

SECTION 5.0100

FLOODPLAIN OVERLAY DISTRICT

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General

5.0101 Introductory Provisions

Provisions of this section apply to all areas within the Floodplain Overlay District as designated on the Community Development Special Purpose District Map. This designation shall apply to all areas of special flood hazard within the city. The areas of special flood hazard north of NE Halsey identified by the Federal Insurance Administration in scientific and engineering reports entitled, “Flood Insurance Study, Multnomah County, Oregon and Incorporated Areas”, December 18, 2009 with the accompanying maps entitled “Flood Insurance Rate Map, Multnomah County, Oregon and Incorporated Areas”, December 18, 2009 and the areas of special flood hazard south of NE Halsey identified by the Federal Insurance Administration in scientific and engineering reports entitled “Flood Insurance Study, Multnomah County, Oregon and Incorporated Areas”, February 1, 2019 with the accompanying maps entitled “Flood Insurance Rate Map, Multnomah County, Oregon and Incorporated Areas”, February 1, 2019 are hereby adopted by reference and declared to be a part of this code. When base flood elevation data has not been provided in these flood insurance studies and maps, the Manager may obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state, or other source in order to administer provisions applying to the Floodplain Overlay District.

5.0102 Warning and Disclaimer of Liability

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This code 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 code shall not create liability on the part of the City, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

5.0103 Interpretation of FIRM Boundaries

The Manager shall determine the 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), based on data referenced in **Section 5.0101**. Any person contesting the determination of the Manager may appeal such determination as provided in **Section 11.0302**.

5.0104 Applicability

- A. The Manager is hereby appointed to administer, implement and enforce this Section (Floodplain Overlay District) by granting or denying development permits in accordance with its provisions. Permits shall be required as provided in **Section 11.0101** and **Section 11.0204**. Exemption from building permit does not exempt a development from requiring a floodplain development permit.
 - 1. An application for a floodplain development permit shall be reviewed by the Manager under the Type II procedure unless otherwise specified.
 - 2. Activities listed in **Section 11.0102(D), (E) and (F)** shall be reviewed by the Manager under the Type I procedure.
- B. Where applicants are proposing development within the Floodplain Overlay District, they must comply with the Development Standards found in **Section 5.0120**.
- C. Where applicants are proposing development within the Floodway, they must comply with the Development Standards found in **Section 5.0121**.
- D. In flood prone areas where elevation data is not available either through the Flood Elevation Study or FIRM, applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgement and includes use of historical data, high water marks, photographs of past flooding, where available.
- E. Applications for development in the Floodplain Overlay District shall include:
 - 1. Pre- and post-development plans showing the grades, and all structures, utilities, paving, fencing, and use areas.
 - 2. Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures.
 - 3. Elevation in relation to mean sea level of floodproofing in any structure.
 - 4. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in **Section 5.0120(E)(1), 5.0120(F)(1) and 5.0120(G)(1)**.
 - 5. Description of the extent to which a watercourse will be altered or relocated as a result of proposed development.
 - 6. For repair or improvement of an existing structure, a cost estimate or itemized estimate including the materials and labor for qualifying work.
 - 7. A copy of any documents submitted to the state and federal government regarding the development (including, but not limited to, CLOMR, LOMR, LOMA and Joint Removal/Fill Permit applications).

Permitted Uses

5.0110 Permitted Land Uses

Uses permitted in the Floodplain Overlay District shall be those listed as permitted in the underlying district designated for the site. Within areas of special flood hazard which are also designated as Hillside and Geologic Risk Overlay, Natural Resources Overlay or Open Space (OS) Overlay Districts, development shall be permitted only in accordance with provisions of those special purpose districts. In Floodplain Overlay Districts within the Fairview Creek, Burlingame Creek, and Kelly Creek drainage basins, proposed developments shall demonstrate consistency with guidelines and recommendations of the master storm drain plan for that stream. In addition, any proposal for development within the Floodplain Overlay District shall be accompanied by documentation prepared by a registered civil engineer demonstrating to the satisfaction of the Manager that the development:

- A. Will not result in an increase in floodplain area on other properties;
- B. Will not reduce natural flood storage volumes; and
- C. Will not result in an increase in erosive velocity of the stream that may cause channel scouring or reduced slope stability downstream of the development. Stream velocity following development shall not exceed findings and recommendations of the storm drainage master plan for the affected stream.

Development Standards

5.0120 Standards for Development in the Floodplain Overlay District

In addition to standards applying to development within the underlying Plan Map district, the following standards shall apply to development proposed within the Floodplain Overlay District:

- A. Anchoring
 1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.
 2. All manufactured homes 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.
- B. Construction Materials and Methods
 1. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
 2. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
 3. Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
- C. Utilities
 1. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
 2. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.
 3. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

D. Subdivision Proposals

1. All subdivision proposals shall be consistent with the need to minimize flood damage.
2. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
3. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage.
4. Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or 5 acres, whichever is less.

E. Residential Construction

1. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to or above base flood elevation plus one foot.
2. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited or shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:
 - a. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
 - b. The bottom of all openings shall be no higher than one foot above grade.
 - c. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
3. Below grade crawl spaces are allowed subject to the current Oregon Residential Specialty Code Section R324.
4. Development in the AH zone shall provide drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.

F. Non-Residential Construction

1. New construction and substantial improvement of any commercial, industrial, institutional or other non-residential structure shall either have the lowest floor, including basement, elevated to the level of the base flood elevation plus one foot; or together with attendant utility and sanitary facilities, shall:
 - a. Be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;
 - b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;
 - c. Be certified by a registered professional engineer or architect to have design and methods of construction which are in accordance with accepted standards of practice for meeting the intent of provisions of this subsection.
2. Non-residential structures that are elevated, not flood proofed, must meet the same standards for space below the lowest floor as described in **Section 5.0120(E)(2)**.
3. Applicants floodproofing non-residential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the floodproofed level (e.g. a building

constructed to the base flood level will be rated as one foot below that level).

4. Development in the AH zone shall provide drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.

G. Placement of Manufactured Dwellings

1. All manufactured dwellings to be placed or substantially improved within the Floodplain Overlay District shall be elevated on a permanent foundation such that the bottom of the longitudinal chassis frame beam is at or above BFE and be securely anchored to an adequately anchored foundation system in accordance with the provisions of **Section 5.0120(A)(2)**.
2. Manufactured dwellings supported on solid foundation walls shall be constructed with flood openings that comply with **Section 5.0120(E)(2)**.
3. Electrical crossover connections shall be a minimum of 12 inches above base flood elevation.

H. Recreational Vehicles

Recreational vehicles placed on sites are required to either:

1. Be on the site for fewer than 180 consecutive days;
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 **Section 5.0120(G)** and the anchoring requirements of **Section 5.0120(A)(2)**.

5.0121 Floodways

Located within the Floodplain Overlay District (areas of special flood hazard) are areas designated as floodways. The floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles, and erosion potential. Due to this fact, encroachments, including fill, new construction, substantial improvements, retaining walls, and other development shall be prohibited.

- A.** New installations of manufactured dwellings in the floodway are prohibited (2002 Oregon Manufactured Dwelling and Park Specialty Code). 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 and 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, Subpart 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) will not result in any increase in flood levels during the occurrence of the base flood discharge;
 - b. The replacement manufactured dwelling and any accessory buildings or accessory structures (encroachments) shall have the finished floor elevated a minimum of 18 inches (46 cm) above the BFE as identified on the Flood Insurance Rate Map;

- c. The replacement manufactured dwelling is placed and secured to a foundation support system designed by an Oregon professional engineer or architect and approved by the authority having jurisdiction;
 - d. The replacement manufactured dwelling, its foundation supports, and any accessory buildings, accessory structures, or property improvements (encroachments) do not displace water to the degree that it causes a rise in the water level or diverts water in a manner that causes erosion or damage to other properties;
 - e. The location of a replacement manufactured dwelling is allowed by the local planning department's ordinances; and
 - f. Any other requirements deemed necessary by the authority having jurisdiction.
- B.** Exceptions to this prohibition are fences (except walls or footings for a fence that change the shape of the floodway), public bridges, outfall structures, and fire hydrants which are allowed subject to standards established in the City Public Works Standards.

As required by 44 CFR Chapter 1, Subpart 60.3(d)(3), it must be demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practices that the fences and public bridges, and outfall structures will not result in any increase in flood levels during the occurrence of the base flood discharge.

5.0122 Coordination With Other Regulatory Agencies

Prior to issuance of a development permit for development within the Floodplain Overlay District, an applicant shall provide evidence to the Manager that all necessary permits have been obtained from other federal, state, and local government agencies involved in regulating development activity within and adjacent to areas of special flood hazard.

5.0123 Information to be Obtained and Maintained

- A.** Where base flood elevation data is provided as required in **Section 5.0101**, the Manager shall obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, for which a development permit has been issued in the Floodplain Overlay District.
- B.** For all new or substantially improved floodproofed structures, the Manager shall:
 - 1.** Verify and record the actual elevation (in relation to mean sea level), and
 - 2.** Maintain the certifications of registered engineers and architects required in conformance with these provisions.
- C.** All records pertaining to development permits issued within the Floodplain Overlay District will be maintained for public inspection.
- D.** The applicant shall provide new technical data:
 - 1.** When an applicant has obtained a Conditional Letter of Map Revision (CLOMR) from FEMA, or when development altered a watercourse, modified floodplain boundaries, or modified Base Flood Elevations, applicant shall provide evidence that they have notified FEMA within six months of project completion. This notification shall be provided as a Letter of Map Revision (LOMR).
 - 2.** The applicant shall be responsible for preparing technical data to support the LOMR application and paying any processing or application fees to FEMA.

3. The Manager shall be under no obligation to sign the Community Acknowledgement Form, which is part of the CLOMR/LOMR application, until the applicant demonstrates that the project will or has met the requirements of this code and all applicable State and Federal laws.
4. Notify the Federal Insurance Administrator (in writing) of any acquisition by means of annexation, incorporation or otherwise, of additional areas of jurisdiction.

5.0124 Alteration of Watercourses

- A. When development activity is proposed which would result in relocation or alteration of a watercourse lying within a Floodplain Overlay District, the Manager shall cause notice of the proposed development to be mailed to those jurisdictions through which the watercourse passes, to the Division of State Lands, and to the State Department of Land Conservation and Development.
- B. The Manager shall approve issuance of a development permit for proposed relocation or alteration of a watercourse only when the following criteria are satisfied:
 1. Satisfactory documentation, prepared by a registered professional engineer, shall be submitted demonstrating that such development will not diminish the flood carrying capacity of the watercourse within the altered or relocated portion of said watercourse.
 2. A plan providing for on-going maintenance of the watercourse and adjacent land areas adequate to maintain the flood carrying capacity of the watercourse shall be prepared and submitted.

5.0125 Flood Management Performance Standards

- A. All development, excavation and fill in the Floodplain Overlay District shall conform to the following performance standards.
 1. Development, excavation and fill shall be performed in a manner to maintain or increase flood storage and conveyance capacity and not increase design flood elevations.
 2. All fill placed at or below the design flood elevation in the Floodplain Overlay District shall be balanced with at least an equal amount of soil material removal.
 3. Excavation shall not be counted as compensating for fill if such areas will be filled with water in non-storm winter conditions.
 4. Temporary fills permitted during construction shall be removed.
 5. Uncontained areas of hazardous materials as defined by DEQ in the Floodplain Overlay District shall be prohibited.
 6. Development, excavation and fill shall be performed in a manner to maintain or increase slope stability and maintain or decrease erosive velocities.
- B. The following uses and activities are not subject to the requirements of **Subsection (A)** above:
 1. Excavation and fill necessary to plant new trees or vegetation.
 2. Excavation and fill required for the construction of public detention facilities or structures, and other facilities specifically designed to reduce or mitigate flood impacts. Such facilities shall not be used to create new buildable lands.
 3. New culverts, stream crossings, and transportation projects may be permitted only if designed as balanced cut and fill projects or designed to not raise the design flood elevation. Such projects shall be designed to minimize the area of fill in the Floodplain Overlay District and to minimize erosive velocities. Stream crossing shall be as close to perpendicular to the stream as practicable.

Bridges shall be used instead of culverts wherever practicable.

5.0126 Standards for Shallow Flooding Areas (AO Zones)

Shallow flooding areas appear on the Flood Insurance Rate Maps (FIRM) as AO zones with depth designations. The base flood depths in these zones range from 1 to 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. In these areas, the following provisions apply:

- A.** New construction and substantial improvements of residential structures and manufactured homes within AO zones shall have the lowest floor (including basement) elevated above the highest grade adjacent to the building, a minimum of one foot above the depth number specified on the FIRM (at least two feet if no depth number is specified).
- B.** New construction and substantial improvements of nonresidential structures within AO zones shall either:
 - 1.** Have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, one foot or more above the depth number specified on the FIRM (at least two feet if no depth number is specified); or
 - 2.** Together with attendant utility and sanitary facilities, be completely flood proofed to or above that level 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 Section 5.2-2(3).
- C.** Require adequate drainage paths 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 either:
 - 1.** Be on the site for fewer than 180 consecutive days, 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
 - 2.** Meet the requirements of above **subsections A, B, and C** and the elevation and anchoring requirements for manufactured homes contained in **Sections 5.0120(G)** and **5.0120(A)(2)**.