

CHAPTER 601. - FLOODPLAIN OVERLAY ZONE

Sec. 601.005. Definitions.

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

Appeal means request for a review of the interpretation of any provision of this chapter or a request for a variance.

Appurtenant structure or accessory structure means a building or structure that is incidental and subordinate to, and dependent upon, the principal use on the same premises.

Area of shallow flooding means a designated Zone AO, AH, AR/AO, or AR/AH 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 1 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, or AR. "Special flood hazard area" (SFHA) is synonymous in meaning and definition with the phrase "area of special flood hazard".

A Zone means areas with a one percent annual chance of flooding and a 26 percent chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas, no depths or base flood elevations are shown within these zones.

AE Zone means the base floodplain where base flood elevations are provided.

AH zone means areas with a one percent annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from one to three feet. These areas have a 26 percent chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

AO zone means river or stream flood hazard areas, and areas with a one percent or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from one to three feet. These areas have a 26 percent chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses as contained in the FIS are shown within these zones.

AR zone means areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam).

A1-30 zone means the base floodplain where base flood elevations are provided.

A99 zone means areas with a one percent annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.

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.

Bridge means a structure, including supports, erected over a depression or an obstruction such as a waterway, highway, or railway, and having a deck or passageway for transporting pedestrians, vehicles, or other moving loads, and having an opening measured along the center of the deck or passageway of more than 20 feet between undercroppings of abutments, or spring lines of arches, or extreme ends of openings for multiple boxes, and which includes multiple pipes where the clear distance between openings is less than half of the smallest contiguous opening.

Crawlspace is an enclosed area with the floor of the space at or above the lowest grade adjacent to the building and the height does not exceed four feet at any point as measured from the interior grade of the crawlspace to the top of the crawlspace foundation.

Crawlspace, below-grade 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 does not exceed four feet any point as measured from the interior grade of the crawlspace to the top of the crawlspace foundation.

Develop or development means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

Enclosed area means an area with two or more outside rigid walls and an affixed roof. Enclosed areas do not include the uncovered portion of a structure, roof canopy areas with only one wall, or areas below the finish floor that are separated by permeable surfaces such as lattice work, or insect screening.

Fish enhancement means the modification of stream channel width, length, depth, alignment, location, profile, bank shape, or in-stream structures, for the purpose of improving ecological, aquatic or habitat functions that have been determined by the Director to have been degraded or lost in the immediate project area, specific stream corridor, or watershed.

Flood or flooding means:

- (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) 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 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 (FIS) means "Flood elevation study".

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.

Floodplain means any land area susceptible to being inundated by water from any source. See "Flood or flooding."

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 a designated height. Also referred to as "Regulatory Floodway."

Historic structure means any structure that is:

- (a) Listed individually in the National Register of Historic Places (a listing maintained by the U.S. Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- (b) 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;
- (c) 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
- (d) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
 - (1) By an approved state program as determined by the Secretary of the Interior or
 - (2) Directly by the Secretary of the Interior in states without approved programs.

Interim flood hazard area means an area of special flood hazard designated by the Director, but not designated as such on the FIRM. The interim flood hazard area is established on a waterway which does not have base floodwater surface elevations and floodway and SFHA boundaries established through a flood insurance study or as a more restrictive standard in an existing SFHA. An interim flood hazard area is an approximation of the floodplain. Minimally, the interim flood hazard area shall include the area which would be designated as the floodway and SFHA if a flood insurance study were done.

Letter of Map Change (LOMC) means an official Federal Emergency Management Agency (FEMA) determination, by letter, to amend or revise effective Flood Insurance Rate Maps and Flood Insurance Studies. The following are categories of LOMCs:

Conditional Letter of Map Amendment (CLOMA): A CLOMA is FEMA's comment on a proposed structure or group of structures that would, upon construction, be located on existing natural ground above the base (1-percent-annual-chance) flood elevation on a portion of a legally defined parcel of land that is partially inundated by the base flood.

Conditional Letter of Map Revision (CLOMR): A CLOMR is FEMA's comment on a proposed project that would, upon construction, affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations, or the SFHA.

Conditional Letter of Map Revision based on Fill (CLOMR-F): A CLOMR-F is FEMA's comment on a proposed project that would, upon construction, result in a modification of the SFHA through the placement of fill outside the existing regulatory floodway.

Letter of Map Amendment (LOMA): An official amendment, by letter, to the Flood Insurance Rate Maps (FIRMs) based on technical data showing that an existing structure, parcel of land or portion of a parcel of land that is naturally high ground, (i.e., has not been elevated by fill) above the base flood, that was inadvertently included in the SFHA.

Letter of Map Revision (LOMR): A LOMR is FEMA's modification to an effective Flood Insurance Rate Map (FIRM), or Flood Boundary and Floodway Map (FBFM), or both. LOMRs are generally based on the implementation of physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations, or the SFHA. The LOMR officially revises the FIRM or FBFM, and sometimes the Flood Insurance Study (FIS) report, and, when appropriate, includes a description of the modifications. The LOMR is generally accompanied by an annotated copy of the affected portions of the FIRM, FBFM, or FIS report.

Letter of Map Revision based on Fill (LOMR-F): A LOMR-F is FEMA's modification of the SFHA shown on the Flood Insurance Rate Map (FIRM) based on the placement of fill outside the existing regulatory floodway.

PMR: A PMR is FEMA's physical revision and republication of an effective Flood Insurance Rate Map (FIRM) or Flood Insurance Study (FIS) report. PMRs are generally based on physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations, or the SFHA.

Lowest floor means the lowest accessible floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this chapter.

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

Mean sea level means, for 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 adopted by the City of Salem and includes any subsequent improvements to such structures.

Permanent construction has its common usage meaning but 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.

Recreational vehicle means a vehicle which is:

- (a) Built on a single chassis;
- (b) Four hundred square feet or less in area when measured at the largest horizontal projection;
- (c) Designed to be self-propelled or permanently towable by a light duty truck; and
- (d) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

Riverine means relating to or situated on a river or riverbank.

Riverine flood zone means zones A, AO, AH, A1-30, AE, A99, or AR.

Sheet flow means a type of flood hazard with flooding depths of 1 to 3 feet that occurs in areas of sloping land.

Special flood hazard area means "Area of special flood hazard"

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 piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured dwelling on a foundation. 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 damaged condition would equal or exceed 50 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, the cost of which equals or exceeds 50 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:

- (a) 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
- (b) Any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure".

Variance means grant of relief by the City of Salem 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.

Waterway means any perennial river, stream, or creek within the City of Salem.

Waterway centerline means a line one-half the distance between the edges of the low flow channel of the waterway.

Sec. 601.010. - 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 or federal law.

Sec. 601.015. - Reservation of powers.

Nothing in this chapter shall be deemed to limit, abrogate, impair, or repeal any existing easements, covenants, or deed restrictions, or any powers relating to the prevention or control of

flooding and its effects granted under state statutes or city ordinances. However, where this chapter and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

Sec. 601.020. - 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 natural or man-made 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. Nothing in this chapter shall create any liability on the part of the City of Salem, any officer, employee or agent thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this chapter or any administrative action or decision lawfully made hereunder.

Sec. 601.025 - Coordination with State of Oregon Specialty Codes.

Pursuant to the requirement established in ORS Chapter 455 that the City of Salem administers and enforces the State of Oregon Specialty Codes, the City of Salem does hereby acknowledge that the Oregon Specialty Codes contain certain provisions that apply to the design and construction of buildings and structures located in SFHAs. Therefore, this chapter is intended to be administered and enforced in conjunction with the Oregon Specialty Codes.

Sec. 601.030 - Basis for establishing the Special Flood Hazard Areas.

- (a) The SFHAs identified by the Federal Insurance Administrator in a scientific and engineering report entitled "The Flood Insurance Study (FIS) for Marion 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 FIS and FIRM panels are on file at the office of the Public Works Director.
- (b) Letter of Map Changes to the FIRM adopted by the Federal Insurance Administration shall be automatically incorporated into this chapter without further action.
- (c) Any person proposing a development for which a floodplain development permit within the Interim Flood Hazard Area would be required were the land within a SFHA, shall make application for a floodplain development permit. The Director shall determine whether such property should be classified as in a Floodway or SFHA. In making such determination the Director shall take into account the elevation and topography of the land, historical base flood elevation data if available, the results of other competent engineering studies of the effects of flooding on the area in question, and other hydraulic and geologic factors relevant to an engineering determination of base flood characteristics of the specific property. Once the Director has determined floodway and SFHA locations in the Interim Flood Hazard Area, uses shall be permitted in the Floodway area as provided in SRC 601.060(d), and uses shall be permitted in the SFHA as provided in SRC 601.060. In cases where an Interim Flood Hazard Area is located within an existing SFHA, the more restrictive standard shall apply.

Sec. 601.035 - Designation of the floodplain administrator.

The Public Works Director is hereby appointed to administer, implement, and enforce this chapter by granting or denying development permits in accordance with its provisions as the Floodplain Administrator. The Floodplain Administrator may delegate authority to implement these provisions.

Sec. 601. 040 - Duties and responsibilities of the floodplain administrator.

Duties of the floodplain administrator, or their designee, shall include, but not be limited to:

- (a) Permit review. Determine that development permits meet the following criteria:
 - (1) The permit requirements of this chapter have been satisfied;
 - (2) All other required local, state, and federal permits have been obtained and approved;
 - (3) If the development is located in the floodway, assure that the floodway provisions of SRC 601.060(d) are met; and
 - (4) The proposed development is designed based on Base Flood Elevation (BFE) data available either through the Flood Insurance Study (FIS) or from another authoritative source. If BFE data is not available, then the development shall comply with the provisions of SRC 601.070(c);
 - (5) The development plans shall indicate the minimum elevation of the lowest floor based on the Base Flood Elevation (BFE) applicable to any building requiring a development permit;
 - (6) The permit requirements have been satisfied related to substantial improvements if the proposed development qualifies as a substantial improvement as defined in SRC 601.005;
 - (7) The provisions in SRC 601.070(a)(1) have been satisfied if the proposed development activity is a watercourse alteration; and
 - (8) The provisions in SRC Chapter 82 have been satisfied if the proposed development activity includes the placement of fill or excavation.
- (b) Information to be obtained and maintained.

The following information shall be obtained and maintained and shall be made available for public inspection as needed:

- (1) 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), or Flood Insurance Rate Map (FIRM), or obtained in accordance with SRC 601.070(c);
- (2) 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 SRC 601.060(d) and SRC 601.040(A)(2) are adhered to;

- (3) Upon placement of the lowest floor of a structure (including basement) but prior to further vertical construction, obtain documentation, prepared and sealed by a professional licensed surveyor or engineer, certifying the elevation (in relation to mean sea level) of the lowest floor (including basement);
- (4) Where base flood elevation data are utilized, obtain as-built certification of the elevation (in relation to mean sea level) of the lowest floor (including basement) prepared and sealed by a professional licensed surveyor or engineer, prior to the final inspection;
- (5) Maintain all Elevation Certificates (EC) submitted to the City of Salem;
- (6) Obtain, record, and maintain the elevation (in relation to mean sea level) to which the structure and all attendant utilities were floodproofed for all new or substantially improved floodproofed structures where allowed under this chapter and where Base Flood Elevation (BFE) data is provided through the FIS, or FIRM, or obtained in accordance with SRC 601.070(c);
- (7) Maintain all floodproofing certificates required under this chapter;
- (8) Record and maintain all variance actions, including justification for their issuance;
- (9) Obtain and maintain all hydrologic and hydraulic analyses performed as required under SRC 601.060(d);
- (10) Record and maintain all Substantial Improvement and Substantial Damage calculations and determinations as required under SRC 601.040(f);
- (11) Maintain for public inspection all records pertaining to the provisions of this chapter.

(c) 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 (FHBMs) and Flood Insurance Rate Maps (FIRMs) accurately represent the community's boundaries. Such notification shall include 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.

(d) Watercourse alterations.

- (1) Notify adjacent communities, the 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:
 - (A) A proposed maintenance plan to assure the flood carrying capacity within the altered or relocated portion of the watercourse is maintained; or
 - (B) Certification by a registered professional engineer that the project has been designed to retain its flood carrying capacity without periodic maintenance.
- (2) The applicant shall be required to submit a Conditional Letter of Map Revision (CLOMR) when required under SRC 601.040(e). The Floodplain Administrator shall ensure compliance with all applicable requirements in SRC 601.040(e) and SRC 601.040(d) and 601.070(a)(1).

(e) Requirement to submit new technical data.

- (1) 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 Section 44 of the Code of Federal Regulations (CFR), Sub-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.
- (2) The Floodplain Administrator shall require a Conditional Letter of Map Revision prior to the issuance of a floodplain development permit for:
 - (A) Proposed floodway encroachments that increase the base flood elevation; and
 - (B) 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.
- (3) An applicant shall notify FEMA within six (6) 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).

(f) Substantial improvement and substantial damage assessments and determinations.

- (1) Conduct Substantial Improvement (SI) (as defined in SRC 601.005) reviews for all structural development proposal applications and maintain a record of SI calculations within permit files in accordance with SRC 601.040(b).
- (2) Conduct Substantial Damage (SD) (as defined in SRC 601.005) assessments when structures are damaged due to a natural hazard event or other causes. Make SD determinations whenever structures within the SFHA (as established in SRC 601.030(a)) are damaged to the extent that 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.

Sec. 601.045 - Establishment of development permit.

(a) Floodplain development permit required.

A development permit shall be obtained before construction or development begins within any area horizontally within the SFHA established in SRC 601.030(a). The development permit shall be required for all structures, including manufactured dwellings, and for all other development, as defined in SRC 601.005, including fill and other development activities.

(b) Scope of work authorized by permit.

The issuance of a permit under the provisions of this chapter shall be held to authorize work only in accordance with the provisions of this chapter, the approved plans, and work necessarily implied therefrom. The issuance of such a permit shall not be construed to be a permit for or approval of any violation of the provisions of this chapter or any other applicable law or ordinance. The issuance of a permit based on submitted plans shall not thereafter prevent the Director from requiring the correction of errors or apparent violations contained therein, or from preventing operations being carried on thereunder when in violation of any applicable law or ordinance.

(c) Application for development permit.

Application for a development permit may be made on forms furnished by the Floodplain Administrator and 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, drainage facilities, and the location of the foregoing. Specifically, the following information is required:

- (1) 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; in accordance with the requirements of SRC 601.040(b);
- (2) Proposed elevation in relation to mean sea level to which any non-residential structure will be floodproofed;

- (3) Certification by a registered professional engineer or architect licensed in the State of Oregon that the floodproofing methods proposed for any non-residential structure meet the floodproofing criteria for non-residential structures in SRC 601.060(c)(3);
- (4) Description of the extent to which any watercourse will be altered or relocated;
- (5) Base Flood Elevation data for subdivision proposals or other development when required per pursuant to SRC 601.040(a) and SRC 601.070(b);
- (6) Substantial improvement calculation for any improvement, addition, reconstruction, renovation, or rehabilitation of an existing structure; and
- (7) The amount and location of any fill or excavation activities proposed.

(d) Permit fees.

- (1) An application for a floodplain development permit shall be accompanied by the permit fees as prescribed by resolution of the Council.
- (2) Fees set by resolution are fixed and nonrefundable, and are required to support plans review, permit issuance, and inspection services.
- (3) Work being done under contract with the City of Salem shall be exempt from the permit fees required under this section.
- (4) Where work for which a permit is required by this chapter is commenced or proceeds prior to obtaining the permit, the fees specified in subsection (1) of this section shall be doubled, but the payment of such double fees shall not relieve any person from fully complying with the requirements of this chapter in the execution of the work nor from any other penalties prescribed herein.
- (5) Floodplain development permits shall be nontransferable. Any change in applicant such as a change in ownership of the land will require reapplication for permits. If six months has lapsed since plan approval required by SRC 601.045(c), reapplication for plan check shall be made.

Sec. 601.050 - Variance procedure.

(a) 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.

(b) Conditions for variances.

- (1) Generally, variances may be issued 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, in conformance

with the provisions of SRC 601.050(b)(3), 601.050(b)(5) and 601.050(c). As the lot size increases beyond one-half acre, the technical justification required for issuing a variance increases.

- (2) Variances shall be only issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (3) Variances shall not be issued within any floodway if any increase in flood levels during the base flood discharge would result.
- (4) Variances shall be only issued upon:
 - (A) A showing of good and sufficient cause;
 - (B) A determination that failure to grant the variance would result in exceptional hardship to the applicant; and
 - (C) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, nor create nuisances, cause fraud on or victimization of the public, or conflict with existing laws or ordinances.
- (5) 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 SRC 601.050(b)(2), 601.050(b)(3) and 601.050(b)(4) 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.
- (6) Variances may be issued for the repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.

(c) Variance notification.

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 SRC 601.040(b).

Sec. 601.055 - Compliance and penalties for noncompliance.

(a) Compliance.

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

(b) Penalties for non-compliance.

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this chapter and other applicable regulations. Violations of the provisions of this chapter by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute an infraction. Nothing contained herein shall prevent the City of Salem from taking such other lawful action as is necessary to prevent or remedy any violation.

Sec. 601.060 - Suspension, revocation, or appeal.

(a) The Director may, in writing, suspend or revoke a floodplain development permit whenever it appears that:

- (1) The floodplain development permit was issued in error, and the applicant was not, in fact, on the basis of the application, entitled to the permit;
- (2) The floodplain development permit was issued on the basis of incorrect, incomplete, or misleading information supplied by the applicant;
- (3) The work authorized by the floodplain development permit is in violation of any applicable law or ordinance, including any provision requiring the applicant to obtain a license, registration, or additional permit; or
- (4) The work being done under the floodplain development permit is not in accordance with the approved plans or is beyond the scope of work authorized by the permit.

(b) Any person whose permit has been suspended or revoked pursuant to this section may appeal such action to the Hearings Officer, in the manner provided by SRC chapter 20J.

Sec. 601.065 - Failure to maintain site conditions.

(a) The holder of a floodplain development permit shall continuously maintain the completed work within the terms and conditions set forth in this chapter and the permit. All owners and occupants, during the period of their ownership or occupancy, shall be jointly and severally liable for proper maintenance as herein prescribed.

(b) In the event of failure to maintain premises as provided in subsection (a) of this section, the Director shall cause to be served upon the person or persons responsible a notice to correct the inadequate maintenance. Upon the failure of the persons responsible to comply with such notice within the time specified therein, to be no less than 15 days, the Director may file with the Council a petition to have the maintenance performed as provided in subsection (c) of this section, and

the cost thereof assessed as a lien against the property. Upon filing of the petition, the City Recorder shall set the petition for prompt public hearing, and cause notice thereof to be served by certified mail upon the owner of the premises. At the hearing any person entitled to notice shall be accorded an opportunity to show cause why the work should not be performed as provided in subsection (c) of this section and the cost thereof assessed as a lien against the property.

(c) If the Council is satisfied that the required maintenance must be performed for the protection of the public health, safety, and welfare it shall, by resolution, direct the Director to arrange for the maintenance to be performed by City forces or by private contract let through competitive bid, whichever is estimated by the Director to be the least costly and most expedient. Upon completion of the work the Director shall certify to the Council the costs thereof and the Council shall ascertain and determine the cost of the work and assess the same against the property upon which the maintenance was performed. Such assessment shall be declared by an ordinance and it shall be entered in the docket of City liens and shall thereupon be and become a lien against the property and the creation of the lien and the collection and enforcement of the cost shall all be done and performed in substantially the same manner as in the case of the cost of street improvements, but irregularities or informalities in the procedure shall be disregarded. Any assessment levied pursuant to this chapter shall be due and payable in ten days after the same has been entered in the lien docket. Notice of the assessment shall be given to the owner or owners of the property in the same manner as notice of street assessments is given.

Sec. 601.070 - Provisions for flood hazard reduction.

(a) General standards.

In all SFHAs, the following standards shall be adhered to:

(1) Alteration of watercourses.

Require that the flood carrying capacity within the altered or relocated portion of said watercourse is maintained. Require that maintenance is provided within the altered or relocated portion of said watercourse to ensure that the flood carrying capacity is not diminished. Require compliance with SRC 601.040(d) and SRC 601.040(e).

(2) Anchoring.

(A) All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

(B) All manufactured dwellings shall be anchored per SRC 601.060(c)(4).

(3) 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.
- (4) Water supply, sanitary sewer, and on-site waste disposal systems.
 - (A) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
 - (B) 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.
 - (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.
- (5) Electrical, mechanical, plumbing, and other equipment. Electrical, heating, ventilating, air-conditioning, plumbing, duct systems, and other equipment and service facilities shall be elevated no less than one foot above the base flood elevation 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, if replaced as part of a substantial improvement, shall meet all the requirements of this section.
- (6) 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 no less than one foot above the base flood elevation or shall be anchored to prevent flotation, collapse, and lateral movement under conditions of the base flood.
 - (C) All new construction and substantial improvements shall be located no closer than 15 feet to the waterway centerline, or ten feet to the top of a recognizable bank, whichever is greater, except that this provision shall not apply to the Willamette River floodplain.

(b) Subdivision proposals and other proposed developments.

- (1) All new subdivision proposals and other proposed new developments (including proposals for manufactured dwelling parks and subdivisions) greater than 50 lots or 5 acres, whichever is the lesser, shall include within such proposals, Base Flood Elevation data.

(2) All new subdivision proposals and other proposed new 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 constructed to minimize or eliminate flood damage; and
- (C) Have adequate drainage provided to reduce exposure to flood hazards.

(c) Use of other base flood data.

- (1) When Base Flood Elevation data has not been provided in accordance with SRC 601.030(a) the local floodplain administrator shall obtain, review, and reasonably utilize any Base Flood Elevation data available from a federal, state, or other source, in order to administer SRC 601.070. All new subdivision proposals and other proposed new developments (including proposals for manufactured dwelling parks and subdivisions) must meet the requirements of SRC 601.070(b).
- (2) Base Flood Elevations shall be determined for development proposals that are 5 acres or more in size or are 50 lots or more, whichever is lesser in any A zone that does not have an established base flood elevation. Development proposals located within a riverine unnumbered A Zone shall be reasonably safe from flooding. The test of reasonableness includes, but is not limited to, the use of historical data, high water marks, FEMA provided Base Level Engineering data, and photographs of past flooding, where available. Failure to elevate at least two feet above grade in these zones may result in higher insurance rates.

(d) Structures located in multiple or partial flood zones.

- (1) In coordination 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 SFHA, the entire structure shall meet the requirements for new construction and substantial improvements.

Sec. 601.075 - Specific standards for riverine (including all non-coastal) flood zones.

These specific standards shall apply to all new construction and substantial improvements in addition to the General Standards contained in SRC 601.070(a).

(a) Enclosed areas and flood openings.

All new construction and substantial improvements with fully enclosed areas below the lowest floor (excluding basements) are subject to the following requirements:

- (1) Enclosed areas below the Base Flood Elevation, including crawl spaces shall:
 - (A) Be designed to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters;
 - (B) Be used solely for parking, storage, or building access; and
 - (C) Be certified by a registered professional engineer or architect or meet or exceed all the following minimum criteria:
 - (i) A minimum of two openings;
 - (ii) The total net area of non-engineered openings shall be not less than one (1) square inch for each square foot of enclosed area, where the enclosed area is measured on the exterior of the enclosure walls;
 - (iii) The bottom of all openings shall be no higher than one foot above grade.
 - (iv) 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
 - (v) All additional higher standards for flood openings in the State of Oregon Residential Specialty Codes Section R322.2.2 shall be complied with when applicable.
- (2) Enclosed areas below the Base Flood Elevation shall be limited only to crawl spaces or below-grade crawl spaces

(b) Garages.

- (1) Attached garages shall be constructed with the garage floor slab no less than one foot above the Base Flood Elevation (BFE) in riverine flood zones.
- (2) Detached garages must be constructed in compliance with the standards for appurtenant structures in SRC 601.060(c)(6) or non-residential structures in SRC 601.060(c)(3) depending on the square footage of the garage.

(c) Riverine (non-coastal) SFHAs with base flood elevations.

In addition to the general standards listed in SRC 601.070(a) the following specific standards shall apply in SFHAs with Base Flood Elevations (BFE): Zones A1-A30, AH, and AE.

(1) Before regulatory floodway.

In areas where a regulatory floodway has not been designated, no new construction, substantial improvement, or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's Flood Insurance Rate Map (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.

(2) Residential construction.

- (A) New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated no less than one foot above the base flood elevation.
- (B) Enclosed areas below the lowest floor shall comply with the flood opening requirements in SRC 601.060(a).

(3) Non-residential construction.

- (A) New construction and substantial improvement of any commercial, industrial, or other non-residential structure shall:
 - (i) Have the lowest floor, including basement elevated no less than one foot above the base flood elevation; or, together with attendant utility and sanitary facilities;
 - (ii) Be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;
 - (iii) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
 - (iv) 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 SRC 601.040(b).
- (B) Non-residential structures that are elevated, not floodproofed, shall comply with the standards for enclosed areas below the lowest floor in SRC 601.060(a).
- (C) Applicants floodproofing non-residential buildings shall be notified that flood insurance premiums will be based on rates that are one (1) foot below the floodproofed level (e.g., a building floodproofed to the base flood level will be rated as one (1) foot below).

- (4) Manufactured dwellings.
 - (A) New or substantially improved manufactured dwellings supported on solid foundation walls shall be constructed with flood openings that comply with SRC 601.060(a);
 - (B) The bottom of the longitudinal chassis frame beam shall be no less than one foot above the base flood elevation;
 - (C) New or substantially improved manufactured dwellings shall be anchored to prevent flotation, collapse, and lateral movement during the base flood. 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); and
 - (D) Electrical crossover connections shall be a minimum of twelve (12) inches above Base Flood Elevation (BFE).
- (5) Recreational vehicles.
 - (A) Recreational vehicles placed on sites are required to:
 - (i) Be on the site for fewer than 180 consecutive days;
 - (ii) 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
 - (iii) Meet the requirements of SRC 601.060(c)(4), including the anchoring and elevation requirements for manufactured dwellings.
- (6) Appurtenant (accessory) structures. Relief from elevation or floodproofing requirements for residential and non-residential structures in riverine (Non-Coastal) flood zones may be granted for appurtenant structures that meet the following requirements:
 - (A) Appurtenant structures located partially or entirely within the floodway must comply with requirements for development within a floodway found in SRC 601.060(d);
 - (B) Appurtenant structures shall be only used for parking, access, and/or storage of low value and nonhazardous items and shall not be used for human habitation;
 - (C) In compliance with State of Oregon Specialty Codes, appurtenant structures on properties that are zoned residential are limited to one-story structures less than 200 square feet, or 400 square feet if the property is greater than two (2) acres in area and the proposed appurtenant structure will be located a minimum of 20 feet from all property lines. Appurtenant structures on properties that are zoned as non-residential are limited in size to 120 square feet;

- (D) The portions of the appurtenant structure located below the Base Flood Elevation must be built using flood resistant materials;
- (E) The appurtenant structure 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;
- (F) The appurtenant structure must be designed and constructed to equalize hydrostatic flood forces on exterior walls and comply with the requirements for flood openings in SRC 601.060(a);
- (G) Appurtenant structures shall be located and constructed to have low damage potential;
- (H) Appurtenant structures shall 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 SRC 601.070(a)(6);
- (I) Appurtenant structures shall be constructed with electrical, mechanical, and other service facilities located and installed to prevent water from entering or accumulating within the components during conditions of the base flood.

(7) Below-grade crawl spaces.

- (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 can usually be addressed through the required flood openings stated in SRC 601.060(a). Because of hydrodynamic loads, crawlspace construction is not allowed in areas with flood velocities greater than five (5) 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 (1) 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 above BFE.

- (D) Any building utility systems within the crawlspace must be elevated 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 above the BFE or sealed from floodwaters.
- (E) The interior grade of a crawlspace below the BFE must not be more than two (2) 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 (4) 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) There must be an adequate drainage system that removes floodwaters from the interior area of the crawlspace. The enclosed area should be drained within a reasonable time after a flood event. The type of drainage system will vary because of the site gradient and other drainage characteristics, such as soil types. Possible options include natural drainage through porous, well-drained soils and drainage systems such as perforated pipes, drainage tiles or gravel or crushed stone drainage by gravity or mechanical means.
- (H) The velocity of floodwaters at the site shall not exceed five (5) feet per second for any crawlspace. For velocities in excess of five (5) feet per second, other foundation types should be used.

(d) Floodways.

Located within the SFHAs established in SRC 601.030(a) are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of the floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

- (1) Prohibit encroachments, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway unless:
 - (A) Certification by a registered professional civil engineer is provided demonstrating through hydrologic and hydraulic analyses 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; or,
 - (B) A community may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that a Conditional Letter of Map Revision (CLOMR) is applied for and approved by the Federal Insurance Administrator, and the requirements for such revision as

established under Volume 44 of the Code of Federal Regulations, section 65.12 are fulfilled.

- (C) The Director may permit encroachment without a CLOMR if an encroachment proposal resulting in an increase in Base Flood Elevation meets the following criteria:
 - (i) Is for the purpose of fish enhancement;
 - (ii) Does not involve the placement of any structures (as defined in SRC 601.005) within the floodway;
 - (iii) Has a feasibility analysis completed documenting that fish enhancement will be achieved through the proposed project;
 - (iv) Has a maintenance plan in place to ensure that the stream carrying capacity is not impacted by the fish enhancement project;
 - (v) Has approval by the National Marine Fisheries Service, the State of Oregon Department of Fish and Wildlife, or the equivalent federal or state agency; and
 - (vi) Has evidence to support that no existing structures will be negatively impacted by the proposed activity.
- (D) For encroachments permitted without a CLOMR, written notice of the Director's permit decision shall be mailed to the applicant, the applicable neighborhood associations, watershed council, and land owners along the immediately affected stream corridor within 1,500 feet of the project site. The permit shall issue 15 days after the date of mailing of decision, unless appealed as provided in this section. Within 15 days of the mailing of the Director's decision, any person may file a written notice of appeal to the Council, with the fee established by resolution of the Council, specifying the manner in which the Director erred. Upon such appeal, the Council shall conduct a de novo hearing and make a final determination. No permit shall be effective pending Council's determination.

- (2) If the requirements of SRC 601.060(d)(1) are satisfied, all new construction, substantial improvements, and other development shall comply with all other applicable flood hazard reduction provisions of SRC 601.070.

- (e) Standards for shallow flooding areas.

Shallow flooding areas appear on FIRMAs as AO zones with depth designations or as AH zones with Base Flood Elevations. For AO zones the base flood depths range from one (1) to three (3) feet above ground 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. For both AO and AH zones, adequate drainage paths are required around structures on slopes to guide floodwaters around and away from proposed structures.

(1) Standards for AH zones.

Development within AH Zones must comply with the standards in SRC 601.070(a), SRC 601.060, and SRC 601.060(e).

(2) Standards for AO zones.

In AO zones, the following provisions apply in addition to the requirements in SRC 601.070(a) and SRC 601.060(e)

(A) New construction and substantial improvement of residential structures and manufactured dwellings within AO zones shall have the lowest floor, including basement, elevated above the highest grade adjacent to the building, at minimum to one foot above the depth number specified on the Flood Insurance Rate Maps (FIRM) (at least two (2) feet if no depth number is specified). For manufactured dwellings the lowest floor is the bottom of the longitudinal chassis frame beam.

(B) New construction and substantial improvements of non-residential structures within AO zones shall either:

(i) Have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, at minimum to one foot above the depth number specified on the Flood Insurance Rate Maps (FIRM) or a minimum of at least three (3) feet above the highest adjacent grade if no depth number is specified); or

(ii) Together with attendant utility and sanitary facilities, be completely floodproofed to one foot above the depth number specified on the FIRM or a minimum of three (3) feet above the highest adjacent grade 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 stated in SRC 601.060(c)(3).

(C) Recreational vehicles placed on sites within AO Zones on the community's Flood Insurance Rate Maps (FIRM) shall either:

(i) Be on the site for fewer than 180 consecutive days; and

(ii) 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 have no permanently attached additions; or
- (iii) Meet the elevation requirements of SRC 601.060(e)(2)(A), and the anchoring and other requirements for manufactured dwellings of SRC 601.060(c)(4).
- (D) In AO zones, new and substantially improved appurtenant structures must comply with the standards in SRC 601.060(c)(6).
- (E) In AO zones, enclosed areas beneath elevated structures shall comply with the requirements in SRC 601.060(a).

Sec. 601.080 - Bridges within Special Flood Hazard Areas

Bridges within the regulatory floodplain shall comply with the following requirements:

- (a) Construction of new vehicular bridges shall have the lowest structural member of the bridge at least one foot above the base flood elevation and will comply with the provisions of SRC 601.060(d).
- (b) Repair or replacement of existing vehicular bridges shall not increase the water surface elevation of the base flood discharge.
- (c) Construction or repair of pedestrian bridges shall not increase the water surface elevation of the base flood discharge.

Sec. 601.090. - Native vegetation.

Vegetative ground cover and trees from the low water mark to the top of the bank shall be preserved, conserved, and maintained according to the following provisions:

- (a) All non-native vegetation that would significantly affect the flood carrying and containment capacity of the floodway shall be removed.
- (b) Any vegetation planted or permitted to grow within the floodway shall be compatible with the flood protection standards set forth in this chapter.
- (c) Vegetation shall be planted or permitted to grow as necessary to stabilize the floodway slope and minimize erosion.
- (d) Riparian vegetation removed during development shall be replaced with native vegetation which shall be compatible with and enhance the riparian environment.
- (e) Plans for removal and replacement of riparian vegetation shall be submitted and approved by the Director prior to any clearing, excavation, grading, or construction.