CITY OF **MILWAUKIE**

COUNCIL ORDINANCE No. 2248

AN ORDINANCE OF THE CITY OF MILWAUKIE, OREGON, AMENDING MUNICIPAL CODE (MMC) TITLE 18 FLOOD HAZARD REGULATIONS TO COMPLY WITH NEW FEDERAL REQUIREMENTS (FILE #ZA-2024-003), AND DECLARING AN EMERGENCY.

WHEREAS the State of Oregon has in Oregon Revised Statute (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 citizens; and

WHEREAS Title 18 of the Milwaukie Municipal Code (MMC) establishes flood hazard regulations designed to minimize public and private losses due to flooding; and

WHEREAS the proposed amendments reflect the preliminary conclusions of a Biological Opinion issued by the National Marine Fisheries Service regarding impacts of requirements of the National Flood Insurance Program (NFIP) on several species of threatened or endangered anadromous fish species protected by the Endangered Species Act; and

WHEREAS the proposed amendments establish standards to ensure "no net loss" of key floodplain functions when certain activities are proposed within the regulatory floodplain; and

WHEREAS adoption of the proposed amendments is required for the city to continue to participate in the NFIP; and

WHEREAS legal and public notices have been provided as required by law; and

WHEREAS on January 14, 2025, the Planning Commission conducted a public hearing as required by MMC 19.1008.5 and adopted a recommendation to approve the proposed amendments; and

WHEREAS the City Council finds that the proposed amendments are in the public interest of the City of Milwaukie.

Now, Therefore, the City of Milwaukie does ordain as follows:

Section 1. Findings. Findings of fact in support of the proposed amendments are adopted by the City Council and are attached as Exhibit A.

Section 2. Amendments. The Milwaukie Municipal Code is amended as described in Exhibit B (strikeout/underline version) and Exhibit C (clean version).

Section 3. Emergency. The city desires that the amended MMC Title 18 should be in effect immediately and therefore declares an emergency to exist and this ordinance will become effective upon the date of its adoption.

Read the first time on 2/5/25 and moved to second reading by 5:0 vote of the City Council.

Read the second time and adopted by the City Council on 2/5/25.

Signed by the Mayor on 2/5/25.

Lisa M. Batey, Mayor

ATTEST:

Scott S. Stauffer, City Recorder

APPROVED AS TO FORM:

Justin D. Gericke, City Attorney

EXHIBIT A

Recommended Findings in Support of Approval
File #ZA-2024-003
Amendments to MMC Title 18 (Flood Hazard Regulations)

Sections of the Milwaukie Municipal Code not addressed in these findings are found to be inapplicable to the decision on this application.

1. The applicant, the City of Milwaukie, proposes to amend the flood hazard regulations that are established in Title 18 of the Milwaukie Municipal Code (MMC). The land use application file number is ZA-2024-003.

2. The purpose of the proposed code amendments is to update the City's flood hazard regulations to establish standards for "no net loss" of key floodplain functions when certain activities are proposed within the regulatory floodplain. The proposed amendments reflect the preliminary conclusions of a Biological Opinion issued by the National Marine Fisheries Service (NMFS) regarding impacts of the National Flood Insurance Program (NFIP) on several species of threatened or endangered anadromous fish species protected by the Endangered Species Act (ESA). The amendments are necessary for the City to retain eligibility to participate in the NFIP, which allows residents to purchase flood insurance at a reasonable cost. The proposal is to amend the existing language in Title 18 based on model language provided by the Federal Emergency Management Agency (FEMA), which oversees the NFIP.

3. The proposal is subject to the criteria and procedures outlined in the following sections of the Milwaukie Municipal Code (MMC):

   - MMC Section 19.902 Amendments to Maps and Ordinances
   - MMC Section 19.1008 Type V Review

   The application has been processed and public notice provided in accordance with MMC Section 19.1008 Type V Review. An initial evidentiary hearing was held by the Planning Commission on January 14, 2025, and another public hearing was held by the City Council on February 4, 2025, as required by law.

4. MMC Section 19.902 Amendments to Maps and Ordinances

   MMC 19.902 establishes the general process for amending the City's Comprehensive Plan and land use regulations within the Milwaukie Municipal Code. Specifically, MMC Subsection 19.902.5 establishes Type V review as the process for changing the text of land use regulations, with the following approval criteria:

   a. MMC Subsection 19.905.B.1 requires that the proposed amendment be consistent with other provisions of the Milwaukie Municipal Code.

      The proposed amendments are consistent with other provisions of the Milwaukie Municipal Code, including MMC Chapter 16.32 Tree Code and MMC Section 19.402 Natural Resources.

This standard is met.

b. MMC Subsection 19.902.5.B.2 requires that the proposed amendment be consistent with the goals and policies of the Comprehensive Plan.

Of the various goals, objectives, and policies in the Comprehensive Plan, the chapter on Environmental Stewardship & Community Resiliency, with its sections on natural hazards and natural resources, is especially relevant to the proposed amendments.

The Natural Hazards section includes the following goal statement, goals, and policies:

Protect the Milwaukie community from the threats of natural hazards, including those induced by climate change, through risk minimization, education, and adaptation.

Goal 5.1 – Identifying, Avoiding, and Reducing Hazard Potential

Identify areas with high natural hazard potential and develop policies and programs to avoid or reduce potential negative impacts.

Policy 5.1.1: Ensure that City natural hazard maps stay updated and reflect the most recent information and best available science for natural hazard areas, including flooding, landslides, liquefaction, unstable soils, wildfire, earthquakes, drought and sea level rise.

Policy 5.1.2: Require the submittal and neutral third-party review of detailed technical reports for proposed development within high-risk flood, liquefaction, and landslide hazard areas.

Policy 5.1.3: Encourage and prioritize development in areas with low risk of natural hazards and restrict development in areas with high risk that cannot be adequately mitigated.

Policy 5.1.4: Regulate floodplain areas in a manner that protects the public, recognizes their natural functions as waterways and critical habitat, and provides open space/recreational opportunities.

Goal 5.2 – Partnerships and Education

Continue and expand partnerships with government agencies, utilities, and other groups that can help Milwaukie residents prepare for natural hazards.

Policy 5.2.1: Continue to coordinate with regional, state and federal agencies on disaster preparedness efforts.

Policy 5.2.3: Ensure that mapping of the 100- and 500-year floodplain areas stays current and accurate.

Goal 5.3 – Infrastructure and Building Resiliency

Ensure that the City's built environment and infrastructure are adequately prepared for natural disasters.

Policy 5.3.1: Ensure that relevant sections of the Milwaukie Municipal Code, most notably those that deal with Flood Hazards, Seismic Conditions, and Soils, are maintained to reflect best available science.

The Natural Resources and Environmental Quality section includes the following goal statement, goals, and policies:

Protect, conserve, and enhance the quality, diversity, quantity and resiliency of Milwaukie's natural resources and ecosystems, and maintain the quality of its air, land, and water. Utilize a combination of development regulations, incentives, education and outreach programs, and partnerships with other public agencies and community stakeholders.

Goal 3.2 – Water Quality and Resources

Enhance the quality of Milwaukie's water resources and ensure they have adequate flows and quantity to support their long-term health.

Policy 3.2.1: Support programs and regulations to enhance and maintain the health and resilience of watersheds, riparian and upland zones, and floodplains.

Policy 3.2.4: Require a detailed analysis, including alternatives, of how development will avoid impacts to natural resources. If impacts cannot be avoided, include a detailed analysis of how development will minimize and mitigate impacts to the natural resources.

Policy 3.2.5: Regulate floodplains to protect and restore associated natural resources and functions, increase flood storage capacity, provide salmon habitat, minimize the adverse impacts of flood events, and promote climate change resiliency.

Policy 3.2.6: When considering development proposals, take into account changes in water flow, quantity and duration of flow associated with both development and climate change and evaluate the downstream impacts of development in upland areas.

Policy 3.2.7: Protect water quality of streams by using best available science to help control the amount, temperature, turbidity, duration, and quality of runoff that flows into them, in partnership with other regulatory agencies.

Policy 3.2.8: Improve stormwater detention and treatment standards through the use of best available science, technology, and management practices to meet water quality standards and achieve wildlife habitat protection and connectivity goals and standards.

Policy 3.2.9: Establish the City's preference for sustainable stormwater facilities that utilize natural systems and green technology through the use of incentives as well as future code changes.

Goal 3.3 – Flora and Fauna Habitat

Protect and conserve aquatic, aerial, arboreal, and terrestrial wildlife and plant habitat.

Policy 3.3.1: Protect habitat areas for native and non-invasive naturalized plants and wildlife that live and move through the city, especially climate-adapted species, pollinators, and indigenous species subject to Native American fishing rights. Focus these efforts on habitat that is part of or helps create an interconnected system of high-quality habitat and considers downstream impacts of activities within Milwaukie.

Policy 3.3.2: Consider impacts to habitat connectivity when reviewing development proposals.

Policy 3.3.3: Work with regulatory agencies and private property owners to remove barriers to fish passage and wildlife movement corridors between the Willamette River and its tributaries.

Policy 3.3.4: Protect and enhance riparian vegetation that provides habitat and improves water quality along creeks and streams through the use of best available science and management practices to promote beneficial ecosystem services, such as managing water temperature and providing woody debris for habitat.

Policy 3.3.5: Require mitigation that restores ecological functions and addresses impacts to habitat connectivity as part of the development review process.

The City's flood regulations are an important part of a larger network of regional, state, and federal rules intended to protect the public and reduce flood damage. When certain activities are proposed within the regulatory floodplain, the proposed amendments will establish standards for "no net loss" of key floodplain functions, including flood storage capacity and fish access, water quality, and riparian vegetation. The proposed amendments reflect the preliminary conclusions of a Biological Opinion issued by NMFS regarding impacts of the NFIP on several species of threatened or endangered anadromous fish species protected by the ESA.

As proposed, the amendments are consistent with and facilitate the actualization of many relevant goals and policies in the City's Comprehensive Plan.

This standard is met.

c. MMC Subsection 19.902.5.B.3 requires that the proposed amendment be consistent with the Metro Urban Growth Management Functional Plan and relevant regional policies.

The proposed amendments are consistent with the following applicable sections of Metro's Urban Growth Management Functional Plan:

Title 3 – Water Quality and Flood Management

MMC Title 18 (Flood Hazard Regulations) incorporates Metro's Title 3 regulations as to ensure that the City's regulations for flood management are consistent with those of Metro, including those related to protecting the key floodplain function of water quality. Furthermore, the proposed amendments are designed to ensure that City regulations continue to be consistent with applicable federal regulations for flood management.

Title 8 – Compliance Procedures

The City's current Comprehensive Plan and land use regulations comply with the Functional Plan. The proposed amendments will be deemed to comply with the Functional Plan if no appeal to the Land Use Board of Appeals is made within the 21-day period set forth in ORS 197.830(9). As required by Metro Code Section 3.07.820.A, the City has provided notice of the proposed amendments to Metro's Chief Operating Officer more than 35 days in advance of the City Council hearing on the proposed amendments.

In processing the proposed amendments, the City has followed its own requirements and procedures for community involvement. The proposed amendments have been discussed at a public information meeting and a public City Council work session. The City has conducted public hearings on the proposed amendments before the Planning Commission and City Council and has published public notice prior to each hearing.

Title 13 – Nature in Neighborhoods

The proposed amendments reflect the importance of key floodplain functions for the survival of several species of threatened or endangered anadromous fish species. The requirement to ensure that new undeveloped space established within the floodplain provides sufficient fish access and egress emphasizes the importance of habitat connectivity. The requirement to mitigate tree removal within the floodplain by planting new trees at a ratio of 3:1 or higher emphasizes the importance of riparian vegetation.

This standard is met.

d. MMC Subsection 19.902.5.B.4 requires that the proposed amendment be consistent with relevant State statutes and administrative rules, including the Statewide Planning Goals and Transportation Planning Rule.

Goal 1 – Citizen Involvement

To develop a citizen involvement program that ensures the opportunity for citizens to be involved in all phases of the planning process.

The City has an adopted and acknowledged amendment process and has followed that process in making these amendments. Public hearings on the proposed amendments have been held and public notice was published prior to each hearing. In addition, all owners of property within designated flood hazard areas were sent notice of the public hearings. The Planning Commission members are appointed by an elected City Council, following an open and public selection process.

Goal 2 – Land Use Planning

To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.

The proposed amendments will not change the City's land use planning process. The City will continue to have a comprehensive land use plan and implementing regulations that are consistent with the plan. The proposed amendments will update MMC Title 18 of the municipal code and make it consistent with applicable federal flood management regulations. These changes strengthen the City's existing policies that implement Goal 2.

Goal 5 – Natural Resources, Scenic and Historic Areas, and Open Spaces

To protect natural resources and conserve scenic and historic areas and open spaces.

The proposed amendments will ensure that development within the regulatory floodplain results in no net loss of key floodplain functions, including fish access and egress and riparian vegetation. The proposed amendments reflect the preliminary conclusions of a Biological Opinion issued by NMFS regarding impacts of the NFIP on several species of threatened or endangered anadromous fish species protected by the ESA. By maintaining key floodplain functions, the proposed amendments serve to protect natural resources in flood hazard areas.

Goal 6 – Air, Water, and Land Resources Quality

To maintain and improve the quality of the air, water, and land resources of the state.

The proposed amendments will ensure that development activities within the regulatory floodplain suffer no net loss of key floodplain functions, including water quality. The new rules will require no net increase in impervious surface or that any net increase in impervious surface be mitigated by techniques that retain and treat stormwater to maintain water quality.

Goal 7 – Areas Subject to Natural Hazards

To protect people and property from natural hazards.

The proposed amendments will improve the City's implementation of Statewide Planning Goal 7. The proposed amendments are specifically designed to ensure that City ordinances relating to development in designated flood hazard areas continue to be consistent with applicable federal regulations for flood management.

This standard is met.

e. MMC Subsection 19.902.5.B.5 requires that the proposed amendment be consistent with relevant federal regulations.

The primary purpose of the proposed amendments is to revise the flood hazard regulations of MMC Title 18 so that they remain consistent with the latest federal regulations and guidance.

This standard is met.

The City Council finds that the proposed amendments to MMC Title 18 (Flood Hazard Regulations) are consistent with the applicable approval criteria for zoning text amendments as established in MMC 19.902.5.B.

5. MMC Section 19.1008 Type V Review

MMC 19.1008 establishes the procedures and requirements for Type V review, which is the process for legislative actions. The City Council, Planning Commission, Planning Manager, or any individual may initiate a Type V application.

The proposed amendments were initiated by the Planning Manager on November 4, 2024.

a. MMC Subsection 19.1008.3 establishes the public notice requirements for Type V review.

(1) MMC Subsection 19.1008.3.A General Public Notice

MMC 19.1008.3.A establishes the requirements for public notice, including a requirement to post public notice of a public hearing on a Type V application at least 30 days prior to the first evidentiary hearing. The notice must be posted on the City website and at City facilities that are open to the public.

A notice of the Planning Commission's January 14, 2025, hearing was posted as required on December 13, 2024. A notice of the City Council's February 4, 2025, hearing was posted on January 10, 2025.

(2) MMC Subsection 19.1008.3.B DLCD Notice

MMC 19.1008.3.B requires notice of a Type V application be sent to the Department of Land Conservation and Development (DLCD) as per the standards of MMC Subsection 19.1001.6.C.4.a, which required notice to be sent to DLCD at least 35 days prior to the first evidentiary hearing.

Notice of the proposed amendments was sent to DLCD on December 10, 2024, in advance of the first evidentiary hearing on January 14, 2025.

(3) MMC Subsection 19.1008.3.C Metro Notice

MMC 19.1008.3.C requires notice of a Type V application be sent to Metro at least 35 days prior to the first evidentiary hearing.

Notice of the proposed amendments was sent to Metro on December 10, 2024, in advance of the first evidentiary hearing on January 14, 2025.

(4) MMC Subsection 19.1008.3.D Property Owner Notice (Measure 56)

MMC 19.1008.3.D requires notice to property owners if, in the Planning Manager's opinion, the proposed amendments would affect the permissible uses of land for those property owners.

The proposed amendments would result in some changes for properties within a designated flood zone, with new requirements to ensure no net loss of key floodplain

functions related to development. A notice to this effect was mailed to the owners of all affected properties on December 20, 2024.

b. MMC Subsection 19.1008.4 Type V Decision Authority

MMC 19.1008.4 establishes that the City Council is the review authority for Type V applications and may approve, approve with conditions, amend, deny, or take no action on a Type V application after a public hearing.

The City Council held a public hearing to consider this application on February 4, 2025, and approved the proposed amendments as presented.

c. MMC Subsection 19.1008.5 Type V Recommendation and Decision

MMC 19.1008.5 establishes the procedures for review and a decision on Type V applications. The process includes an initial evidentiary hearing by the Planning Commission and a recommendation to the City Council, followed by a public hearing and decision by the City Council.

The Planning Commission held an initial evidentiary hearing on January 14, 2025, and passed a motion recommending that the City Council approve the proposed amendments. The City Council held a duly advertised public hearing on February 4, 2025, and approved the proposed amendments as presented.

TITLE 18 FLOOD HAZARD REGULATIONS

Note: The ~~strikeout~~ format indicates existing text to be removed; underlining indicates new text to be added.

18.04 PURPOSE AND METHODS

18.04.010 Statement of Purpose

The flood hazard areas within the City of Milwaukie preserve the natural and beneficial values served by floodplains but 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. These flood losses may be caused by the cumulative effect of obstructions in regulatory floodplains, which increase flood heights and velocities and, when inadequately anchored, cause damage in other areas. Uses that are inadequately floodproofed, elevated, or otherwise protected from flood damage also contribute to flood loss.

It is the purpose of this title to promote public health, safety, and general welfare, and to minimize public and private losses due to flooding in flood hazard areas by provisions designed to:

A. Protect human life and health;

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

C. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the 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 the regulatory floodplain;

F. Help maintain a stable tax base by providing for the sound use and development of flood hazard areas to minimize blight areas caused by flooding;

G. Notify potential buyers that property is in a regulatory floodplain;

H. Notify those who occupy regulatory floodplains that they assume responsibility for their actions;

I. Maintain the natural and beneficial functions and values of floodplains, such as allowing for storage and conveyance of stream flows through existing and natural flood conveyance systems; and

J. Participate in, promote, and maintain eligibility for flood insurance and disaster relief.

18.04.020 Methods of Reducing Flood Losses

In order to accomplish its purposes, this title includes methods and provisions for:

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

B. Requiring that development vulnerable to floods, including facilities that serve those 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 flood waters;

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

E. Preventing or regulating the construction of flood barriers that will unnaturally divert flood waters or may increase flood hazards in other areas.

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

18.08 DEFINITIONS

Unless specifically defined below, words or phrases used in this title will be interpreted to give them the meaning they have in common usage.

"Ancillary features" or "ancillary structures" mean features of a development or structures that are not directly related to the primary purpose of the development.

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

"Area of February 1996 inundation" or "February 1996 flood" means the area~~s~~ along the Willamette River and its backwaters of Johnson and Kellogg Creeks that ~~were~~ was flooded in February of 1996 to elevation 38 feet (ft) North American Vertical Datum (NAVD) of 1988 ~~in February of 1996~~. ~~These areas are~~This area is shown on the Metro Water Quality and Flood Management Area Maps as well as on the Milwaukie Map.

"Area of shallow flooding" means a designated Zone AO, AH, AR/AO, or AR/AH on a community's Flood Insurance Rate Map with a one percent or greater annual chance of flooding to an average depth of ~~one~~ 1 to ~~three~~ 3 ~~feet~~ where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Shallow flooding is characterized by ponding (AH) or sheet flow (AO).

"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 as Zone A, AO, AH, A1-30, AE, A99, or AR. ~~Also referred to as~~ "S~~s~~pecial flood hazard area~~.~~" (SFHA) is synonymous in meaning and definition 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, including any sunken room or sunken portion of a room.

"Building" means a structure with two or more outside rigid walls and a fully secured roof that is affixed to a permanent site.

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

"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.

"Design flood elevation (DFE)" means the higher elevation of the following:

1. The base flood elevation (BFE); or
2. For properties that include an area of February 1996 inundation, the water surface elevation of the February 1996 flood event, interpolated as 2.4 f~~ee~~t above the nearest adjacent BFE.

"Elevated building" means, for insurance purposes, a non-basement building that has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings, or columns.

"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 an adult or juvenile individual of the identified 16 ESA-listed fish to access.

"Fish egress-able space" means the volumetric space available to an adult or juvenile individual of the identified 16 ESA-listed 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) that are proximately caused by flooding as defined in paragraph 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 that results in flooding as defined in paragraph 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. Also referred to as "Flood Insurance Study."

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

"Flood protection elevation (FPE)" means the elevation 1 foot above the Design Flood Elevation (DFE).

"Floodplain or flood-prone area" means land area susceptible to being inundated by water from any source.

"Floodplain administrator" means the community official designated by title to administer and enforce the floodplain management regulations.

"Floodplain management" means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works, and floodplain management regulations.

"Floodplain management regulations" means zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as floodplain ordinance, grading ordinance, and erosion control ordinance) and other application of police power. The term describes any state or local regulation in any combination, that provides standards for the purpose of flood damage prevention and reduction.

"Floodplain storage capacity" means the volume of floodwater that an area of floodplain can hold during the one-percent annual chance flood (i.e., during the base flood).

"Floodway" or "regulatory 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."~~

"Footprint" means the existing measurements of a structure related to key floodplain functions and their proxies. Related to floodplain storage, the footprint refers to the volumetric amount of developed space measured from the existing ground level to the BFE. Related to water quality, the footprint refers to the area of impervious surface that the structure creates.

"Functionally dependent use" means a use that 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. Low impact development is a subset of green infrastructure.

"Habitat restoration activity" means an activity with the sole purpose of restoring habitat that has only temporary impacts and long-term benefits to habitat. Such a project does not include ancillary structures (such as a storage shed for maintenance equipment), must demonstrate that no rise in the DFE would occur as a result of the project and obtain a CLOMR and LOMR accordingly, and must obtain any other required permits (e.g., Clean Water Act (CWA) Section 404 permit).

"Hazard tree" means a standing dead, dying, or diseased tree or one with a structural defect that makes it likely to fail in whole or in part and that presents a potential hazard, whether to a structure or as otherwise defined by the community.

"Hazardous material" means hazardous materials as defined by the Oregon Department of Environmental Quality, including any of the following:

1. Hazardous waste as defined in Oregon Revised Statutes (ORS) 466.005;
2. Radioactive waste as defined in ORS 469.300, radioactive material identified by the Energy Facility Siting Council under ORS 469.605, and radioactive substances defined in ORS 453.005
3. Communicable disease agents as regulated by the Health Division under ORS Chapter 431 and ORS 433.010 to 433.045 and 433.106 to 433.990;
4. Hazardous substances designated by the United States Environmental Protection Agency (EPA) under section 311 of the Federal Water Pollution Control Act, P.L. 92-500, as amended;
5. Substances listed by the United States EPA in section 40 of the Code of Federal Regulations, Part 302 – Table 302.4 (list of Hazardous Substances and Reportable Quantities) and amendments;
6. Material regulated as a Chemical Agent under ORS 465.550;
7. Material used as a weapon of mass destruction or biological weapon;
8. Pesticide residue;
9. Dry cleaning solvent as defined by ORS 465.200(9).

"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 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 that have been approved by the Secretary of 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.

<u>"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 BFE. This may be estimated based on a point that is along the same approximate line perpendicular to the direction of flow.</u>

<u>"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.</u>

<u>"Impervious surface" means a surface that cannot be penetrated by water and thereby prevents the infiltration of rain and snowmelt into the soil and/or gravel below, increasing the amount and</u>

rate of surface water runoff and 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 (LID)" means an approach to land development (or redevelopment) that works with nature to manage stormwater as close to its source as possible. LID is a subset of green infrastructure and 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. LID 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. LID 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.

"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 the enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this title.

"Manufactured dwelling" means a structure, transportable in one or more sections, which is intended for use as a dwelling, built on a permanent chassis, and designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured dwelling" does not include recreational vehicles and is synonymous with "manufactured home" and "mobile 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 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 Milwaukie~~ and includes any subsequent improvements to these 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. For purposes of this title, the floodplain functions of floodplain storage, water quality, and vegetation must be maintained.

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

"Onsite mitigation" means mitigation occurring within the project area.

"Ordinary high water mark (OHWM)" 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.

"Pervious surface" means a surface that allows rain and snowmelt to infiltrate into the soil and/or gravel below. Pervious surface may also be referred to as "permeable surface."

"Qualified professional" means an appropriate subject matter expert that is defined by the City.

"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 that is:

1. Built on a single chassis;
2. 400 square feet (sq ft) or less when measured at the largest horizontal projection;
3. Designed to be self-propelled or permanently towable by a light-duty truck; and
4. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

"Regulatory floodplain" is also referred to as "regulatory flood hazard area" and means floodplain mapped as either:

1. The land area inundated by the base flood on the Flood Insurance Rate Map (FIRM), or
2. The land area inundated by the February 1996 flood on the Metro Water Quality and Flood Management Area maps.

~~"Regulatory flood hazard area": See "Regulatory floodplain."~~

~~"Regulatory floodway": See "floodway."~~

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

"Riparian buffer zone (RBZ)" means a designated area of protection of key floodplain functions. The outer boundary of the RBZ is measured from the ordinary high water mark (OHWM) of a fresh waterbody (lake; pond; ephemeral, intermittent, or perennial stream) or MHHW line of a marine shoreline or tidally influenced river reach to 170 f~~ee~~t horizontally on each side of the stream or 170 f~~ee~~t inland from the MHHW line. The RBZ includes the area between these outer boundaries on each side of the stream, including the stream channel. Where the RBZ is larger than the regulatory floodplain, the no net loss standards shall only apply to the area within the regulatory floodplain.

"Riparian buffer zone fringe (RBZ-fringe)" means the area outside of the RBZ and floodway but still within the regulatory floodplain.

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

"Special flood hazard area (SFHA)": See "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. 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 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 improvements 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 improvements. This term includes structures that 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 that have been identified by the local code enforcement official and that are the minimum necessary to assure safe living conditions; or
2. Any alteration of an historic structure, provided that the alteration will not preclude the structure's continued designation as an historic structure.

“Undeveloped space” means the volume of flood storage capacity and fish-accessible/egress-able habitat within the regulatory floodplain from the existing ground to the BFE that has not been reduced due to activity that meets FEMA’s definition of development. Examples of development that impede undeveloped space include, but are 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.

“Variance” means a grant of relief by the 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 City’s floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this title is presumed to be in violation until that documentation is provided.

“Watercourse” means an artificial or natural stream, swale, creek, river, ditch, canal, or other open channel that serves to convey water, whether intermittently, perennially, or continuously.

18.12 GENERAL PROVISIONS

18.12.010 Applicability

This title applies to all regulatory floodplains and floodways within the jurisdiction of the City of Milwaukie.

Provisions of this title are to be administered concurrently with those of Title 19, the Zoning Ordinance of the City.

18.12.020 Basis for Establishing the Regulatory Floodplain

A. The special flood hazard areas identified by the Federal Insurance Administrator in a scientific and engineering report entitled "The FIS for Clackamas County, Oregon and Incorporated Areas," dated January 18, 2019, with accompanying FIRMs 4100C0009D, 4100C0017D, 4100C0028D, and 4100C0036D are incorporated by reference to be a part of this title. The FIS and FIRM panels are on file with the City's Community Development Department.

B. The February 1996 flood inundation area identified by the Metro Water Quality and Flood Management Area maps are incorporated by reference to be a part of this title. The Metro Water Quality and Flood Management Area maps are on file with the City's Community Development.

18.12.030 Coordination with State of Oregon Specialty Codes

Pursuant to the requirement established in ORS 455 that the City administers and enforces the State of Oregon Specialty Codes, the City acknowledges that the Oregon Specialty Codes contain certain provisions that apply to the design and construction of buildings and structures located in a regulatory floodplain. This title is intended to be administered and enforced in conjunction with the Oregon Specialty Codes.

18.12.040 Compliance and Penalties for Noncompliance

A. Compliance

All development within a regulatory floodplain is subject to the terms of this title and required to comply with its provisions and all other applicable regulations.

B. Penalties for Noncompliance

No structure or land will be constructed, located, extended, converted, or altered without full compliance with the terms of this title and other applicable regulations. Violations of the provisions of this title by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) will constitute a violation. Violations will be punishable by a fine of not more than one thousand dollars per violation per day. Nothing contained in this title will prevent the City from taking lawful action to prevent or remedy any violation.

18.12.050 Abrogation and Severability

A. Abrogation

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

B. Severability

This title and its various parts are severable. If any section, clause, sentence, or phrase of the title is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding will in no way effect the validity of the remaining portions of this title.

18.12.060 Interpretation

In the interpretation and application of this title, all provisions will 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.

18.12.070 Warning and Disclaimer of Liability

A. Warning

The degree of flood protection required by this title 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 title does not imply that land outside the areas of ~~special flood hazards~~ regulatory floodplain or uses permitted within these areas will be free from flooding or flood damages.

B. Disclaimer of Liability

This title does not create liability on the part of the City of Milwaukie, any of its officers or employees, or the Federal Insurance Administrator, for any flood damages that result from reliance on this title or any administrative decision lawfully made hereunder.

18.16 ADMINISTRATION

18.16.010 Designation of The Floodplain Administrator

The City Engineer or their designee is appointed as the Floodplain Administrator to administer, implement, and enforce this title by granting or denying development permits in accordance with its provisions. The Floodplain Administrator may delegate authority to implement these provisions.

18.16.020 Duties and Responsibilities of the Floodplain Administrator

Duties of the Floodplain Administrator, or their designee, include, but are not limited to:

A. Permit Review

The Floodplain Administrator will review all development permits for the following purposes:

1. To determine that the permit requirements of this title have been satisfied~~;~~.
2. To determine that all other required local, state, and federal permits have been obtained and approved~~;~~.
3. To determine whether the proposed development is located in a floodway.

a. If located in the floodway, assure that the floodway provisions of this title in Subsection 18.20.010.B (Floodways) are met; and

~~4.~~b. ~~To d~~Determine whether the proposed development is located in ~~the regulatory floodplain~~ an area where DFE or BFE data is available either through the FIS or from another authoritative source. If ~~regulatory flood elevation~~ DFE or BFE data is not available, then ensure compliance with the provisions of Section 18.20.060 (Use of Other Design Flood Data); and

~~5.~~c. ~~To p~~Provide to building officials the BFE, DFE, and FPE applicable to any building requiring a development permit~~;~~.

~~6.~~4. To determine whether the proposed development qualifies as a substantial improvement as defined in Chapter 18.08 (Definitions)~~;~~.

~~7.~~5. To determine whether the proposed development activity is a watercourse alteration. If a watercourse alteration is proposed, ensure compliance with the provisions in Section 18.20.010 (Alteration of Watercourses)~~; and~~.

~~8.~~6. To determine whether the proposed development activity includes the placement of fill or excavation. If fill or excavation is proposed, ensure compliance with the provisions in Section 18.20.020 (Compensatory Storage).

7. To determine whether the proposed development activity complies with the no net loss standards in Chapter 18.24 (No Net Loss).

B. Information to Be Obtained and Maintained

The following information will be obtained and maintained and will be made available for public inspection as needed, utilizing forms developed by FEMA where applicable:

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 located in the regulatory floodplain where DFE or BFE data is provided through the FIS, FIRM, or obtained in accordance with Subsection 18.20.060 (Use of Other Design Flood Data)~~;~~.
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 Subsections 18.20.010.B (Floodways) and 18.16.020.A (Permit Review) 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 DFE or BFE 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 (ECs) submitted to the City~~;~~.
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 title and where DFE or BFE data is provided through the FIS, FIRM, or obtained in accordance with Section 18.20.060 (Use of Other Design Flood Data)~~;~~.
7. Maintain all floodproofing certificates required under this title~~;~~.
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 Subsection 18.20.010.B (Floodways)~~;~~.
10. Record and maintain all Substantial Improvement and Substantial Damage calculations and determinations as required under Subsection 18.16.020.D (SI/SD)~~;~~.
11. Maintain for public inspection all records pertaining to the provisions of this title~~; and~~.

12. Obtain, record, and maintain a non-conversion agreement for any areas constructed below ~~flood protection elevation~~ FPE subject to inspection at least once a year.

13. Maintain documentation of how the no net loss standards established in Chapter 18.24 (Standards for Protection of Regulatory Floodplain Functions) have been met.

C. Requirement to Notify Other Entities and Submit New Technical Data

1. Community Boundary Alterations

   The Floodplain Administrator will notify the Federal Insurance Administrator (FIA) 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 FIRMs accurately represent the community's boundaries. The notification must 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.

2. Watercourse Alterations

   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 this notification to the Federal Insurance Administration. This notification will 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.

      The applicant will be required to submit a Conditional Letter of Map Revision (CLOMR) when required under section (Requirement to Notify Other Entities and Submit New Technical Data) 4.2.3.3. Ensure compliance with all applicable requirements in Subsection 18.16.020.C (Requirement to Notify Other Entities and Submit New Technical Data) and Subsection 18.20.010 (Alteration of Watercourses).

3. Requirement to Submit New Technical Data

   A community's 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 this information becomes available, the City must notify the FIA 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 City may require the applicant to submit this data and review fees required for compliance with this section through the applicable FEMA Letter of Map Change (LOMC) process.

   The Floodplain Administrator will require a CLOMR prior to the issuance of a floodplain development permit for proposed floodway encroachments that increase the DFE.

An applicant must notify FEMA within six months of project completion when an applicant has obtained a CLOMR from FEMA. This notification to FEMA must be provided as a LOMR.

The applicant will be responsible for preparing all technical data to support CLOMR/LOMR applications and paying any processing or application fees associated with the CLOMR/LOMR.

The Floodplain Administrator will 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.

D. Substantial Improvement and Substantial Damage Assessments and Determinations

Conduct Substantial Improvement (SI) (as defined in Chapter 18.08) reviews for all structural development proposal applications and maintain a record of SI calculations within permit files in accordance with Section 18.16.020.B (Information to be Obtained and Maintained). Conduct Substantial Damage (SD) (as defined in Chapter 18.08) assessments when structures are damaged due to a natural hazard event or other causes. Make SD determinations whenever structures within the ~~special flood hazard area~~ regulatory floodplain (as established in Subsection 18.12.020~~.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.

18.16.030 Establishment of Floodplain Development Permit

A. Floodplain Development Permit Required

A Floodplain Development Permit must be obtained through application on forms furnished by the City Engineer before construction or development begins within any area horizontally within the regulatory floodplain established in Subsection 18.12.020.A. The Floodplain Development Permit is required for all structures, including manufactured dwellings, and for all other development, as defined in Chapter 18.08, including fill and other development activities.

B. Application for Floodplain Development Permit

Application for a Floodplain 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. 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 Subsection 18.16.020.B (Information to be Obtained and Maintained).
2. Proposed elevation in relation to mean sea level to which any nonresidential 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 nonresidential structure meet the floodproofing criteria for nonresidential structures in Section 18.20.120 (Nonresidential Construction).

4. Description of the extent to which any watercourse will be altered or relocated.
5. Substantial improvement calculation for any improvement, addition, reconstruction, renovation, or rehabilitation of an existing structure.
6. The amount and location of any fill or excavation activities proposed.

18.16.040 Variance Procedure

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. Conditions for Variances

1. Variances from the requirements of this title will be heard and decided by the Planning Commission in accordance with the provisions of Section 19.1006 of the City municipal code (Type III review). 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 design flood level, in conformance with the provisions of Subsections ~~18.04.040.D.1.c and D.1.e and 18.04.040.D.2~~ 18.16.040.A.2 and A.3 and 18.16.040.B. As the lot size increases beyond one-half acre, the technical justification required for issuing a variance increases.
2. Variances will not be issued within any floodway if any increase in flood levels during the base flood discharge would result.
3. Variances may be issued by the City for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that the criteria of Subsection 18.16.040.A.4 are met, and the structure or other development is protected by methods that minimize flood damages during the design flood and create no additional threats to public safety.
4. Approval criteria

   Variances will only be issued upon:

   a. A showing of good and sufficient cause;

   b. A determination that failure to grant the variance would result in exceptional hardship due to the physical characteristics of the land that render the lot undevelopable;

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

   d. A determination that the variance is the minimum necessary, considering the flood hazard, to afford relief~~.~~; and

   e. A demonstration that the development will not result in net loss of the following proxies for three floodplain functions in the regulatory floodplain: undeveloped space, pervious surface, or trees 6-in or greater diameter at breast height (see Chapter 18.24 (Standards for Protection of Regulatory Floodplain Functions)).

B. Variance Notification

Any applicant to whom a variance is granted will be given written notice that the issuance of a variance to construct a structure below the flood protection elevation may result in increased premium rates for flood insurance and that any construction below the design flood elevation increases risks to life and property. This notification and a record of all variance actions, including justification for their issuance, will be maintained in accordance with Subsection 18.16.020.B (Information to be Obtained and Maintained).

18.20 PROVISIONS FOR FLOOD HAZARD REDUCTION

In all regulatory floodplains, in addition to the standards established in Chapter 18.24 (Standards for Protection of Regulatory Floodplain Functions) the following standards must be adhered to:

18.20.010 Alteration of Watercourses

A. The flood carrying capacity within the altered or relocated portion of said watercourse must be maintained. Maintenance must be provided within the altered or relocated portion of said watercourse to ensure that the flood carrying capacity is not diminished. Compliance with Subsection 18.20.010 (Alteration of Watercourses) and Subsection 18.16.020.C.3 (Requirement to Submit New Technical Data) is required.

B. Floodways

Located within the regulatory floodplains established in Subsection 18.12.020.A are watercourses and other areas designated as floodways. The floodway is an extremely hazardous area due to the velocity of the floodwaters that carry debris, potential projectiles, and erosion potential.

Encroachments within floodways, including fill, new construction, substantial improvements, and other development within a setback of the adopted regulatory floodway, are prohibited unless:

1. 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 will not result in any increase in flood levels within the community during the occurrence of the base flood discharge; OR
2. The encroachment proposal meets all of the following criteria:
    a. Is for the primary purpose of fish enhancement;
    b. Does not involve the placement of any structures (as defined in Chapter 18.08) within the floodway;
    c. Has a feasibility analysis completed documenting that fish enhancement will be achieved through the proposed project;
    d. Has a maintenance plan in place to ensure that the stream carrying capacity is not impacted by the fish enhancement project;
    e. 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~~and

f. Has evidence to support that no existing structures will be negatively impacted by the proposed activity.

An approved CLOMR must be provided prior to approval of a floodplain permit.

C. If the requirements of Subsection 18.20.010.B (Floodways) are satisfied, all new construction, substantial improvements, and other development must comply with all other applicable flood hazard reduction provisions of Chapter 18.20.

18.20.020 Compensatory Storage (Balanced Cut and Fill)

The placement of fill or structures that displaces ~~ten~~10 cubic yards or less of flood storage area is exempt from the requirements of this section (18.20.020).

The placement of fill or structures that displaces more than ~~ten (~~10~~)~~ cubic yards of flood storage area must comply with the following standards:

A. Development, excavation, and fill must be performed in a manner to maintain or increase flood storage and conveyance capacity and not increase design flood elevations.

B. Excavation and fill must not be performed in a manner as to adversely impact other functions of a floodplain, including but not limited to, erosion control, promoting biodiversity, and ground water recharge.

C. All fill placed at or below the design flood elevation in the regulatory floodplain must be balanced with at least an equal volume of material removal in a hydraulically equivalent location.

D. Excavation will not be counted as compensating for fill if the excavated areas will be filled with water in two-year rainstorm conditions or are designated for HCA mitigation.

E. Temporary fills permitted during construction must be removed.

F. Uncontained areas of hazardous materials in the regulatory floodplain are prohibited.

G. Excavation to balance a fill must be located on the same parcel as the fill unless it is not reasonable or practicable to do so. In those cases, the excavation may be located in the same drainage basin and as close as possible to the fill site subject to the following:

1. The proposed excavation and fill will not increase flood impacts for surrounding properties as determined through hydrologic and hydraulic analysis;

2. The proposed excavation is authorized under applicable municipal code provisions including Section 19.402 Natural Resources; and

3. Measures to ensure the continued protection and preservation of the excavated area for providing balanced cut and fill must be approved by the City.

H. New culverts, stream crossings, and transportation projects must be designed as balanced cut and fill projects or designed not to significantly raise the design flood elevation. These projects must be designed to minimize the area of fill in flood management areas and to minimize erosive velocities. Stream crossings must be as close to perpendicular to the stream as practicable. Bridges must be used instead of culverts wherever practicable.

I. Excavation and fill required for the construction of detention facilities or structures, and other facilities, must be designed to reduce or mitigate flood impacts and improve water quality. Levees must not be used to create vacant buildable lands.

18.20.030 Utilities and Equipment

A. Water Supply, Sanitary Sewer, and Onsite Waste Disposal Systems

1. All new and replacement water supply systems must be designed to minimize or eliminate infiltration of flood waters into the system.
2. New and replacement sanitary sewage systems must be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.
3. Onsite waste disposal systems must be located to avoid impairment to them or contamination from them during flooding, consistent with the Oregon Department of Environmental Quality.

B. Electrical, Mechanical, Plumbing, and Other Equipment

All new electrical, heating, ventilating, air-conditioning, plumbing, duct systems, and other equipment and service facilities must be elevated at or above the flood protection elevation or must 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 in Substantially Improved structures must be elevated at or above the flood protection elevation.

18.20.040 Structures

A. All new construction and substantial improvements must 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 new construction and substantial improvements must be constructed with flood resistant materials below the flood protection elevation.

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

18.20.050 Tanks

A. Underground tanks must be anchored to prevent flotation, collapse and lateral movement under conditions of the design flood.

B. Above-ground tanks must be installed at or above the flood protection elevation.

18.20.060 Use of Other Design Flood Data

When DFE data has not been provided in accordance with Section 18.12.020 (Basis for Establishing the Regulatory Floodplain), the Floodplain Administrator will obtain, review, and reasonably utilize any flood elevation data available from a federal, state, or other source, in order to administer Section 18.20.

18.20.070 Structures Located in Multiple or Partial Flood Zones

In coordination with the State of Oregon Specialty Codes:

A. When a structure is located in multiple flood zones on the community's regulatory floodplain maps the provisions for the more restrictive flood zone will apply.

B. When a structure is partially located in a regulatory floodplain, the entire structure must meet the requirements for new construction and substantial improvements.

18.20.080 Critical Facilities

Construction of new critical facilities must be located outside the limits of the regulatory floodplain.

If allowed by variance in accordance with the provisions of this title, new critical facilities constructed within the regulatory floodplain must have the lowest floor elevated at least ~~three~~ 3 ~~fee~~t above the ~~base flood height (B~~DFE~~)~~ or to the height of the 500-year flood, whichever is higher. Access to and from any new critical facility must also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters.

Existing critical facilities, including future improvements and maintenance to critical facilities, within the limits of the regulatory floodplain are exempt from this requirement.

18.20.090 Flood Openings

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

Enclosed areas below the flood protection elevation, including crawl spaces, must:

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;

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 must 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.
3. The bottom of all openings must 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 must allow the automatic flow of floodwater into and out of the enclosed areas and must be accounted for in the determination of the net open area.
5. All additional higher standards for flood openings in the State of Oregon Residential Specialty Codes Section R322.2.2 must be complied with when applicable.

18.20.100 Garages

A. Attached garages may be constructed with the garage floor slab below the flood protection elevation, if the following requirements are met:

1. Not located within a floodway.
2. The floors are at or above grade on not less than one side;
3. The garage is used solely for parking, building access, and/or storage;

4. The garage is constructed with flood openings in compliance with Subsection 18.04.050.I (Flood Openings) to equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwater.
5. The portions of the garage constructed below the flood protection elevation are constructed with materials resistant to flood damage;
6. The garage is constructed in compliance with the standards in Chapter 18.20; and
7. The garage is constructed with electrical, and other service facilities located at or above the design flood elevation plus 1 foot.
8. A Non-Conversion Agreement is recorded in the chain of title and prohibits alteration of the accessory structure at a later date as to violate the building code and floodplain damage prevention ordinance requirements and the owner(s) and subsequent owner(s) agree to allow a representative of the City of Milwaukie onto the Property and into the building(s) to verify compliance with this Agreement.

B. Detached garages must be constructed in compliance with the standards for accessory structures in Subsection 18.20.150 (Accessory Structures) or nonresidential structures in Section 18.20.120 (Nonresidential Construction) depending on the square footage of the garage.

18.20.110 Residential Construction

A. New construction and substantial improvement of any residential structure must have the lowest floor, including basement, elevated at or above the flood protection elevation.

B. Enclosed areas below the lowest floor must comply with the flood opening requirements in Section 18.20.090 (Flood Openings).

C. Enclosed areas below the lowest floor must be constructed with flood resistant materials.

D. No enclosed areas below flood protection elevation are permitted at locations sharing a cross section with average floodway velocities that are expected to meet or exceed 5 ft/s <u>(feet per second)</u>.

18.20.120 Nonresidential Construction

A. New construction and substantial improvement of any commercial, industrial, or other nonresidential structure must have the lowest floor, including basement, elevated at or above the flood protection elevation; or, together with attendant utility and sanitary facilities, must:

1. Be floodproofed so that below the flood protection elevation the structure is watertight, with walls substantially impermeable to the passage of water.
2. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
3. Be certified by a registered professional engineer or architect that the design and methods of construction are in 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. Any certifications must be provided to the Floodplain Administrator as set forth in Subsection 18.16.020.B (Information to be Obtained and Maintained).

B. Nonresidential structures that are elevated, not floodproofed, must comply with the standards for enclosed areas below the lowest floor in Section 18.20.090 (Flood Openings).

C. Applicants floodproofing nonresidential buildings must be notified that flood insurance premiums will be based on rates that are ~~one (~~1~~)~~ foot below the floodproofed level.

D. Applicants must supply a maintenance plan for the entire structure to include but not limited to: exterior envelop of structure; all penetrations to the exterior of the structure; all shields, gates, barriers, or components designed to provide floodproofing protection to the structure; all seals or gaskets for shields, gates, barriers, or components; and, the location of all shields, gates, barriers, and components, as well as all associated hardware, and any materials or specialized tools necessary to seal the structure.

E. Applicants must supply an Emergency Action Plan (EAP) for the installation and sealing of the structure prior to a flooding event that clearly identifies what triggers the EAP and who is responsible for enacting the EAP.

18.20.130 Manufactured Dwellings

A. New or substantially improved manufactured dwellings supported on solid foundation walls must be constructed with flood openings that comply with Section 18.20.090 (Flood Openings).

B. The bottom of the longitudinal chassis frame beam must be at or above flood protection elevation.

C. New or substantially improved manufactured dwellings must be anchored to prevent flotation, collapse, and lateral movement during the design flood. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors (see FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques).

D. Electrical crossover connections must be at or above design flood elevation plus 1 foot.

18.20.140 Recreational Vehicles

A recreational vehicle placed on sites is required to:

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

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, and have no permanently attached additions; or

Meet the requirements of Section 18.20.130 (Manufactured Dwellings), including the anchoring and elevation requirements for manufactured dwellings.

18.20.150 Accessory Structures

Relief from elevation or floodproofing requirements for residential and nonresidential structures may be granted for accessory structures that meet the following requirements:

A. Accessory structures located partially or entirely within the floodway must comply with requirements for development within a floodway found in Subsection 18.20.010.B (Floodways).

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

C. In compliance with State of Oregon Specialty Codes, accessory structures on properties that are zoned residential are limited to one-story structures less than 200 sq~~uare~~ f~~eet~~, or 400 sq~~uare~~ f~~ee~~t if the property is greater than ~~two (~~2~~)~~ acres in area and the proposed accessory structure will be located a minimum of 20 f~~ee~~t from all property lines. Accessory structures on properties that are zoned as nonresidential are limited in size to 120 sq~~uare~~ f~~ee~~t.

D. The portions of the accessory structure located below the flood protection elevation must be built using flood resistant materials.

E. The accessory 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 design flood.

F. The accessory structure must be designed and constructed to equalize hydrostatic flood forces on exterior walls and comply with the requirements for flood openings in Section 18.20.090 (Flood Openings).

G. Accessory structures must be located and constructed to have low damage potential including no enclosed areas at locations sharing a cross section with floodway velocities that are expected to meet or exceed 5 ft/s.

H. 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 incompliance with Section 18.20.030 (Utilities and Equipment).

I. 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 design flood.

J. A Non-Conversion Agreement is recorded in the chain of title and prohibits alteration of the accessory structure at a later date as to violate the building code and floodplain damage prevention ordinance requirements and the owner(s) and subsequent owner(s) agree to allow a representative of the City of Milwaukie onto the Property and into the building(s) at least once a year to verify compliance with this Agreement.

18.24 STANDARDS FOR PROTECTION OF REGULATORY FLOODPLAIN FUNCTIONS

Floodplains provide a number of key functions, including floodplain storage, water quality, and vegetation. Development within the floodplain can negatively impact and diminish those functions. Adherent to the 2016 Biological Opinion developed by the National Marine Fisheries Service, mitigation is necessary to ensure there is no net loss in key floodplain functions when development is proposed in the regulatory floodplain.

"No net loss" applies to the net change in floodplain functions as compared to existing conditions at the time of proposed development. 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.

Proxies that provide measurable actions for preventing the loss of these key functions include undeveloped space (for flood storage), pervious surfaces (for water quality), and trees (for

vegetation). No net loss of these three proxies is required for any development in the regulatory floodplain that would reduce undeveloped space, increase impervious surface, or result in a loss of trees that are 6 inches (in) diameter at breast height (DBH) or greater. Mitigation must be addressed to the floodplain function that is receiving the detrimental impact.

In all regulatory floodplains, in addition to the applicable standards established in Chapter 18.20 (Provisions for Flood Hazard Reduction), the following standards for floodplain function proxies must be adhered to where applicable, with mitigation provided in accordance with the ratios presented in Table 18.24.040 as needed.

18.24.010 Undeveloped Space

Development proposals must not reduce the fish-accessible and egress-able habitat and flood storage volume created by undeveloped space within the regulatory floodplain. A development proposal within the regulatory floodplain that would impact undeveloped space must achieve no net loss of fish-accessible and egress-able space and flood storage volume.

Lost undeveloped space must be replaced with fish-accessible and egress-able compensatory flood storage volume based on the ratios in Table 18.24.040. The undeveloped space provided as replacement must be hydrologically connected to the waterbody that is the flooding source and must be designed so that there is no increase in velocity.

18.24.020 Pervious Surfaces

Development proposals must not reduce pervious surface in the regulatory floodplain. New impervious surface must be mitigated through at least one of the following options:

A. Demonstrate no net increase in impervious surface area within the regulatory floodplain.

B. Use green infrastructure (including LID as an option) to 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, as documented by a qualified professional.

C. If ~~prior~~ the methods identified in Subsections 18.24.020.A or B are not feasible ~~and~~ (as documented by a qualified professional), stormwater retention is required to ensure no increase in peak volume or flow and to maximize infiltration (water quantity) unless the outfall discharges into the ocean. Treatment is also required to minimize pollutant loading (water quality) for post-construction stormwater runoff from any net increase in impervious area.

   1. Retention facilities must meet all of the following requirements:

      a. 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% of the 2-year event and the 10-year flow event (annual series).

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

      c. Be designed to not entrap fish.

      d. Be certified by a qualified professional.

   2. Detention facilities must meet all of the following requirements:

a. Drain to the source of flooding.

b. Be designed by a qualified professional.

3. For multi-parcel facilities, including subdivisions, stormwater treatment practices must have an enforceable operation and maintenance agreement to ensure the system functions as designed. This agreement must include:

a. Access to stormwater treatment facilities at the site by the City for the purpose of inspection and repair.

b. A legally binding document specifying the parties responsible for the proper maintenance of the stormwater treatment facilities. The agreement must be recorded and must bind subsequent purchasers and sellers even if they were not party to the original agreement.

c. 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.

d. The responsible party for the operation and maintenance of the stormwater facility must have the operation and maintenance manual on site and available at all times. Records of the maintenance and repairs must be retained and made available for inspection by the City for 5 years.

18.24.030 Trees

Development proposals must result in no net loss of trees 6-in DBH or greater within the regulatory floodplain. This requirement does not apply to silviculture where there is no development. Note that tree removal may also be subject to the provisions of Chapter 16.32.

A. Trees 6-in DBH or greater that are removed from the RBZ, floodway, or RBZ-fringe must be replaced at the ratios provided in Table 18.24.040 and planted within the regulatory floodplain.

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

C. Replacement trees must average at least 1.5-in caliper or at least 5 ft overall height after planting.

18.24.040 General No Net Loss Standards

A. Mitigation standards

1. Mitigation may be onsite or off-site but must occur within the regulatory floodplain.

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

3. Mitigation can be provided in a combination of locations as long as the applicable multipliers provided in Table 18.24.040 are applied appropriately.

4. No net loss mitigation 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 regulatory floodplain within the same hydrologically connected area as the proposed development. Table 18.24.040 presents the no net loss ratios, which increase based on the preferences listed above.

a. The basic mitigation ratios of Table 18.24.040 apply to mitigation that occurs on-site and within the regulatory floodplain. This is the preferred location for mitigation.

b. Mitigation multipliers of 100% apply to mitigation that occurs off-site but within the same waterbody reach (within the regulatory floodplain) and result in the required mitigation occurring at the same value described by the ratios above. This is the second preference for mitigation location.

c. Mitigation multipliers of 200% apply to mitigation that occurs off-site and in a different waterbody reach but within the same watershed (5th field) (within the regulatory floodplain) and result in the required mitigation ratios being doubled. This is the third preference for mitigation location and represents the final option.

For example, if a development would create 1,000 sq ft of new impervious surface, then 1,000 sq ft of new pervious surface would need to be created. However, if only 500 sq ft of the total 1000 sq ft of required pervious surface mitigation can be conducted onsite and in the same waterbody reach, the remaining 500 sq ft of required pervious surface mitigation occurring off-site at a different reach would double because of the 200% multiplier. In other words, another 1,000 sq ft of pervious surface would need to be created at the location in the different reach, in addition to the 500 sq ft created within the same reach.

5. Compliance with no net loss for undeveloped space or impervious surface is preferred to occur prior to the loss of floodplain function but, at a minimum, must occur concurrent with the loss.

6. Additional standards may apply in the RBZ as per Subsection 18.24.040.C.

B. Riparian buffer zone (RBZ)

The riparian buffer zone (RBZ) is measured from the ordinary high-water mark (OHWM) of a fresh waterbody (lake; pond; ephemeral, intermittent, or perennial stream) or mean higher-high water (MHHW) of a marine shoreline or tidally influenced river reach to 170 ft horizontally on each side of the stream or inland of the MHHW. The RBZ includes the area between these outer boundaries on each side of the stream, including the stream channel. Where the RBZ is larger than the regulatory floodplain, the no net loss standards of this title only apply to the area within the regulatory floodplain.

The RBZ-fringe is the area outside of the RBZ and floodway but still within the regulatory floodplain.

1. 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 described below in Subsection 18.24.040.B.3 in addition to no net loss standards.

2. Any other use of the RBZ requires a greater offset to achieve no net loss of floodplain functions, in addition to complying with the no net loss standards described above, through the beneficial gain standard described below in Subsection 18.24.040.B.3.

3. The beneficial gain standard requires that an area in the RBZ within the same reach as the project (on-site or off-site) and equivalent to 5% of the total project area within the RBZ must be planted with native herbaceous, shrub, and tree vegetation.

4. Uses in the RBZ-fringe are not subject to the beneficial gain standard.

Table 18.24.040
Mitigation Standards for No Net Loss

Basic Mitigation Ratios	Undeveloped Space (cu ft)	Impervious Surface (sq ft)	Trees (6-in<DBH<20-in)	Trees (20-in<DBH<39-in)	Trees (39-in<DBH)
RBZ & 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					
Off-site mitigation, same waterbody reach	100%	100%	100%	100%	100%
Off-site mitigation, different waterbody reach but same watershed (5th field)	200%	200%	200%	200%	200%

18.24.050 Activities Exempt from No Net Loss Standards

The following activities are not subject to the no net loss standards in Chapter 18.24; 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, and is less than 6 in above grade. Exempt activities 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 the regulatory floodplain or tilled into fields as a soil amendment.

E. Routine silviculture practices (harvesting of trees), including hazardous fuels reduction and hazard tree removal as long as root balls are left in place.

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.

J. Pre-emptive removal of documented susceptible trees to manage the spread of invasive species.

K. Projects that are covered under separate consultations under Sections 4(d), 7, or 10 of the Endangered Species Act (ESA).

TITLE 18 FLOOD HAZARD REGULATIONS

18.04 PURPOSE AND METHODS

18.04.010 Statement of Purpose

The flood hazard areas within the City of Milwaukie preserve the natural and beneficial values served by floodplains but 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. These flood losses may be caused by the cumulative effect of obstructions in regulatory floodplains, which increase flood heights and velocities and, when inadequately anchored, cause damage in other areas. Uses that are inadequately floodproofed, elevated, or otherwise protected from flood damage also contribute to flood loss.

It is the purpose of this title to promote public health, safety, and general welfare, and to minimize public and private losses due to flooding in flood hazard areas by provisions designed to:

A. Protect human life and health;

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

C. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the 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 the regulatory floodplain;

F. Help maintain a stable tax base by providing for the sound use and development of flood hazard areas to minimize blight areas caused by flooding;

G. Notify potential buyers that property is in a regulatory floodplain;

H. Notify those who occupy regulatory floodplains that they assume responsibility for their actions;

I. Maintain the natural and beneficial functions and values of floodplains, such as allowing for storage and conveyance of stream flows through existing and natural flood conveyance systems; and

J. Participate in, promote, and maintain eligibility for flood insurance and disaster relief.

18.04.020 Methods of Reducing Flood Losses

In order to accomplish its purposes, this title includes methods and provisions for:

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

B. Requiring that development vulnerable to floods, including facilities that serve those 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 flood waters;

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

E. Preventing or regulating the construction of flood barriers that will unnaturally divert flood waters or may increase flood hazards in other areas.

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

18.08 DEFINITIONS

Unless specifically defined below, words or phrases used in this title will be interpreted to give them the meaning they have in common usage.

"Ancillary features" or "ancillary structures" mean features of a development or structures that are not directly related to the primary purpose of the development.

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

"Area of February 1996 inundation" or "February 1996 flood" means the area~~s~~ along the Willamette River and its backwaters of Johnson and Kellogg Creeks that was flooded in February of 1996 to elevation 38 feet (ft) North American Vertical Datum (NAVD) of 1988. This area is shown on the Metro Water Quality and Flood Management Area Maps as well as on the Milwaukie Map.

"Area of shallow flooding" means a designated Zone AO, AH, AR/AO, or AR/AH on a community's Flood Insurance Rate Map with a one percent or greater annual chance of flooding to an average depth of 1 to 3 f~~ee~~t where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Shallow flooding is characterized by ponding (AH) or sheet flow (AO).

"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 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."

"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, including any sunken room or sunken portion of a room.

"Building" means a structure with two or more outside rigid walls and a fully secured roof that is affixed to a permanent site.

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

"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.

"Design flood elevation (DFE)" means the higher elevation of the following:

1. The base flood elevation (BFE); or
2. For properties that include an area of February 1996 inundation, the water surface elevation of the February 1996 flood event, interpolated as 2.4 ~~fee~~t above the nearest adjacent BFE.

“Elevated building” means, for insurance purposes, a non-basement building that has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings, or columns.

“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 an adult or juvenile individual of the identified 16 ESA-listed fish to access.

“Fish egress-able space” means the volumetric space available to an adult or juvenile individual of the identified 16 ESA-listed 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) that are proximately caused by flooding as defined in paragraph 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 that results in flooding as defined in paragraph 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. Also referred to as “Flood Insurance Study.”

“Flood insurance rate map (FIRM)” means the official map of a community, on which the Federal Insurance Administrator has delineated both the special flood 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)”: See “Flood elevation study.”

“Flood protection elevation (FPE)” means the elevation 1 foot above the Design Flood Elevation (DFE).

“Floodplain or flood-prone area” means land area susceptible to being inundated by water from any source.

"Floodplain administrator" means the community official designated by title to administer and enforce the floodplain management regulations.

"Floodplain management" means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works, and floodplain management regulations.

"Floodplain management regulations" means zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as floodplain ordinance, grading ordinance, and erosion control ordinance) and other application of police power. The term describes any state or local regulation in any combination, that provides standards for the purpose of flood damage prevention and reduction.

"Floodplain storage capacity" means the volume of floodwater that an area of floodplain can hold during the one-percent annual chance flood (i.e., during the base flood).

"Floodway" or "regulatory 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.

"Footprint" means the existing measurements of a structure related to key floodplain functions and their proxies. Related to floodplain storage, the footprint refers to the volumetric amount of developed space measured from the existing ground level to the BFE. Related to water quality, the footprint refers to the area of impervious surface that the structure creates.

"Functionally dependent use" means a use that 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. Low impact development is a subset of green infrastructure.

"Habitat restoration activity" means an activity with the sole purpose of restoring habitat that has only temporary impacts and long-term benefits to habitat. Such a project does not include ancillary structures (such as a storage shed for maintenance equipment), must demonstrate that no rise in the DFE would occur as a result of the project and obtain a CLOMR and LOMR accordingly, and must obtain any other required permits (e.g., Clean Water Act (CWA) Section 404 permit).

"Hazard tree" means a standing dead, dying, or diseased tree or one with a structural defect that makes it likely to fail in whole or in part and that presents a potential hazard, whether to a structure or as otherwise defined by the community.

"Hazardous material" means hazardous materials as defined by the Oregon Department of Environmental Quality, including any of the following:

1. Hazardous waste as defined in Oregon Revised Statutes (ORS) 466.005;
2. Radioactive waste as defined in ORS 469.300, radioactive material identified by the Energy Facility Siting Council under ORS 469.605, and radioactive substances defined in ORS 453.005
3. Communicable disease agents as regulated by the Health Division under ORS Chapter 431 and ORS 433.010 to 433.045 and 433.106 to 433.990;
4. Hazardous substances designated by the United States Environmental Protection Agency (EPA) under section 311 of the Federal Water Pollution Control Act, P.L. 92-500, as amended;
5. Substances listed by the United States EPA in section 40 of the Code of Federal Regulations, Part 302 – Table 302.4 (list of Hazardous Substances and Reportable Quantities) and amendments;
6. Material regulated as a Chemical Agent under ORS 465.550;
7. Material used as a weapon of mass destruction or biological weapon;
8. Pesticide residue;
9. Dry cleaning solvent as defined by ORS 465.200(9).

“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 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 that have been approved by the Secretary of 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 BFE. 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 the infiltration of rain and snowmelt into the soil and/or gravel below, increasing the amount and rate of surface water runoff and 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 (LID)” means an approach to land development (or redevelopment) that works with nature to manage stormwater as close to its source as possible. LID is a subset of green infrastructure and 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. LID 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. LID 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.

“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 the enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this title.

“Manufactured dwelling” means a structure, transportable in one or more sections, which is intended for use as a dwelling, built on a permanent chassis, and designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured dwelling" does not include recreational vehicles and is synonymous with “manufactured home” and “mobile 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 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 and includes any subsequent improvements to these 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. For purposes of this title, the floodplain functions of floodplain storage, water quality, and vegetation must be maintained.

“Offsite mitigation” means mitigation occurring outside of the project area.

“Onsite mitigation” means mitigation occurring within the project area.

“Ordinary high water mark (OHWM)” 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.

“Pervious surface” means a surface that allows rain and snowmelt to infiltrate into the soil and/or gravel below. Pervious surface may also be referred to as “permeable surface.”

“Qualified professional” means an appropriate subject matter expert that is defined by the City.

“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 that is:

1. Built on a single chassis;
2. 400 square feet (sq ft) or less when measured at the largest horizontal projection;
3. Designed to be self-propelled or permanently towable by a light-duty truck; and
4. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

“Regulatory floodplain” is also referred to as “regulatory flood hazard area” and means floodplain mapped as either:

1. The land area inundated by the base flood on the Flood Insurance Rate Map (FIRM), or
2. The land area inundated by the February 1996 flood on the Metro Water Quality and Flood Management Area maps.

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

“Riparian buffer zone (RBZ)” means a designated area of protection of key floodplain functions. The outer boundary of the RBZ is measured from the ordinary high water mark (OHWM) of a fresh waterbody (lake; pond; ephemeral, intermittent, or perennial stream) or MHHW line of a marine shoreline or tidally influenced river reach to 170 f~~ee~~t horizontally on each side of the stream or 170 f~~ee~~t inland from the MHHW line. The RBZ includes the area between these outer boundaries on each side of the stream, including the stream channel. Where the RBZ is larger than the regulatory floodplain, the no net loss standards shall only apply to the area within the regulatory floodplain.

“Riparian buffer zone fringe (RBZ-fringe)” means the area outside of the RBZ and floodway but still within the regulatory floodplain.

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

“Special flood hazard area (SFHA)”: See “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. 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 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 improvements 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 improvements. This term includes structures that 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 that have been identified by the local code enforcement official and that are the minimum necessary to assure safe living conditions; or
2. Any alteration of an historic structure, provided that the alteration will not preclude the structure's continued designation as an historic structure.

“Undeveloped space” means the volume of flood storage capacity and fish-accessible/egress-able habitat within the regulatory floodplain from the existing ground to the BFE that has not been reduced due to activity that meets FEMA’s definition of development. Examples of development that impede undeveloped space include, but are 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.

“Variance” means a grant of relief by the 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 City’s floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this title is presumed to be in violation until that documentation is provided.

“Watercourse” means an artificial or natural stream, swale, creek, river, ditch, canal, or other open channel that serves to convey water, whether intermittently, perennially, or continuously.

18.12 GENERAL PROVISIONS

18.12.010 Applicability

This title applies to all regulatory floodplains and floodways within the jurisdiction of the City of Milwaukie.

Provisions of this title are to be administered concurrently with those of Title 19, the Zoning Ordinance of the City.

18.12.020 Basis for Establishing the Regulatory Floodplain

A. The special flood hazard areas identified by the Federal Insurance Administrator in a scientific and engineering report entitled “The FIS for Clackamas County, Oregon and Incorporated Areas,” dated January 18, 2019, with accompanying FIRMs 4100C0009D, 4100C0017D, 4100C0028D, and 4100C0036D are incorporated by reference to be a

part of this title. The FIS and FIRM panels are on file with the City's Community Development Department.

B. The February 1996 flood inundation area identified by the Metro Water Quality and Flood Management Area maps are incorporated by reference to be a part of this title. The Metro Water Quality and Flood Management Area maps are on file with the City's Community Development.

18.12.030 Coordination with State of Oregon Specialty Codes

Pursuant to the requirement established in ORS 455 that the City administers and enforces the State of Oregon Specialty Codes, the City acknowledges that the Oregon Specialty Codes contain certain provisions that apply to the design and construction of buildings and structures located in a regulatory floodplain. This title is intended to be administered and enforced in conjunction with the Oregon Specialty Codes.

18.12.040 Compliance and Penalties for Noncompliance

A. Compliance

All development within a regulatory floodplain is subject to the terms of this title and required to comply with its provisions and all other applicable regulations.

B. Penalties for Noncompliance

No structure or land will be constructed, located, extended, converted, or altered without full compliance with the terms of this title and other applicable regulations. Violations of the provisions of this title by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) will constitute a violation. Violations will be punishable by a fine of not more than one thousand dollars per violation per day. Nothing contained in this title will prevent the City from taking lawful action to prevent or remedy any violation.

18.12.050 Abrogation and Severability

A. Abrogation

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

B. Severability

This title and its various parts are severable. If any section, clause, sentence, or phrase of the title is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding will in no way effect the validity of the remaining portions of this title.

18.12.060 Interpretation

In the interpretation and application of this title, all provisions will 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.

18.12.070 Warning and Disclaimer of Liability

A. Warning

The degree of flood protection required by this title 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 title does not imply that land outside the areas of regulatory floodplain or uses permitted within these areas will be free from flooding or flood damages.

B. Disclaimer of Liability

This title does not create liability on the part of the City of Milwaukie, any of its officers or employees, or the Federal Insurance Administrator, for any flood damages that result from reliance on this title or any administrative decision lawfully made hereunder.

18.16 ADMINISTRATION

18.16.010 Designation of The Floodplain Administrator

The City Engineer or their designee is appointed as the Floodplain Administrator to administer, implement, and enforce this title by granting or denying development permits in accordance with its provisions. The Floodplain Administrator may delegate authority to implement these provisions.

18.16.020 Duties and Responsibilities of the Floodplain Administrator

Duties of the Floodplain Administrator, or their designee, include, but are not limited to:

A. Permit Review

The Floodplain Administrator will review all development permits for the following purposes:

1. To determine that the permit requirements of this title have been satisfied.
2. To determine that all other required local, state, and federal permits have been obtained and approved.
3. To determine whether the proposed development is located in a floodway.
    a. If located in the floodway, assure that the floodway provisions of this title in Subsection 18.20.010.B (Floodways) are met; and
    b. Determine whether the proposed development is located in an area where DFE or BFE data is available either through the FIS or from another authoritative source. If DFE or BFE data is not available, then ensure compliance with the provisions of Section 18.20.060 (Use of Other Design Flood Data); and
    c. Provide to building officials the BFE, DFE, and FPE applicable to any building requiring a development permit.

4. To determine whether the proposed development qualifies as a substantial improvement as defined in Chapter 18.08 (Definitions).

5. To determine whether the proposed development activity is a watercourse alteration. If a watercourse alteration is proposed, ensure compliance with the provisions in Section 18.20.010 (Alteration of Watercourses).

6. To determine whether the proposed development activity includes the placement of fill or excavation. If fill or excavation is proposed, ensure compliance with the provisions in Section 18.20.020 (Compensatory Storage).

7. To determine whether the proposed development activity complies with the no net loss standards in Chapter 18.24 (No Net Loss).

B. Information to Be Obtained and Maintained

The following information will be obtained and maintained and will be made available for public inspection as needed, utilizing forms developed by FEMA where applicable:

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 located in the regulatory floodplain where DFE or BFE data is provided through the FIS, FIRM, or obtained in accordance with Subsection 18.20.060 (Use of Other Design Flood Data).
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 Subsections 18.20.010.B (Floodways) and 18.16.020.A (Permit Review) 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 DFE or BFE 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 (ECs) submitted to the City.
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 title and where DFE or BFE data is provided through the FIS, FIRM, or obtained in accordance with Section 18.20.060 (Use of Other Design Flood Data).
7. Maintain all floodproofing certificates required under this title.
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 Subsection 18.20.010.B (Floodways).
10. Record and maintain all Substantial Improvement and Substantial Damage calculations and determinations as required under Subsection 18.16.020.D (SI/SD).
11. Maintain for public inspection all records pertaining to the provisions of this title.
12. Obtain, record, and maintain a non-conversion agreement for any areas constructed below FPE subject to inspection at least once a year.
13. Maintain documentation of how the no net loss standards established in Chapter 18.24 (Standards for Protection of Regulatory Floodplain Functions) have been met.

C. Requirement to Notify Other Entities and Submit New Technical Data

1. Community Boundary Alterations

   The Floodplain Administrator will notify the Federal Insurance Administrator (FIA) 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 FIRMs accurately represent the community's boundaries. The notification must 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.

2. Watercourse Alterations

   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 this notification to the Federal Insurance Administration. This notification will 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.

      The applicant will be required to submit a Conditional Letter of Map Revision (CLOMR) when required under section (Requirement to Notify Other Entities and Submit New Technical Data) 4.2.3.3. Ensure compliance with all applicable requirements in Subsection 18.16.020.C (Requirement to Notify Other Entities and Submit New Technical Data) and Subsection 18.20.010 (Alteration of Watercourses).

3. Requirement to Submit New Technical Data

   A community's 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 this information becomes available, the City must notify the FIA 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 City may require the applicant to submit this data and review fees required for compliance with this section through the applicable FEMA Letter of Map Change (LOMC) process.

   The Floodplain Administrator will require a CLOMR prior to the issuance of a floodplain development permit for proposed floodway encroachments that increase the DFE.

   An applicant must notify FEMA within six months of project completion when an applicant has obtained a CLOMR from FEMA. This notification to FEMA must be provided as a LOMR.

   The applicant will be responsible for preparing all technical data to support CLOMR/LOMR applications and paying any processing or application fees associated with the CLOMR/LOMR.

The Floodplain Administrator will 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.

D. Substantial Improvement and Substantial Damage Assessments and Determinations

Conduct Substantial Improvement (SI) (as defined in Chapter 18.08) reviews for all structural development proposal applications and maintain a record of SI calculations within permit files in accordance with Section 18.16.020.B (Information to be Obtained and Maintained). Conduct Substantial Damage (SD) (as defined in Chapter 18.08) assessments when structures are damaged due to a natural hazard event or other causes. Make SD determinations whenever structures within the regulatory floodplain (as established in Subsection 18.12.020) 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.

18.16.030 Establishment of Floodplain Development Permit

A. Floodplain Development Permit Required

A Floodplain Development Permit must be obtained through application on forms furnished by the City Engineer before construction or development begins within any area horizontally within the regulatory floodplain established in Subsection 18.12.020.A. The Floodplain Development Permit is required for all structures, including manufactured dwellings, and for all other development, as defined in Chapter 18.08, including fill and other development activities.

B. Application for Floodplain Development Permit

Application for a Floodplain 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. 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 Subsection 18.16.020.B (Information to be Obtained and Maintained).
2. Proposed elevation in relation to mean sea level to which any nonresidential 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 nonresidential structure meet the floodproofing criteria for nonresidential structures in Section 18.20.120 (Nonresidential Construction).
4. Description of the extent to which any watercourse will be altered or relocated.
5. Substantial improvement calculation for any improvement, addition, reconstruction, renovation, or rehabilitation of an existing structure.
6. The amount and location of any fill or excavation activities proposed.

18.16.040 Variance Procedure

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. Conditions for Variances

1. Variances from the requirements of this title will be heard and decided by the Planning Commission in accordance with the provisions of Section 19.1006 of the City municipal code (Type III review). 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 design flood level, in conformance with the provisions of Subsections 18.16.040.A.2 and A.3 and 18.16.040.B. As the lot size increases beyond one-half acre, the technical justification required for issuing a variance increases.
2. Variances will not be issued within any floodway if any increase in flood levels during the base flood discharge would result.
3. Variances may be issued by the City for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that the criteria of Subsection 18.16.040.A.4 are met, and the structure or other development is protected by methods that minimize flood damages during the design flood and create no additional threats to public safety.
4. Approval criteria

   Variances will only be issued upon:

   a. A showing of good and sufficient cause;

   b. A determination that failure to grant the variance would result in exceptional hardship due to the physical characteristics of the land that render the lot undevelopable;

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

   d. A determination that the variance is the minimum necessary, considering the flood hazard, to afford relief; and

   e. A demonstration that the development will not result in net loss of the following proxies for three floodplain functions in the regulatory floodplain: undeveloped space, pervious surface, or trees 6-in or greater diameter at breast height (see Chapter 18.24 (Standards for Protection of Regulatory Floodplain Functions)).

B. Variance Notification

Any applicant to whom a variance is granted will be given written notice that the issuance of a variance to construct a structure below the flood protection elevation may result in increased premium rates for flood insurance and that any construction below the design flood elevation increases risks to life and property. This notification and a record of all variance actions, including justification for their issuance, will be maintained in accordance with Subsection 18.16.020.B (Information to be Obtained and Maintained).

18.20 PROVISIONS FOR FLOOD HAZARD REDUCTION

In all regulatory floodplains, in addition to the standards established in Chapter 18.24 (Standards for Protection of Regulatory Floodplain Functions) the following standards must be adhered to:

18.20.010 Alteration of Watercourses

A. The flood carrying capacity within the altered or relocated portion of said watercourse must be maintained. Maintenance must be provided within the altered or relocated portion of said watercourse to ensure that the flood carrying capacity is not diminished. Compliance with Subsection 18.20.010 (Alteration of Watercourses) and Subsection 18.16.020.C.3 (Requirement to Submit New Technical Data) is required.

B. Floodways

Located within the regulatory floodplains established in Subsection 18.12.020.A are watercourses and other areas designated as floodways. The floodway is an extremely hazardous area due to the velocity of the floodwaters that carry debris, potential projectiles, and erosion potential.

Encroachments within floodways, including fill, new construction, substantial improvements, and other development within a setback of the adopted regulatory floodway, are prohibited unless:

1. 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 will not result in any increase in flood levels within the community during the occurrence of the base flood discharge; OR
2. The encroachment proposal meets all of the following criteria:
    a. Is for the primary purpose of fish enhancement;
    b. Does not involve the placement of any structures (as defined in Chapter 18.08) within the floodway;
    c. Has a feasibility analysis completed documenting that fish enhancement will be achieved through the proposed project;
    d. Has a maintenance plan in place to ensure that the stream carrying capacity is not impacted by the fish enhancement project;
    e. 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
    f. Has evidence to support that no existing structures will be negatively impacted by the proposed activity.

An approved CLOMR must be provided prior to approval of a floodplain permit.

C. If the requirements of Subsection 18.20.010.B (Floodways) are satisfied, all new construction, substantial improvements, and other development must comply with all other applicable flood hazard reduction provisions of Chapter 18.20.

18.20.020 Compensatory Storage (Balanced Cut and Fill)

The placement of fill or structures that displaces 10 cubic yards or less of flood storage area is exempt from the requirements of this section (18.20.020).

The placement of fill or structures that displaces more than 10 cubic yards of flood storage area must comply with the following standards:

A. Development, excavation, and fill must be performed in a manner to maintain or increase flood storage and conveyance capacity and not increase design flood elevations.

B. Excavation and fill must not be performed in a manner as to adversely impact other functions of a floodplain, including but not limited to, erosion control, promoting biodiversity, and ground water recharge.

C. All fill placed at or below the design flood elevation in the regulatory floodplain must be balanced with at least an equal volume of material removal in a hydraulically equivalent location.

D. Excavation will not be counted as compensating for fill if the excavated areas will be filled with water in two-year rainstorm conditions or are designated for HCA mitigation.

E. Temporary fills permitted during construction must be removed.

F. Uncontained areas of hazardous materials in the regulatory floodplain are prohibited.

G. Excavation to balance a fill must be located on the same parcel as the fill unless it is not reasonable or practicable to do so. In those cases, the excavation may be located in the same drainage basin and as close as possible to the fill site subject to the following:

   1. The proposed excavation and fill will not increase flood impacts for surrounding properties as determined through hydrologic and hydraulic analysis;

   2. The proposed excavation is authorized under applicable municipal code provisions including Section 19.402 Natural Resources; and

   3. Measures to ensure the continued protection and preservation of the excavated area for providing balanced cut and fill must be approved by the City.

H. New culverts, stream crossings, and transportation projects must be designed as balanced cut and fill projects or designed not to significantly raise the design flood elevation. These projects must be designed to minimize the area of fill in flood management areas and to minimize erosive velocities. Stream crossings must be as close to perpendicular to the stream as practicable. Bridges must be used instead of culverts wherever practicable.

I. Excavation and fill required for the construction of detention facilities or structures, and other facilities, must be designed to reduce or mitigate flood impacts and improve water quality. Levees must not be used to create vacant buildable lands.

18.20.030 Utilities and Equipment

A. Water Supply, Sanitary Sewer, and Onsite Waste Disposal Systems

   1. All new and replacement water supply systems must be designed to minimize or eliminate infiltration of flood waters into the system.

2. New and replacement sanitary sewage systems must be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.
3. Onsite waste disposal systems must be located to avoid impairment to them or contamination from them during flooding, consistent with the Oregon Department of Environmental Quality.

B. Electrical, Mechanical, Plumbing, and Other Equipment

All new electrical, heating, ventilating, air-conditioning, plumbing, duct systems, and other equipment and service facilities must be elevated at or above the flood protection elevation or must 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 in Substantially Improved structures must be elevated at or above the flood protection elevation.

18.20.040 Structures

A. All new construction and substantial improvements must 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 new construction and substantial improvements must be constructed with flood resistant materials below the flood protection elevation.

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

18.20.050 Tanks

A. Underground tanks must be anchored to prevent flotation, collapse and lateral movement under conditions of the design flood.

B. Above-ground tanks must be installed at or above the flood protection elevation.

18.20.060 Use of Other Design Flood Data

When DFE data has not been provided in accordance with Section 18.12.020 (Basis for Establishing the Regulatory Floodplain), the Floodplain Administrator will obtain, review, and reasonably utilize any flood elevation data available from a federal, state, or other source, in order to administer Section 18.20.

18.20.070 Structures Located in Multiple or Partial Flood Zones

In coordination with the State of Oregon Specialty Codes:

A. When a structure is located in multiple flood zones on the community's regulatory floodplain maps the provisions for the more restrictive flood zone will apply.

B. When a structure is partially located in a regulatory floodplain, the entire structure must meet the requirements for new construction and substantial improvements.

18.20.080 Critical Facilities

Construction of new critical facilities must be located outside the limits of the regulatory floodplain.

If allowed by variance in accordance with the provisions of this title, new critical facilities constructed within the regulatory floodplain must have the lowest floor elevated at least 3 f~~ee~~t above the DFE or to the height of the 500-year flood, whichever is higher. Access to and from any new critical facility must also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters.

Existing critical facilities, including future improvements and maintenance to critical facilities, within the limits of the regulatory floodplain are exempt from this requirement.

18.20.090 Flood Openings

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

Enclosed areas below the flood protection elevation, including crawl spaces, must:

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;

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 must be not less than 1 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 must 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 must allow the automatic flow of floodwater into and out of the enclosed areas and must be accounted for in the determination of the net open area.

   5. All additional higher standards for flood openings in the State of Oregon Residential Specialty Codes Section R322.2.2 must be complied with when applicable.

18.20.100 Garages

A. Attached garages may be constructed with the garage floor slab below the flood protection elevation, if the following requirements are met:

   1. Not located within a floodway.

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

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

   4. The garage is constructed with flood openings in compliance with Subsection 18.04.050.I (Flood Openings) to equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwater.

5. The portions of the garage constructed below the flood protection elevation are constructed with materials resistant to flood damage;
6. The garage is constructed in compliance with the standards in Chapter 18.20; and
7. The garage is constructed with electrical, and other service facilities located at or above the design flood elevation plus 1 foot.
8. A Non-Conversion Agreement is recorded in the chain of title and prohibits alteration of the accessory structure at a later date as to violate the building code and floodplain damage prevention ordinance requirements and the owner(s) and subsequent owner(s) agree to allow a representative of the City of Milwaukie onto the Property and into the building(s) to verify compliance with this Agreement.

B. Detached garages must be constructed in compliance with the standards for accessory structures in Subsection 18.20.150 (Accessory Structures) or nonresidential structures in Section 18.20.120 (Nonresidential Construction) depending on the square footage of the garage.

18.20.110 Residential Construction

A. New construction and substantial improvement of any residential structure must have the lowest floor, including basement, elevated at or above the flood protection elevation.

B. Enclosed areas below the lowest floor must comply with the flood opening requirements in Section 18.20.090 (Flood Openings).

C. Enclosed areas below the lowest floor must be constructed with flood resistant materials.

D. No enclosed areas below flood protection elevation are permitted at locations sharing a cross section with average floodway velocities that are expected to meet or exceed 5 ft/s (feet per second).

18.20.120 Nonresidential Construction

A. New construction and substantial improvement of any commercial, industrial, or other nonresidential structure must have the lowest floor, including basement, elevated at or above the flood protection elevation; or, together with attendant utility and sanitary facilities, must:

1. Be floodproofed so that below the flood protection elevation the structure is watertight, with walls substantially impermeable to the passage of water.
2. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
3. Be certified by a registered professional engineer or architect that the design and methods of construction are in 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. Any certifications must be provided to the Floodplain Administrator as set forth in Subsection 18.16.020.B (Information to be Obtained and Maintained).

B. Nonresidential structures that are elevated, not floodproofed, must comply with the standards for enclosed areas below the lowest floor in Section 18.20.090 (Flood Openings).

C. Applicants floodproofing nonresidential buildings must be notified that flood insurance premiums will be based on rates that are 1 foot below the floodproofed level.

D. Applicants must supply a maintenance plan for the entire structure to include but not limited to: exterior envelop of structure; all penetrations to the exterior of the structure; all shields, gates, barriers, or components designed to provide floodproofing protection to the structure; all seals or gaskets for shields, gates, barriers, or components; and, the location of all shields, gates, barriers, and components, as well as all associated hardware, and any materials or specialized tools necessary to seal the structure.

E. Applicants must supply an Emergency Action Plan (EAP) for the installation and sealing of the structure prior to a flooding event that clearly identifies what triggers the EAP and who is responsible for enacting the EAP.

18.20.130 Manufactured Dwellings

A. New or substantially improved manufactured dwellings supported on solid foundation walls must be constructed with flood openings that comply with Section 18.20.090 (Flood Openings).

B. The bottom of the longitudinal chassis frame beam must be at or above flood protection elevation.

C. New or substantially improved manufactured dwellings must be anchored to prevent flotation, collapse, and lateral movement during the design flood. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors (see FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques).

D. Electrical crossover connections must be at or above design flood elevation plus 1 foot.

18.20.140 Recreational Vehicles

A recreational vehicle placed on sites is required to:

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

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, and have no permanently attached additions; or

Meet the requirements of Section 18.20.130 (Manufactured Dwellings), including the anchoring and elevation requirements for manufactured dwellings.

18.20.150 Accessory Structures

Relief from elevation or floodproofing requirements for residential and nonresidential structures may be granted for accessory structures that meet the following requirements:

A. Accessory structures located partially or entirely within the floodway must comply with requirements for development within a floodway found in Subsection 18.20.010.B (Floodways).

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

C. In compliance with State of Oregon Specialty Codes, accessory structures on properties that are zoned residential are limited to one-story structures less than 200 sq~~uare~~ f~~eet~~,

or 400 sq ft if the property is greater than 2 acres in area and the proposed accessory structure will be located a minimum of 20 f~~ee~~t from all property lines. Accessory structures on properties that are zoned as nonresidential are limited in size to 120 sq ft.

D. The portions of the accessory structure located below the flood protection elevation must be built using flood resistant materials.

E. The accessory 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 design flood.

F. The accessory structure must be designed and constructed to equalize hydrostatic flood forces on exterior walls and comply with the requirements for flood openings in Section 18.20.090 (Flood Openings).

G. Accessory structures must be located and constructed to have low damage potential including no enclosed areas at locations sharing a cross section with floodway velocities that are expected to meet or exceed 5 ft/s.

H. 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 incompliance with Section 18.20.030 (Utilities and Equipment).

I. 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 design flood.

J. A Non-Conversion Agreement is recorded in the chain of title and prohibits alteration of the accessory structure at a later date as to violate the building code and floodplain damage prevention ordinance requirements and the owner(s) and subsequent owner(s) agree to allow a representative of the City of Milwaukie onto the Property and into the building(s) at least once a year to verify compliance with this Agreement.

18.24 STANDARDS FOR PROTECTION OF REGULATORY FLOODPLAIN FUNCTIONS

Floodplains provide a number of key functions, including floodplain storage, water quality, and vegetation. Development within the floodplain can negatively impact and diminish those functions. Adherent to the 2016 Biological Opinion developed by the National Marine Fisheries Service, mitigation is necessary to ensure there is no net loss in key floodplain functions when development is proposed in the regulatory floodplain.

“No net loss” applies to the net change in floodplain functions as compared to existing conditions at the time of proposed development. 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.

Proxies that provide measurable actions for preventing the loss of these key functions include undeveloped space (for flood storage), pervious surfaces (for water quality), and trees (for vegetation). No net loss of these three proxies is required for any development in the regulatory floodplain that would reduce undeveloped space, increase impervious surface, or result in a loss of trees that are 6 inches (in) diameter at breast height (DBH) or greater. Mitigation must be addressed to the floodplain function that is receiving the detrimental impact.

In all regulatory floodplains, in addition to the applicable standards established in Chapter 18.20 (Provisions for Flood Hazard Reduction), the following standards for floodplain function proxies must be adhered to where applicable, with mitigation provided in accordance with the ratios presented in Table 18.24.040 as needed.

18.24.010 Undeveloped Space

Development proposals must not reduce the fish-accessible and egress-able habitat and flood storage volume created by undeveloped space within the regulatory floodplain. A development proposal within the regulatory floodplain that would impact undeveloped space must achieve no net loss of fish-accessible and egress-able space and flood storage volume.

Lost undeveloped space must be replaced with fish-accessible and egress-able compensatory flood storage volume based on the ratios in Table 18.24.040. The undeveloped space provided as replacement must be hydrologically connected to the waterbody that is the flooding source and must be designed so that there is no increase in velocity.

18.24.020 Pervious Surfaces

Development proposals must not reduce pervious surface in the regulatory floodplain. New impervious surface must be mitigated through at least one of the following options:

A. Demonstrate no net increase in impervious surface area within the regulatory floodplain.

B. Use green infrastructure (including LID as an option) to 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, as documented by a qualified professional.

C. If ~~prior~~ the methods identified in Subsections 18.24.020.A or B are not feasible ~~and~~ (as documented by a qualified professional), stormwater retention is required to ensure no increase in peak volume or flow and to maximize infiltration (water quantity) unless the outfall discharges into the ocean. Treatment is also required to minimize pollutant loading (water quality) for post-construction stormwater runoff from any net increase in impervious area.

    1. Retention facilities must meet all of the following requirements:

        a. 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% of the 2-year event and the 10-year flow event (annual series).

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

        c. Be designed to not entrap fish.

        d. Be certified by a qualified professional.

    2. Detention facilities must meet all of the following requirements:

        a. Drain to the source of flooding.

        b. Be designed by a qualified professional.

3. For multi-parcel facilities, including subdivisions, stormwater treatment practices must have an enforceable operation and maintenance agreement to ensure the system functions as designed. This agreement must include:
    a. Access to stormwater treatment facilities at the site by the City for the purpose of inspection and repair.
    b. A legally binding document specifying the parties responsible for the proper maintenance of the stormwater treatment facilities. The agreement must be recorded and must bind subsequent purchasers and sellers even if they were not party to the original agreement.
    c. 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.
    d. The responsible party for the operation and maintenance of the stormwater facility must have the operation and maintenance manual on site and available at all times. Records of the maintenance and repairs must be retained and made available for inspection by the City for 5 years.

18.24.030 Trees

Development proposals must result in no net loss of trees 6-in DBH or greater within the regulatory floodplain. This requirement does not apply to silviculture where there is no development. Note that tree removal may also be subject to the provisions of Chapter 16.32.

A. Trees 6-in DBH or greater that are removed from the RBZ, floodway, or RBZ-fringe must be replaced at the ratios provided in Table 18.24.040 and planted within the regulatory floodplain.
B. Replacement trees must be native species that would occur naturally in the Level III ecoregion of the impact area.
C. Replacement trees must average at least 1.5-in caliper or at least 5 ft overall height after planting.

18.24.040 General No Net Loss Standards

A. Mitigation standards
    1. Mitigation may be onsite or off-site but must occur within the regulatory floodplain.
    2. RBZ impacts must be offset in the RBZ, whether on-site or off-site.
    3. Mitigation can be provided in a combination of locations as long as the applicable multipliers provided in Table 18.24.040 are applied appropriately.
    4. No net loss mitigation 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 regulatory floodplain within the same hydrologically connected area as the proposed development. Table 18.24.040 presents the no net loss ratios, which increase based on the preferences listed above.
        a. The basic mitigation ratios of Table 18.24.040 apply to mitigation that occurs on-site and within the regulatory floodplain. This is the preferred location for mitigation.

b. Mitigation multipliers of 100% apply to mitigation that occurs off-site but within the same waterbody reach (within the regulatory floodplain) and result in the required mitigation occurring at the same value described by the ratios above. This is the second preference for mitigation location.

c. Mitigation multipliers of 200% apply to mitigation that occurs off-site and in a different waterbody reach but within the same watershed (5th field) (within the regulatory floodplain) and result in the required mitigation ratios being doubled. This is the third preference for mitigation location and represents the final option.

For example, if a development would create 1,000 sq ft of new impervious surface, then 1,000 sq ft of new pervious surface would need to be created. However, if only 500 sq ft of the total 1000 sq ft of required pervious surface mitigation can be conducted onsite and in the same waterbody reach, the remaining 500 sq ft of required pervious surface mitigation occurring off-site at a different reach would double because of the 200% multiplier. In other words, another 1,000 sq ft of pervious surface would need to be created at the location in the different reach, in addition to the 500 sq ft created within the same reach.

5. Compliance with no net loss for undeveloped space or impervious surface is preferred to occur prior to the loss of floodplain function but, at a minimum, must occur concurrent with the loss.

6. Additional standards may apply in the RBZ as per Subsection 18.24.040.C.

B. Riparian buffer zone (RBZ)

The riparian buffer zone (RBZ) is measured from the ordinary high-water mark (OHWM) of a fresh waterbody (lake; pond; ephemeral, intermittent, or perennial stream) or mean higher-high water (MHHW) of a marine shoreline or tidally influenced river reach to 170 ft horizontally on each side of the stream or inland of the MHHW. The RBZ includes the area between these outer boundaries on each side of the stream, including the stream channel. Where the RBZ is larger than the regulatory floodplain, the no net loss standards of this title only apply to the area within the regulatory floodplain.

The RBZ-fringe is the area outside of the RBZ and floodway but still within the regulatory floodplain.

1. 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 described below in Subsection 18.24.040.B.3 in addition to no net loss standards.

2. Any other use of the RBZ requires a greater offset to achieve no net loss of floodplain functions, in addition to complying with the no net loss standards described above, through the beneficial gain standard described below in Subsection 18.24.040.B.3.

3. The beneficial gain standard requires that an area in the RBZ within the same reach as the project (on-site or off-site) and equivalent to 5% of the total project area within the RBZ must be planted with native herbaceous, shrub, and tree vegetation.

4. Uses in the RBZ-fringe are not subject to the beneficial gain standard.

Table 18.24.040 Mitigation Standards for No Net Loss					
Basic Mitigation Ratios	**Undeveloped Space (cu ft)**	**Impervious Surface (sq ft)**	**Trees (6-in<DBH≤20-in)**	**Trees (20-in<DBH≤39-in)**	**Trees (39-in<DBH)**
RBZ & 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					
Off-site mitigation, same waterbody reach	100%	100%	100%	100%	100%
Off-site mitigation, different waterbody reach but same watershed (5th field)	200%	200%	200%	200%	200%

18.24.050 Activities Exempt from No Net Loss Standards

The following activities are not subject to the no net loss standards in Chapter 18.24; 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, and is less than 6 in above grade. Exempt activities 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 the regulatory floodplain or tilled into fields as a soil amendment.

E. Routine silviculture practices (harvesting of trees), including hazardous fuels reduction and hazard tree removal as long as root balls are left in place.

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.

J. Pre-emptive removal of documented susceptible trees to manage the spread of invasive species.

K. Projects that are covered under separate consultations under Sections 4(d), 7, or 10 of the Endangered Species Act (ESA).