



# Federal Emergency Management Agency (FEMA)

## Flood Map Update Project Proposed Draft

October 2010



City of Portland Bureau of  
**Planning and Sustainability**  
Sam Adams, Mayor | Susan Anderson, Director

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**Federal Emergency Management Agency (FEMA)  
Flood Map Update Project**

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# **Acknowledgements**

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# I. Introduction

## Background

The Federal Emergency Management Agency (FEMA) maintains maps of areas around the country that are prone to flooding. When communities have flood-hazard regulations that apply within the areas mapped by FEMA, community members in those areas are eligible to participate in the National Flood Insurance Program (NFIP). The regulations limit the kinds of development allowed in the areas likely to flood, and specify building regulations that limit damage when there is a flood. The NFIP makes flood insurance available to homeowners, renters, and business owners at a lower rate than private insurance companies would be able to provide.

FEMA updates these maps periodically. The most recent set of updated maps will be effective on November 26, 2010. In Portland, the maps consist of 26 separate map panels. Nine of the 26 map panels are being revised; this affects areas in the North Reach of the Willamette River, Columbia River, Columbia Slough, and the drainage districts adjacent to the Columbia River. The revised flood boundaries are based on more detailed and up-to-date topographic data. Flood elevations are not changed on the revised maps.

Portlanders are eligible to participate in the NFIP. However, to maintain that eligibility, the City must adopt the FEMA-updated maps of flood-prone areas. Some references in our regulations must also be updated.

## Proposed Map Changes

These amendments adopt the maps most recently updated by FEMA, which will become effective on November 26, 2010. There has been no change to the elevation at which the map boundaries are drawn. However, more accurate topographical information has resulted in revised map boundaries that provide better information on the location of flood elevations.

## Proposed Amendments to City Codes

Some minor amendments are needed to both Title 24 (Building Regulations) and Title 33 (Planning and Zoning) to refer to the updated maps. No substantive changes to the regulations are proposed.

In Title 24, Section 24.50.040 will be changed to refer to the updated maps.

In Title 33, Planning and Zoning, changes are proposed throughout the code:

- The term "flood hazard area" will be changed to "special flood hazard area" to be consistent with FEMA terminology.
- The definition of "special flood hazard area" will refer to the 100-year floodplain "as defined by FEMA as of November 26, 2010", replacing the reference to the 100-year floodplain "as currently defined by FEMA" for specificity.
- Terms such as flood hazard area, floodplain, 100-year floodplain, and the like will be changed to "special flood hazard area" to be consistent both within the Zoning Code and with FEMA terminology.

The proposed amendments to Title 24 and Title 33 do not change how development is regulated. The amendments only update the two Titles to refer to the most recent FEMA maps, and to clarify terminology in City Codes so that it is consistent within the Titles and with FEMA's terminology.

## **Staff Recommendation**

Staff recommends that the Planning and Sustainability Commission take the following actions:

- Recommend that City Council adopt this report;
- Recommend that City Council amend Title 24, Building Regulations, and Title 33, Planning and Zoning, as shown in this report;
- Recommend that City Council amend the Special Flood Hazard Areas Map as shown in this report;
- Recommend that City Council adopt the report and commentary as further findings and legislative intent;
- Recommend that City Council adopt the ordinance; and
- Direct staff to continue to work on the language in this report to further refine and clarify it.

## **II. Amendments to Title 24, Building Regulations**

The proposed amendments to Title 24 are in this section of the report. The amendments are on the odd-numbered pages. The facing (even-numbered) pages contain commentary about the proposed amendments.

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## Commentary

### Chapter 24.50, Flood Hazard Areas

#### 24.50.040 FIA Study and Flood Hazard Maps.

These amendments change the reference to include the latest revision to the Flood Insurance Study and Flood Insurance Rate Maps, which will become effective on November 26, 2010. The Flood Insurance Rate Maps consist of 26 separate map panels. Nine of the 26 map panels are being revised which affect areas in the North Reach of the Willamette River, Columbia River, Columbia Slough, and the drainage districts adjacent to the Columbia River.

The boundaries on the maps have been revised based on the use of more detailed and up-to-date topographic data. Flood elevations have not been changed.



Language to be **added** is underlined  
 Language to be **deleted** is shown in ~~strikethrough~~

**AMEND CHAPTER 24.50, FLOOD HAZARD AREAS**

**24.50.040 FIA Study and Flood Hazard Maps.**

The following study and maps in this Section are hereby adopted and declared to be a part of this Chapter.

- A.** Flood Insurance Study is the official scientific and engineering report prepared by the Federal Insurance Administration (FIA) under agency agreement with the Portland District Corps of Engineers. The latest revised ~~October 19, 2004~~ November 26, 2010, edition of the report, along with accompanying FIRMs, are on file with the Bureau of Development Services.
- B.** Flood Insurance Rate Map (FIRM) is the official map, dated either October 19, 2004 or November 26, 2010, whichever is more current, on which the Federal Insurance Administration has delineated the areas of flood hazards along with the 100-year (base flood) and 500-year flood boundaries, the floodway zone boundaries and the 100-year flood elevations.
- C.-E.** No Change.

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## Commentary

### III. Amendments to Title 33, Planning and Zoning

The proposed amendments to Title 33 are included in this section of the report. The amendments are on the odd-numbered pages. The facing (even-numbered) pages contain commentary about the proposed amendments.

#### Chapter 33.910, Definitions

##### Flood Hazard Area

This amendment updates Zoning Code definition of "Flood Hazard Area" in three ways.

First, the term "flood hazard area" is changed to "special flood hazard area" to be consistent with FEMA terminology.

Second, this amendment changes the definition by referring to the special flood hazard area in effect on November 26, 2010. This is the date of the most recent FEMA update. The new language replaces language that refers to the area "as currently defined by FEMA." The new language is more specific. For future updates, the effective date will be changed in this definition instead of throughout the code.

Finally, the definition is amended to be consistent with FEMA's definitions of special flood hazard area and base flood. The amended Zoning Code definition directly incorporates portions of FEMA's definitions:

##### **Special Flood Hazard Area (FEMA Definition, FCR 44.I.59.1)**

The land area covered by the floodwaters of the base flood is the Special Flood Hazard Area (SFHA) on NFIP maps. The SFHA is the area where the NFIP's floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies. The SFHA includes Zones A, AO, AH, A1-A30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, VO V1-30, VE, and V.

##### **Base Flood (FEMA Definition, FCR 44.I.59.1 )**

The flood having a one percent chance of being equaled or exceeded in any given year. This is the regulatory standard also referred to as the "100-year flood." The base flood is the national standard used by the NFIP and all Federal agencies for the purposes of requiring the purchase of flood insurance and regulating new development. Base Flood Elevations (BFEs) are typically shown on Flood Insurance Rate Maps (FIRMs).

##### Floodway

No change. This definition is included here for reference only.

## AMEND CHAPTER 33.910, DEFINITIONS

**Special Flood Hazard Area.** Land area covered by the floodwaters of the base flood, as mapped that is in the 100-year floodplain as currently defined by shown on the Federal Emergency Management Agency (FEMA) maps in effect on November 26, 2010. The base flood is the flood having a one percent chance of being equaled or exceeded in any given year. This is the regulatory standard also referred to as the “100-year flood.”

**Floodway.** The active flowing channel during a flood, as designated on the flood maps adopted under authority of Title 24 of the Portland City Code. The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

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## Commentary

### Title 33, Planning and Zoning

#### **Code provisions where "special flood hazard area" will replace other terms**

These amendments substitute the newly-defined term "special flood hazard area" where "flood hazard area," "100-year floodplain," and "100-year floodplain, as currently defined by Federal Emergency Management Agency (FEMA)" currently exist in the Code. See commentary on previous page for legislative intent.

#### **Code provisions where "potential" will be deleted from "flood hazard area"**

A project called "Code Maintenance 2004" deleted a map and terminology that referred to the "potential" flood hazard area. The references in 33.660.120, 33.662.120, 33.664.120 and 33.664.220 were inadvertently left in the Code. This amendment corrects that oversight and clarifies that the provisions apply to the special flood hazard area.

**Replace “flood hazard area” with “special flood hazard area” in the following places:**

- 33.564.310.A – Pleasant Valley Plan District
- 33.610.100.C – Land Divisions – Lots in RF through R5
- 33.610.100.C and D – Land Divisions – Lots in RF through R5 Zones
- 33.611.100.C and D – Land Divisions – Lots in R2.5 Zone
- 33.631 – Sites in Special Flood Hazard Areas (9 changes in this chapter)
- 33.634.200.D.2 – Required Recreation Area
- 33.660.110.B.3 and 120.C – Review of Land Divisions in Open Space and Residential Zones, Review Procedures and Approval Criteria
- 33.662.110.B.3 and 120.C – Review of Land Divisions in Commercial, Employment, and Industrial Zones, Review Procedures and Approval Criteria
- 33.664.120.A.3 and 220.B.1.c – Review of Land Divisions of Large Sites in Industrial Zones, Review of Preliminary Plan and Final Plat – Approval Criteria
- 33.730.060.D.1.c – Quasi-Judicial Procedures, Application Requirements

**Replace “100-year floodplain” or “100-year floodplain, as currently defined by Federal Emergency Management Agency (FEMA)” with “special flood hazard area” in the following places:**

- 33.430.240.A.1.a. – Environmental Zones
- 33.537.020 – Johnson Creek Basin Plan District (JCBPD)
- 33.537.110.A, B.1.b., and B.2.b. – JCBPD, Transfer of Development Rights
- 33.537.120.B.2 – JCBPD, Bonus Density
- 33.537.140.B – JCBPD, South Subdistrict Development Standards
- 33.537.150.B – JCBPD, Floodplain Standards
- 33.730.060.D.1.c – Quasi-Judicial Procedures, Application Requirements

**Delete “potential” in the following places:**

- 33.660.120.C – Review of Land Divisions in Open Space and Residential Zones, Preliminary Plan, Approval Criteria
- 33.662.120.C – Review of Land Divisions in Commercial, Employment, and Industrial Zones, Preliminary Plan, Approval Criteria
- 33.664.120.A.3 and 220.B.1.c – Review of Land Divisions on Large Sites in Industrial Zones, Preliminary Plan and Final Plat, Approval Criteria

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## Commentary

### Chapter 33.537, Johnson Creek Basin Plan District

#### 33.537.100 General Development Standards

The term "floodway" is already defined in the Code. This amendment removes the language that refers to the "currently defined" floodway because it is redundant with the definition. See pages 4-5 of this report for reference.

### Chapter 33.730, Quasi-Judicial Procedures

#### 33.730.060.D. Application Requirements. Required information for land divisions

See commentary on page 6.

This amendment deletes the reference to FEMA to avoid confusion, as both "floodway" and "special flood hazard area" are FEMA designations, but only floodway is currently called out as pertaining to a FEMA designation. See page 5 for definitions of Special Flood Hazard Area and Floodway.

## AMEND CHAPTER 33.537, JOHNSON CREEK BASIN PLAN DISTRICT

### 33.537.100 General Development Standards

The standards of this section apply to the entire Johnson Creek Basin plan district.

- A.** The following are prohibited within the Johnson Creek floodway ~~as currently defined by the Federal Emergency Management Agency (FEMA)~~. Exceptions to this are fences, public bridges, outfall structures, and fire hydrants, which are allowed subject to standards set by the Bureau of Environmental Services.

1. – 3. [No change.]

**B.-E.** [No Change.]

## AMEND CHAPTER 33.730, QUASI-JUDICIAL PROCEDURES

### 33.730.060 Application Requirements

**A.-C.** [No Change.]

**D. Required information for land divisions.** [No change.]

1. [No Change.]

a.-c. [No Change.]

d. [No change.]

(1) [No Change.]

(2) Existing conditions map. The following existing site conditions must be shown:

Surveyed information:

- Bullets 1-6 [No change.]
- Location of flood hazard areas, including elevations of the special flood hazard area 100-year floodplains, and FEMA Ffloodway boundaries. Sites that contain a water body not shown on the FEMA maps must identify the location of the flood hazard areas;

Additional information:

- [No change.]
- [No change.]

(3)-(4). [No Change.]

e.-k. [No Change.]

2.-4. [No Change.]

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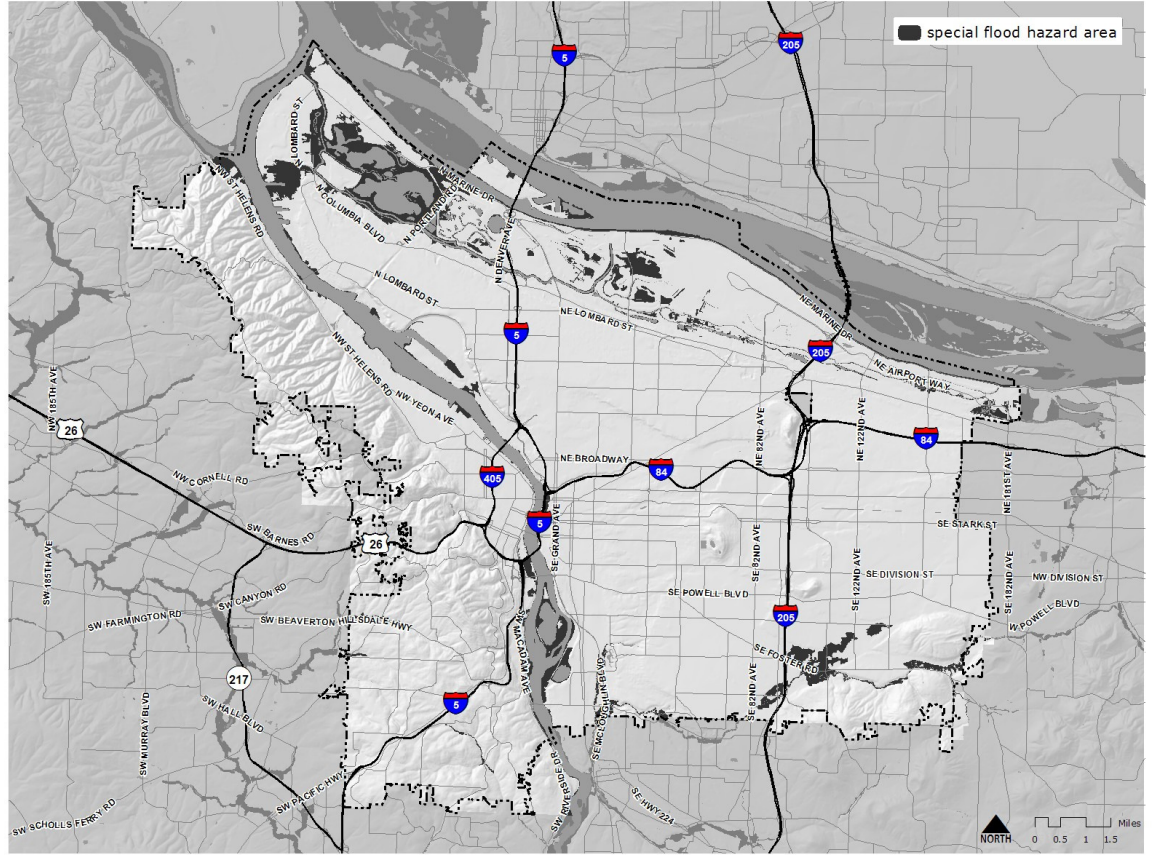
## Commentary

### IV. Proposed Portland Special Flood Hazard Areas Map as of November 26, 2010

This map shows, at a citywide scale, the proposed special flood hazard areas map as of November 26, 2010. It is the same as the maps created by FEMA.

To see the map on a larger scale, visit [PortlandOnline.com/bps/femaupdate](http://PortlandOnline.com/bps/femaupdate). There will also be a large version of this map at public hearings, and is available for review at the Bureau of Planning and Sustainability offices.





**FEMA Special Flood Hazard Area (effective 11/26/2010)**

October 5, 2010 City of Portland | Bureau of Planning and Sustainability | Geographic Information System  
 The information on this map was derived from City of Portland GIS databases. Care was taken in the creation of this map but it is provided "as is".  
 The City of Portland cannot accept any responsibility for errors, omissions, or positional accuracy, and therefore, there are no warranties which accompany  
 this product. However, notification of any errors will be appreciated.

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City of Portland Bureau of  
**Planning and Sustainability**

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