Exhibit 1

Chapter 15.16

FLOOD DAMAGE PREVENTION

Sections:

Article V. Provisions for Flood Hazard Reduction

Article VI. Regulations by Location

Article VII. Standards for Protection of SFHA Floodplain Functions

Article I. Purpose, Applicability, Authority, Findings

15.16.110 Purpose.

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 to:

A. Protect human life and health;

B. Minimize expenditure of public money and costly flood control projects;

C. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general 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; and streets and bridges located in areas of special flood hazard;

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 blight areas caused by flooding;

G. Notify potential buyers that the property is in an area of special flood hazard; and

H. Notify those who occupy areas of special flood hazard that they assume responsibility for their actions; and

I. Participate in and maintain eligibility for flood insurance and disaster relief; and

J. Preserve natural and beneficial floodplain functions.

15.16.115 Applicability.

This chapter shall apply to all areas of special flood hazards within the jurisdiction of the city.

15.16.120 Statutory authorization.

The legislature of the state has, in ORS 197.175, delegated the responsibility to local governmental units to adopt floodplain management regulations designed to promote the public health, safety and general welfare of its citizenry.

15.16.125 Findings of fact.

A. The flood hazard areas of ~~the city are~~ **the City of Lincoln City provide natural and beneficial values. However, these area are** subject to periodic inundation which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

B. These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazards, which increase flood heights and velocities and, when inadequately anchored, cause damage in other areas. Uses that are inadequately flood-proofed, elevated or otherwise protected from flood damage also contribute to the flood loss.

15.16.130 Methods of reducing flood losses.
In order to accomplish its purposes, this chapter includes methods and provisions for:

A. Restricting or prohibiting development which is dangerous to health, safety and property due to water or erosion hazards, or that results in damaging increases in erosion or in flood heights or velocities;

B. Requiring that development vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

C. Controlling the alteration of natural floodplains, stream channels and natural protective barriers which help accommodate or channel floodwaters;

D. Controlling filling, grading, dredging and other development which may increase flood damage; and

E. Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or may increase flood hazards in other areas**; and**

F. Employing a standard of "no net loss" of natural and beneficial floodplain functions.

Article II. Definitions

15.16.200 Definitions.
Unless specifically defined in this section, 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 interpretation of any provision of this chapter, or a request for a variance.

"Area of shallow flooding" means a designated Zone AO, AH, AR/AO or AR/AH or VO on a community's flood insurance rate map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three 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.

"Area of special flood hazard" means the land in the floodplain within a community, subject to a one percent or greater chance of flooding in any given year. It is shown on the flood insurance rate map (FIRM) as Zone A, AO, AH, A1-30, AE, A99, AR, V, VO, V1-30, VE. "Special flood hazard area" is synonymous in meaning with the phrase "area of special flood hazard."

"Base flood" means the flood having a one percent chance of being equaled or exceeded in any given year.

"Base flood elevation (BFE)" means the elevation to which floodwater is anticipated to rise during the base flood.

"Basement" means any area of the building having its floor subgrade (below ground level) on all sides.

"Below-grade crawlspace" means an enclosed area below the base flood elevation in which the interior grade is not more than two feet below the lowest adjacent exterior grade, and the height, measured from the interior grade of the crawlspace to the top of the crawlspace foundation, does not exceed four feet at any point.

"Breakaway wall" means a wall that is not 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" means 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.

"Development" means any manmade 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 and materials.

"Fill" means the placement of any materials such as soil, gravel, crushed stone, or other materials that change the elevation of the floodplain. The placement of fill is considered "development."

"Fish Accessible Space" means the volumetric space available to fish to access.

"Fish Egress-able Space" means the volumetric space available to fish to exit or leave from.

"Flood or flooding" means:

1. A general and temporary condition of partial or complete inundation of normally dry land areas from:

   a. The overflow of inland or tidal waters.

   b. The unusual and rapid accumulation or runoff of surface waters from any source.

   c. Mudslides (i.e., mudflows) which are proximately caused by flooding as defined in subsection (1)(b) 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.

2. 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 subsection (1)(a) of this definition.

"Flood elevation study" means an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards.

"Flood insurance rate map" ("FIRM") means the official map of a community, on which the Federal Insurance Administrator has delineated both the areas of special flood hazards 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. See "Flood elevation study" for this definition.

"Flood-proofing" means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate risk of flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents.

"Floodway" means 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. Also referred to as "regulatory floodway."

"Freeboard" is a term used by FEMA's National Flood Insurance Program (NFIP) to describe a factor of safety usually expressed in feet above the one percent annual chance flood level. A structure built with one foot of freeboard would have its lowest floor one foot or more above the base flood elevation (BFE). Adding freeboard will reduce NFIP insurance premiums.

"Functionally dependent use" means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, and does not include long-term storage or related manufacturing facilities.

"Green Infrastructure" means the use of natural or human-made hydrologic features to manage water and provide environmental and community benefits. Green infrastructure uses management approaches and technologies that use, enhance, and/or mimic the natural hydrologic cycle processes of infiltration, evapotranspiration, and reuse. At a large scale, it is an interconnected network of green space that conserves natural systems and provides assorted benefits to human populations. At a local scale, it manages stormwater by infiltrating it into the ground where it is generated using vegetation or porous surfaces, or by capturing it for later reuse. Green infrastructure practices can be used to achieve no net loss of pervious surface by creating infiltration of stormwater in an amount equal to or greater than the infiltration lost by the placement of new impervious surface.

"Habitat Restoration Activities" means activities with the sole purpose of restoring habitats that have only temporary impacts and long-term benefits to habitat. Such projects cannot include ancillary structures such as a storage shed for maintenance equipment, must demonstrate that no rise in the BFE would occur as a result of the project and obtain a CLOMR and LOMR, and have obtained any other required permits (e.g., CWA Section 404 permit).

"Hazard Trees" means standing dead, dying, or diseased trees or ones with a structural defect that makes it likely to fail in whole or in part and that present a potential hazard to a structure or as defined by the community.

"Highest adjacent grade" means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

"Historic structure" means any structure that is:

1. Listed individually in the National Register of Historic Places (a listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;

2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;

3. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or

4. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:

a. By an approved state program as determined by the Secretary of the Interior; or

b. Directly by the Secretary of the Interior in states without approved programs.

"Hydraulically Equivalent Elevation" means a location (e.g., a site where no net loss standards are implemented) that is approximately equivalent to another (e.g., the impacted site) relative to the same 100-year water surface elevation contour or base flood elevation. This may be estimated based on a point that is along the same approximate line perpendicular to the direction of flow.

"Hydrologically Connected" means the interconnection of groundwater and surface water such that they constitute one water supply and use of either results in an impact to both.

"Impervious Surface" means a surface that cannot be penetrated by water and thereby prevents infiltration and increases the amount and rate of surface water runoff, leading to erosion of stream banks, degradation of habitat, and increased sediment loads in streams. Such surfaces can accumulate large amounts of pollutants that are then "flushed" into local water bodies during storms and can also interfere with recharge of groundwater and the base flows to water bodies.

"Low Impact Development" means an approach to land development (or redevelopment) that works with nature to manage stormwater as close to its source as possible. It employs principles such as preserving and recreating natural landscape features and minimizing effective imperviousness to create functional and appealing site drainage that treats stormwater as a resource rather than a waste product. Low Impact Development refers to designing and implementing practices that can be employed at the site level to control stormwater and help replicate the predevelopment hydrology of the site. Low impact development helps achieve no net loss of pervious surface by infiltrating stormwater in an amount equal to or greater than the infiltration lost by the placement of new impervious surface. LID is a subset of green infrastructure.

"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 nonelevation design requirements of this chapter found at LCMC 15.16.550.

"Manufactured dwelling" means a 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. The term "manufactured dwelling" does not include a "recreational vehicle" and is synonymous with "manufactured home."

"Manufactured dwelling park or subdivision" means a parcel (or contiguous parcels) of land divided into two or more manufactured dwelling lots for rent or sale.

"Mean Higher-High Water" (MHHW) means the average of the higher-high water height of each tidal day observed over the National Tidal Datum Epoch.

"Mean sea level" means for the purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a community's flood insurance rate map are referenced.

"New construction" means, for floodplain management purposes, structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation, including Ordinance 2009-17, or Ordinance 2019-25, and includes any subsequent improvements to such structures.

"No Net Loss" means a standard where adverse impacts must be avoided or offset through adherence to certain requirements so that there is no net change in the function from the existing condition when a development application is submitted to the state, tribal, or local jurisdiction. The floodplain functions of floodplain storage, water quality, and vegetation must be maintained.

"Offsite" means mitigation occurring outside of the project area.

"Onsite" means mitigation occurring within the project area.

"Ordinary High Water Mark" means the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding areas.

"Permanent foundation" refers to 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, pilings, poured concrete or reinforced block walls, properly compacted fill or other systems of comparable flood resistivity and strength.

"Qualified Professional" means appropriate subject matter expert that is defined by the community.

"Reach" means a section of a stream or river along which similar hydrologic conditions exist, such as discharge, depth, area, and slope. It can also be the length of a stream or river (with varying conditions) between major tributaries or two stream gages, or a length of river for which the characteristics are well described by readings at a single stream gage.

"Recreational vehicle" means a vehicle which is:

1. Built on a single chassis;

2. Four hundred square feet or less when measured at the largest horizontal projection;

3. Designed to be self-propelled or permanently towable by a light duty truck or sport utility vehicle; and

4. Designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

"Riparian" means of, adjacent to, or living on, the bank of a river, lake, pond, or other water body.

"Riparian Buffer Zone (RBZ)" means the outer boundary of the riparian buffer zone is measured from the ordinary high water line of a fresh waterbody (lake; pond; ephemeral, intermittent, or perennial stream) or mean higher-high water line of a marine shoreline or tidally influenced river reach to 170 feet horizontally on each side of the stream or 170 feet inland from the MHHW. The riparian buffer zone includes the area between these outer boundaries on each side of the stream, including the stream channel. Where the RBZ is larger than the special flood hazard area, the no net loss standards shall only apply to the area within the special flood hazard area.

"Riparian Buffer Zone Fringe" means the area outside of the RBZ and floodway but still within the SFHA.

"Silviculture" means the art and science of controlling the establishment, growth, composition, health, and quality of forests and woodlands."

Special Flood Hazard. See "Area of special flood hazard" for this definition.

"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 was within 180 days from the date of the permit. 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 pilings, the construction of columns, or any work beyond the stage 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 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 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" means, for floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured dwelling.

"Substantial damage" means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damage condition would equal or exceed 49 percent of the market value of the structure before the damage occurred.

"Substantial improvement" means any reconstruction, rehabilitation, addition, or other improvement of a structure taking place in a five year consecutive period of time, the cost of which equals or exceeds 49 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

1. 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

2. Any alteration of a "historic structure"; provided, that the alteration will not preclude the structure's continued designation as a "historic structure."

"Undeveloped Space" means the volume of flood capacity and fish-accessible/egress-able habitat from the existing ground to the Base Flood Elevation that is undeveloped. Any form of development including, but not limited to, the addition of fill, structures, concrete structures (vaults or tanks), pilings, levees and dikes, or any other development that reduces flood storage volume and fish accessible/egress-able habitat must achieve no net loss.

"Variance" means, for floodplain management purposes, a grant of relief by the city of Lincoln City from the terms of a floodplain management regulation.

"Violation" means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this chapter is presumed to be in violation until such time as that documentation is provided.

Article III. General Provisions

15.16.310 Lands to which this chapter applies and basis for establishing areas of special flood hazard.

This chapter shall apply to all the areas of special flood hazard within the jurisdiction of the city of Lincoln City. The areas of special flood hazard identified by the Federal Insurance Administrator in a scientific and engineering report entitled "The Flood Insurance Study (FIS) for Lincoln County, Oregon and Incorporated Areas," dated October 18, 2019, with accompanying flood insurance rate maps (FIRMS), are hereby adopted by reference and declared

to be a part of this chapter. The flood insurance study and FIRM panels are on file at the planning and community development department and with the city recorder at City Hall. The best available information for flood hazard area identification, as outlined in LCMC 15.16.430, shall be the basis for regulation until a new FIRM is issued that incorporates the data utilized under LCMC 15.16.430.

15.16.311 Coordination with specialty codes adopted by the State of Oregon Building Codes Division.

Pursuant to the requirement established in ORS 455 that the city of Lincoln City administers and enforces the State of Oregon Specialty Codes, the city of Lincoln City does hereby acknowledge that the Oregon Specialty Codes contain certain provisions that apply to the design and construction of buildings and structures located in special flood hazard areas (SFHA). Therefore, this chapter is intended to be administered and enforced in conjunction with the Oregon Specialty Codes.

15.16.315 Compliance with chapter required.

All development within areas of special flood hazard is subject to the terms of this chapter and required to comply with its provisions and all other applicable regulations.

15.16.316 Penalties for noncompliance.

A. Violations.

1. No structure or land shall hereafter be constructed, located, extended, converted, or altered and no development shall occur without full compliance with the terms of this chapter and other applicable regulations and maps. Violations of any provisions of this chapter, or the incorporated provisions herein, by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a Class A violation. Each day that the violation of this title exists is deemed to be a separate offense.

2. Any person, firm, association or corporation, whether as principal, agent, employee or otherwise, who violates any provision of this chapter, including any order adopted implementing this chapter, shall be punished under the provisions of Chapter 1.16 LCMC. Nothing herein contained shall prevent the city of Lincoln City from taking such other lawful action, including as is necessary to prevent or remedy any violation.

15.16.318 Alternative remedy.

A. In case a building or other structure is, or is proposed to be, located, constructed, maintained, repaired or used; or land is, or is proposed to be, used in violation of this chapter, the building or land thus in violation shall constitute a nuisance. The city may, as an alternative to other remedies that are legally available for enforcing this title, institute a civil suit for an injunction, abatement or other appropriate proceedings to prevent, enjoin temporarily or permanently, abate or remove the unlawful location, construction, maintenance, repair, alteration or use.

B. If the city initiates and prevails in an action under subsection (A) of this section, the city shall be entitled to an assessment of its costs as provided in LCMC 8.12.170 relating to nuisances. Such assessment will then become a lien against the property as provided in LCMC 8.12.170.

15.16.320 Abrogation and greater restrictions.
This chapter is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this chapter and another ordinance, easement, covenant or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

15.16.325 Interpretation.
In the interpretation and application of this chapter, all provisions shall be:

A. Considered as minimum requirements;

B. Liberally construed in favor of the governing body; and

C. Deemed neither to limit nor repeal any other powers granted under state statutes.

15.16.330 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 manmade 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 Administrator, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.

15.16.335 Severability.
This chapter and the various parts thereof are hereby declared to be severable. If any section, clause, sentence, or phrase of this chapter is held to be invalid or unconstitutional by a court of competent jurisdiction, then said holding shall in no way affect the validity of the remaining portions of this chapter.

Article IV. Administration

15.16.410 Establishment of development permit for flood hazard zones.
A development permit shall be obtained before construction or development begins within any area horizontally within the area of special flood hazard established in LCMC 15.16.310. The development permit shall be required for all structures, including mobile dwellings, as defined in LCMC 15.16.200, and for all other development, including fill and other activities, also as defined in LCMC 15.16.200. Application for a development permit shall be made on forms furnished by the planning and community development director or designee. Information required to be submitted by the applicant may include, but not 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; and drainage facilities. Specifically, the following information is required:

A. In riverine flood zones, the proposed elevation, in relation to mean sea level, of the lowest floor (including basement) and all attendant utilities of all new and substantially improved structures;

B. In coastal flood zones (V zones), the proposed 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 structures, and whether such structures contain a basement;

C. Elevation, in relation to mean sea level, to which any nonresidential structure will be flood-proofed;

D. Certification by a registered professional engineer or architect licensed in the state of Oregon that the flood-proofing methods for any nonresidential structure meet the flood-proofing criteria in LCMC 15.16.550;

E. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development;

F. Substantial improvement calculations for any improvement, addition, reconstruction, renovation, or rehabilitation of an existing structure. This may require the applicant to submit verifiable cost estimates to determine value of the improvements or repairs if no other accurate method of determining the value exists;

G. The amount and location of any fill or excavation activities proposed; and

H. Base flood elevation data for subdivision proposals or other development when required in LCMC 15.16.530.

15.16.415 Designation of local floodplain administrator.
The planning and community development director is hereby appointed to administer, implement, and enforce this chapter by granting or denying development permit applications in accordance with its provisions. The floodplain administrator may delegate authority to implement these provisions.

15.16.420 Local floodplain administrator – Duties generally.
The duties of the local floodplain administrator, or their designee, shall include, but not be limited to, those set forth in LCMC 15.16.425 through 15.16.445.

15.16.425 Permit review.
The local floodplain administrator shall review all development permits to determine:

A. That the permit requirements of this chapter have been satisfied;

B. That all other required permits have been obtained and approved from those federal, state or local governmental agencies from which prior approval is required;

C. Whether the proposed development is located in the floodway. If located in the floodway, the local floodplain administrator shall ensure that the provisions of LCMC 15.16.615, Floodways, are met;

D. Review all development permits to determine if the proposed development is located in an area where base flood elevation (BFE) data is available either through the flood insurance study (FIS) or from another authoritative source. If BFE data is not available then ensure compliance with the provisions of LCMC 15.16.430;

E. Provide to building official the base flood elevation (BFE) plus freeboard applicable to any building requiring a development permit;

F. Review all development permit applications to determine if the proposed development qualifies as a substantial improvement as defined in LCMC 15.16.200;

G. Review all development permits to determine if the proposed development activity is a watercourse alteration. If a watercourse alteration is proposed, ensure compliance with the provisions in LCMC 15.16.510; and

H. Review all development permits to determine if the proposed development activity includes the placement of fill or excavation**; and**

I. Determine whether the proposed development activity complies with the no net loss standards in Article VII.

15.16.430 Use of other base flood data.
When base flood elevation data has not been provided in accordance with LCMC 15.16.310, the local floodplain administrator 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 Article V of this chapter through LCMC 15.16.625.

15.16.435 Information to be obtained and maintained.
The local floodplain administrator is responsible for obtaining and maintaining the following information for public inspection:

A. Obtain, record, and maintain the actual elevation (in relation to mean sea level) of the lowest floor (including basements) and all attendant utilities of all new or substantially improved structures where base flood elevation (BFE) data is provided through the flood insurance study (FIS), flood insurance rate map (FIRM), or obtained in accordance with LCMC 15.16.430;

B. Obtain and record the elevation (in relation to mean sea level) of the natural grade of the building site for a structure prior to the start of construction and the placement of any fill and ensure that the requirements of LCMC 15.16.425, 15.16.516, 15.16.615, and 15.16.625(G) are adhered to;

C. Upon placement of the lowest floor of a structure (including basement) but prior to further vertical construction, obtain an elevation certificate (EC), prepared and sealed by a professional licensed surveyor or engineer, certifying the actual elevation (in relation to mean sea level) of the lowest floor (including basement), attendant utilities in place, and the location and height of all flood openings;

D. Obtain an as-built elevation certificate (EC) recording the actual elevation (in relation to mean sea level) of the lowest floor (including basement), all attendant utilities, and the location and height of all flood openings, prior to the final inspection;

E. Maintain all elevation certificates (EC) submitted to the city;

F. Obtain, record, and maintain the elevation (in relation to mean sea level) to which the structure and all attendant utilities were flood-proofed for all new or substantially improved flood-proofed structures where base flood elevation (BFE) data is provided through the FIS, FIRM, or obtained in accordance with LCMC 15.16.430;

G. Maintain all flood-proofing certificates required under this chapter;

H. Record and maintain all variance actions, including justification for their issuance;

I. Obtain and maintain all hydrologic and hydraulic analyses performed as required under LCMC 15.16.615;

J. Record and maintain all substantial improvement and substantial damage calculations and determinations as required under LCMC 15.16.441;

K. Maintain for public inspection all records pertaining to the provisions of this chapter.

L. Document how no net loss standards have been met (see Article VII)

15.16.440 Requirement to notify other entities and submit new technical data.

A. Alteration of Watercourses. The local floodplain administrator shall: notify adjacent communities and the Oregon Department of Land Conservation and Development, and other appropriate state and federal agencies, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration. This notification shall be provided by the applicant to the Federal Insurance Administration as a letter of map revision (LOMR), along with either:

1. A proposed maintenance plan to assure the flood carrying capacity within the altered or relocated portion of the watercourse is maintained; or

2. Certification by a registered professional engineer that the project has been designed to retain its flood carrying capacity without periodic maintenance.

The applicant shall be required to submit a conditional letter of map revision (CLOMR) when required under this section.

B. Community Boundary Alterations. The floodplain administrator shall notify the Federal Insurance Administrator in writing whenever the boundaries of the community have been modified by annexation or the community has otherwise assumed authority or no longer has authority to adopt and enforce floodplain management regulations for a particular area. To ensure that all flood hazard boundary maps (FHBM) and flood insurance rate maps (FIRM) accurately represent the community's boundaries, include within such notification a copy of a map of the community suitable for reproduction, clearly delineating the new corporate limits or new area for which the community has assumed or relinquished floodplain management regulatory authority.

C. Requirement to Submit New Technical Data. A community's base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, a

community shall notify the Federal Insurance Administrator of the changes by submitting technical or scientific data in accordance with Title 44 of the Code of Federal Regulations (CFR), Section 65.3. The community may require the applicant to submit such data and review fees required for compliance with this section through the applicable FEMA letter of map change (LOMC) process.

The floodplain administrator shall require a conditional letter of map revision prior to the issuance of a floodplain development permit for:

1. Proposed floodway encroachments that increase the base flood elevation; and

2. Proposed development which increases the base flood elevation by more than one foot in areas where FEMA has provided base flood elevations but no floodway.

An applicant shall notify FEMA within six months of project completion when an applicant has obtained a conditional letter of map revision (CLOMR) from FEMA. This notification to FEMA shall be provided as a letter of map revision (LOMR).

15.16.441 Substantial improvements and substantial damage assessments and determinations.

Conduct substantial improvement (SI) (as defined in LCMC 15.16.200) reviews for all structural development proposal applications and maintain record of SI calculations within permit files in accordance with LCMC 15.16.435. Conduct substantial damage (SD) (as defined in LCMC 15.16.200) assessments when structures are damaged due to a natural hazard event or other causes. Make SD determinations whenever structures horizontally within the special flood hazard area (as established in LCMC 15.16.310) are damaged to the extent that the cost of restoring the structure to its before damaged condition would equal or exceed 49 percent of market value of the structure before the damage occurred.

15.16.445 Interpretation of FIRM boundaries.

The local floodplain administrator shall make interpretations, where needed, as to exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall have a reasonable opportunity to appeal the interpretation, as provided in LCMC 15.16.450.

15.16.450 Appeal board.

A. The city planning commission, as established by the city, shall hear and decide appeals and requests for variances from the requirements of this chapter. An appeal of a decision by the local floodplain administrator shall be processed as provided in subsection (B) of this section. An application for a variance shall be processed to the planning commission consistent with subsections (D), (E) and (G) of this section and Type III procedures set forth in LCMC 17.76.050.

B. The city planning commission shall hear and decide appeals when it is alleged there is an error in any requirement, decision or determination made by the local floodplain administrator in the enforcement or administration of this chapter. After consideration of the assignments of error, the city planning commission may approve or deny the appeal, and if approved, the

commission may attach such conditions as it deems necessary to further the purposes of this chapter. Notwithstanding any other provision of this code, an appeal under this section shall be a review "on the record" (i.e., not de novo) and shall be processed in strict conformance with the jurisdictional appeal requirements of LCMC 17.76.180.

C. Those aggrieved by the decision of the city planning commission, or any taxpayer, may appeal such decision as provided by law.

D. In passing upon such variance applications, the city planning commission shall consider all technical evaluations, all relevant factors, 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 necessity to the facility of a waterfront location, where applicable;

6. The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;

7. The compatibility of the proposed use with existing and anticipated development;

8. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;

9. The safety of access to the property in times of flood for ordinary and emergency vehicles;

10. The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and

11. 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.

E. Upon consideration of the factors of subsection (D) of this section and the purposes of this chapter, the city planning commission may deny or approve variances, attaching such conditions to the granting of variances as it deems necessary to further the purposes of this chapter. In addition to conditions attached to approval of a specific application, conditions in LCMC 15.16.455 apply.

F. The local floodplain administrator shall maintain the records of all appeal actions.

G. The local floodplain administrator shall maintain the records of all variance applications and report any variances approved by the commission to the Federal Insurance Administration.

15.16.455 Conditions for variances.

The issuance of a variance is for floodplain management purposes only. Flood insurance premium rates are determined by federal statute according to actuarial risk and will not be modified by the granting of a variance.

A. 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 set forth in LCMC 15.16.450(D) have been fully considered. As the lot size increases, the technical justification required for issuing the variance increases.

B. Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.

C. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

D. Variances shall only be issued 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;

3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws and ordinances.

E. 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, or 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.

F. Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of flood-proofing than watertight or dry flood-proofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except subsection (A) of this section, and complies with the standards set forth in LCMC 15.16.515, Anchoring; 15.16.520, Construction materials and methods; 15.16.525, Utilities; 15.16.542, Garages; and 15.16.543, Appurtenant (accessory) structures.

G. Any applicant to whom a variance is granted shall be given written notice that the issuance of a variance to construct a structure below the base flood elevation will result in increased premium rates for flood insurance and that such construction below the base flood elevation increases risks to life and property. Such notification and a record of all variance actions, including justification for their issuance, shall be maintained in accordance with LCMC 15.16.435.

H. Variances may be issued by a community for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use; provided, that the criteria of subsections (B) through (G) of this section are met, and the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

I. Variances shall not be issued unless it is demonstrated that the development will not result in net loss of the following proxies for the three floodplain functions in the SFHA: undeveloped space; pervious surface; or trees 6 inches dbh or greater (see Article VII and associated options in Table 1).

Article V. Provisions for Flood Hazard Reduction

15.16.510 Generally.

In all areas of special flood hazards, the **no net loss standards (see Article VII) and the** standards set forth in this article are required.

15.16.511 Alteration of watercourses.

Require that the flood carry capacity within the altered or relocated portion of said watercourse is maintained. Require that maintenance of the flood carrying capacity is provided for within the altered or relocated portion of said watercourse to ensure that the flood carrying capacity is not diminished. Require compliance with LCMC 15.16.435 and 15.16.440.

15.16.515 Anchoring.

A. All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.

B. 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 (reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques).

~~**15.16.516 Placement of fill in the special flood hazard area.**~~

~~**All fill placed at or within any special flood hazard area boundary shall be balanced with at least an equal amount of soil material removal from the same parcel and within the active flood area. The placement of fill in a coastal high hazard area is prohibited. The placement of fill must also meet the following standards:**~~

~~**A. Fill placed within the regulatory floodway shall not result in any increase in flood levels during the occurrence of the base flood discharge.**~~

~~**B. The fill is necessary for an approved use on the property.**~~

~~**C. The fill is the minimum amount necessary to achieve an approved use on the property.**~~

~~**D. No feasible alternative upland locations exist on the property.**~~

~~**E. The fill does not impede or alter drainage or the flow of floodwaters.**~~

~~**F. Be designed and compacted to prevent erosion or scour.**~~

15.16.520 Construction materials and methods.
A. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

B. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.

15.16.525 Utilities.
A. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.

B. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharge from the systems into floodwaters.

C. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding consistent with the Oregon Department of Environmental Quality.

D. Electrical, heating, ventilating, air-conditioning, plumbing, duct systems, and other equipment and service facilities shall be elevated a minimum of two feet above the base flood level or shall be designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during conditions of flooding. In addition, electrical, heating, ventilating, air-conditioning, plumbing, duct systems, and other equipment and service facilities shall:

1. If replaced as part of a substantial improvement shall meet all the requirements of this section.

2. Not be mounted on or penetrate through breakaway walls.

15.16.526 Tanks.
A. Underground tanks shall be anchored to prevent flotation, collapse and lateral movement under conditions of the base flood.

B. Above-ground tanks shall be installed at a minimum of two feet above the base flood level or shall be anchored to prevent flotation, collapse, and lateral movement under conditions of the base flood.

C. In coastal flood zones (V Zones) when elevated on platforms, the platforms shall be cantilevered from or knee braced to the building or shall be supported on foundations that conform to the requirements of the State of Oregon Specialty Codes.

15.16.530 Subdivision proposals and other proposed developments.
All new subdivision proposals and other proposed developments (including proposals for manufactured dwelling parks and subdivisions) shall:

A. Be consistent with the need to minimize flood damage.

B. Have public utilities and facilities such as sewer, gas, electrical and water systems located and so constructed as to minimize flood damage.

C. Have adequate drainage provided to reduce exposure to flood hazards.

D. Comply with no net loss standards in Article VII.

~~**D.**~~ **E.** For subdivision proposals and other proposed developments (including proposals for manufactured dwelling parks and subdivisions) greater than 50 lots or five acres, whichever is the lesser, shall include within such proposals, base flood elevation data. If base flood elevation data is not currently available from another authoritative source, the applicant shall be responsible for generating it.

15.16.531 Structures located in multiple or partial flood zones.
In compliance with the State of Oregon Specialty Codes:

A. When a structure is located in multiple flood zones on the community's flood insurance rate maps (FIRM) the provisions for the more restrictive flood zone shall apply.

B. When a structure is partially located in a special flood hazard area (SFHA), the entire structure shall meet the requirements for new construction and substantial improvements.

15.16.535 Review of building permits.
Where elevation data is not available either through the flood insurance study or from another authoritative source (LCMC 15.16.430), the city shall review applications for building permits to ensure 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. Failure to elevate at least two feet above grade in these zones may result in higher insurance rates.

15.16.540 Specific standards.
The provisions set forth in LCMC 15.16.541 through 15.16.570 **and the no net loss standards (see Article VII)** are required in all areas of special flood hazards where base flood elevation data has been provided as set forth in LCMC 15.16.310, basis for establishing the areas of special flood hazard (Zones A1-30, AH, and AE), or 15.16.430, use of other flood data (in A and V Zones).

15.16.541 Flood openings.
Enclosed areas below the base flood elevation, including crawlspaces, shall:

A. Be designed to automatically equalize hydrostatic flood forces by allowing for the entry and exit of floodwaters;

B. Be used solely for parking, storage, or building access;

C. Be certified by a registered professional engineer or architect or meet or exceed all of the following minimum criteria:

1. A minimum of two openings;

2. The total net area of non-engineered openings shall be not less than one square inch for each square foot of enclosed area, where the enclosed area is measured on the exterior of the enclosure walls;

3. The bottom of all openings shall be no higher than one foot above grade;

4. Openings may be equipped with screens, louvers, valves, or other coverings or devices; provided, that they shall allow the automatic flow of floodwater into and out of the enclosed areas and shall be accounted for in the determination of the net open area; and

5. All additional higher standards for flood openings in the State of Oregon Specialty Codes shall be complied with when applicable.

15.16.542 Garages.

A. Attached garages may be constructed with the garage floor slab below the base flood elevation (BFE) in riverine flood zones, if the following requirements are met:

1. The floors are at or above grade on not less than one side;

2. The garage is used solely for parking, building access, and/or storage;

3. The garage is constructed with flood openings in compliance with LCMC 15.16.541 to equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwater;

4. The portions of the garage constructed below two feet above the BFE are constructed with materials resistant to flood damage;

5. The garage is constructed in compliance with the standards in this section; and

6. The garage is constructed with electrical, and other service facilities located and installed so as to prevent water from entering or accumulating within the components during conditions of the base flood.

7. If located within a floodway the proposed garage must comply with the requirements of LCMC 15.16.615.

B. Detached garages must be constructed in compliance with the standards for appurtenant structures in LCMC 15.16.543 or nonresidential structures in LCMC 15.16.550 depending on the square footage of the proposed detached garage.

15.16.543 Appurtenant (accessory) structures.

Relief from elevation or flood-proofing requirements for residential and nonresidential structures located outside of the floodway or coastal high hazard areas may be granted for accessory structures that meet the following requirements:

A. Accessory structures must only be used for parking, access, and/or storage and shall not be used for human habitation;

B. In compliance with State of Oregon Specialty Codes, accessory structures on properties that are zoned residential are limited in size to one story and less than 200 square feet, or 400 square feet if the property is greater than two acres in area and the proposed accessory structure will be located a minimum of 20 feet from all property lines. Accessory structures on properties that are zoned as nonresidential are limited in size to 120 square feet;

C. The portions of accessory structures located below two feet above the base flood elevation must be built using flood-resistant materials;

D. Accessory structures must be adequately anchored to prevent flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the base flood;

E. Accessory structures must be designed and constructed to equalize hydrostatic flood forces on exterior walls and comply with the requirements for flood openings in LCMC 15.16.541;

F. Accessory structures must be located and constructed to have low damage potential;

G. Accessory structures must not be 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 LCMC 15.16.526; and

H. Accessory structures must be constructed with electrical, mechanical, and other service facilities located and installed so as to prevent water from entering or accumulating within the components during conditions of the base flood.

15.16.545 Residential construction.
A. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated a minimum of two feet above the base flood elevation.

B. Enclosed areas below the lowest floor shall comply with the flood opening requirements in LCMC 15.16.541.

15.16.550 Nonresidential construction.
New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated a minimum of two feet above the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

A. Be flood-proofed so that below two feet above the base flood elevation, 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;

C. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this section based on their development and/or review of the structural design, specifications and

plans. Such certifications shall be provided to the floodplain administrator as set forth in LCMC 15.16.410;

D. Nonresidential structures that are elevated, not flood-proofed, must meet the same standards for enclosed areas below the lowest floor as described in LCMC 15.16.545(B), Residential construction; and

E. Applicants flood-proofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the flood-proofed level (e.g., a building constructed to the base flood level will be rated as one foot below that level).

15.16.555 Manufactured dwellings.
All manufactured dwellings to be placed or substantially improved shall:

A. Be elevated on a permanent foundation such that the bottom of the longitudinal chassis frame beam of the manufactured dwelling is a minimum of two feet above the base flood elevation and securely anchored to an adequately anchored system in accordance with the provisions of LCMC 15.16.515(B).

B. Be constructed with flood openings that comply with LCMC 15.16.541.

C. Have electrical crossover connections a minimum of 24 inches above the base flood elevation.

D. Manufactured dwellings placed or substantially within designated floodways are regulated by LCMC 15.16.615.

15.16.560 Recreational vehicles.
Recreational vehicles placed on sites are required to either:

A. Be on the 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, with no permanently attached additions; or

C. Meet the elevation, anchoring and all other requirements for manufactured dwellings in LCMC 15.16.555, Manufactured dwellings.

15.16.565 Critical facilities.
Construction of new critical facilities shall be, to the extent possible, located outside the limits of the special flood hazard area (SFHA) (i.e., 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 a minimum of three feet above BFE or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility also should be protected to the height utilized above. Flood-proofing and sealing must ensure that toxic substances will not be displaced by or released into floodwaters.

15.16.570 Below-grade crawlspaces.
Below-grade crawlspaces are allowed subject to the following standards as found in FEMA Technical Bulletin 11-01, “Crawlspace Construction for Buildings Located in Special Flood

Hazard Areas." Note: FEMA will add an additional charge to the basic flood insurance policy premium for a below-grade crawlspace.

A. The building must be designed and adequately anchored to resist flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. Hydrostatic loads and the effects of buoyancy usually can be addressed through the required flood openings stated in subsection (B) of this section. Because of hydrodynamic loads, crawlspace construction is not allowed in areas with flood velocities greater than five feet per second unless the design is reviewed by a qualified design professional, such as a registered architect or professional engineer. Other types of foundations are recommended for these areas.

B. The crawlspace is an enclosed area below the base flood elevation (BFE) and, as such, must have openings that equalize hydrostatic pressures by allowing the automatic entry and exit of floodwaters. The bottom of each flood vent opening can be no more than one foot above the lowest adjacent exterior grade.

C. Portions of the building below the BFE must be constructed with materials resistant to flood damage. This includes not only the foundation walls of the crawlspace used to elevate the building, but also any joists, insulation, or other materials that extend below the BFE. The recommended construction practice is to elevate the bottom of joists and all insulation at or above BFE.

D. Any building utility systems within the crawlspace must be elevated at or above BFE or designed so that floodwaters cannot enter or accumulate within the system components during flood conditions. Ductwork, in particular, must either be placed at or above the BFE or sealed from floodwaters.

E. The interior grade of a crawlspace below the BFE must not be more than two feet below the lowest adjacent exterior grade.

F. 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 four feet 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.

G. An adequate drainage system must be in place to remove floodwaters from the interior area of the crawlspace 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.

H. The velocity of floodwaters at the site should not exceed five feet per second for any crawlspace. For velocities in excess of five feet per second, other foundation types should be used.

Article VI. Regulations by Location

15.16.610 Before the regulatory floodway.

In areas where 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 **and will not result in the net loss of flood storage volume. When determined that structural elevation is not possible and where the placement of fill cannot meet the above standard, impacts to undeveloped space must adhere to the no net loss standards in LCMC 15.16.710(C).**

15.16.615 Floodways.

Floodways designated in LCMC 15.16.310 are located within areas of special flood hazard. Since a floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply to floodways:

A. Prohibit encroachments, including fill, new construction, substantial improvements, and other development within the regulatory floodway unless certification by a registered professional civil engineer is provided demonstrating through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that the proposed encroachment shall not result in any increase in flood levels within the community during the occurrence of the base flood discharge.

B. A community may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that conditional approval has been obtained by the Federal Insurance Administrator through the Conditional Letter of Map Revision (CLOMR) application process, all requirements established under 44 CFR 65.12 are fulfilled, and the encroachment(s) comply with the no net loss standards in Article VII.

~~**B.**~~ **C** If the certification required by subsection (A) of this section is provided, then all new construction, substantial improvements, and other developments shall comply with all applicable flood hazard reduction provisions set out in the following sections: Article V of this chapter, Provisions for Flood Hazard Reduction, through LCMC 15.16.625, Coastal high hazard areas (V zones).

~~**C**~~. **D** New installation of manufactured dwellings in floodways is prohibited. Manufactured dwellings may only be located in floodways according to one of the following conditions:

1. If the manufactured dwelling already exists in the floodway, the placement was permitted at the time of the original installation, and the continued use is not a threat to life, health, property, or the general welfare of the public; or

2. A new manufactured dwelling is replacing an existing manufactured dwelling whose original placement was permitted at the time of installation, the replacement home will not

be a threat to life, health, property, or the general welfare of the public, and it meets the following criteria:

a. As required by 44 CFR Chapter 1, Section 60.3(d)(3), it must be demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practices that the manufactured dwelling and any accessory buildings, accessory structures, or any property improvements (encroachments) shall not divert water in a manner that causes erosion or damage to other properties and shall meet the requirements of this section;

b. The replacement manufactured dwelling and any accessory buildings or accessory structures (encroachments) shall comply with all other standards of LCMC 15.16.543, and all other applicable standards of Article V of this chapter;

c. The location of a replacement manufactured dwelling is allowed by the local planning department's ordinances; and

d. Any other requirements deemed necessary by the authority having jurisdiction.

15.16.620 Standards for shallow flooding areas (AO zones).

Shallow flooding areas appear on FIRMs as AO zones with depth designations. The base flood depths in these zones range from one to three 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. New construction and substantial improvements of residential structures and manufactured dwellings within AO zones shall have the lowest floor, including basement, elevated a minimum of two feet above the depth number specified on the FIRM (three feet if no depth number is specified), as measured from the highest grade adjacent to the building site.

B. New construction and substantial improvements of nonresidential structures within AO zones shall either:

1. Have the lowest floor, including basement, elevated a minimum of two feet or more above the depth number specified on the FIRM (at least three feet if no depth number is specified), as measured from the highest grade adjacent to the building site; or

2. Together with attendant utility and sanitary facilities, be completely flood-proofed to or above the depth number specified on the FIRM (at least three feet if no depth number is specified), 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 LCMC 15.16.550.

C. Adequate drainage paths shall be required around structures on slopes to guide floodwaters around and away from proposed structures.

D. Recreational vehicles placed on sites within AO Zones on the community's FIRM shall either:

1. Be on the site for fewer than 180 consecutive days; and

2. Be fully licensed and ready for highway use, 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; or

3. Meet the elevation requirements of subsection (B)(1) of this section, and the anchoring and other requirements for manufactured dwellings of LCMC 15.16.555.

E. New and substantially improved appurtenant (accessory) structures must comply with the standards in LCMC 15.16.543.

F. Enclosed areas beneath elevated structures shall comply with the requirements in LCMC 15.16.541.

15.16.625 Coastal high hazard areas.

Coastal high hazard areas designated as V1-30, VE and/or V, established in LCMC 15.16.310, have special flood hazards associated with high-velocity waters from tidal surges and, therefore, in addition to meeting all applicable provisions of this chapter and the State of Oregon Specialty Codes, the following provisions shall apply in addition to the standards in LCMC 15.16.430, 15.16.511, 15.16.515, 15.16.520, 15.16.525, 15.16.526, 15.16.530, 15.16.531, and 15.16.535.

A. All new construction and substantial improvements in zones VE and V shall be elevated on pilings and foundations such that:

1. The bottom of the lowest horizontal structural member of the lowest floor, excluding the pilings or columns, is elevated a minimum of two feet 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. Water loading values used shall be those associated with the base flood. Wind loading values used shall be those specified by the State of Oregon Specialty Codes.

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 this section.

C. Obtain the elevation, in relation to mean sea level, of the bottom of the lowest horizontal structural member of the lowest floor, excluding pilings and columns, of all new and substantially improved structures; and whether or not such structures contain a basement. The floodplain administrator shall maintain a record of all such information.

D. All new construction shall be located landward of the reach of mean high tide.

E. All new construction and substantial improvements shall have the space below the lowest floor either free of obstruction or constructed with non-supporting breakaway walls, open wood latticework, 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. Walls intended to break away under flood loads shall have flood openings that meet or exceed the criteria for flood openings in LCMC 15.16.541; and

3. If breakaway walls are utilized, such enclosed space shall be less than 300 square feet and usable solely for parking of vehicles, building access or storage. The applicant must sign a non-conversion agreement stating such space shall not be used for human habitation. This agreement must be recorded with the county assessor's office prior to issuance of a building permit.

F. 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 water loading values to be used in this determination shall be those associated with the base flood. Maximum wind loading values shall be those specified by the State of Oregon Specialty Codes.

G. The use of fill for structural support of buildings is prohibited.

H. Manmade alteration of sand dunes which would increase potential flood damage is prohibited.

I. All structures, including but not limited to residential structures, nonresidential structures, appurtenant structures, and attached garages, shall comply with all the requirements of this section. Flood-proofing of nonresidential structures is prohibited.

J. For construction of new essential structures and new special occupancy structures, refer to ORS 455.446 and 455.447, which state that they may not be constructed in the tsunami inundation zone, which includes V, A, and potentially other flood zones. If an exception is granted, the coastal high hazard area construction standards in LCMC 15.16.625 shall apply to the building of these new structures in the tsunami inundation zone.

K. Manufactured Dwellings. All manufactured dwellings to be placed or substantially improved within coastal high hazard areas (Zones V and VE) shall meet the following requirements:

1. Comply with all of the standards within this section;

2. The bottom of the longitudinal chassis frame beam shall be elevated to a minimum of two feet above the base flood elevation (BFE); and

3. Electrical crossover connections shall be a minimum of 24 inches (two feet) above the BFE.

L. Recreational Vehicles. Recreational Vehicles within coastal high hazard areas (Zones V and VE) shall either:

1. Be on the site for fewer than 180 consecutive days; and

2. Be fully licensed and ready for highway use, 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; or

3. Meet the permit requirements of LCMC 15.16.410 and the requirements for manufactured dwellings in this section.

M. Tanks shall meet the requirements of LCMC 15.16.526(C) **and Article VII.**

Article VII: Standards For Protection of SFHA Floodplain Functions

The standards described below apply to all special flood hazard areas as defined in Article II. Applicants must submit documentation that addresses the approval criteria in this section. An applicant may choose to submit this in paragraph form, as a part of a plan set, or by using FEMA's latest Habitat Assessment Guide, as long as all standards are clearly addressed and met therein.

15.16.710 No Net Loss Standards

A. No net loss of the three proxies for the floodplain functions mentioned in Section 1 is required for development in the special flood hazard area that would reduce undeveloped space, increase impervious surface, or result in a loss of trees that are 6-inches dbh or greater. No net loss can be achieved by first avoiding negative effects to floodplain functions to the degree possible, then minimizing remaining effects, then replacing and/or otherwise compensating for, offsetting, or rectifying the residual adverse effects to the three floodplain functions. Prior to the issuance of any development authorization, the applicant shall:

1. **Demonstrate a legal right by the project proponent to implement the proposed activities to achieve no net loss (e.g., property owner agreement);**
2. **Demonstrate that financial assurances are in place for the long-term maintenance and monitoring of all projects to achieve no net loss;**
3. **Include a management plan that identifies the responsible site manager, stipulates what activities are allowed on site, and requires the posting of signage identifying the site as a mitigation area.**

B. Compliance with no net loss for undeveloped space or impervious surface is preferred to occur prior to the loss of habitat function but, at a minimum, shall occur concurrent with the loss. To offset the impacts of delay in implementing no net loss, a 25 percent increase in the required minimum area is added for each year no net loss implementation is delayed.

C. No net loss must be provided within, in order of preference: 1) the lot or parcel that floodplain functions were removed from, 2) the same reach of the waterbody where the development is proposed, or 3) the special flood hazard area within the same hydrologically connected area as the proposed development. Table 1 presents the no net loss ratios, which increase based on the preferences listed above.

15.16.711 Undeveloped Space

A. Development proposals shall not reduce the fish-accessible and egress-able undeveloped space within the special flood hazard area.

B. A development proposal with an activity that would impact undeveloped space shall achieve no net loss of fish-accessible and egress-able space.

C. Lost undeveloped space must be replaced with fish-accessible and egress-able compensatory volume based on the ratio in Table 1 and at the same flood level at which the development causes an impact (i.e., plus or minus 1 foot of the hydraulically equivalent elevation).

1. **Hydraulically equivalent sites must be found within either the equivalent 1-foot elevations or the same flood elevation bands of the development proposal. The flood elevation bands are identified as follows:**

    (1) Ordinary High Water Mark to 10-year,
    (2) 10-year to 25-year,
    (3) 25-year to 50-year,
    (4) And 50-year to 100-year

2. **Hydrologically connected to the waterbody that is the flooding source;**

3. **Designed so that there is no increase in velocity; and**

4. **Designed to fill and drain in a manner that minimizes anadromous fish stranding to the greatest extent possible.**

15.16.712 Impervious Surface
Impervious surface mitigation shall be mitigated through any of the following options:

A. Development proposals shall not result in a net increase in impervious surface area within the SFHA, or

B. use low impact development or green infrastructure to infiltrate and treat stormwater produced by the new impervious surface, as documented by a qualified professional, or

C. If prior methods are not feasible and documented by a qualified professional stormwater retention is required to ensure no increase in peak volume or flow and to maximize infiltration, and treatment is required to minimize pollutant loading. See LCMC 15.16.720.(C) for stormwater retention specifications.

15.16.713 Trees
A. Development proposals shall result in no net loss of trees 6-inches dbh or greater within the special flood hazard area. This requirement does not apply to silviculture where there is no development.

1. **Trees of or exceeding 6-inches dbh that are removed from the RBZ, Floodway, or RBZ-fringe must be replaced at the ratios in Table 1.**

2. **Replacement trees must be native species that would occur naturally in the Level III ecoregion of the impact area.**

15.16.720 Stormwater Management
Any development proposal that cannot mitigate as specified in LCMC 15.16.712 (A)-(B) must include the following:

A. Water quality (pollution reduction) treatment for post-construction stormwater runoff from any net increase in impervious area; and

B. Water quantity treatment (retention facilities) unless the outfall discharges into the ocean.

C. Retention facilities must:

1. **Limit discharge to match the pre-development peak discharge rate (i.e., the discharge rate of the site based on its natural groundcover and grade before any development occurred) for the 10-year peak flow using a continuous simulation for flows between 50 percent of the 2-year event and the 10-year flow event (annual series).**

2. **Treat stormwater to remove sediment and pollutants from impervious surfaces such that at least 80 percent of the suspended solids are removed from the stormwater prior to discharging to the receiving water body.**

3. **Be designed to not entrap fish and drain to the source of flooding.**

4. **Be certified by a qualified professional.**

D. Stormwater treatment practices for multi-parcel facilities, including subdivisions, shall have an enforceable operation and maintenance agreement to ensure the system functions as designed. This agreement will include:

1. **Access to stormwater treatment facilities at the site by the The City of Lincoln City for the purpose of inspection and repair.**
2. **A legally binding document specifying the parties responsible for the proper maintenance of the stormwater treatment facilities. The agreement will be recorded and bind subsequent purchasers and sellers even if they were not party to the original agreement.**
3. **For stormwater controls that include vegetation and/or soil permeability, the operation and maintenance manual must include maintenance of these elements to maintain the functionality of the feature.**
4. **The responsible party for the operation and maintenance of the stormwater facility shall have the operation and maintenance manual on-site and available at all times. Records of the maintenance and repairs shall be retained and made available for inspection by The City of Lincoln City for five years**

15.16.730 Activities Exempt from No Net Loss Standards
The following activities are not subject to the no net loss standards in LCMC 15.16.710; however, they may not be exempt from floodplain development permit requirements.

A. Normal maintenance of structures, such as re-roofing and replacing siding, provided there is no change in the footprint or expansion of the roof of the structure;

B. Normal street, sidewalk, and road maintenance, including filling potholes, repaving, and installing signs and traffic signals, that does not alter contours, use, or alter culverts. Activities exempt do not include expansion of paved areas;

C. Routine maintenance of landscaping that does not involve grading, excavation, or filling;

D. Routine agricultural practices such as tilling, plowing, harvesting, soil amendments, and ditch cleaning that does not alter the ditch configuration provided the spoils are removed from special flood hazard area or tilled into fields as a soil amendment;

E. Routine silviculture practices that do not meet the definition of development, including harvesting of trees as long as root balls are left in place and forest road construction or maintenance that does not alter contours, use, or alter culverts;

F. Removal of noxious weeds and hazard trees, and replacement of non-native vegetation with native vegetation;

G. Normal maintenance of above ground utilities and facilities, such as replacing downed power lines and utility poles provided there is no net change in footprint;

H. Normal maintenance of a levee or other flood control facility prescribed in the operations and maintenance plan for the levee or flood control facility. Normal maintenance does not include repair from flood damage, expansion of the prism, expansion of the face or toe or addition of protection on the face or toe with rock armor.

I. Habitat restoration activities.

15.16.740 Riparian Buffer Zone

A. The Riparian Buffer Zone is measured from the ordinary high-water line of a fresh waterbody (lake; pond; ephemeral, intermittent, or perennial stream) or mean higher-high water of a marine shoreline or tidally influenced river reach to 170 feet horizontally on each side of the stream or inland of the MHHW. The riparian buffer zone includes the area between these outer boundaries on each side of the stream, including the stream channel.

B. Habitat restoration activities in the RBZ are considered self-mitigating and are not subject to the no net loss standards described above.

C. Functionally dependent uses are only subject to the no net loss standards for development in the RBZ. Ancillary features that are associated with but do not directly impact the functionally dependent use in the RBZ (including manufacturing support facilities and restrooms) are subject to the beneficial gain standard in addition to no net loss standards.

D. Any other use of the RBZ requires a greater offset to achieve no net loss of floodplain functions, on top of the no net loss standards described above, through the beneficial gain standard.

E. Under FEMA's beneficial gain standard, an area within the same reach of the project and equivalent to 5% of the total project area within the RBZ shall be planted with native herbaceous and shrub vegetation and designated as open space.

Basic Mitigate Ratios:	Undeveloped Space (ft^3)	Impervious Surface (ft^2)	Trees (6"<dbh≤20")	Trees (20"<dbh≤39")	Trees (39"<dbh)
RBZ and Floodway	2:1*	1:1	3:1*	5:1	6:1
RBZ-Fringe	1.5:1*	1:1	2:1*	4:1	5:1
Mitigation Multipliers:					
Mitigation onsite to Mitigation offsite, same reach	100%	100%	100%	100%	100%
Mitigation onsite to Mitigation offsite, different reach, same watershed	200% *	200% *	200% *	200% *	200% *

Table 1 No Net Loss Standards

Notes:

1. Ratios with asterisks are indicated in the BiOp. (Biological Opinion)

2. Mitigation multipliers of 100% result in the required mitigation occurring at the same value described by the ratios above, while multipliers of 200% result in the required mitigation being doubled.

A. For example, if only 500 ft2 of the total 1000 ft2 of required pervious surface mitigation can be conducted onsite and in the same reach, the remaining 500 ft2 of required pervious surface mitigation occurring offsite at a different reach would double because of the 200% multiplier.

3. RBZ impacts must be offset in the RBZ, on-site or off-site.

4. Additional standards may apply in the RBZ (LCMC 15.16.740)