 feet above base flood elevation" standard may be granted by the Community Development Director, upon findings that:
 - (1) Strict application of the three-foot standard would produce an unreasonable or inequitable result; and
 - (2) A lesser elevation requirement will not result in an appreciable increase in flood damage.

Reductions to below 1 foot above base flood elevation require a Variance as described in (c), below.

The intent of this provision is to limit this application of the Director's discretion to those rare and unusual circumstances where the three-foot standard would result in unnecessary and burdensome development requirements.

- (c) Variances to the standards contained in Section 3.510 shall be issued only in accordance with the following criteria:
- (1) Generally, the only condition under which a variance from the elevation standard may be issued is for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing the items in subsection (15)(c)(2) have been fully considered. As the lot size increases the technical justification required for issuing the variance increases.
 - (2) The following items shall be considered in review of variance applications:
 - (i) The danger that materials may be swept onto other lands to the injury of others;
 - (ii) The danger to life and property due to flooding or erosion damage;
 - (iii) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - (iv) The importance of the services provided by the proposed facility to the community;
 - (v) The necessity to the facility of a waterfront location, where applicable;
 - (vi) The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
 - (vii) The compatibility of the proposed use with existing and anticipated development;
 - (viii) The relationship of the proposed use to the comprehensive plan and flood plain management program for that area;
 - (ix) The safety of access to the property in times of flood for ordinary and emergency vehicles;
 - (x) 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,
 - (xi) 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, and water systems, and streets and bridges.
 - (3) Variances may be issued for the reconstruction, rehabilitation, or restoration of structures listed on the National Register of Historic Places or the Statewide Inventory of Historic Properties, without regard to the procedures set forth in this section.

- (4) Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.
- (5) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (6) Variances shall be issued only upon:
 - (i) A showing of good and sufficient cause;
 - (ii) A determination that failure to grant the variance would result in exceptional hardship to the applicant;
 - (iii) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public as identified in subsection (15)(c)(2), or conflict with existing local laws or ordinances.
- (6) Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from the flood elevations should be quite rare.
- (7) Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of floodproofing than watertight or dry-floodproofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except subsection (15)(c)(1), and otherwise complies with general standards in Section 3.510(5).
- (8) 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 reduced lowest floor elevation.
- (e) The procedures for reviewing and taking action on a variance under the provisions of this Section shall be pursuant to the procedures for a Type II review in accordance with Article 10 of the TCLUO.
- (16) **PROVISIONS:** The provisions of Section 3.510 shall take precedence over all prior resolutions or orders of the Board of County Commissioners relating to Floodplain Management.