



# MEMORANDUM

DATE: June 16, 2011

TO: Chair Ferris and Members of the Planning Commission

FROM: Catherine A. Drews, Legal Planner, 425-452-6134  
Development Service Department

SUBJECT: Draft FEMA Consistency Land Use Code Amendment – Follow-up to  
June 8, 2011 Public Hearing

On June 8, 2011, the Planning Commission held a second public hearing on the draft Federal Emergency Management Agency (FEMA) Consistency Land Use Code (LUC) amendments. The LUC amendments are required for consistency with federal and state floodplain management regulations in order to maintain eligibility in FEMA's National Flood Insurance Program (NFIP). During the public hearing, the Planning Commission and public asked questions relating to the draft LUC amendments. The Planning Commission directed staff to address the questions, revise the draft code amendment as directed, and return to the June 22 study session. This memorandum addresses questions raised at the public hearing and includes the amended, draft LUC amendments as Attachment A. At the conclusion of the June 22 study session, staff will ask the Commission to provide its recommendation to Council on the FEMA consistency LUC amendments. Below is sample motion language for the recommendation:

***Draft motion language:*** *I move that the Planning Commission recommend to the Bellevue City Council adoption of the draft FEMA consistency Land Use Code amendments as presented in Attachment A.*

## Response to Planning Commission Questions

Genesis of the draft FEMA Land Use Code Amendments. The draft FEMA LUC amendments arise solely from the program eligibility and consistency requirements of the NFIP, and are not associated with FEMA's obligation to meet requirements under the federal Endangered Species Act (ESA), which is commonly referred to as the "FEMA BiOp."<sup>1</sup> Instead, the proposed LUC amendments are the result of the

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<sup>1</sup> The final Biological Opinion was prepared by the National Marine Fisheries Service (NMFS) in response to a federal lawsuit finding that the NFIP leads to floodplain development, "some of which affects the habitat of listed species." Endangered Species Act – Section 7 Consultation Final Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation, (NMFS Tracking No. 2006-00472) (Sept. 22, 2008) at page 3 (the "BiOp"). Staff is addressing the requirements of the BiOp, which will initially require policy direction by the City Council. Depending on Council direction, Planning Commission involvement could be needed at some future point in time if any

Washington State Department of Ecology (“Ecology”) 2009 review of the code and its June 2010 Community Assistance Visit (CAV). Ecology’s 2009 response is included as Attachment B. The result of the CAV is included as Attachment C, and establishes the July 2011 deadline to cure the code deficiencies that was referenced by staff during the June 8 Planning Commission study session.

Federal and State Authority to Administer Floodplain Programs. Congress authorized FEMA to administer the NFIP under the National Flood Insurance Act of 1968 (42 U.S.C. 4001 et seq.), as amended (NFIA). To qualify for participation in the NFIP, communities must adopt land use controls at least as restrictive as the federal minimum criteria adopted by FEMA. 42 U.S.C. §§4012(c), 4102(c). To encourage communities to participate in the NFIP, Congress (through the NFIA) prohibited federally-regulated banks or lenders, or federal agencies from providing loans or other financial assistance for the purchase or construction of development within the floodplains<sup>2</sup> located in non-participating communities. Congress recognized that although the NFIP is a voluntary program, “the availability of Federal loans, grants, guarantees, insurance, and other forms of financial assistance are often determining factors in the utilization of land and the location and construction of public and private industrial, commercial, and residential facilities.” 42 U.S.C. §4002(a)(2).

The NFIA authorizes FEMA to adopt implementing regulations. 42 U.S.C. §§4011, 4106. The NFIP implementing regulations relevant to the proposed code amendment are codified at 44 Code of Federal Regulations (“C.F.R.”) Parts 59 and 60. The NFIP regulations set forth the minimum federal floodplain management standards. However, the NFIP regulations provide that “any flood plain management regulations adopted by a State or community which are more restrictive than the criteria set forth in this part are encouraged and *shall* take precedence.” 44 C.F.R. §60.1(d)(emphasis added).

Ecology is the state coordinating agency for the NFIP in Washington. 44 C.F.R. §60.25; RCW 86.16.010. The state legislature authorized Ecology to establish minimum state floodplain management requirements for floodplain management that equal the minimum federal requirements. RCW 86.16.020; see *a/so* 44 C.F.R. §60.25. Consequently, the City must comply with both the NFIP floodplain management regulations and the state floodplain management requirements set forth in Chapter 86.16 of the Revised Code of Washington (RCW) and Chapter 173-158 of the Washington Administrative Code (WAC)<sup>3</sup>, including state requirements that may be more restrictive than the federal floodplain requirements. Finally, participating

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Land Use Code amendments are required to comply with Council policy direction for responding to the BiOp.

<sup>2</sup> In the Bellevue Land Use Code, these two flood features are within the “Areas of Special Flood Hazards.” This memorandum, however, will use the terms “floodplain” and “floodway” when discussing the proposed code amendments. Both the floodplain and the floodway are within the Area of Special Flood Hazards defined in Part 20.25H LUC.

<sup>3</sup> Floodplain management is also addressed under the Growth Management Act (“GMA”). Under the GMA jurisdictions are required to designate frequently flooded areas as critical areas, which include the area of special flood hazards. See WAC 365-190-110. This is why the FEMA-NFIP floodplain regulations are located in the City’s critical areas provisions.

communities are required to use the Flood Insurance Rate Maps (FIRMs) when developing regulations and to maintain eligibility in the NFIP. 44 C.F.R. §§ 59.21, .22; 60.3(b); and RCW 86.16.051.

Consequences for Noncompliance. Failure to submit floodplain regulations that comply with FEMA and Ecology (as set forth in 44 C.F.R. §60.1(d)), floodplain management requirements, subjects the City to suspension from the NFIP if the City does not cure deficiencies with its code, as described in 44 C.F.R. §§59.24(a), (d). Like the City, FEMA and Ecology (as the state coordinating agency) seek voluntary compliance and will work with a community within the timelines specified in the regulation to correct deficiencies before suspending a community from the NFIP. *Id.* Suspension occurs when a community fails to comply within timelines set forth in the regulation. *Id.* However, the City's Community Rating System ("CRS") is immediately adversely affected resulting in increased insurance rates. Furthermore, if a community permits activity in the floodplain that aggravates the existing floodplain hazards, FEMA has authority to withhold reinstatement into the NFIP until the community remedies the increased flood hazard to the maximum extent possible. 44 C.F.R. §59.24(f).

Ecology has independent enforcement authority under Chapter 86.16 RCW. The Washington State Attorney General may bring injunctive, declaratory, or other action to ensure compliance with state floodplain management requirements. RCW 86.16.081. Also, the state statute provides for civil penalties up to \$1,000 per day per violation for any person, which includes municipalities,<sup>4</sup> who fails to comply with state floodplain regulations. *Id.* Ecology enforcement actions are appealable to the Washington State Pollution Control Hearings Board. RCW 86.16.110.

Amendments to Draft LUC Code Amendments. The Commission noticed that references to the Utility Code were inconsistent, and staff was asked to verify the use of "floodplain" in the draft ordinance at LUC 20.25H.180.C.5.b. Staff reviewed the proposed LUC amendment and verified that all references to the both Utilities' Storm and Surface Water Utility Code (Ch. 24.06 BCC) and the Storm and Surface Water Engineering Standards are used consistently throughout the ordinance. Staff also replaced the term "Regulatory Floodplain" found in the new definition of "development" with the term "Areas of Special Flood Hazard" for consistency with the Bellevue critical areas terminology. Regulatory Floodway remains unchanged to differentiate it from the floodplain (Land Subject to 100-Year-Flood, LUC 20.25H.175.A.1).

Mr. Charlie Klinge commented that the date referenced in the "Flood Insurance Rate Map" definition contained in LUC 20.25H.177 (Areas of Special Flood Hazard Definitions), should be amended to be consistent with the date used in the "Areas Identified on the Flood Insurance Rate Map" definition contained in LUC 20.25H.175.A (Designation of Critical Area). Staff did not amend the date referenced in for "Flood Insurance Rate Map" (FIRMs) definition because the Flood Insurance Study is wholly separate document from the FIRMs and the date listed for the study is correct. Mr.

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<sup>4</sup> RCW 86.16.081; WAC 173-158-030.

Klinge did point out a reference to the Washington Administrative Code that required verification and correction, which was done.

Structures in the Floodway. The Commission inquired if any structures were located in the Regulatory Floodway on Kelsey Creek. GIS data reveals that there are no residential structures in the Regulatory Floodway; however, there are two City-owned structures in Kelsey Creek Park that are in the regulated floodway. Because these structures are not single-family residences, they are unaffected by the restriction on residential development and reconstruction provisions contained in the draft LUC amendments. A map showing the two City-owned structures is included as Attachment D.

Determination of Market Value. A question was raised regarding how the market value of a structure is determined. The City uses Marshall & Swift, a recognized provider of real estate data<sup>5</sup> when determining the market values of structures, consistent with terminology used elsewhere in the code, such as LUC 20.20.560.A.2 (Nonconforming Structures), which requires a determination of fair market value for remodeling nonconforming structures.

Exemption of Lakes Sammamish and Phantom from Floodplain Requirements. Questions arose regarding whether FEMA considers Lake Sammamish and Phantom Lake exempt from floodplain regulations because both lakes are controlled by weirs, and therefore should be treated as Lake Washington, which does not have a floodplain because the pool level is regulated by the United States Army Corps of Engineers using the Hiram M. Chittenden locks.<sup>6</sup> Staff agreed to contact FEMA to ask if the agency considers the weirs on Lake Sammamish and Phantom Lake to provide the same level of control as the locks provide on Lake Washington, and if so, should the two lakes also not have designated floodplains. Staff is in the process of contacting FEMA and hopes to have an answer to this question by the June 22 study session. If FEMA concludes that the weirs do not provide the same control as the locks, the Planning Commission, in its recommendation to Council, may ask Council to initiate revisions to the FIRMs for Bellevue.

Questions or comments regarding the draft FEMA Consistency LUC amendments may be directed to Catherine Drews at 425-452-6134 or at [cdrews@bellevuewa.gov](mailto:cdrews@bellevuewa.gov).

Attachments:

- A. Proposed FEMA Consistency Land Use Code Amendments.
- B. Ecology response to 2009 Utilities Staff Code Review Request.
- C. Ecology response to June 2010 Community Assistance Visit.
- D. Map of Kelsey Creek Park showing structures in the Regulated Floodway.

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<sup>5</sup> Information on Marshall & Swift can be located at: [www.marshallswift.com](http://www.marshallswift.com) (last visited 6/15/11).

<sup>6</sup> The locks maintain the water of Lakes Washington and Union to between 20 and 22 feet above sea level. <http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=lwsc&pagename=mainpage> (last visited June 14, 2011.)

## Attachment A

### Proposed Amendments to Floodplain Management LUC 20.25H Section IX Areas of Special Flood Hazard

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#### IX. AREAS OF SPECIAL FLOOD HAZARD

##### 20.25H.175 Designation of critical area.

###### A. Designation of Critical Area.

Areas of special flood hazard shall include:

1. Land Subject to One-Hundred-Year Flood. The land in the floodplain subject to the flood having a one percent chance or greater of being equaled or exceeded in any given year as determined by customary methods of statistical analysis defined in the City of Bellevue Storm and Surface Water Engineering Standards, January 2011, or as hereafter amended Utility Code, Chapter 24.06 BCC. Also referred to as the 100-year flood.

Comment [cd1]: Cross reference correction

2. Areas Identified on the Flood Insurance Rate Map(s). Those areas identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for BellevueKing County" dated ~~December 1978~~ April 19 2005, with an accompanying flood insurance map(s) and any revisions thereto. The Flood Insurance Study and accompanying map(s) are hereby adopted by reference, declared part of this part, and are available for public review at the City of Bellevue.

Comment [cd2]: Cross reference correction

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##### 20.25H.177 Definitions.

For purposes of the regulations for the area of special flood hazard, the following definitions apply:

"Base flood elevation (BFE)" means the flood having a one percent chance of being equaled or exceeded in any given year as determined by customary methods of statistical analysis defined in the Storm and Surface Water Utility Code, Chapter 24.06 BCC. Also referred to as the 100-year flood.

Comment [cd3]: Cross reference correction

"Basement" means any area of the building having its floor subgrade (below ground level) on all sides.

"Development" means any man-made change to improved or unimproved real estate in the area of special flood hazard, including but not limited to building or other structures.

Comment [cd4]: FEMA directed amendment for Bellevue residents to remain insurance eligible. Amended to incorporate Bellevue-specific terminology

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mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.

“Encroachment” means any alteration or development within the regulatory floodway that would result in any increase in the flood levels during the occurrence of the base flood discharge.

**Comment [cd5]:** FEMA directed amendment for Bellevue residents to remain insurance eligible.

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“Floodproofing” means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate of improved real property, water and sanitary facilities, structures and their contents.

“Floodway” means the channel of a river or stream and overbank areas adjacent to the channel. The floodway carries the bulk of floodwater downstream and is usually the area where water velocities and forces are the greatest and most destructive. The floodway and the adjacent land areas must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

**Comment [cd6]:** FEMA directed amendment for Bellevue residents to remain insurance eligible. WAC 173-158-070.

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“Lowest floor” means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking vehicles, building access or storage, in an area other than a basement area, is not considered a building’s lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirements of this part found in LUC 20.25H.180.D.1.a.

**Comment [cd7]:** Clarify cross reference.

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“Regulatory Floodway” means the floodway delineated on the flood insurance rate map (FIRM).

**Comment [cd8]:** FEMA directed amendment for Bellevue residents to remain insurance eligible.

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“Substantial Damage” means damage of any origin sustained by a structure where the cost of restoring the structure to its before damage condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

**Comment [cd9]:** Required for proposed condition 20.25H.180.C.5 that provides mechanism to determine if residential structures in floodway may be replaced.

“Substantial improvement” includes the following: Any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the ~~replacement~~ market value of the structure either (1) before the improvement or repair is started, or (2) if the structure has been damaged, and is being restored, before the damage occurred. For the purpose of this definition, “substantial improvement” is considered to occur when the first alteration of any wall, ceiling, floor or other structural

**Comment [cd10]:** FEMA directed amendment for Bellevue residents to remain insurance eligible.

part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include either (1) any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions or (2) any alteration of a structure listed on the National Register of Historic Places.

**20.25H.180 Development in the area of special flood hazard.**

No use, development or activity may occur in an area of special flood hazard except as specifically allowed by this part. All use, development or activity which is allowed is subject to the performance standards of this subsection and shall not result in a rise in the BFE. The requirements of this section may not be modified through a critical areas report.

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C. General Performance Standards.

Where use or development is allowed pursuant to LUC 20.25H.055, the following general performance standards apply.

1. Intrusion Over the Area of Special Flood Hazard Allowed. Any structure may intrude over the area of special flood hazard if:

a. The intrusion is located above existing grade, and does not alter the configuration of the area of special flood hazard; ~~and~~

b. The intrusion is at an elevation and orientation which maintains the existing vegetation of the area of special flood hazard in a healthy condition. Solar access to vegetation must be maintained at least 50 percent of daylight hours during the normal growing season; ~~and~~

c. The intrusion does not encroach into the regulated floodway except in compliance with 20.25H.180.C.5.

**Comment [cd11]:** Consistency with FEMA-directed code amendments.

Development not meeting the requirements of this subsection C.1 may be allowed pursuant to LUC 20.25H.055 and only in accordance with the requirements set forth in the remainder of this section C.

2. Elevation Certificate Following Construction. Following construction of a structure within the area of special flood hazard, where the base flood elevation is provided, the applicant shall obtain an elevation certificate. The elevation certificate shall be completed by a surveyor ~~or engineer~~ licensed in the state of Washington and shall be submitted to City of Bellevue, Utilities Department. The Director ~~of Planning and Community Development~~ shall obtain and transmit to the Director of the Utilities Department the elevation in relation to City of Bellevue vertical datum (NAVD 88) of the lowest floor, including basement, and attendant utilities of a new or substantially

**Comment [cd12]:** Cross reference correction.

improved structure permitted by this part. All records shall be maintained for public inspection in accordance with 44 C.F.R 60.3(b)(5)(iii) and the City of Bellevue record retention policy.

**Comment [cd13]:** FEMA directed amendment for Bellevue residents to remain insurance eligible. 40 C.F.R. 60.3(b)(5)(iii).

### 3. Construction Materials and Methods.

a. Site Design. All structures, utilities, and other improvements shall be located on the buildable portion of the site out of the area of special flood hazard unless there is no buildable site out of the area of special flood hazard. For sites with no buildable area out of the area of special flood hazard, structures, utilities, and other improvements shall be placed on the highest land on the site, oriented parallel to flow rather than perpendicular, and sited as far from the stream and other critical areas as possible. Located in flood-fringe where flood flow velocities are less than three feet per second and flood depths are less than three feet. If the Director detects any evidence of active hyporheic exchange on a site, the development shall be located to minimize disruption of such exchange.

b. Methods that Minimize Flood Damage. All new construction and substantial improvements shall be constructed using flood-resistant materials and using methods and practices that minimize flood damage.

c. Utility Protection. Electrical, heating, ventilation, plumbing, air-conditioning equipment, and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

d. Anchoring. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.

### 4. No Rise in the Base Flood Elevation (BFE). Any allowed use or development shall not result in a rise in the BFE.

a. Post and Pile. Post and piling techniques are preferred and are presumed to produce no increase in the BFE. Demonstration of no net rise in the BFE through calculation is not required.

b. Compensatory Storage. Proposals using compensatory storage techniques to assure no rise in the BFE shall demonstrate no net rise in the BFE through the calculation by methods established in the Utilities Storm and Surface Water Engineering Standards (2011), Section D4-04.5, Flood Plain/Floodplain/Floodway Analysis, now or as hereafter amended.

**Comment [cd14]:** Cross reference correction

### 5. Development in the Regulatory Floodway.

a. Encroachment into Regulatory Floodway Prohibited. Encroachments, including, but not limited to, fill, new construction, substantial improvements, and other

**Comment [cd15]:** FEMA directed amendment for Bellevue residents to remain insurance eligible. (44 C.F.R. 60.3(d)(3)).

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development is prohibited, unless a registered professional engineer certifies that the proposed encroachment into the regulatory floodway shall not result in any rise in the BFE using hydrological and hydraulic analysis performed in accordance with City of Bellevue Storm and Surface Water Engineering Standrads, January 2011, or as hereafter amended. All new construction and substantial improvements shall comply with this section 20.25H.180.

**b. Residential Structures.** A residential structure located partially within the regulatory floodway will be considered as totally within the regulatory floodway and must comply with this paragraph C.5. This paragraph does not apply to structures identified as historical places. Construction or reconstruction of residential structures is prohibited within the regulatory floodway, except when:

- i. Repairs, reconstruction, or improvements to a structure do not increase the footprint; and
- ii. Repairs, reconstruction, or improvements to a structure, the cost of which does not exceed 50 percent of the market value of the structure either (1) before the repair, reconstruction, or improvement is begun, or (2) if the structure has been damaged, and is being restored, before the damage occurred. Work done to comply with state or local health, sanitary, or safety codes identified by the Building Official and which are the minimum necessary to assure safe living conditions or any alteration of a structure listed on the National Register of Historic Places shall not be included in the 50 percent market value determination.

**c. Substantially Damaged Residential Structures.**

- i. The Director may request the Washington State Department of Ecology assess the risk of harm to life and property posed by the specific conditions of the regulatory floodway, and provide the City with a recommendation on repair or replacement of a substantially damaged residential structure consistent with WAC 173-158-076, now or as hereafter amended. Property owners shall be responsible for submitting to the City any information necessary to complete the assessment when such information is not otherwise available. No repair or replacement of a substantially damaged residential structure located in the regulatory floodway is allowed without a recommendation from the Department of Ecology.
- ii. Before the repair, replacement, or reconstruction is started, all requirements of this section 20.25H.180 must be satisfied. In addition, the following conditions shall be met:

**Comment [j16]:** FEMA directed amendment for Bellevue residents to remain insurance eligible. WAC 173-158-070.

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**Comment [cd17]:** Provided process to replace substantially damaged residential structures in the regulatory floodway. WAC 173-158-076.

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(1) There is no potential safe building location for the replacement residential structure on the same property outside the regulatory floodway;

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(2) A replacement residential structure is a residential structure built as a substitute for a previously existing residential structure of equivalent use and size;

(3) Repairs or reconstruction or replacement of a residential structure shall not increase the total square footage of floodway encroachment;

(4) The elevation of the lowest floor of the substantially damaged or replacement residential structure is a minimum of one foot higher than the base flood elevation;

(5) New and replacement water supply systems are designed to eliminate or minimize infiltration of flood water into the system;

(6) New and replacement sanitary sewerage systems are designed and located to eliminate or minimize infiltration of flood water into the system and discharge from the system into the flood waters; and

(7) All other utilities and connections to public utilities are designed, constructed, and located to eliminate or minimize flood damage.

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66. Modification of Stream Channel. Alteration of open stream channels shall be avoided, if feasible. If unavoidable, the following provisions shall apply to the alteration:

- a. Modifications shall only be allowed in accordance with the habitat improvement projects.
- b. Modification projects shall not result in blockage of side channels.
- c. The City of Bellevue shall notify adjacent communities, the state departments of Ecology and Fish and Wildlife, and the Federal Insurance Administration about the proposed modification at least 30 days prior to permit issuance.
- d. The applicant shall maintain the altered or relocated portion of the stream channel to ensure that the flood-carrying capacity is not diminished. Maintenance shall be bonded for a period of five years, and be in accordance with an approved maintenance program.

67. Compensatory Storage. Development proposals must not reduce the effective base flood storage volume of the area of special flood hazard. Grading or other activity that would reduce the effective storage volume must be mitigated by creating compensatory storage on the site. The compensatory storage must:

- a. Provide equivalent elevations to that being displaced;
- b. Be hydraulically connected to the source of flooding;
- c. Be provided in the same construction season and before the flood season begins on September 30th;
- d. Occur on-site or off-site if legal arrangements can be made to assure that the effective compensatory storage volume will be preserved over time;
- e. Be supported by a detailed hydraulic analysis that:
  - i. Is prepared by a licensed engineer;
  - ii. Demonstrates that the proposed compensatory storage does not adversely affect the BFE; and
- f. Meet all other critical areas rules subject to this part. If modification to a critical area or critical area buffer is required to complete the compensatory storage requirement, such modification shall be mitigated pursuant to an approved mitigation and restoration plan, LUC 20.25H.210.

D. Specific Performance Standards

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7. Reasonable Use Exception. Where a reasonable use exception is granted under LUC 20.25H.190, the following performance standards apply:

- a. Residential Construction (Single-Family and Multifamily Dwellings).
  - i. Must Be Above Base Flood Elevation. New construction of any residential structure shall have the lowest floor, including basement and attendant utilities, elevated one foot or more above the base flood elevation.
  - ii. Enclosed areas (including breakaway walls) below the BFE shall be no larger than 300 square feet.
  - iii. Must comply with the requirements for openings set forth in LUC 20.25H.180.D.1.a.

**Comment [cd18]:** FEMA directed amendment for Bellevue residents to remain insurance eligible.



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000

April 1, 2009

Brian Ward, P.E.  
Bellevue Utilities Department  
450 110<sup>th</sup> Avenue NE  
Bellevue, WA 98009

Dear Mr. Ward:

This responds to your email request of March 30, 2009 for Ecology to review your floodplain regulations to be sure they meet National Flood Insurance Program (NIFP) and State floodplain management regulations.

I reviewed Chapter 20.25H, Areas of Special Flood Hazard, of the Bellevue Municipal Code. There are some measures that are either missing, or may be found in other places in the BMC. These measures must be accounted for in order for us to approve your ordinance per Chapter 86.16.041 RCW. If we were doing a Community Assistance Visit, they would be required to be addressed as a condition of closing the CAV. Deficiencies must also be addressed as a condition of our or FEMA's approval prior to finalization of the new King County DFIRM maps, the process of which will commence soon. Thus, it is suggested that your response either point out to us where certain measures can be found in other parts of the BMC, or that the City take steps to amend Chapter 20.25H to incorporate corrections.

To make this review easier, I have enclosed a copy of the FEMA-State Model Ordinance, dated May 2004, and a Checklist (Evaluation Sheet) that we use to review flood ordinances. I will refer to these items throughout the review. The measures in question are the following:

**Checklist #1, 175A.2, Basis for Establishing the Areas of Special Flood Hazard.** This section refers to the Bellevue FIS dated December 1978. FEMA has recently made a determination that when countywide maps become available, they must supersede original FISs done individually for incorporated communities. Thus, the reference here should be to the most current King County FIS, the date of which is April 19, 2005. With the language "and any revisions thereto" that is in 175A.2, you will not have to update this with any future map revisions.

**Checklist #5, 180C.2, Information to be Obtained and Maintained.** This section specifies that Elevation Certificates must be completed by a surveyor or engineer. Please be aware that the Executive Director of the Board of Registration for Professional Engineers and Land Surveyors has determined that in Washington State ECs can only be performed by or under the direct supervision of a PLS (copy of November 4, 2004 ruling enclosed). This section needs to be changed to delete reference to "engineer."



Also in this section, there is a requirement to "Maintain for public inspection all records pertaining to the provisions of this ordinance" (per 44 CFR 60.3[b][5][iii]). This was not found in Chapter 20.25H and must be either identified or amended into the Chapter.

**Checklist #10, Utilities.** Measures regarding new and replacement water supply systems, sanitary sewer systems and onsite waste disposal systems, per 44 CFR 60.3[a] as identified in the Model Ordinance at Section 5.1-3(1)-(4) were not found in Chapter 20.25H. A cursory review of Chapters 24.02 and 24.04, the water and sewer utility codes, also did not result in finding these measures. The measures are required, and can be placed in either Chapter 20.25H or in the water and sewer codes. If the latter codes are now being updated, this would be the time and may be a good place to put these NFIP measures.

**Checklist #11, Subdivision Proposals.** These measures are required in the NFIP regulations and are found in the Model Ordinance at Section 5.1-4. They were not found in Chapter 20.25H. If the City has an explicit measure in another part of the code that does not allow subdivisions in floodplains and can provide that code measure to us, nothing more needs to be done. If not, these measures need to be placed in either 20.25H or in another part of the BMC.

**Checklist #14, Residential Construction.** We found this measure, which is found at Section 5.2-1 of the Model Ordinance, to be somewhat confusing in Chapter 20.25H. Section 180D.1.a. requires that substantial improvements be elevated and have proper openings, but does not address new construction. Section 180D.7.a.i. allows a new residence to be constructed to one foot above the Base Flood Elevation through a reasonable use exception, but does not require openings (as per 180D.1.a). We need either an explanation in your response, or an amendment to Chapter 20.25H clearing this up.

**Checklist #19, Floodways.** There are three standards required for floodways as found in Section 5.4 of the Model Ordinance. The first and third measures are NFIP regulations and the second is a State regulation. Although these must be in the City's code somewhere in order for the ordinance to have been approved in the past, they could not be found in Chapter 20.25H or elsewhere. These measures either have to be identified in another part of the code, or have to be amended into Chapter 20.25H.

**Definitions.** The Checklist shows that there are certain NFIP definitions that must be in local ordinances in order to assure proper enforcement. While Bellevue has most of these definitions, the following changes need to be made:

- **Development.** This definition is required because it specifies all of the uses that must be permitted in floodplains, per the term "development" in 20.25H.180B. Development per the NFIP regulations is defined in the Model Ordinance and in the Checklist.

Brian Ward, P.E.

April 1, 2009

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- **Lowest Floor.** The intent of this definition is to assure that space below the lowest floor (used to be called habitable floor) has proper openings. Thus, the designation in the last line of this definition in 20.25H should be changed from LUC 20.25H.180, to LUC 20.25H.180D.1.a.
- **Substantial Improvement.** This definition at 20.25H.177 uses the term "replacement value" to trigger the elevation requirement for a building. This is incorrect. The NFIP regulations specify "market value;" this term is statutory and must be used, therefore this definition must be corrected.

While the above comments point out deficiencies that must be either clarified or amended into Chapter 20.25H, our review concluded that Bellevue's Chapter 20.25H has numerous measures that are higher regulatory standards that significantly improve on the minimum NFIP regulations. Examples include your depth and velocity requirements, post and pile techniques, compensatory storage and many more. This reflects well on the City and certainly supports the City's Class 5 rating in the Community Rating System.

The measures identified above should be corrected at your earliest convenience; they will have to be corrected as a condition of ordinance approval pursuant to finalization of the King County DFIRMs. If you have any questions, please feel free to call me at (425) 649-7139.

Sincerely,



Charles L. Steele  
Floodplain Management Specialist

Enclosures

cc: Mark Carey, FEMA  
Dan Sokol, Ecology  
Linda Ryan, ISO/CRS



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000

July 2, 2010

Mr. Steve Sarkozy  
City Manager  
P.O. Box 90012  
Bellevue, WA 98009-9012

Dear Mr. Sarkozy:

I appreciated the opportunity to meet with the City on June 24, 2010 to discuss Bellevue's participation in the National Flood Insurance Program (NFIP). The meeting, called a Community Assistance Visit (CAV), was with Brian Ward, Heidi Bedwell, Catherine Drews, Lee Kranz and Gregg Schrader of your staff. This letter summarizes findings and discussions from the meeting.

A primary purpose of our visit was to assure enforcement by the City of Chapter 20.25H.175-180, Areas of Special Flood Hazard, of the Bellevue Land Use Code. Continued enforcement enables FEMA to continue to allow flood insurance to be sold in the City. Other purposes of these visits are to provide you with the most current information on the NFIP and State regulations and to give your staff an opportunity to discuss issues concerning the City's floodplain management program.

Our meeting was very productive. Those in attendance have key responsibilities for the City in the permitting of floodplain development, and it was clear that they had a very good understanding of the NFIP and how floodplain cases need to be handled. Our major concerns at CAV meetings involve: [1] the currency of local floodplain regulations; [2] procedures for implementing these regulations, and [3] information to document findings from our Field Inspection Report. Our findings related to these concerns follow:

**Floodplain Regulations.** Chapter 20.25H.175-180 was reviewed prior to the meeting. I had earlier reviewed this chapter and presented my findings to the City in a letter dated April 1, 2009. On May 20, your staff provided me with an amendment to this chapter in response to the April 1 letter. This amendment cleared deficiencies relative to definitions and the requirement that only a Professional Land Surveyor can complete Elevation Certificates. However, the following standards are still deficient (these are abbreviated; see the April 1, 2009 letter for the full text):

- At 20.25H.175A.2, the City must adopt the Flood Insurance Study for "King County and Incorporated Areas" since there is no Flood Insurance Study for Bellevue anymore. The City of Bellevue can be added to "King County and Incorporated Areas" if desired.



Mr. Steve Sarkozy  
July 2, 2010  
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- The section on Utilities that was in previous versions of the Bellevue Code (at old Section 110.7) must be either replaced in Chapter 20.25H or appear in some other Bellevue Code that you can document.
- The section on Subdivisions that was in previous versions of the Bellevue Code (at old Section 110.8) must be either replaced in Chapter 20.25H or appear in some other Bellevue Code that you can document.
- It must be specified that residential construction allowed in floodplains under the Reasonable Use Exception must have flood openings.
- The City must adopt the NFIP and State floodway standards. There are clauses in your flood chapter specifying that floodways must be enforced when the City obtains other authoritative floodplain information, but there are no floodway standards in Chapter 20.25H to follow. Please be aware that the original Flood Insurance Study assumed that all of the City's floodplains were to be enforced as floodways.

Because Bellevue is part of the King County conversion to new digital FIRMs, the timing is such that we have decided we will not pursue the ordinance deficiencies as a condition of closing this CAV. The City will have to have a fully compliant flood measure by the time conversion occurs, which is presently estimated to be July 2011. Thus, we will work with FEMA to assure that the City adopts the necessary standards mentioned above by that time.

**Procedures.** As a result of FEMA's October 1, 2003 Bellevue CAV, the City prepared a written procedure for handling flood cases. That procedure is still in effect, and we have concluded that it is very adequate to implement Chapter 20.25H.175-180.

**Field Inspection Report Cases.** There were ten specific cases cited in our Field Inspection Report for which documentation was requested. Six of these cases (Cases #3, 4, 6, 7, 8 and 9) pre-dated the last CAV and did not need additional documentation. Of the remaining cases:

- 3404 W. Lake Sammamish Parkway SE (Case #1). Documentation was provided at the meeting showing that the land for this residence is above the Base Flood Elevation (BFE).
- 3236 W. Lake Sammamish Parkway SE (Case #2). Documentation was provided at the meeting to show that the residence in Case #2 was above the BFE at the time of plan review. However, subsequent grading resulted in the lowest floor being only a half foot above the BFE; while this rounds to one foot above, it nevertheless was a mistake since your code requires residences to be one foot above the BFE. This will not be pursued here because the City has already undertaken additional staff training, and depicted all houses along Lake Sammamish on GIS that are close to the BFE (within 2 feet of BFE).

Mr. Steve Sarkozy  
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July 2, 2010

- Bridge in Kelsey Creek Park over West Tributary of Kelsey Creek (Case #5). An engineering report was provided by your staff showing that the bridge over Kelsey Creek in Case #5 did not cause an increase in flood levels during the occurrence of the 100-year flood discharge.
- 1130 156<sup>th</sup> Avenue SE (Case #10). At the CAV meeting, an Elevation Certificate was provided showing that this structure was basically compliant with your flood chapter, but there was uncertainty regarding hydrostatic flood openings because there was not adequate opening space relative to the amount of enclosed space. On this date I received an email from your staff indicating that the openings were "Smart Vents" that provide greater effectiveness than their size indicates. The documentation from Brian Ward and Tom Miller is adequate to show compliance.

In summary, there are no unresolved findings from our June 24, 2010 CAV. This closes the CAV for Bellevue. Our conclusion is that the City is effectively regulating development in the City's flood hazard areas. By copy of this letter, we are notifying FEMA of this certification.

I appreciate the excellent cooperation of your staff throughout this process. Brian Ward has been a leading proponent of effective floodplain management for several years, and he and your other staff at this meeting displayed a thorough grasp of floodplain management principles important to implementation of the NFIP and State floodplain regulations.

If any questions should arise in administering Chapter 20.25H.175-180, please feel free to call me at (425) 649-7139.

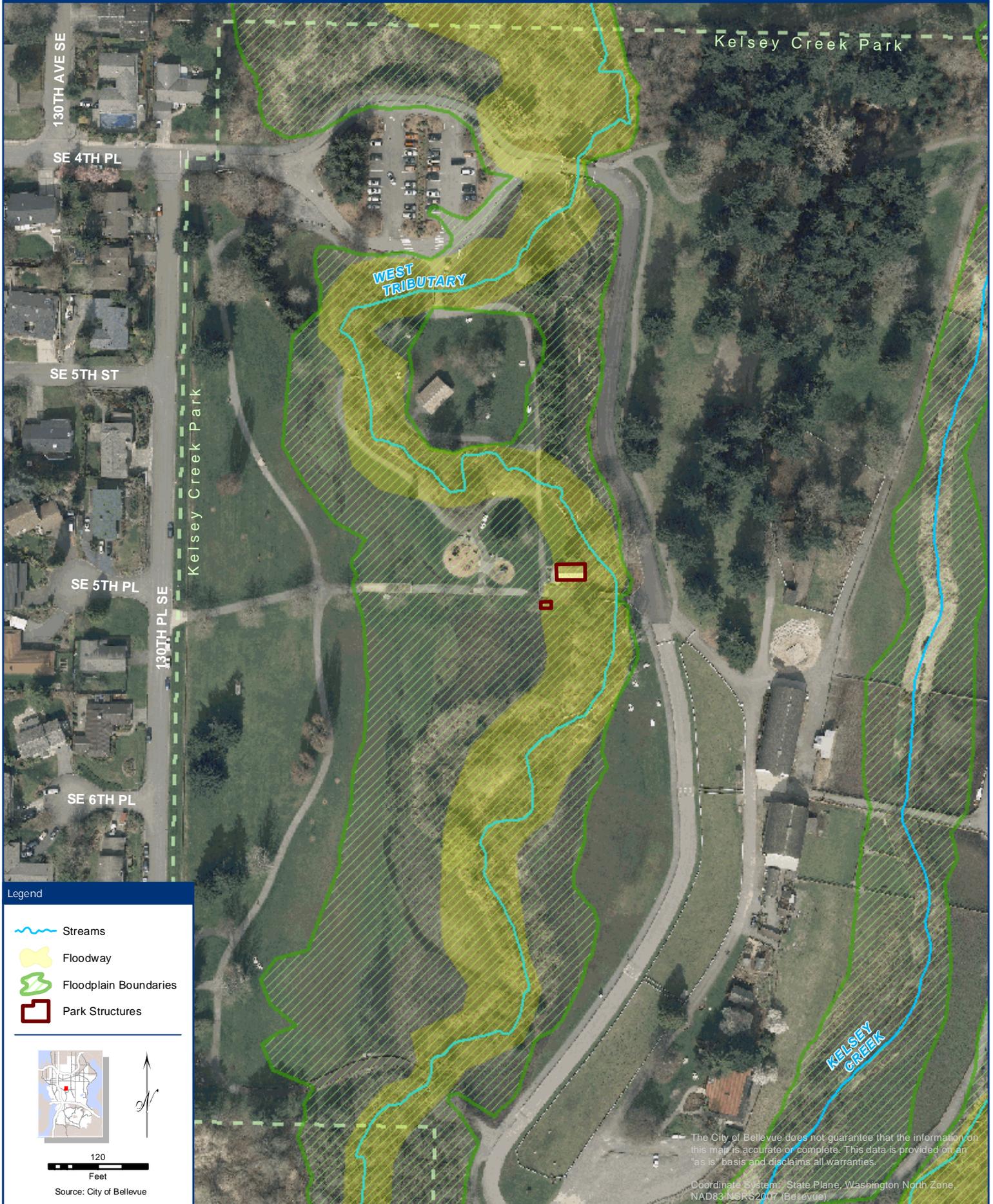
Sincerely,



Charles L. Steele  
Floodplain Management Specialist

cc: Mark Carey, FEMA  
Dan Sokol, Ecology  
Mike Brinnon  
Gregg Schrader  
Denny Vidmar  
✓ Brian Ward

# Structures in Kelsey Creek Floodway



The City of Bellevue does not guarantee that the information on this map is accurate or complete. This data is provided on an "as is" basis and disclaims all warranties.

Coordinate System: State Plane, Washington North Zone, NAD83, NSRS2007 (Bellevue)