

CITY COUNCIL AGENDA ITEM
CITY OF SHORELINE, WASHINGTON

AGENDA TITLE:	Public Hearing and Adoption of Ordinance No. 641, Floodplain Management and Related Development Code Amendments
DEPARTMENT:	Public Works Planning and Community Development
PRESENTED BY:	Brian Landau, Surface Water and Environmental Services Manager Juniper Nammi, Associate Planner
ACTION:	<input checked="" type="checkbox"/> Ordinance <input type="checkbox"/> Resolution <input type="checkbox"/> Motion <input type="checkbox"/> Discussion <input checked="" type="checkbox"/> Public Hearing

PROBLEM/ISSUE STATEMENT:

In July 2010, and in August 2011, the City of Shoreline received communication from the Federal Emergency Management Agency (FEMA) directing the City to update its floodplain management regulations to bring them into compliance with federal regulations 44 CFR 60.3 Floodplain Management Criteria and 50 CFR Endangered Species Act (ESA).

In response, the City indicated that it would apply ESA requirements on a permit by permit basis until its existing floodplain ordinances were amended in 2012.

RESOURCE/FINANCIAL IMPACT:

The proposed floodplain management ordinance (FMO) will have no direct financial impact to the City. City staff time will be needed to develop policies and procedures for the implementation of the proposed FMO.

RECOMMENDATION

Staff recommends that Council hold a public hearing on the provisions of Ordinance No. 641. Following the public hearing staff recommends that Council adopt Ordinance No. 641 which consolidates existing floodplain management regulations under SMC Chapter 13.12 Floodplain Management, adds ESA requirements, and modifies SMC Chapter 20.80 Critical Areas, Subchapter 5, Flood Hazard Areas.

Approved By: City Manager **JU** City Attorney **IS**

BACKGROUND

On April 5, 2012 the Planning Commission discussed the proposed amendments to the development code. On May 3, 2012 the Planning Commission held a public hearing for the proposed Development Code amendments and recommended approval. On June 4, 2012 Council discussed the proposed Floodplain Management Ordinance including the related Development Code amendments based on the Planning Commission's recommendations. Below is a link to the June 4 staff report:

<http://cosweb.ci.shoreline.wa.us/uploads/attachments/cck/Council/Agendas/Agendas2012/060412.htm>

Following the June 4 Council discussion, staff corrected some minor typographical errors and incorporated comments on the floodplain ordinance received from the Department of Ecology into Ordinance No. 641 (Attachment A). The comments from Department of Ecology are provided as Attachment B.

INTRODUCTION

Floodplain boundaries and associated flood elevations are developed by local, state, and federal jurisdictions and approved by FEMA. The City regulates development in those regulatory floodplains so that property owners in the City may participate in the National Flood Insurance Program (NFIP) which provides flood insurance to community members at reasonable rates.

In response to direction from FEMA, staff developed a floodplain management ordinance (FMO) that brings the City's regulations for activities in FEMA designated floodplains into compliance with Federal Regulations, including the Endangered Species Act (ESA). This ordinance will maintain the community's eligibility for the National Flood Insurance Program (NFIP).

The ordinance is a city-wide nonproject action that would affect activities, uses, and development in the regulatory floodplain. As currently identified on Flood Insurance Rate Maps (FIRMs), portions of Boeing Creek, and the Puget Sound shoreline would be subject to floodplain regulations. Recent flood insurance studies for Thornton Creek and the Puget Sound shoreline are currently under FEMA review and would be subject to the regulations, once adopted by FEMA. The FEMA floodplain maps that are currently adopted and those submitted to FEMA for review are provided in Attachment C to this report.

DISCUSSION

Federal flood insurance is available only in those communities that participate in the National Flood Insurance Program (NFIP). Flood insurance is required for federally backed loans to purchase or build structures located within a FEMA designated floodplain. Additionally, this insurance can be purchased for any walled or roofed building and its contents anywhere in a participating community, whether or not the building is in a floodplain.

The City is a participating community in the FEMA National Flood Insurance Program. To participate in the NFIP, the City must adopt and enforce a floodplain management ordinance that regulates development in the community's floodplains.

STAKEHOLDER OUTREACH

Planning Commission:

Staff presented the proposed changes to SMC Chapter 20.80 Critical Areas, Subchapter 5, Flood Hazard Areas to the Planning Commission for discussion on April 5, 2012, and for a public hearing on May 3, 2012. The Planning Commission voted to approve the development code amendments on May 3, 2012. All associated public hearing documents, minutes, and recommendation transmittal letter are located in the June 4, 2012 City Council packet as Attachment C.

<http://cosweb.ci.shoreline.wa.us/uploads/attachments/cck/Council/Agendas/Agendas2012/060412.htm>

SEPA:

A SEPA threshold Determination of Nonsignificance (DNS) was issued on April 18, 2012 for the floodplain management ordinance update and was included in the June 4, 2012 Council Packet as Attachment C, Exhibit 5. The SEPA notification was published in local papers and mailed to numerous stakeholders on the SEPA notification list.

Website:

A website with information about the proposed floodplain management chapter and associated development code changes is available to the public at

<http://cityofshoreline.com/index.aspx?page=871>.

FEMA:

The Draft Ordinance was submitted to FEMA Region X for review and comment on May 2, 2012.

Department of Ecology:

The draft ordinance was submitted to DOE, Northwest Regional Office on April 18, 2012. The DOE representative provided comments (Attachment B) which were discussed with the DOE representative and changes were incorporated into the ordinance.

Outreach to Residents:

In response to community input during the June 4 Council Meeting, City staff met onsite with residents who live at 27th Avenue NW to review the draft ordinance and how it would affect them in the future.

RESOURCE/FINANCIAL IMPACT

The proposed floodplain management ordinance will have no direct financial impact to the City. Some City staff time will be needed to develop policies and procedures for its implementation.

RECOMMENDATION

Staff recommends that Council hold a public hearing on the provisions of Ordinance No. 641. Following the public hearing staff recommends that Council adopt Ordinance No. 641 which consolidates existing floodplain management regulations under SMC Chapter 13.12 Floodplain Management, adds ESA requirements, and modifies SMC Chapter 20.80 Critical Areas, Subchapter 5, Flood Hazard Areas.

ATTACHMENTS

Attachment A – Ordinance No. 641

Attachment B – Department of Ecology comments received via e-mail.

Attachment C – FEMA Floodplain Maps

ORDINANCE NO. 641

**AN ORDINANCE OF THE CITY OF SHORELINE, WASHINGTON,
CREATING CHAPTER 13.12 FLOODPLAIN MANAGEMENT,
AMENDING CHAPTERS 3.01.010, 15.05.030.B, 20.20, 20.30, and 20.80,
AND REPEALING CHAPTER 16.12 OF THE SHORELINE MUNICIPAL
CODE.**

WHEREAS, the U.S. Department of Homeland Security requires compliance with the Reasonable and Prudent Alternative outlined in the September 22, 2008 Biological Opinion for the implementation of the National Flood Insurance Program (NFIP) in the Puget Sound Region; and

WHEREAS, FEMA requires floodplain management codes to include endangered species and habitat protection; and

WHEREAS, the Legislature of the State of Washington has delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the City has special flood hazard areas; and

WHEREAS, a SEPA Determination of Nonsignificance was issued on April 18, 2012 in reference to proposed amendments to the municipal code; and

WHEREAS, a SEPA Determination of Nonsignificance was issued on April 18, 2012 in reference to proposed amendments to the development code (SMC 20); and

WHEREAS, the proposed Chapter 13.12 was submitted to FEMA Region X and Department of Ecology for review and comment; and

WHEREAS, a public process was conducted for review and comment on proposed municipal code changes including public comment at City Council meeting on June 25, 2012;

**NOW, THEREFORE THE CITY COUNCIL OF THE CITY OF SHORELINE,
WASHINGTON, DO ORDAIN AS FOLLOWS:**

Section 1. Amendment. Shoreline Municipal Code Section 3.01.010 is amended to read as follows:

Chapter 3.01 FEE SCHEDULES
3.01.010 Planning and development services.

Type of Permit Application	2012 Fee Schedule (based on \$149.50 per hour)
BUILDING	
Building Permit	
...	...
<u>Floodplain Permit</u>	<u>Hourly rate, 1-hour minimum (\$149.50)</u>
<u>Floodplain Variance</u>	<u>Hourly rate, 3-hour minimum (\$448.50)</u>
...	...

Section 2. Amendment. Shoreline Municipal Code Section 15.05.030 B is amended to read as follows:

B. Section 1612.3, Establishment of flood hazard areas

To establish flood hazard areas, the governing body shall adopt a flood hazard map and supporting data. The flood hazard map shall include, at a minimum, areas of special flood hazard as identified by the Federal Emergency Management Agency in a scientific and ~~an~~ engineering report entitled “Flood Insurance Study for King County and Incorporated Areas the City of Shoreline”, dated November 6, 2010 ~~March 4, 1997 as amended or revised~~, Flood Insurance Study Number 53033CV001B, and any revisions thereto, with an accompanying Flood Insurance Rate Map (FIRM) and ~~Flood Boundary and Floodway Map (FBFM) and related supporting data along with~~, and any revisions thereto, hereby adopted by reference and declared to be a part of this chapter. The flood insurance study and the FIRM are on file at 17500 Midvale Ave N, Shoreline, WA 98133. ~~The adopted flood hazard map and supporting data are hereby adopted by reference and declared to be part of this section.~~

Section 3. Amendment. Shoreline Municipal Code Sections 20.20.012, .014, .020 and .046 are amended as set forth in Exhibit A, which is attached and incorporated herein.

Section 4. Amendment. Shoreline Municipal Code Sections 20.30.040, .333, .336, .410 and .740 are amended as set forth in Exhibit A, which is attached and incorporated herein.

Section 5. Amendment. Shoreline Municipal Code Sections 20.80.010, .360, .370, and .380 are amended as set forth in Exhibit A, which is attached and incorporated herein.

Section 6. Repeal. Shoreline Municipal Code Sections 20.80. 390 *Zero-rise floodway – Development standards and permitted alterations*, .400-*FEMA floodway – Development*

standards and permitted alterations, and..410 Flood hazard areas – Certification by engineer or surveyor are hereby repealed in their entirety.

Section 7. Repeal, New Chapter. Shoreline Municipal Code Chapter 16.2 is hereby repealed in its entirety and a new Chapter 13.12 is adopted as set forth in Exhibit A, which is attached and incorporated herein.

Section 12. Effective Date and Publication. A summary of this ordinance consisting of its title shall be published in the official newspaper of the City. This ordinance shall take effect and be in full force five days after publication.

PASSED BY THE CITY COUNCIL ON AUGUST 6, 2012.

Keith A. McGlashan, Mayor

ATTEST:

APPROVED AS TO FORM:

Scott Passey
City Clerk

Ian Sievers
City Attorney

Date of Publication:
Effective Date:

Title 20 Revisions

Chapter 20.20 Definitions

20.20.012 B definitions

~~**Base Flood** The flood having a one percent chance of being equaled or exceeded in any given year. Also referred to as the “100-year flood.”~~

~~**Base Flood Elevation** The water surface elevation of the base flood in relation to the National Geodetic Vertical Datum of 1929.~~

20.20.014 C definitions

~~**Coastal High Hazard Area** An area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high-velocity wave action from storms or seismic sources. The area is designated on the FIRM as zone V1-V30, VE, or V.~~

20.20.020 F definitions

~~**Federal Emergency Management Agency (FEMA) Floodway** The channel of the stream and that portion of the adjoining floodplain which is necessary to contain and discharge the base flood flow without increasing the base flood elevation more than one foot.~~

~~**Flood** The temporary overflowing of water onto land that is usually devoid of surface water.~~

~~**Flood Fringe** That portion of the floodplain outside of the zero-rise floodway which is covered by floodwaters during the base flood, generally associated with standing water rather than rapidly flowing water.~~

~~**Flood Hazard Areas** Those areas in the City of Shoreline identified as Special Flood Hazard Areas and Protected Areas as defined in SMC Chapter 13.12, which comprise the Regulatory Floodplain. subject to inundation by the base flood including, but not limited to, streams, lakes, wetlands and closed depressions.~~

~~**Flood Insurance Rate Map (FIRM)** The official map on which the Federal Insurance Administration has delineated some areas of flood hazard.~~

~~**Flood Insurance Study for King County** The official report provided by the Federal Insurance Administration which includes flood profiles and the flood insurance rate map.~~

~~**Flood Protection Elevation** An elevation which is one foot above the base flood elevation.~~

~~**Floodplain** The total area subject to inundation by the base flood.~~

~~**Floodproofing** Adaptations which will make a structure that is below the flood protection elevation substantially impermeable to the passage of water and resistant to hydrostatic and hydrodynamic loads including the impacts of buoyancy.~~

~~**Floodway** The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.~~

~~**Floodway, Zero-rise** The channel of a stream and that portion of the adjoining floodplain which is necessary to contain and discharge the base flood flow without any measurable increase in flood height. A measurable increase in base flood height means a calculated upward rise in the base flood elevation, equal to or greater than 0.01 foot,~~

~~resulting from a comparison of existing conditions and changed conditions directly attributable to development in the floodplain. This definition is broader than the FEMA floodway, but always contains the FEMA floodway.~~

20.20.046 S definitions

~~**Substantial Improvement**—Any maintenance, repair, structural modification, addition or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either before the maintenance, repair, modification or addition is started or before the damage occurred, if the structure has been damaged and is being restored.~~

Chapter 20.30 Procedures and Administration

20.30.040 Ministerial decisions – Type A.

These decisions are based on compliance with specific, nondiscretionary and/or technical standards that are clearly enumerated. These decisions are made by the Director and are exempt from notice requirements.

However, permit applications, including certain categories of building permits, and permits for projects that require a SEPA threshold determination, are subject to public notice requirements specified in Table 20.30.050 for SEPA threshold determination.

All permit review procedures and all applicable regulations and standards apply to all Type A actions. The decisions made by the Director under Type A actions shall be final. The Director's decision shall be based upon findings that the application conforms (or does not conform) to all applicable regulations and standards.

Table 20.30.040 – Summary of Type A Actions and Target Time Limits for Decision, and Appeal Authority

Action Type	Target Time Limits for Decision (Calendar Days)	Section
Type A:		
1. Accessory Dwelling Unit	30 days	20.40.120, 20.40.210
2. Lot Line Adjustment including Lot Merger	30 days	20.30.400
3. Building Permit	120 days	All applicable standards
4. Final Short Plat	30 days	20.30.450
5. Home Occupation, Bed and Breakfast, Boarding House	120 days	20.40.120, 20.40.250, 20.40.260, 20.40.400
6. Interpretation of Development Code	15 days	20.10.050, 20.10.060, 20.30.020
7. Right-of-Way Use	30 days	12.15.010 – 12.15.180
8. Shoreline Exemption Permit	15 days	Shoreline Master Program
9. Sign Permit	30 days	20.50.530 – 20.50.610
10. Site Development Permit	60 days	20.20.046, 20.30.315, 20.30.430

11. Deviation from Engineering Standards	30 days	20.30.290
12. Temporary Use Permit	15 days	20.40.100
13. Clearing and Grading Permit	60 days	20.50.290 – 20.50.370
14. Planned Action Determination	28 days	20.90.025
15. Administrative Design Review	28 days	20.30.297
<u>13. Floodplain Development Permit</u>	<u>30 days</u>	<u>13.12.700</u>
<u>17. Floodplain Variance</u>	<u>30 days</u>	<u>13.12.800</u>

20.30.333 Critical area special use permit (Type C action).

A. **Purpose.** The purpose of the critical areas special use permit is to allow development by a public agency or utility when the strict application of the critical areas standards would otherwise unreasonably prohibit the provision of public services. This type of permit does not apply to flood hazard areas.

20.30.336 Critical areas reasonable use permit (Type C action).

A. **Purpose.** The purpose of the critical areas reasonable use permit is to allow development and use of private property when the strict application of the critical area standards would otherwise deny all reasonable use of a property. This type of permit does not apply to flood hazard areas.

20.30.410 Preliminary subdivision review procedures and criteria.

The short subdivision may be referred to as a short plat – Type B action.

The formal subdivision may be referred to as long plat – Type C action.

Time limit: A final short plat or final long plat meeting all of the requirements of this chapter and Chapter 58.17 RCW shall be submitted for approval within the timeframe specified in RCW 58.17.140.

Review criteria: The following criteria shall be used to review proposed subdivisions:

A. Environmental.

1. Where environmental resources exist, such as trees, streams, ravines or wildlife habitats, the proposal shall be designed to fully implement the goals, policies, procedures and standards of the critical areas chapter, Chapter 20.80 SMC, Critical Areas, and the tree conservation, land clearing and site grading standards sections.
2. The proposal shall be designed to minimize grading by using shared driveways and by relating street, house site and lot placement to the existing topography.
3. Where conditions exist which could be hazardous to the future residents of the land to be divided, or to nearby residents or property, such as flood plains, steep slopes or unstable soil or geologic conditions, a subdivision of the hazardous land shall be denied unless the condition can be permanently corrected, consistent with subsections (A)(1) and (2) of this section and Chapter 13.12 Floodplain Management.

20.30.740 Declaration of public nuisance, enforcement.

A. A Code Violation, as used in this subchapter, is declared to be a public nuisance and includes violations of the following:

1. Any City land use and development ordinances or public health ordinances;
2. Any public nuisance as set forth in Chapters 7.48 and 9.66 RCW;
3. Violation of any of the Codes adopted in Chapter 15.05 SMC;
4. Violation of provisions of Chapter 12.15 SMC, Use of Right-of-Way;
5. Any accumulation of refuse, except as provided in Chapter 13.14 SMC, Solid Waste Code;
6. Nuisance vegetation;
7. Discarding or dumping of any material onto the public right-of-way, waterway, or other public property;
~~and~~
8. Violation of any of the provisions of Chapter 13.10 SMC, Surface Water Management Code; and
9. Violations of any of the provisions of Chapter 13.12 SMC, Floodplain Management.

20.80.010 Purpose.

A. The purpose of this chapter is to establish supplemental standards for the protection of critical areas in compliance with the provisions of the Washington Growth Management Act of 1990 (Chapter 36.70A RCW) and consistent with the goals and policies of the Shoreline Comprehensive Plan in accordance with the procedures of Chapter 20.30 SMC.

B. By identifying and regulating development and alterations to critical areas and their buffers, it is the intent of this chapter to:

1. Protect the public from injury, loss of life, property damage or financial losses due to flooding, erosion, landslide, seismic events, soils subsidence or steep slope failure;
2. Protect unique, fragile and valuable elements of the environment;
3. Reduce cumulative adverse environmental impacts to water quality, wetlands, streams and other aquatic resources, fish and wildlife habitat, steep slopes and geologically unstable features;
- ~~4. Meet the requirements of the National Flood Insurance Program and maintain the City of Shoreline as an eligible community for Federal flood insurance benefits;~~
- ~~54.~~ Ensure the long-term protection of ground and surface water quality;
- ~~65.~~ Alert members of the public, including appraisers, assessors, owners, potential buyers, or lessees, to the development limitations of critical areas and their required buffers;
- ~~76.~~ Serve as a basis for exercise of the City's substantive authority under the State Environmental Policy Act (SEPA) and the City's Environmental Procedures (Chapter 20.30 SMC, Subchapter 8); and comply with the requirements of the Growth Management Act (Chapter 36.70A RCW) and its implementing rules;
- ~~87.~~ Establish standards and procedures that are intended to protect environmentally critical areas while accommodating the rights of property owners to use their property in a reasonable manner; and
- ~~98.~~ Provide for the management of critical areas to maintain their functions and values and to restore degraded ecosystems. (Ord. 398 § 1, 2006; Ord. 324 § 1, 2003; Ord. 238 Ch. VIII § 1(A), 2000).

Subchapter 5. Flood Hazard Areas

20.80.360 Description and purpose.

A. A flood hazard area consists of the ~~following components: floodplain; flood fringe; zero rise floodway; and Federal Emergency Management Agency (FEMA) floodway. Special Flood Hazard Areas and Protected Areas as defined in SMC Chapter 13.12, which comprise the Regulatory Floodplain.~~

Attachment A.
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B. It is the purpose of these regulations to ensure that the City of Shoreline meets the requirements of the National Flood Insurance Program and maintains the City as an eligible community for Federal flood insurance benefits.

~~C. A tsunami hazard area may be designated as a flood hazard area by the Federal or State government. (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 6(A), 2000).~~

20.80.370 Classification.

Flood hazard areas shall be determined ~~pursuant to the requirements of the Floodplain Management regulations, SMC 13.12, which include, at a minimum, all lands identified on the 100-year floodplain designations of the current Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for King County as identified in SMC 13.12.300. after obtaining, reviewing and utilizing base flood elevations and available floodway data for a flood having a one percent chance of being equaled or exceeded in any given year, often referred to as the "100-year flood." The base flood is determined for existing conditions, and is shown on Flood Insurance Rate Maps for King County (FIRM) and incorporated areas, current version; or mapped on the King County Sensitive Areas Folio, unless a more complete basin plan including projected flows under future developed conditions has been completed and adopted by the City of Shoreline, in which case these future flow projections shall be used. In areas where the flood insurance study for the City includes detailed base flood calculations, those calculations may be used.~~ (Ord. 398 § 1, 2006; Ord. 238 Ch. VIII § 6(B), 2000).

20.80.380 Development Limitations.

~~A. All development within designated flood hazard areas shall comply with Chapter 13.12 SMC, Floodplain Management, as now or hereafter amended, and are not subject to the regulations of this chapter.~~

New Chapter 13.12

Chapter 13.12 Floodplain Management

13.12.100 General

A. Findings of Fact

1. The City of Shoreline has areas that are subject to periodic inundation and channel migration which results in loss of life and property, health, and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for protection and relief from flooding and channel migration, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
2. When floodplains and watersheds are developed without appropriate care and precautions, flood heights, frequencies, and velocities increase, increasing threat to humans, damage to property, destruction of natural floodplain functions, and adverse impacts to water quality and habitat.
3. Rivers, streams, lakes, estuarine and marine areas, and their floodplains are major elements of healthy aquatic and riparian habitats and conveyance of floodwaters. If watersheds, rivers, streams, lakes, estuaries, floodplains, and other systems are not

viewed holistically as biological and geomorphologic units, serious degradation of habitat and increased flood hazards to people and human development can increase.

4. Over the years, natural processes have evolved that manage flood waters and channel flows in the most effective and efficient manner. Disruption of these processes by altering land cover, stream channels, wetlands, and other water bodies leads to increased flood hazards, loss of life and property, threats to public health, and loss of habitat.

B. Purpose

It is the purpose of this chapter to promote the public health, safety, and general welfare by managing development in order to:

1. Protect human life, health and property from the dangers of flooding;
2. Minimize the need for publicly funded and hazardous rescue efforts to save those who are isolated by flood waters;
3. Minimize expenditure of public money for costly flood damage repair and flood control projects;
4. Minimize disruption of commerce and governmental services;
5. Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets, and bridges located in the floodplain;
6. Maintain a stable tax base by providing for the sound use of flood prone areas to minimize future flood blight areas;
7. Encourage those who occupy areas subject to flooding and channel migration assume responsibility for their actions;
8. Qualify the City for participation in the National Flood Insurance Program, thereby giving citizens and businesses the opportunity to purchase flood insurance;
9. Maintain the quality of water in rivers, streams, lakes, estuaries, and marine areas and their floodplains so as to protect public water supplies, areas of the Public Trust, and wildlife habitat protected by the Endangered Species Act;
10. Retain the natural channel, shoreline, and floodplain creation processes and other natural floodplain functions that protect, create, and maintain habitat for threatened and endangered species.
11. Prevent or minimize loss of hydraulic, geomorphic, and ecological functions of floodplains and stream channels.

C. Applicability.

This chapter shall apply to the Regulatory Floodplain, which is comprised of the Special Flood Hazard Area and all Protected Areas within the jurisdiction of the City of Shoreline as defined in Section 13.12.105.

13.12.105 Definitions.

Unless specifically defined below, terms or phrases used in this chapter shall be interpreted so as to give them the meaning they have in common usage and to give this chapter its most

reasonable application. The definitions in this section apply throughout this chapter unless the context clearly requires otherwise.

Adversely affect/Adverse effect: Effect that is a direct or indirect result of the proposed action or its interrelated or interdependent actions and the effects are not discountable, insignificant or beneficial. A discountable effect is extremely unlikely to occur. An insignificant effect relates to the size of the impact and should never reach the scale where a take occurs. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate an insignificant effect; or (2) expect a discountable effect to occur.

Beneficial effect: Contemporaneous positive effect without any adverse effect. In the event that the overall effect of the proposed action is beneficial, but is also likely to cause some adverse effect, then the proposed action is considered to result in an adverse effect.

Appurtenant structure: A structure which is on the same parcel of property as the principle structure to be insured and the use of which is incidental to the use of the principle structure.

Base Flood: The flood having a one percent chance of being equaled or exceeded in any given year (also referred to as the “100-year flood”). The area subject to the base flood is the Special Flood Hazard Area designated on Flood Insurance Rate Maps as Zones “A” or “V” including AE, AO, AH, A1-99 and VE.

Base Flood Elevation: The elevation of the base flood above the datum of the effective Flood Insurance Rate Map (FIRM).

Basement: Any area of the structure having its floor subgrade (below ground level) on all sides.

Channel Migration Zone: The area within the lateral extent of likely stream channel movement due to stream bank destabilization and erosion, rapid stream incision, aggradations, avulsions, and shifts in location of stream channels.

Critical Facility: A facility necessary to protect the public health, safety, and welfare during a flood. Critical facilities include, but are not limited to, schools, nursing homes, hospitals, police, fire and emergency operations installations, water and wastewater treatment plants, electric power stations, and installations which produce, use, or store hazardous materials or hazardous waste (other than consumer products containing hazardous substances or hazardous waste intended for household use).

Development: Any manmade change to improved or unimproved real estate in the Regulatory Floodplain, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, storage of equipment or materials, subdivision of land, removal of more than 5% of the native vegetation on the property, or alteration of natural site characteristics.

Director. Public Works Director or designee.

Dry Floodproofing: Any combination of structural and nonstructural measures that prevent floodwaters from entering a structure.

Elevation Certificate: The official form (FEMA Form 81-31) used to provide elevation information necessary to ensure compliance with provisions of this chapter and determine the proper flood insurance premium rate.

ESA: Endangered Species Act

Federal Emergency Management Agency (FEMA): The agency responsible for administering the National Flood Insurance Program.

FEMA: Federal Emergency Management Agency

Fish and Wildlife Habitat Conservation Area: Lands needed to maintain species in suitable habitats within their natural geographic distribution so that isolated subpopulations are not created. These areas are designated in SMC 20.80.260-20.80.300.

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

1. The overflow of inland or tidal waters, and/or
2. The unusual and rapid accumulation of runoff of surface waters from any source.

Flood Insurance Rate Map (FIRM): The official map on which the Federal Emergency Management Agency has delineated both the Special Flood Hazard Areas and the risk premium zones applicable to the community.

Flood Protection Elevation (FPE): The elevation above the datum of the effective FIRM to which new and substantially improved structures must be protected from flood damage.

Flood Insurance Study: The official report provided by the Federal Emergency Management Agency that includes flood profiles, the Flood Insurance Rate Map, and the water surface elevation of the base flood.

Floodway: The channel of a stream or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot at any point.

FIRM: Flood Insurance Rate Map.

Functionally Dependent Use: A use that must be located or carried out close to water, for example docking or port facilities necessary for the unloading of cargo or passengers, or shipbuilding and ship repair.

Historic Structure: A structure that:

1. Is listed on the National Register of Historic Places, the Washington Heritage Register, or the Washington Heritage Barn Register, or
2. Has been certified to contribute to the historical significance of a registered historic district.

Hyporheic Zone: A saturated layer of rock or sediment beneath and/or adjacent to a stream channel that contains some proportion of channel water or that has been altered by channel water infiltration.

Impervious Surface: A hard surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior

to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled macadam or other surfaces which similarly impede the natural infiltration of stormwater.

Lowest Floor: The lowest floor of the lowest enclosed area (including basement or crawlspace) of a structure. An unfinished or flood resistant enclosure, used solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a structure's lowest floor, provided that such enclosure is compliant with Section 13.12.500.B.6, so that there are adequate openings to allow floodwaters into the area.

Manufactured Home: A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include a "recreational vehicle."

Manufactured Home Park or Subdivision: A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Native Vegetation: Plant species that are indigenous to the community's area and that reasonably could be expected to naturally occur on the site.

Natural Floodplain Functions: The contribution that a floodplain makes to support habitat, including, but not limited to providing flood storage and conveyance, reducing flood velocities, reducing sedimentation, filtering nutrients and impurities from runoff, processing organic wastes, moderating temperature fluctuations, and providing breeding and feeding grounds, shelter, and refugia, for aquatic or riparian species.

New Construction: Structures for which the "start of construction" commenced on or after the effective date of this chapter.

NMFS: National Marine Fisheries Service

Protected Area: The lands that lie within the boundaries of the floodway, the riparian habitat zone, and the channel migration area. Because of the impact that development can have on flood heights and velocities and habitat, special rules apply in the Protected Area.

Recreational Vehicle: A vehicle,

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

Regulatory Floodplain: The area of the Special Flood Hazard Area plus the Protected Area, as defined in Section 13.12.300. The term also includes newly designated areas that are delineated pursuant to Section 13.12.300.E.

Riparian: Of, adjacent to, or living on, the bank of a river, lake, pond, ocean, sound, or other water body.

Riparian Habitat Zone: The water body and adjacent land areas that are likely to support aquatic and riparian habitat as detailed in Section 13.12.300.D.2 of this chapter.

Special Flood Hazard Area (SFHA): The land subject to inundation by the base flood. Special Flood Hazard Areas are designated on Flood Insurance Rate Maps with the letters “A” or “V” including AE, AO, AH, A1-99 and VE. The Special Flood Hazard Area is also referred to as the area of special flood hazard or SFHA.

Start of Construction: Includes substantial improvement, and means the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement that occurred before the permit’s expiration date. The actual start is 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 home 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 structures 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: A walled and roofed building, including a gas or liquid storage tank that is principally above ground.

Substantial Damage: 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 damage also means flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25% of the market value of the structure before the damage occurred.

Substantial Improvement: Any repair, reconstruction, rehabilitation, addition, replacement, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either:

1. Before the “start of construction” of the improvement, or
2. Before damage occurred, if the structure has been damaged or is being restored.

Substantial improvement occurs with the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not the alteration affects external dimensions.

Substantial improvement includes structures that have incurred “substantial damage,” regardless of the actual repair work performed.

Substantial improvement does not include any project for improvement of a structure to correct existing violations of State or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions.

Variance (Floodplain): A grant of relief from the requirements of this subchapter that permits construction in a manner that would otherwise be prohibited by this subchapter.

Water Typing: A system for classifying water bodies according to their size and fish habitat characteristics. The Washington Department of Natural Resources' Forest Practices Water Typing classification system is hereby adopted by reference. The system defines four water types:

1. Type "S" = Shoreline: Streams that are designated "shorelines of the State," including marine shorelines
2. Type "F" = Fish: Streams that are known to be used by fish or meet the physical criteria to be potentially used by fish.
3. Type "Np" = Non-Fish Perennial streams
4. Type "Ns" = Non-Fish Seasonal streams

Waters of the state: Includes lakes, rivers, ponds, streams, inland waters, underground water, salt waters, estuaries, tidal flats, beaches, and lands adjoining the seacoast of the state, sewers, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Zone: One or more areas delineated on the FIRM. The following zones may be used on the adopted FIRM. The Special Flood Hazard Area is comprised of the A and V Zones.

A: SFHA where no base flood elevation is provided.

A#: numbered A Zones (e.g., A7 or A14), SFHA with a base flood elevation.

AE: SFHA with a base flood elevation.

AO: SFHA subject to inundation by shallow flooding usually resulting from sheet flow on sloping terrain, with average depths between one and three feet. Average flood depths are shown.

AH: SFHA subject to inundation by shallow flooding (usually pond areas) with average depths between one and three feet. Base flood elevations are shown.

B: The area between the SFHA and the 500-year flood of the primary source of flooding. It may also be an area with a local, shallow flooding problem or an area protected by a levee.

C: An area of minimal flood hazard, as above the 500-year flood level of the primary source of flooding. B and C Zones may have flooding that does not meet the criteria to be mapped as a Special Flood Hazard Area, especially pond and local drainage problems.

D: area of undetermined but possible flood hazard.

V: The SFHA subject to coastal high hazard flooding including waves of 3' or greater in height. There are three types of V Zones: V, V#, and VE, and they correspond to the A Zone designations.

X: The area outside the mapped SFHA.

X - Shaded: the same as a Zone B, above.

13.12.200. Floodplain Administrator

A. Administrator Designation

The Public Works Director is hereby appointed as the Floodplain Administrator, to administer and implement this chapter by granting or denying floodplain development permit applications in accordance with its provisions.

B. Administrator Duties

The Director's duties shall include, but shall not be limited to the following:

1. Ensure that all development activities within the Regulatory Floodplain of the jurisdiction of the City meet the requirements of this chapter.
2. Review all floodplain development permits to determine that the permit requirements of this chapter have been satisfied.
3. Review all floodplain development permits to determine if the proposed development is located in the Protected Area. If located in the Protected Area, ensure that the provisions of Section 13.12.600 are met.
4. Review all floodplain development permits to determine that all necessary permits have been obtained from those Federal, State, or local governmental agencies from which prior approval is required, including those local, State or Federal permits that may be required to assure compliance with the Endangered Species Act and/or other appropriate State or Federal laws.
5. Delegate to the Building Official or designee, the responsibility to inspect all development projects before, during, and after construction to ensure compliance with all provisions of this chapter, including proper elevation of the structure.
6. Maintain for public inspection all records pertaining to the provisions of this chapter.
7. Submit reports as required for the National Flood Insurance Program.
8. Notify FEMA of any proposed amendments to this chapter.
9. Cooperate with State and Federal agencies to improve flood and other technical data and notify FEMA of any new data that would revise the FIRM.

C. Upon receipt of a permit for a development project within a floodplain, the Director shall compare the elevation of the site to the base flood elevation. A development project is not subject to the requirements of this chapter if it is located on land that can be shown to be:

1. Outside the Protected Area, and
2. Higher than the base flood elevation.

- D. The Director shall inform the applicant that the project may still be subject to the flood insurance purchase requirements unless the owner receives a Letter of Map Amendment from FEMA.
- E. The Director shall make interpretations where needed, as to the exact location of the boundaries of the Regulatory Floodplain, the SFHA and the Protected Area where there appears to be a conflict between the mapped SFHA boundary and actual field conditions as determined by the base flood elevation and ground elevations. The applicant may appeal the Director's interpretation of the location of the boundary to the Hearing Examiner according to the procedures described in SMC 20.30.200 through 20.30.270.

13.12.300. Regulatory Data

A. Regulatory Floodplain

The Regulatory Floodplain is comprised of the Special Flood Hazard Area and all Protected Areas within the jurisdiction of City of Shoreline. The term also includes areas delineated pursuant to Section 13.12.300.E.

B. Special Flood Hazard Area

The Special Flood Hazard Area (SFHA) is the area subject to flooding by the base flood and subject to the provisions of this chapter. It is identified by the Federal Emergency Management Agency in a scientific and engineering report entitled *Flood Insurance Study for King County and Incorporated Areas* dated November 6, 2010, Flood Insurance Study Number 53033CV001B, and any revisions thereto, with an accompanying Flood Insurance Rate Map (FIRM)), and any revisions thereto, are hereby adopted by reference and declared to be a part of this chapter. The Flood Insurance Study and the FIRM are on file at 17500 Midvale Ave N, Shoreline, WA 98133.

C. Flood Hazard Data

1. The base flood elevation for the SFHAs of City of Shoreline shall be as delineated on the 100-year flood profiles in the Flood Insurance Study for King County.
2. The base flood elevation for each SFHA delineated as a "Zone AH" or "Zone AO" shall be that elevation (or depth) delineated on the Flood Insurance Rate Map. Where base flood depths are not available in Zone AO, the base flood elevation shall be considered two feet above the highest grade adjacent to the structure.
3. The base flood elevation for all other SFHAs shall be as defined in Sections 13.12.300.C.6 and 13.12.300.E.4.
4. The Flood Protection Elevation (FPE) shall be the base flood elevation plus one foot.
5. The floodway shall be as delineated on the Flood Insurance Rate Map or in accordance with Sections 13.12.300.C.6 and 13.12.300.E.4.
6. Where base flood elevation and floodway data have not been provided in Special Flood Hazard Areas, the Director shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a Federal, State, or other source.
7. Where elevation data is not available either through the Flood Insurance Study, FIRM, or from another authoritative source, applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of

reasonableness includes use of historical data, high water marks, photographs of past flooding, etc. Failure to elevate at least two feet above the highest adjacent grade in these zones may result in higher insurance rates.

D. Protected Area

The Protected Area is comprised of those lands that lie within the boundaries of the floodway, and the riparian habitat zone, and the channel migration area.

1. In riverine areas, where a floodway has not been designated in accordance with Sections 13.12.300.C.5, 13.12.300.C.6, or 13.12.300.E.5, the Protected Area is comprised of those lands that lie within the boundaries of the riparian habitat zone, the channel migration area, and the SFHA.
2. The riparian habitat zone includes those watercourses within the SFHA and adjacent land areas that are likely to support aquatic and riparian habitat. The size and location of the riparian habitat zone is dependent on the type of water body. The riparian habitat zone includes the water body and adjacent lands, measured perpendicularly from ordinary high water on both sides of the water body:
 - a. Type S: streams that are designated “shorelines of the State:” 250 feet
 - b. Type F: fish bearing streams greater than 5 feet wide and marine shorelines: 200 feet
 - c. Type F: streams less than 5 feet wide and lakes: 150 feet
 - d. Type N: nonsalmonid bearing perennial and seasonal streams with unstable slopes: 225 feet
 - e. All other Type N: nonsalmonid bearing perennial and seasonal streams: 150 feet
3. Channel Migration Area:
 - a. The channel migration area shall be the channel migration zone plus 50 feet.
 - b. Where a channel migration zone has not yet been mapped, the provisions of Section 13.12.300.E.6 shall apply at the time of permit application.
 - c. Where more than one channel migration zone has been delineated, the Director shall use the delineation that has been adopted for other local regulatory purposes.

E. New Regulatory Data

1. All requests to revise or change the flood hazard data, including requests for a Letter of Map Revision and a Conditional Letter of Map Revision shall be reviewed by the Director.
 - a. The Director shall not sign the Community Acknowledgement Form for any requests based on filling or other development, unless the applicant for the letter documents that such filling or development complies with this chapter.
 - b. The Director shall not approve a request to revise or change a floodway delineation until FEMA has issued a Conditional Letter of Map Revision that approves the change.
2. The Director shall use the most restrictive data available for the channel migration zone, floodways, future conditions, and riparian habitat areas.
3. If an applicant disagrees with the regulatory data prescribed by this chapter, he/she may submit a detailed technical study needed to replace existing data with better data in accordance with FEMA mapping guidelines or *Regional Guidance for Hydrologic and Hydraulic Studies in Support of the Model Ordinance for Floodplain Management and the Endangered Species Act*, 2010, FEMA Region 10. If the data in question are shown on the published FIRM, the submittal must also include a request to FEMA for a Conditional Letter of Map Revision.
4. Where base flood elevation data are not available in accordance with Section 13.12.300.C, applicants for approval of new subdivisions and other proposed developments, including proposals for manufactured home parks and subdivisions greater than 50 lots or 5 acres, whichever is smaller, shall include such data with their permit applications.
5. Where floodway delineation is not available in accordance with Section 13.12.300.C, the floodway will be designated to be one-half the distance of the mapped 100-year floodplain at any point, and the prohibition on floodway development applies, unless a floodway study indicates otherwise. This provision applies to any floodplain development permit, including those for substantial improvements.
6. Where channel migration zone data are not available in accordance with Section 13.12.300.D.3, the permit applicant shall either:
 - a. Designate the entire SFHA as the channel migration zone, or
 - b. Identify the channel migration area in accordance with *Regional Guidance for Hydrologic and Hydraulic Studies in Support of the Model Ordinance for Floodplain Management and the Endangered Species Act*, 2010, FEMA Region 10.
7. All new hydrologic and hydraulic flood studies conducted pursuant to this section shall consider future conditions and the cumulative effects from anticipated future land use changes in accordance with *Regional Guidance for Hydrologic and Hydraulic Studies in Support of the Model Ordinance for Floodplain Management and the Endangered Species Act*, 2010, FEMA Region 10.

13.12.400. General Development Standards

A. Subdivisions

This section applies to all subdivision proposals, short subdivisions, short plats, planned developments, and new manufactured housing parks, as well as expansions to manufactured housing parks.

1. All proposals shall be consistent with the need to minimize flood damage.
2. The proposed subdivision should have one or more new lots in the Regulatory Floodplain set aside for open space use through deed restriction, easement, subdivision covenant, or donation to a public agency.
3. In the Regulatory Floodplain outside the Protected Area, zoning must maintain a low density of floodplain development. The density of the development in the portion of the development outside the Regulatory Floodplain may be increased to compensate for land in the Regulatory Floodplain preserved as open space in accordance with SMC Chapter 20.70.150A.
4. If a parcel has a buildable site outside the Regulatory Floodplain, the parcel shall not be subdivided to create a new lot, tract, or parcel that does not have a buildable site outside the Regulatory Floodplain. This provision does not apply to lots set aside from development and preserved as open space.
5. All proposals shall have utilities and facilities, such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage.
6. All proposals shall ensure that all subdivisions have at least one access road connected to land outside the Regulatory Floodplain with the surface of the road at or above the FPE wherever possible.
7. All proposals shall have adequate drainage provided to avoid exposure to water damage **and to reduce exposure to flood damage**.
8. The final recorded subdivision plat shall include a notice that part of the property is in the SFHA, riparian habitat zone, and/or channel migration area, as appropriate.

B. Site Design

1. Structures and other development shall be located to avoid flood damage.
 - a. If a lot has a buildable site out of the Regulatory Floodplain, whenever possible all new structures shall be located in that area.
 - b. If a lot does not have a buildable site out of the Regulatory Floodplain, all new structures, pavement, and other development must be sited in the location that has the least impact on habitat by locating the structures as far from the water body as possible, or by placing the structures on the highest land on the lot,
 - c. All **new** structures shall be setback at least 15 feet from the Protected Area.
2. All new development shall be designed and located to minimize the impact on flood flows, flood storage, water quality, and habitat.

- a. Stormwater and drainage features shall incorporate low impact development techniques, if technically feasible, that mimic predevelopment hydrologic conditions, such as stormwater infiltration, rain gardens, grass swales, filter strips, disconnected impervious areas, permeable pavement, and vegetative roof systems.
 - b. If the proposed project will create new impervious surfaces so that more than 10 percent of the portion of the lot in the Regulatory Floodplain is covered by impervious surface, the applicant shall demonstrate that there will be no net increase in the rate and volume of the stormwater surface runoff that leaves the site or that the adverse impact is mitigated, as provided by Section 13.12.600.F and 13.12.600.G.
3. The site plan required in Section 13.12.700.D shall account for surface drainage to ensure that:
 - a. Existing and new buildings on the site will be protected from stormwater runoff, and
 - b. The project will not divert or increase surface water runoff onto neighboring properties.
4. If the proposed project does not meet the criteria of Section 13.12.400.B.1 and 13.12.400.B.2, the proponent shall conduct a habitat impact assessment pursuant to 13.12.600.F and, if necessary, the proponent shall prepare and implement a habitat mitigation plan pursuant to Section 13.12.600.G.

C. Hazardous Materials

1. No new development shall create a threat to public health, public safety, or water quality. Chemicals, explosives, gasoline, propane, buoyant materials, animal wastes, fertilizers, flammable liquids, pollutants, or other materials that are hazardous, toxic, or a threat to water quality are prohibited from the Regulatory Floodplain. This prohibition does not apply to small quantities of these materials kept for normal household use. This prohibition does not apply to the continued operations of existing facilities and structures, reuse of existing facilities and structures, or functionally dependent facilities or structures.
2. If the proposed project cannot meet Section 13.12.400.C.1 of this chapter then the proponent shall conduct a habitat assessment in accordance with Sections 13.12.600.F and 13.12.600.G.

D. Critical Facilities

1. Construction of new critical facilities shall be, to the extent possible, located outside the limits of the Regulatory Floodplain.
2. Construction of new critical facilities in the Regulatory Floodplain shall be permissible if no feasible alternative site is available, provided:
 - a. Critical facilities shall have the lowest floor elevated three feet above the base flood elevation or to the height of the 500-year flood, whichever is higher.
 - b. Access to and from the critical facility shall be protected to the elevation of the 500-year flood.
 - c. If there is no available data on the 500-year flood, the permit applicants shall develop the needed data in accordance with FEMA mapping guidelines.

E. Sand Dunes

Manmade alterations of sand dunes within Zones V1-30, VE, and V which would increase potential flood damage are prohibited.

13.12.500 Structure Protection Standards.

A. In the Special Flood Hazard Area, all new structures and substantial improvements shall be protected from flood damage below the Flood Protection Elevation, including:

- Construction or placement of a new structure.
- Reconstruction, rehabilitation, or other improvement that will result in a substantially improved building.
- Repairs to an existing building that has been substantially damaged.
- Placing a manufactured home on a site.
- Placing a recreational vehicle or travel trailer on a site for more than 180 days.

B. Flood Protection Standards.

1. All new structures and substantial improvements shall have the lowest floor, including basement, elevated above the FPE.
2. The structure shall be aligned parallel with the direction of flood flows where practicable.
3. The structure shall be anchored to prevent flotation, collapse, or lateral movement of the structure.
4. All materials below the FPE shall be resistant to flood damage and firmly anchored to prevent flotation. Materials harmful to aquatic wildlife, such as creosote, are prohibited below the FPE.
5. Electrical, heating, ventilation, ductwork, plumbing, and air-conditioning equipment and other service facilities shall be elevated above the FPE. Water, sewage, electrical, and other utility lines below the FPE shall be constructed to prevent water from entering or accumulating within them during conditions of flooding.
6. Fully enclosed areas below the lowest floor that are subject to flooding shall be used only for parking, storage, or building access and shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement shall either be certified by a registered professional engineer or licensed architect and/or meet or exceed the following minimum criteria:
 - a. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
 - b. The bottom of all openings shall be no higher than one foot above grade.
 - c. Openings may be equipped with screens, louvers, or other coverings or devices if they permit the automatic entry and exit of floodwaters.
7. In Zones V, V1-30 and VE, new structures and substantial improvements shall be elevated on pilings or columns so that:

- a. A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction, and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting these provisions.
- b. The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated **at least one foot** above the FPE.
- c. The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a one percent chance of being equaled or exceeded in any given year (100-year mean recurrence interval).
- d. The areas below the lowest floor that are subject to flooding shall be free of obstruction.
 - e. The structure or improvement shall be located landward of the reach of mean high tide.
 - f. The use of fill for structural support of a structure or addition is prohibited.

C. Nonresidential Construction

1. New construction and substantial improvement of any commercial, industrial, or other nonresidential structure shall be elevated in accordance with Section 13.12.500.**B**.
2. As an alternative to elevation, a new or substantial improvement to a nonresidential structure and its attendant utility and sanitary facilities may be dry floodproofed in A Zones. The project must meet the following:
 - a. The structure is not located in Zones V, V1-30, or VE; and
 - b. **The structure shall be floodproofed so that one foot or more above base flood elevation is watertight with walls substantially impermeable to the passage of water;** and
 - c. The structural components are capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
 - d. The plans are certified by a registered professional engineer or licensed architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the Director as set forth in Sections 13.12.800.A.**3** and 13.12.700.E.1.a.

D. Manufactured Homes

All manufactured homes to be placed or substantially improved on sites shall be:

1. Elevated on a permanent foundation in accordance with Section 13.12.500.B, and
2. Securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement. Methods of anchoring may include, but are not to be limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to other applicable anchoring requirements for resisting wind forces.

E. Recreational Vehicles

Recreational vehicles placed on sites shall:

1. Be on the site for fewer than 180 consecutive days, or
2. Be fully licensed and ready for highway use, on their wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or
3. **Be permitted according to Section 13.12.700 and meet the requirements of Section 13.12.500.**

F. Appurtenant Structures

A structure which is on the same parcel of property as the principle structure and the use of which is incidental to the use of the principle structure and is not used for human habitation may be exempt from the elevation requirement of Section 13.12.500.**B.1**, provided:

1. It is used only for parking or storage;
2. It is constructed and placed on the building site so as to offer minimum resistance to the flow of floodwaters;
3. It is anchored to prevent flotation which may result in damage to other structures;
4. All portions of the structure below the FPE must be constructed of flood-resistant materials;
5. Service utilities such as electrical and heating equipment meet the standards of Sections 13.12.500.**B.5** and 13.12.500.**G**;
6. It has openings to allow free flowage of water that meet the criteria in Section 13.12.500.**B.6**;
7. The project meets all the other requirements of this chapter, including Section 13.12.600.

G. Utilities

1. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems;
2. Water wells shall be located outside the floodway and shall be protected to the FPE;
3. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.
4. **Onsite waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding. A habitat impact assessment shall be conducted as a condition of approval of an onsite waste disposal system to be located in the Regulatory Floodplain.**

13.12.600. Habitat Protection Standards

- A. The provisions of this Section apply in the Regulatory Floodplain. Activities listed herein must meet all Federal, State, and City of Shoreline requirements.
- B. Native Vegetation
 - 1. The site plan required in Section 13.12.700.D shall show existing native vegetation.
 - 2. In the riparian habitat zone, native vegetation shall be left undisturbed, except as provided in 13.12.700.C and 13.12.700.B.3.
 - 3. Outside the riparian habitat zone, removal of native vegetation shall not exceed 35 percent of the surface area of the portion of the site in the Regulatory Floodplain. Native vegetation in the riparian habitat zone portion of the property can be counted toward this requirement.
 - 4. If the proposed project does not meet the criteria of Section 13.12.600.B.2 and Section 13.12.600.B.3, a habitat impact assessment shall be conducted pursuant to Section 13.12.600.F and, if necessary, a habitat mitigation plan shall be prepared and implemented pursuant to Section 13.12.600.G.
- C. Floodway Standards
 - 1. In addition to the other requirements of this chapter, a project to develop in the floodway as delineated pursuant to Sections 13.12.300.C.5, 13.12.300.C.6, or 13.12.300.E.5 shall meet the following criteria:
 - a. The applicant shall provide a certification by a registered professional engineer demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed development would not result in any increase in flood levels during the occurrence of the base flood discharge.
 - b. Construction or reconstruction of residential structures is prohibited within designated floodways, except for the following. The following exceptions must meet all other requirements in the chapter, including Section 13.12.600.C.1.a.
 - 1) Repairs, reconstruction, or improvements to a residential structure which do not increase the ground floor area, providing the cost of which does not exceed 50 percent of the market value of the structure either, (a) before the repair, or reconstruction is started, or (b) if the structure has been damaged, and is being restored, before the damage occurred. Any project for improvement of a structure to correct existing violations of State or local health, sanitary, or safety code specifications which have been identified by a local code enforcement official and which are the minimum necessary to assure safe living conditions, or to an historic structure, may be excluded from the 50 percent calculations.
 - 2) Repairs, replacement, reconstruction, or improvements to substantially damaged residential dwellings other than farmhouses that do not increase the building's total square footage of encroachment and are consistent with all requirements of WAC 173-158-076; or
 - 3) Repairs, reconstruction, or improvements to residential structures identified as historic structures that do not increase the building's dimensions.

2. In riverine Special Flood Hazard Areas where a floodway has not been delineated pursuant to Sections 13.12.300.C.5, 13.12.300.C.6, or 13.12.300.E.5, the applicant for a project to develop in the SFHA shall provide a certification by a registered professional engineer demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed development and all other past or future similar developments would not cumulatively result in an increase of flood levels during the occurrence of the base flood discharge by more than 0.01 feet.

D. Compensatory Storage

New development shall not reduce the effective flood storage volume of the Regulatory Floodplain. A development proposal shall provide compensatory storage if grading or other activity eliminates any effective flood storage volume. Compensatory storage shall:

1. Provide equivalent volume at equivalent elevations to that being displaced. For this purpose, "equivalent elevation" means having similar relationship to ordinary high water and to the best available 10-year, 50-year and 100-year water surface profiles;
2. Be hydraulically connected to the source of flooding; and
3. Provide compensatory storage in the same construction season as when the displacement of flood storage volume occurs and before the flood season begins.
4. The newly created storage area shall be graded and vegetated to allow fish access during flood events without creating fish stranding sites.

E. Alteration of Watercourses

1. In addition to the other requirements in this Section 13.12.600, an applicant for a project that will alter or relocate a watercourse shall also submit a request for a Conditional Letter of Map Revision (CLOMR), where required by the Federal Emergency Management Agency. The project will not be approved unless FEMA issues the CLOMR (which requires ESA consultation) and the provisions of the letter are made part of the permit requirements.
2. The Director shall notify adjacent communities and the Department of Ecology prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.
3. Maintenance shall be provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished. If the maintenance program does not call for cutting of native vegetation, the system shall be oversized at the time of construction to compensate for said vegetation growth or any other natural factor that may need future maintenance.

F. Habitat Impact Assessment

Unless allowed under Sections 13.12.700.B and 13.12.700.C, a permit application to develop in the Regulatory Floodplain shall include an assessment of the impact of the project on federal, state or locally protected species and habitat, water quality and aquatic and riparian habitat. The assessment shall be performed by a qualified professional as defined by SMC chapter 20.20.042 who is approved by the City or under contract to the City: The assessment shall be:

1. A Biological Evaluation or Biological Assessment developed per 50 CFR 402.12 to initiate Federal Interagency consultation under Endangered Species Act section 7(a)(2); or
2. Documentation that the activity fits within Section 4(d) of the Endangered Species Act; or
3. Documentation that the activity fits within a Habitat Conservation Plan approved pursuant to Section 10 of the Endangered Species Act, where any such assessment has been prepared or is otherwise made available; or
4. An assessment prepared in accordance with *Floodplain Habitat Assessment and Mitigation Draft Regional Guidance, 2011*, FEMA Region 10. The assessment shall determine if the project would adversely affect:
 - a. Species that are Federal, state, or local listed as threatened or endangered.
 - b. The primary constituent elements for critical habitat, when designated,
 - c. Essential Fish Habitat designated by the National Marine Fisheries Service,
 - d. Fish and wildlife habitat conservation areas,
 - e. Other protected areas and elements necessary for species conservation.

G. Habitat Mitigation Plan

1. If the assessment conducted under Section 13.12.600.F concludes the project is expected to have an adverse effect on water quality and/or aquatic or riparian habitat or habitat functions, the applicant shall provide a plan to mitigate those impacts, in accordance with *Floodplain Habitat Assessment and Mitigation Draft Regional Guidance, 2011*, FEMA Region 10.
 - a. If the USFWS or NMFS issues an Incidental Take Permit under Section 10 ESA, Biological Opinion under Section 13.12.600, ESA; the permit can be considered to qualify as a plan to mitigate those impacts.
 - b. If the project is located outside the Protected Area, the mitigation plan shall include such avoidance, minimization, restoration, or compensation measures so that indirect adverse effects of development in the floodplain (effects to stormwater, riparian vegetation, bank stability, channel migration, hyporheic zones, wetlands, large woody debris, etc.) are mitigated such that equivalent or better habitat protection is provided.
 - c. No new stream crossings are allowed outside the Protected Area unless approval has been obtained as stated in Section 13.12.600.G.1.a.
 - d. If the project is located in the Protected Area, the mitigation plan shall stipulate avoidance measures as are needed to ensure that there is no adverse effect during any phase of the project.
2. The plan's habitat mitigation activities shall be incorporated into the proposed project. The floodplain development permit shall be based on the redesigned project and its mitigation components.
3. As required in Section 13.12.700.E the Building Official shall not issue a certification of use or a certificate of occupancy until all work identified in the Habitat Assessment and

mitigation plan has been completed or the applicant has provided the necessary assurance that unfinished portions of the project will be completed, in accordance with Section 13.12.700.E.2.

13.12.700 Permits

A. Floodplain Development Permit

1. For all applicable development within the regulatory floodplain, a floodplain development permit shall be obtained before construction or development occurs.
2. Activities allowed by SMC Title 20 Shoreline Development Code are allowed, provided they meet all the other requirements of this chapter, including the analysis required in Section 13.12.600.C and the habitat impact assessment required under Section 13.12.600.F, a floodplain development permit is issued, and all other Federal, State, and local requirements are met.
3. A floodplain development permit is a Type A permit administered according to SMC 20.30.040, except that the Director shall approve extensions beyond 180 days following complete application and following issuance.
4. All activities within the Regulatory Floodplain must meet all applicable Federal, State, and local requirements.

B. Partial Permit Exemption

The following activities require a floodplain development permit and are allowed in the Regulatory Floodplain without the analysis required in Section 13.12.600.C or the habitat impact assessment required under Section 13.12.600.F, providing all other requirements are met, including Federal, State, and local requirements:

1. Repair or remodeling of an existing structure, if the repair or remodeling is not a substantial improvement, or a repair of substantial damage.
2. Expansion of an existing structure that is no greater than ten percent beyond its existing footprint, provided that the repairs or remodeling are not a substantial improvement, or a repair of substantial damage. This measurement is counted cumulatively from September 22, 2011. If the structure is in the floodway, there shall be no change in the dimensions perpendicular to flow.
3. Activities with the sole purpose of creating, restoring, or enhancing natural functions associated with floodplains, streams, lakes, estuaries, marine areas, habitat, and riparian areas, provided the activities do not include structures, grading, fill, or impervious surfaces.
4. Development of open space and recreational facilities, such as parks, and trails, that do not include structures, fill, impervious surfaces or removal of more than 5% of the native vegetation on that portion of the property in the Regulatory Floodplain.
5. Repair to onsite septic systems provided the ground disturbance is the minimal necessary.
6. Alterations in response to emergencies which threaten the public health, safety and welfare or which pose and imminent risk of damage to private property consistent with the requirements of SMC 20.80.030(A) ~~require a floodplain permit application within~~
following.

C. Permit Exemptions

Activities that do not meet the definition of “development” SMC Chapter 13.12.105 are allowed in the Regulatory Floodplain and do not require a floodplain development permit. The following are examples of activities not considered development or “man-made changes to improved or unimproved real estate.”

1. Routine maintenance of landscaping that does not involve grading, excavation, or filling;
2. Removal of noxious weeds and replacement of nonnative vegetation with native vegetation **provided no earth movement occurs**;
3. Removal of hazard trees consistent with the requirements of SMC 20.50.310(1) or SMC 20.80.030(H);
4. Normal maintenance of structures, such as reroofing and replacing siding, provided such work does not qualify as a substantial improvement;
5. Normal maintenance of above ground utilities and facilities, such as replacing downed power lines and utility poles;
6. Normal street and road maintenance, including filling potholes, repaving, and installing signs and traffic signals, but not including expansion of paved areas;
7. Normal maintenance of a levee or other flood control facility prescribed in the operations and maintenance plan for the levee or flood control facility are allowed in the Regulatory Floodplain without need for a floodplain development permit. Normal maintenance does not include repair from flood damage, expansion of the prism, expansion of the face or toe or addition for protection on the face or toe with rock armor;
8. Normal maintenance, operation or repair of publically improved recreation areas as long as any such activity does not include expansion of uses and or facilities into a previously unimproved portion of the regulatory floodplain and are consistent with the standards of Title 20.80 Critical areas, best available science or adaptive management plans as recognized by the City; and
9. Site investigative work and studies necessary for preparing land use applications.

D. Floodplain Development Permit Application

Application for a floodplain development permit shall be made on forms furnished by the Director and shall include all of the following that are applicable,:

1. Assessment of the impact on those factors that contribute to increased flood hazard and degradation of habitat. If the assessment concludes that the project will cause an adverse effect outside the Protected Area, the permit will be denied unless the project impacts are mitigated (avoided, rectified or compensated).
2. A description of the extent to which a stream, lake, or other water body, including its shoreline, will be altered or relocated as a result of the proposed development.
3. Documentation that the applicant will apply for all necessary permits required by Federal, and State law. The application shall include written acknowledgment that the applicant understands that the final certification of use or certificate of occupancy will be issued only if the applicant provides copies of the required Federal, and State permits or letters stating that a permit is not required. The floodplain permit is not valid if those other

permits and approvals are not obtained prior to any ground disturbing work or structural improvements.

4. Acknowledgment by the applicant that representatives of any Federal, or State unit of government with regulatory authority over the project are authorized to enter upon the property to inspect the development.
5. Site plan(s), meeting City criteria and showing:
 - a. The nature, location, dimensions, and elevations of the property in question;
 - b. Names and location of all lakes, water bodies, water-ways and drainage facilities within 300 feet of the site;
 - c. The elevations of the 10-, 50-, 100-, and 500-year floods, where the data are available. Elevation datum shall be the North America Vertical Datum of 1988 (NAVD 1988) with conversions provided as needed;
 - d. The boundaries of the Regulatory Floodplain, SFHA, floodway, riparian habitat zone, and channel migration area, delineated in accordance with Section 13.12.300;
 - e. The proposed drainage system including, but not limited to storm sewers, overland flow paths, detention facilities and roads;
 - f. Existing and proposed structures, fill, pavement and other impervious surfaces, and sites for storage of materials;
 - g. All wetlands and the required buffers;
 - h. The riparian habitat zone for all development proposals within 300 feet of any stream or shoreline;
 - i. Designated fish and wildlife habitat conservation areas, and habitat areas identified for conservation or protection under state or federal or local laws or regulations, for example Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act, Growth Management Act, Shorelines Management Act, or Priority Habitat and Species List;
 - j. Existing native vegetation and proposed revegetation.
6. If the proposed project involves grading, excavation, or filling, the site plan shall include proposed post-development terrain at one-foot contour intervals within the SFHA.
7. If the proposed project includes a new structure, substantial improvement, or repairs to a substantially damaged structure that will be elevated, the application shall include the Flood Protection Elevation for the building site and the proposed elevations of the following:
 - a. The top of bottom floor, including basement, crawl space, or enclosure floor,
 - b. The top of the next higher floor,
 - c. The bottom of the lowest horizontal structural member (in V Zones only),
 - d. The top of the slab of an attached garage,
 - e. The lowest elevation of machinery or equipment servicing the structure,

- f. The lowest adjacent (finished) grade next to structure,
 - g. The highest adjacent (finished) grade next to structure,
 - h. The lowest adjacent grade at the lowest elevation of a deck or stairs, including structural support,
8. If the proposed project includes a new structure, substantial improvement, or repairs to a substantially damaged nonresidential structure that will be dry floodproofed, the application shall include the FPE for the building site and the elevation in relation to the datum of the effective FIRM to which the structure will be dry floodproofed, along with a certification by a registered professional engineer or licensed architect that the dry floodproofing methods meet the floodproofing criteria in Section 13.12.500.B.
 9. The proposed project must be designed and located so that new structural flood protection is not needed.

E. Certificate of Occupancy

1. The Building Official shall not issue certificate of occupancy or final a building permit for a new or substantially improved structure or an addition until:
 - a. The Permittee provides a properly completed Elevation or Floodproofing Certificate showing finished construction data as required by Section 13.12.800.A;
 - b. All work identified in a mitigation plan required by Sections 13.12.600.F and 13.12.600.G has been completed according to the plan's schedule;
 - c. The Permittee provides copies of all required Federal, State, and local permits noted in the permit application per Section 13.12.700.D.2;
 - d. All other provisions of this chapter have been met.
2. The Director may accept a financial guarantee, in an amount determined by the Director, to ensure completion of portions of the project following issuance of the certification of use or certificate of occupancy.

13.12.800 Administration

A. Records

The Director shall retain the following records:

1. All records pertaining to the provisions of this chapter.
2. Where base flood elevation data have been obtained pursuant to Sections 13.12.300.C and 13.12.300.E, the Director shall obtain, record, and maintain the actual "finished construction" elevations for the locations listed in Section 13.12.700.D.7. This information shall be recorded on a current FEMA Elevation Certificate (FEMA Form 81-31), signed, and sealed by a professional land surveyor, currently licensed in the State of Washington.
3. For all new or substantially improved dry floodproofed nonresidential structures, where base flood elevation data has been obtained pursuant to Sections 13.12.300.C and 13.12.300.E, the Director shall obtain, record and maintain the elevation (in relation to the datum of the effective FIRM) to which the structure was floodproofed. This

information shall be recorded on a current FEMA Floodproofing Certificate (FEMA Form 81-65), professional engineer, currently licensed in the State of Washington.

B. Appeals

Any requirement, decision, or determination made by the Director in the enforcement or administration of this chapter is appealable according to the procedures described in SMC Chapters 20.30.200 through 20.30.270.

C. Floodplain Variance

1. Each floodplain variance pertains to a physical piece of property. The variance is not personal in nature and is not based on the inhabitants or their health, economic, or financial circumstances.
2. The Director shall review and issue variances from the requirements of this chapter.
3. Upon consideration of the following criteria and the purposes of this chapter, the Director may attach such conditions to the granting of the floodplain variance as deemed necessary to further the purposes of this chapter.

4. Criteria

- a. No floodplain variance shall be granted to the requirements of this chapter unless the applicant demonstrates that:
 - 1) The development project cannot be located outside the Regulatory Floodplain;
 - 2) An exceptional hardship would result if the variance were not granted;
 - 3) The relief requested is the minimum necessary;
 - 4) The applicant's circumstances are unique and do not represent a problem faced by other area properties;
 - 5) If the project is within a designated floodway, no increase in flood levels during the base flood discharge would result;
 - 6) The project will not adversely affect features or quality of habitat supporting local, state or federally protected fish or wildlife;
 - 7) There will be no additional threat to public health, safety, beneficial stream or water uses and functions, or creation of a nuisance;
 - 8) There will be no additional public expense for flood protection, lost environmental functions, rescue or relief operations, policing, or repairs to streambeds, shorelines, banks, roads, utilities, or other public facilities; and
 - 9) All requirements of other permitting agencies will still be met including the ESA.
- b. In reviewing applications for a floodplain variance, the Director shall consider all technical evaluations, all relevant factors, standards specified in other sections of this chapter, and:
 - 1) The danger to life and property due to flooding or erosion damage;
 - 2) The danger that materials may be swept onto other lands to the injury of others;

- 3) The safety of access to the property in times of flood for ordinary and emergency vehicles;
 - 4) The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site;
 - 5) The susceptibility of the proposed facility and its contents to flood or erosion damage and the effect of such damage on the individual owner;
 - 6) The availability of alternative locations for the proposed use which are not subject to flooding or channel migration and are not in designated fish and wildlife habitat conservation areas;
 - 7) The relationship of the proposed use to the comprehensive plan, growth management regulations, critical area regulations, the shoreline management program, and floodplain management program for that area;
 - 8) The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges;
 - 9) The potential of the proposed development project to destroy or adversely affect a fish and wildlife habitat conservation area or create an adverse effect to federal, state or locally protected species or habitat; and
 - 10) The potential of the proposed development project to affect, or be affected by, channel migration.
- c. A floodplain variance requested in connection with restoration of a historic site, building, or structure may be granted using the following criteria:
- 1) The repair or rehabilitation is the minimum necessary to preserve the historic character and design of the site, building or structure; and
 - 2) The repair or rehabilitation will not result in the site, building, or structure losing its historic designation.
- d. A floodplain variance may be requested for new construction, substantial improvements, and other development necessary for the conduct of functionally dependent uses provided:
- 1) There is good and sufficient cause for providing relief;
 - 2) The variance does not cause a rise in the 100 year flood level within the regulatory floodway;
- e. A floodplain variance to the provisions of Section 13.12.500 of this chapter may be issued for a structure on a small or irregularly shaped lot contiguous to and surrounded by lots with existing structures constructed below the FPE, providing the other variance criteria are met. The applicant for such a variance shall be notified, in writing, that the structure (i) will be subject to increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage and (ii) such construction below the FPE increases risks to life and property. Such notification shall be maintained with a record of all variance actions.

D. Violations

Any activity or action caused or permitted to exist in violation of this chapter is a threat to public health, safety, and welfare, and is declared and deemed a public nuisance. Such violations are subject to enforcement under SMC 20.30.720 through 20.30.790. No development shall be undertaken or placed in the areas regulated by this chapter without full compliance with the terms of this chapter and other applicable regulations of the City of Shoreline.

E. Interpretation

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

1. Considered as minimum requirements;
2. Liberally construed in favor of the City; and,
3. Deemed neither to limit nor to repeal any other powers granted under State statutes.

F. Abrogation and Greater Restrictions

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

G. Warning and Disclaimer of Liability

The degree of property and habitat protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods and movement of channels outside of mapped channel migration areas can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This chapter does not imply that land outside the regulated areas or development permitted within such areas will be free from flood or erosion damage. This chapter shall not create liability on the part of City of Shoreline or any officer or employee thereof for any damage to property or habitat that result from reliance on this chapter or any administrative decision lawfully made hereunder.

H. Severability

The provisions and sections of this chapter shall be deemed separable and the invalidity of any portion of this chapter shall not affect the validity of the remainder.

ATTACHMENT B.

From: Radabaugh, David (ECY)
Sent: Friday, June 08, 2012 1:21 PM
To: 'blandau@shorlinewa.gov'; 'jnammi@shorelinewa.gov'
Subject: City of Shoreline Draft Flood Ordinance

Brian and Juniper,

Thank you for the opportunity to comment on the draft flood damage prevention ordinance. I have the following comments:

1. Model Ordinance Checklist item 10, provision 5.1-3(4) relating to septic systems must be included unless the Shoreline Municipal Code always prohibits new or replaced septic systems. If there is any circumstance where a septic system could be allowed, then, this provision regarding septic systems is required.
2. Model Ordinance Checklist item 11, provision 5.1-4(3) relating to subdivision drainage must be included. This provision requires that:

All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage.

3. Model Ordinance Checklist item 12, provision 5.1-5 relating to assuring that proposed construction is reasonably safe from flooding when no elevation data is available must be addressed. This states:

Where elevation data is not available either through the Flood Insurance Study, FIRM, or from another authoritative source, applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two feet above the highest adjacent grade in these zones may result in higher insurance rates.

4. Model Ordinance Checklist item 15, provision 5.2-2(1) requires that commercial buildings that are not elevated must be floodproofed. While proposed Shoreline Municipal Code (SMC) 13.12.500.C.2.c and d relate to this concern, the code must clearly state that the building must be floodproofed.
5. Model Ordinance Checklist item 22, provision 5.6(1) relates to elevations or new construction or substantial improvements must be on pilings or columns in V zones. This requirement must be clearly stated in the code. This states:

All new construction and substantial improvements in Zones VI-30 and VE (V if base flood elevation data is available) on the community's FIRM shall be elevated on pilings and columns so that:

i. *The bottom of the lowest horizontal structural member of the lowest floor (excluding pilings or columns) is elevated one foot or more above the base flood level; and*

ii. *The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a one percent chance of being equaled or exceeded in any given year (100-year mean recurrence interval).*

A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction, and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of i and ii, above.

6. Model Ordinance Checklist item 22, provision 5.6(2) relating to elevation of the lowest structural member of new construction or substantial improvement must be included for V zones. This states:

Obtain the elevation (in relation to mean sea level) of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) of all new and substantially improved structures in Zones VI-30, VE, and V on the community's FIRM and whether or not such structures contain a basement. The (Local Administrator) shall maintain a record of all such information.

7. Model Ordinance Checklist item 22, provision 5.6(6) relating to the prohibition of man-made alteration of dunes in V zones must be included. This states:

Prohibit man-made alteration of sand dunes within Zones VI-30, VE, and V on the community's FIRM which would increase potential flood damage.

8. Model Ordinance Checklist item 22, provision 5.6(8) relating to standards for recreational vehicles in V zones needs to provide that permanently situation recreational vehicles need to meet the same standards as other new construction in V zones. This states:

Recreational vehicles placed on sites within Zones VI-30, V, and VE on the community's FIRM either:

i) *Be on the site for fewer than 180 days, or*

ii) *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*

iii) *Meet the requirements of Section 4.1-1 (development permit required) and paragraphs 5.6(1) through (6) of this section.*

9. For the definition of “Substantial Improvement” , the historic places exception should be added from Model Ordinance Checklist definition for “Substantial Improvement.”
10. SMC 13.12.200.E may not preclude the requirement for a Letter of Map Change (LOMC) including a Letter of Map Amendment (LOMA) in situations where a site is mapped within an AE or VE zone but the natural ground elevations are above the BFE.
11. SMC 13.12.700.C.2 should add that no earth movement can occur with exempt noxious weed removal.
12. SMC 13.12.700.C.8 should add that retroactive permitting is required. It is entirely reasonable to exempt activities necessary to address emergencies during the emergency. If floodplain development remains after the emergency, then a retroactive floodplain development permit should be obtained.
13. SMC 13.12.700.D.5.c appears to have a typo, referring to 1998 when 1988 is intended.

If you have questions regarding these comments, please contact me.

David Radabaugh, AICP, CFM
Environmental Planner
Department of Ecology
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ATTACHMENT C1. Boeing Creek FEMA Floodplain Regulated by Floodplain Management Ordinance



Attachment C-1

Legend

City Boundary

Tax Parcel

FMO Regulated Flood Zone

A Zone

High Risk Flood Area
Areas with a 1 % or
greater chance of flooding
(no base flood elevations
determined)

Unregulated Flood Zone

X ZONE

**Moderate to Low Risk
Flood Area**

0 105 210 420 630 840 Feet



No warranties of any sort,
including accuracy,
fitness, or merchantability,
accompany this product.

**Data Source: FEMA 1995 FIRM
King County**

**High Risk Flood Areas subject to Floodplain Management Ordinance (FMO)
Along Boeing Creek**

000067

Date: 7/26/2012

ATTACHMENT C2. Puget Sound Shoreline- Current FEMA Floodplain Regulated by Floodplain Management Ordinance



Legend

City Boundary

Tax Parcel

FMO Regulated Flood Zone

A ZONE

High Risk Flood Area

Areas with a 1 % or
greater chance of flooding
No base flood elevations
determined

0 30 60 120 180 240
Feet



No warranties of any sort,
including accuracy,
fitness, or merchantability,
accompany this product.

Data Source: King County GIS



000068

Attachment C3a. Thornton Creek (Ronald Bog to N 163rd) PROPOSED FEMA Floodplain Regulated by Floodplain Management Ordinance



Legend

City Boundary

Tax Parcel

FMO Regulated Flood Zone

AH ZONE

High Risk Flood Area
Areas with a 1 % or greater chance of shallow flooding in the form of a pond, with an average depth of 1-3 ft. Base flood elevations determined.

AE ZONE

High Risk Flood Area
Areas with a 1 % or greater chance flooding. Base flood elevations determined.

Unregulated Flood Zone

X ZONE

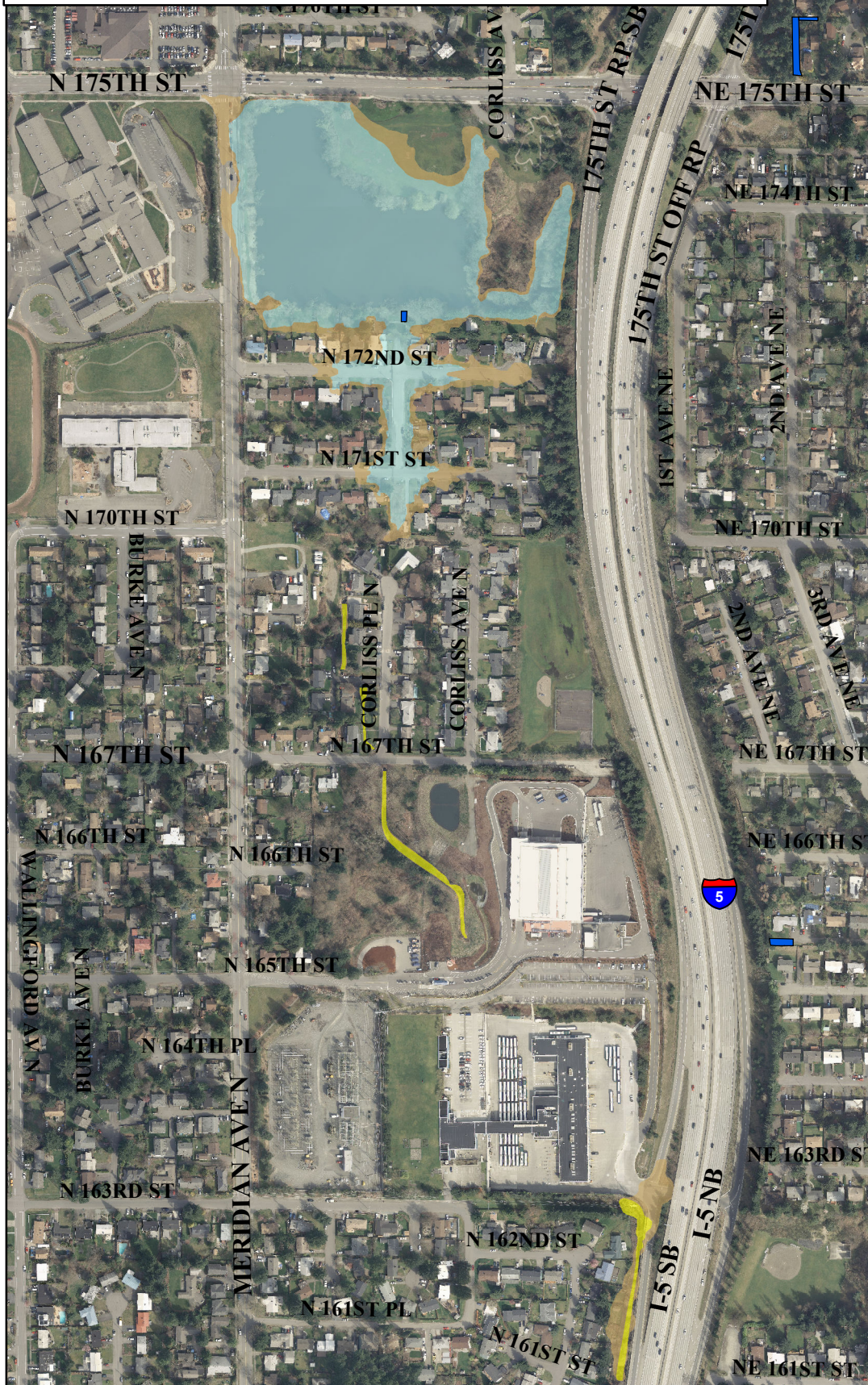
Moderate to Low Risk Area

0 85 170 340 510 680 Feet



No warranties of any sort, including accuracy, fitness, or merchantability, accompany this product.

Data Source: Flood Insurance Mapping Study for North Branch Thornton Creek (Ronald Bog to I-5). City of Shoreline 2009



High Risk Flood Areas subject to Floodplain Management Ordinance
Along Thornton Creek

000069

Date: 7/26/2012

ATTACHMENT C3b. Thornton Creek (N 163rd to I-5) PROPOSED FEMA Floodplain Regulated by Floodplain Management Ordinance



Legend

City Boundary

Tax Parcel

FMO Regulated Flood Zone

AE ZONE

High Risk Flood Area

Areas with a 1 % or greater chance flooding. Base flood elevations determined.

A ZONE

High Risk Flood Area

Areas with a 1 % or greater chance flooding. No base flood elevations determined.

Unregulated Flood Zone

X ZONE

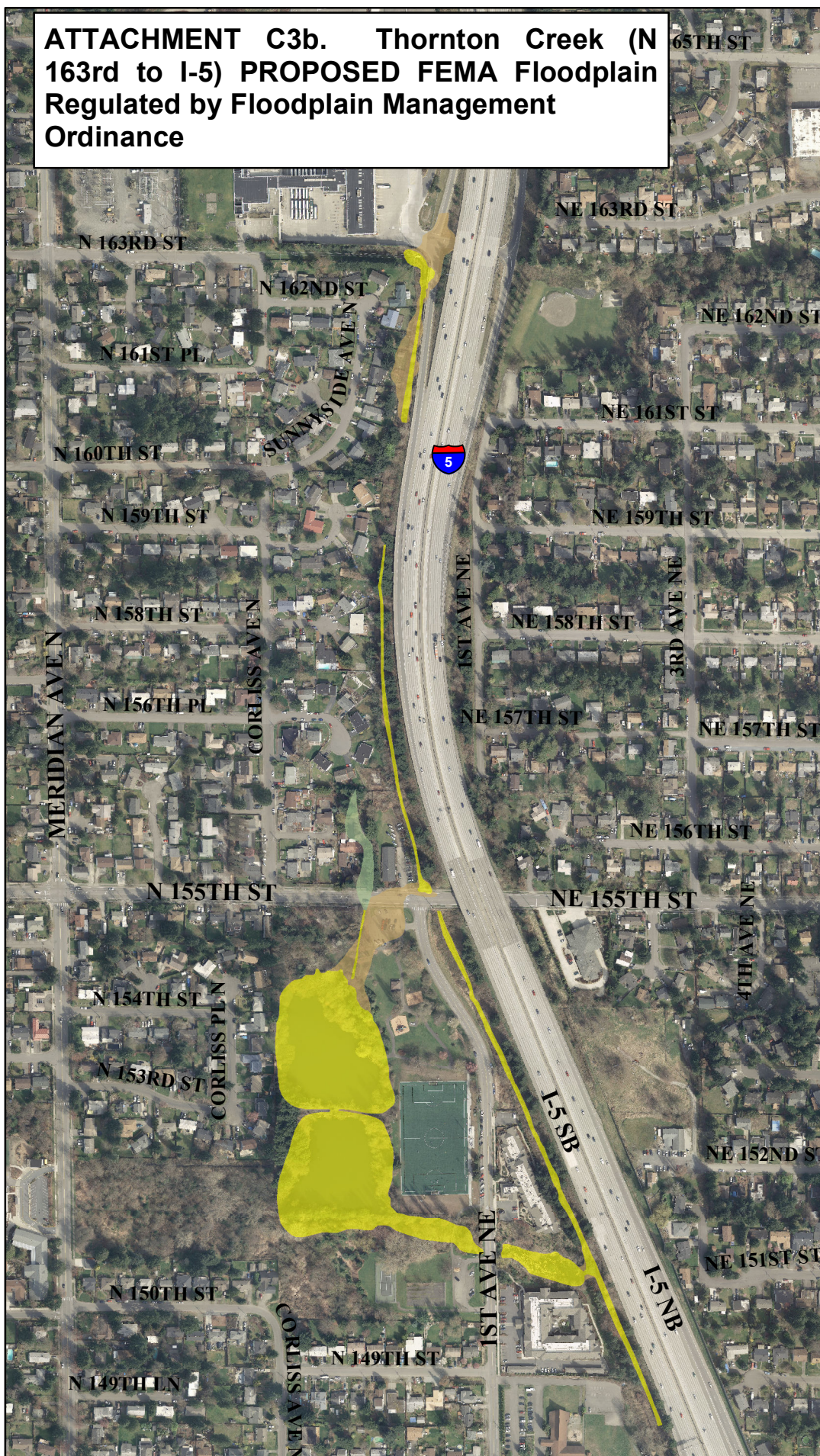
Moderate to Low Risk Area

0 85 170 340 510 680 Feet



No warranties of any sort, including accuracy, fitness, or merchantability, accompany this product.

Data Source: Flood Insurance Mapping Study for North Branch Thornton Creek (Ronald Bog to I-5). City of Shoreline 2009



High Risk Flood Areas subject to Floodplain Management Ordinance
Along Thornton Creek

000070

Date: 7/26/2012