CITY OF GRANITE FALLS

ORDINANCE NO. 799-10

AN ORDINANCE OF THE CITY OF GRANITE FALLS, WASHINGTON REPEALING ORDINANCE 641 – FLOOD DAMAGE PREVENTION AND THE CURRENT VERSION OF GFMC 19.07 AND ADOPTING NEW FLOOD DAMAGE PREVENTION REGULATIONS AND THE NEW VERSION OF GFMC 19.07.035.

Whereas, in November of 2006 the Pilchuck River flooded and significantly inundated portions of the Granite Park plat; and

Whereas, as a result of that flooding Snohomish County completed an analysis that estimates the elevation of flooding in the Granite Park area due to a 100-year event; and

Whereas, the City of Granite Falls desires to protect the general populace from the harmful effects of flood damage on building structures; and

Whereas, the Federal Emergency Management Agency encourages jurisdictions to utilize local knowledge to protect the citizens and their property from the harmful effects of flooding; and

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

Whereas, in 2001, the City Council adopted Ordinance 641, which established special flood hazard areas and certain regulatory requirements for those areas, to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in these areas as set forth in GFMC 19.07.030 and 19.07.040; and

Whereas, the City Council has determined that it is in the public interest and in the furtherance of the public health and welfare to adopted the proposed changes, as set forth below and in the attached Exhibit A;

NOW THEREFORE, the City Council of the City of Granite Falls, Washington do ordain as follows:

Section 1. Chapter 19.07 of the Granite Falls Municipal Code is hereby amended by repealing the current version, and adopting the revised version, of GFMC 19.07.035, which revised version is set forth in the attached Exhibit A and is incorporated herein by this reference.

Section 2. Severability. If any section, subsection, sentence, clause, phrase or word of this ordinance should be held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality thereof shall not affect the validity or constitutionality of any other section, subsection, sentence, clause, phrase or word of this ordinance.

Section 3. Effective Date. This ordinance shall take effect five days after the date of its publication by summary.

ADOPTED by the City Council and APPROVED by the Mayor this 21 day of APRIL, 2010.

CITY OF GRANITE FALLS

By _____
Sheikh Haroon Saleem, Mayor

ATTEST:

By _____
Darla Reese, City Clerk

APPROVED AS TO FORM:

By _____
Thom H. Graafstra, City Attorney

Date of First and Last Reading: April 21, 10

Date of Publication: April 25, 10

Effective Date: April 30, 10

EXHIBIT A

19.07.035 Flood damage prevention.

Section 1. General

1.1. Statutory Authorization

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. Therefore, the City of Granite Falls does ordain as follows:

1.2. Findings of Fact

A. Areas of the City of Granite Falls 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.

B. When floodplains and watersheds are developed without taking appropriate care and precautions, flood heights, frequencies, and velocities increase, causing a greater threat to humans, damage to property, destruction of natural floodplain functions, and adverse impacts to water quality and habitat.

C. Rivers, streams, lakes, estuarine and marine areas and their floodplains are major elements of healthy aquatic and riparian habitats and conveyance of flood waters. If watersheds, rivers, streams, lakes, estuaries, floodplains and other systems are not viewed holistically as biological and geomorphological units, it can lead to serious degradation of habitat and increased flood hazards to people and human development.

D. 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.

1.3. Purpose

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

A. Protect human life, health and property from the dangers of flooding;

B. Minimize the need for publicly funded and hazardous rescue efforts to save those who are isolated by flood waters;

C. Minimize expenditure of public money for costly flood damage repair and flood control projects;

D. Minimize disruption of commerce and governmental services;

E. Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets, and bridges located;

F. Maintain a stable tax base by providing for the sound use of floodprone areas so as to minimize future flood blight areas;

G. Ensure that those who occupy areas subject to flooding and channel migration assume responsibility for their actions;

H. Qualify the City of Granite Falls for participation in the National Flood Insurance Program, thereby giving citizens and businesses the opportunity to purchase flood insurance;

I. 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;

J. 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.

K. Prevent or minimize loss of hydraulic, geomorphic, and ecological functions of floodplains and stream channels.

1.4. Lands to Which This Chapter Applies

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 Granite Falls, as defined in Section 3.

1.5. Approach

In order to achieve the listed purposes, this chapter:

A. Defines and clarifies the terms and phrases used in this chapter in Section 2 of this section.

B. Identifies in Section 3 the Regulatory Floodplain, the Special Flood Hazard Area, and the Protected Area and the supporting technical data needed to delineate those areas.

C. Establishes a permit requirement in Section 4 so that all human development that may affect flood hazards, water quality, and habitat are reviewed before it is constructed.

D. Sets minimum protection standards in Section 5 of this section for all development to ensure that the development will not increase the potential for flood damage or adversely affect natural floodplain functions.

E. Sets minimum standards to protect new and substantially improved structures from flood damage in Section 6 of this section.

F. Specifies additional habitat protection criteria in Section 7. Some small projects do not need a permit. For all other development projects, the applicant must assess their impact on those factors that contribute to increased flood hazard and degradation of habitat. If the assessment concludes that there will be an adverse impact, the permit will be denied, unless the project is redesigned to mitigate the adverse impacts.

1.6. Penalties for Noncompliance

No development shall be undertaken or placed in the areas regulated by this ordinance without full compliance with the terms of this ordinance and other applicable regulations of the City of Granite Falls. Violations of the provisions of this ordinance by failure to comply with any requirements (including violations of conditions and safeguards established in connection with conditions), shall constitute a misdemeanor. Any person who violates this ordinance for fails to comply with any of its requirements shall upon conviction thereof be fined not more than $1,000 for each violation, and in addition shall pay all costs and expenses involved in the case. Nothing herein contained shall prevent the City of Granite Falls from taking such other lawful action as is necessary to prevent or remedy any violation. Each violation or each day of continued unlawful activity shall constitute a separate violation.

1.7. Interpretation

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

A. Considered as minimum requirements;

B. Liberally construed in favor of the City of Granite Falls; and,

C. Deemed neither to limit nor repeal any other powers granted under State statutes.

1.8. Abrogation and Greater Restrictions

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

1.9. 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 zone 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 the City of Granite Falls 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.

1.10. Severability

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

Section 2. 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.

Adversely Affect/Adverse Effect: effects that are a direct or indirect result of the proposed action or its interrelated or interdependent actions and the effect is not discountable, insignificant or beneficial. Discountable effects are extremely unlikely to occur. Insignificant effects relate 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 insignificant effects; or (2) expect discountable effects to occur. Beneficial effects are contemporaneous positive effects without any adverse effects. In the event that the overall effect of the proposed action is beneficial, but is also likely to cause some adverse effects, then the proposed action is considered to result in an adverse effect.

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. In addition work completed by Snohomish County the "City of Granite Falls Pilchuck River - Interim Flood Hazard

Mapping, August 2007" shows a wider floodplain than the work completed by FEMA in 1999 (Snohomish County, Panel 755 of 1575). Granite Falls will incorporate the Snohomish County work when identifying the base flood.

Base Flood Elevation: the elevation of the base flood above the datum of the effective FIRM or the 2007 Interim Flood Hazard Mapping, whichever is greater. Base flood elevations are referenced to 1988 NAVD.

Basement: any area of the structure having its floor sub-grade (below ground level) on all sides.

Channel Migration Area: the area within the lateral extent of likely stream channel movement due to stream bank destabilization and erosion, rapid stream incision, and shifts in location of stream channels plus 50 feet.

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 and 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 man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, 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.

Dry Floodproofing: any combination of structural and non-structural measures that prevent flood waters 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.

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

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 by the City of Granite Falls pursuant to the Washington State Growth Management Act (WAC 365-190-080).

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

A. The overflow of inland or tidal waters, and/or

B. 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. Granite Falls has adopted the "City of Granite Falls Pilchuck River - Interim Flood Hazard Mapping, August 2007" completed by Snohomish County for the estimation of base flood elevation and shall utilize that map as the City flood map. References to the FIRM shall be interpreted as referring to this map, or the FIRM as adopted by FEMA, whichever shows the higher base flood elevation.

Flood Protection Elevation (FPE): the elevation above the datum of the effective FIRM, or the "City of Granite Falls Pilchuck River - Interim Flood Hazard Mapping, August 2007", whichever is greater, 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 0.5 foot at any point.

Historic Structure: a structure that

A. Is listed on the National Register of Historic Places, the Washington Heritage Register, or the Washington Heritage Barn Register, or

B. 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). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage in an area other than a basement area, is not

considered a structure's lowest floor, provided that such enclosure is compliant with Section 6.2.F, (i.e. provided 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 flood-plain 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 for aquatic or riparian species.

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

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,

A. Built on a single chassis; and

B. 400 square feet or less when measured at the largest horizontal projection; and

C. Designed to be self-propelled or permanently towable by an automobile or light duty truck; and

D. 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 3. The term also includes newly designated areas that are delineated pursuant to Section 3.5.

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 3.4.C of this chapter.

SFHA: Special Flood Hazard Area.

Special Flood Hazard Area: 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 before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed.

The term 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: a grant of relief from the requirements of this chapter which permits construction in a manner that would otherwise be prohibited by this chapter.

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 herby adopted by reference. The system defines four water types:

A. Type "S" = Shoreline: Streams that are designated "shorelines of the State," including marine shorelines

B. Type "F" = Fish: Streams that are known to be used by fish or meet the physical criteria to be potentially used by fish.

C. Type "Np" = Non-Fish Perennial streams

D. Type "Ns" = Non-Fish Seasonal streams

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 areas of ponding) 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 ponding 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.
- Shaded X: the same as a Zone B, above.

Section 3. Regulatory Data

3.1. Regulatory Floodplain

The Regulatory Floodplain is comprised of the Special Flood Hazard Area and all Protected Areas within the jurisdiction of the City of Granite Falls. The term also includes areas delineated pursuant to Section 3.5.

3.2. Special Flood Hazard Area

A. The Special Flood Hazard Area (SFHA) is the area subject to flooding by the base flood and subject to the provisions of this chapter. Panel 755 0f 157 of Flood Insurance Rate Map (FIRM) for Snohomish County dated November 19, 1999, has been shown to be inaccurate due to recent flooding, particularly the November 2006 flood. Revisions thereto have been made by Snohomish County and is titled "City of Granite Falls Pilchuck River - Interim Flood Hazard Mapping, August 2007". These revisions are hereby adopted by reference and declared to be a part of this chapter. The revised mapping is on file at the City of Granite Falls

B. Upon receipt of a floodplain development permit application, the City's designated official 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.

The City's designated official 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.

C. The City's designated official shall make interpretations where needed, as to the exact location of the boundaries of the Regulatory Floodplain, the SFHA and the Protected Area (e.g., 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 City's designated

official interpretation of the location of the boundary to Granite Falls City Council.

3.3. Flood Hazard Data

A. The base flood elevation for the SFHAs of the City of Granite Falls shall be as delineated on the August 2007 Interim Flood Hazard Mapping completed by Snohomish County.

B. 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 to be two feet above the highest grade adjacent to the structure.

C. The base flood elevation for all other SFHAs shall be as defined in Sections 3.3.F and 3.5.F.

D. The Flood Protection Elevation (FPE) shall be the base flood elevation as shown on the "City of Granite Falls Pilchuck River - Interim Flood Hazard Mapping, August 2007" plus two feet.

E. The floodway shall be as delineated on the Flood Insurance Rate Map or in accordance with Sections 3.3.F and 3.5.D.

F. Where base flood elevation and floodway data have not been provided in Special Flood Hazard Areas, the City's designated official shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a Federal, State, or other source. Granite Falls shall utilize the August 2007 Interim Flood Hazard Mapping completed by Snohomish County when evaluating the floodplain.

3.4. Protected Area

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

B. In riverine areas, where a floodway has not been designated in accordance with Sections 3.3.E, 3.3.F, or 3.5.D, the Protected Area is comprised of those lands that lie within the boundaries of the riparian habitat zone, the channel migration zone area, and the SFHA.

C. **Riparian habitat zone:** The riparian habitat zone includes those watercourses within the SFHA and adjacent land areas that are likely to support aquatic and riparian habitat.

1. 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) Marine and lake shorelines and Type S streams that are designated "shorelines of the State:" 250 feet

   (b) Type F streams (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

2. The riparian habitat zone shall be delineated on the site plan by the applicant at the time of application for subdivision approval or floodplain development permit for all development proposals within 300 feet of any stream or shoreline.

D. Channel Migration Area:

1. The channel migration zone area has not been delineated for the City of Granite Falls.

2. If there is no channel migration zone map that has been adopted by the City of Granite Falls for regulatory purposes, there is no requirement to prepare a new delineation of a channel migration area.

3. Where more than one channel migration zone has been delineated, the City's designated official shall use the delineation that has been adopted for other local regulatory purposes.

3.5. New Regulatory Data

A. 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 City's designated official.

1. The City's designated official 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 is in compliance with this ordinance.

2. The City's designated official 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.

B. 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 NFIP-ESA Hydrologic and Hydraulic Studies,* published by FEMA Region X, 2010. 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.

C. Where base flood elevation data are not available in accordance with Section 3.3, 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 the lesser, shall include such data with their permit applications.

D. Where a floodway data are delineation is not available in accordance with Section 3.3, 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 the lesser, shall include such data with their permit applications. This provision does not apply to applications for permits for small projects on large lots, such as constructing a single family home.

E. All new hydrologic and hydraulic flood studies conducted pursuant to this Section 3.5 shall consider future conditions and the cumulative effects from anticipated future land use changes in accordance with *Regional Guidance for NFIP-ESA Hydrologic and Hydraulic Studies,* published by FEMA Region X, 2010. If there is an existing study that meets the rest of this chapter's criteria, it may be used, even if it does not account for future conditions.

Section 4. Administration

4.1. Establishment of Floodplain Development Permit

A floodplain development permit shall be obtained before construction or development begins within the Regulatory Floodplain. The permit shall be for all development as set forth in Section 2. Definitions.

4.2. Floodplain Development Permit Application

Application for a floodplain development permit shall be made on forms furnished by the City's designated official and shall include, but not be limited to,

A. One or more site plans, drawn to scale, showing:

1. The nature, location, dimensions, and elevations of the parcel property in question,
2. Names and location of all lakes, water bodies, waterways and drainage facilities within 300 feet of the site,

3. The elevations of the 10-, 50-, 100-, and 500-year floods, where the data are available,

4. The boundaries of the Regulatory Floodplain, SFHA, floodway, riparian habitat zone, and channel migration zone area, delineated in accordance with Section 3,

5. The proposed drainage system including, but not limited to storm sewers, overland flow paths, detention facilities and roads,

6. Existing and proposed structures, fill, pavement and other impervious surfaces, and sites for storage of materials,

7. All wetlands,

8. Designated fish and wildlife habitat conservation areas, and

9. Existing native vegetation and proposed revegetation.

B. If the proposed project involves regrading, excavation, or filling, the site plan shall include proposed post-development terrain at one foot contour intervals.

C. 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 FPE for the building site and the proposed elevations of the following:

1. The top of bottom floor (including basement, crawlspace, or enclosure floor)

2. The top of the next higher floor

3. The bottom of the lowest horizontal structural member (in V Zones only)

4. The top of the slab of an attached garage

5. The lowest elevations of all machinery and or equipment servicing the structure

6. The lowest adjacent (finished) grade next to structure

7. The highest adjacent (finished) grade next to structure

8. The lowest adjacent grade at the lowest elevation of a deck or stairs, including structural support

D. 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 and a certification by a registered professional engineer or licensed architect that the dry floodproofing methods meet the floodproofing criteria in Section 6.3.

E. The application shall include 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.

F. The application shall include documentation that the applicant has applied for all necessary permits have been received from those governmental agencies from which approval is required by Federal, or State, or local law. The application shall include acknowledgment that the applicant understands that the final certificate of occupancy will be issued only if the applicant has received the required Federal, State, and local permits or letters stating that a permit is not required.

G. The application shall include acknowledgment by the applicant that representatives of any Federal, State or local unit of government with regulatory authority over the project are authorized to enter upon the property to inspect the development.

4.3. Floodplain Development Permit Expiration

If there has been no start of construction, a floodplain development permit shall expire 180 days after the date of issuance. Where the applicant demonstrates or documents a need for an extension beyond this period due to documented regulatory requirements conditions beyond the applicant's control, the City's designated official may authorize up to two 90 day one or more extensions.

4.4. Designation of the City's Designated Official

The City's designated official shall be appointed by the Mayor to administer and implement this chapter by granting or denying floodplain development permit applications in accordance with its provisions.

4.5. Duties of the City's designated official

Duties of the City's designated official shall include, but not be limited to:

A. Review all floodplain development permits to determine that the permit requirements of this chapter have been satisfied.

B. 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.

C. 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 7 are met.

D. Ensure that all development activities within the Regulatory Floodplain of the jurisdiction of the City of Granite Falls meet the requirements of this chapter.

E. Inspect all development projects before, during and after construction to ensure compliance with all provisions of this chapter, including proper elevation of the structure.

F. Maintain for public inspection all records pertaining to the provisions of this chapter.

G. Submit reports as required for the National Flood Insurance Program.

H. Notify FEMA of any proposed amendments to this chapter.

I. 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.

4.6. Records

A. Where base flood elevation data have been obtained pursuant to Sections 3.3 and 3.5, the City's designated official shall obtain, record, and maintain the actual "finished construction" elevations for the locations listed in Section 4.2.C of this section. 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.

B. For all new or substantially improved dry floodproofed nonresidential structures, where base flood elevation data has been obtained pursuant to Sections 3.3 and 3.5, the City's designated official 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.

4.7. Certificate of Occupancy

A. A certification of use for the property or a certificate of occupancy for a new or substantially improved structure or an addition shall not be issued until:

1. The permit applicant provides a properly completed, signed and sealed Elevation or Floodproofing Certificate showing finished construction data as required by Section 4.6;
2. If a mitigation plan is required by Sections 7.7 and 7.8, all work identified in the plan has been completed according to the plan's schedule;
3. All Federal, State, and local permits noted in the permit application per Section 4.2.F;

4. All other provisions of this chapter have been met.

B. The City's designated official may accept a performance bond or other security that will ensure that unfinished portions of the project will be completed after the certification of use or certificate of occupancy has been issued.

4.8. Board of Appeals

A. The Granite Falls City Council, or a hearing examiner appointed by the Council, shall hear and decide appeals and requests for variances from the requirements of this ordinance.

B. The Granite Falls City Council, or a hearing examiner appointed by the Council, shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the City's designated official in the enforcement or administration of this ordinance.

C. Upon consideration of the factors in Section 4.9 and the purposes of this chapter, the Granite Falls City Council, or a hearing examiner appointed by the Council, may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.

D. The City's designated official shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.

4.9. Variance Criteria

A. In passing upon reviewing applications for a variance , the Granite Falls City Council, or a hearing examiner appointed by the Council, 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, 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 modify a fish and wildlife habitat conservation area; and

10. The potential of the proposed development project to affect, or be affected by, channel migration; and

11. Shall not result in a violation of this chapter; and

12. Must be compliant with ESA

B. No 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 any fish and or wildlife habitat;

7. There will be no additional threat to public health, safety, beneficial stream or water uses and functions, especially habitat, 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.

C. Variances requested in connection with restoration of a historic site, building or structure may be granted using criteria more permissive than the above requirements, provided:

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. Variances to the provisions of Section 6 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.

E. Variances pertain to a physical piece of property. They are not personal in nature and are not based on the inhabitants or their health, economic, or financial circumstances.

Section 5. General Development Standards

The provisions of this Section 5 shall apply in the Regulatory Floodplain:

5.1. Subdivisions

A. All proposals shall be consistent with the need to minimize flood damage.

B. The proposed subdivision shall 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. The density of the development in the portion of the development outside the Regulatory Floodplain may be increased to compensate for the amount of land in the Regulatory Floodplain preserved as open space in accordance with Granite Falls Municipal Code, Chapter 19.6. Development Standards, Section 19.6.010 B.

C. If a parcel has a buildable site outside the Regulatory Floodplain, it shall not be subdivided to create a new parcel lot that does not have a buildable site outside the Regulatory Floodplain. This provision does not apply to parcels lots set aside from development and preserved as open space.

D. All proposals shall have utilities and facilities, such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage.

E. All proposals shall ensure that all buildable lots shall have at least one access road connected to land outside the Regulatory Floodplain with the top surface of the road at or above the FPE.

F. All proposals shall have adequate drainage provided to avoid exposure to water damage.

G. 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.

5.2. Site Design

A. Structures and other development shall be located to avoid flood damage.

1. If a lot has a buildable site out of the Regulatory Floodplain, all new structures shall be located in that area.

2. 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 placing the structures on the highest land on the lot.

B. All new development shall be designed and located to minimize the impact on flood flows, flood storage, water quality, and habitat.

1. Stormwater and drainage features shall incorporate low impact development techniques that mimic pre-development hydrologic conditions, such as stormwater infiltration, rain gardens, grass swales, filter strips, disconnected impervious areas, permeable pavement, and vegetative roof systems.

2. If the proposed project will create new impervious surfaces so that more than 10 percent of the parcel 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 7.7 and 7.8.

C. The site plan required in Section 4.2 shall account for surface drainage to ensure that

1. Existing and new buildings on the site will be protected from stormwater runoff and

2. The project will not divert or increase surface water runoff onto neighboring properties.

5.3. Hazardous Materials

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.

5.4. Critical Facilities

A. Construction of new critical facilities shall be, to the extent possible, located outside the limits of the Regulatory Floodplain

B. Construction of new critical facilities shall be permissible if no feasible alternative site is available, provided

1. 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. 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.
2. Access to and from the critical facility shall be protected to the elevation of the 500-year flood.

5.5. Sand Dunes

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

Section 6. Standards for Protection of Structures

The provisions of this Section shall apply in the Special Flood Hazard Area. All new structures and substantial improvements shall be protected from flood damage below the Flood Protection Elevation.

6.1. Applicability

This section's protection requirement applies to all new structures and substantial improvements, which include:

A. Construction or placement of a new structure.

B. Reconstruction, rehabilitation, or other improvement that will result in a substantially improved building.

C. Repairs to an existing building that has been substantially damaged.

D. Placing a manufactured home on a site.

E. Placing a recreational vehicle or travel trailer on a site for more than 180 days.

6.2. Flood Protection Standards

A. All new structures and substantial improvements shall have the lowest floor, including basement, elevated 2 feet above the Base Flood Elevation. Minimum floor elevations are shown on Table 1, attached.

B. The structure shall be aligned parallel with the direction of flood flows.

C. The structure shall be anchored to prevent flotation, collapse, or lateral movement of the structure.

D. 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.

E. Electrical, heating, ventilation, duct work, 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 so as to prevent water from entering or accumulating within them during conditions of flooding.

F. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or 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:

1. 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.
2. The bottom of all openings shall be no higher than one foot above grade.
3. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

G. In Zones V, V1-30 and VE, new structures and substantial improvements shall be elevated on pilings or columns so that:

1. The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated above the FPE.

2. 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).

3. The areas below the lowest floor that are subject to flooding shall be free of obstruction.

4. The structure or improvement shall be located landward of the reach of mean high tide.

5. The use of fill for structural support of a structure or improvement addition is prohibited.

6. 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.

6.3. Nonresidential Construction

New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall be elevated in accordance with Section 6.2. 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. Below the FPE the structure 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 City's designated official as set forth in Sections 4.6.B and 4.7.A.1.

6.4. Manufactured Homes

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

A. Elevated on a permanent foundation in accordance with Section 6.2, and

B. 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.

6.5. Recreational Vehicles

Recreational vehicles placed on sites shall:

A. Be on the site for fewer than 180 consecutive days, or

B. 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

C. Meet the requirements of Section 6.4 above.

6.6. Small Structures

A low cost building such as a detached garage, boathouse, pole barn, or storage shed, that is no larger than 500 square feet and is not used for human habitation, may be exempt from the elevation requirement of Section 6.2.A, provided:

A. It is used only for parking or storage;

B. It is constructed and placed on the building site so as to offer minimum resistance to the flow of floodwaters;

C. It is anchored to prevent flotation which may result in damage to other structures;

D. All portions of the structure below the FPE must be constructed of flood-resistant materials;

E. Service utilities such as electrical and heating equipment meet the standards of Sections 6.2.E and 6.2.F;

F. It has openings to allow free flowage of water that meet the criteria in Section 6.2.F;

G. The project meets all the other requirements of this chapter, including Section 7.

6.7. Utilities

A. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems;

B. Water wells shall be located outside the floodway and shall be protected to the FPE;

C. 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;

D. 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 in accordance with Section 7.7 as a condition of approval of an onsite waste disposal system to be located in the Regulatory Floodplain.

Section 7. Standards for Habitat Protection

The provisions of this Section shall apply in the Regulatory Floodplain.

7.1. Non-Development Activities

Activities that do not meet the definition of "development" are allowed in the Regulatory Floodplain without the need for a floodplain development permit under this chapter, provided all other Federal, State, and local requirements are met. The following are examples of activities not considered development or "man-made changes to improved or unimproved real estate."

A. Routine maintenance of landscaping that does not involve grading, excavation, or filling;

B. Removal of noxious weeds and hazard trees and replacement of non-native vegetation with native vegetation;

C. Normal maintenance of structures, such as re-roofing and replacing siding, provided such work does not qualify as a substantial improvement;

D. Normal maintenance of above ground public utilities and facilities, such as replacing downed power lines;

E. Normal street and road maintenance, including filling potholes, repaving, and installing signs and traffic signals, but not including expansion of paved areas.

F. Normal maintenance of a levee or other flood control facility prescribed in the operations and maintenance plan for the levee or flood control facility; and

G. Plowing and other normal farm practices (other than structures or filling) on farms in existence as of the effective date of this chapter.

7.2. Activities Allowed with a Floodplain Permit

The following activities are allowed in the Regulatory Floodplain without the analysis required in Section 7.5 or the habitat impact assessment required under Section 7.7, providing all other requirements of this chapter are met, including obtaining a floodplain development permit:

A. Repairs or remodeling of an existing structure, provided that the repairs or remodeling are not a substantial improvement or a repair of substantial damage.

B. 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 the effective date of this chapter. If the structure is in the floodway, there shall be no change in the dimensions perpendicular to flow.

C. Activities with the sole purpose of creating, restoring or enhancing natural functions associated with floodplains, streams, lakes, estuaries, marine areas, habitat, and riparian areas that meet Federal and State standards, provided the activities do not include structures, grading, fill, or impervious surfaces.

D. Development of open space and recreational facilities, such as parks, trails, and hunting grounds, that do not include structures, grading, fill, or impervious surfaces or removal of more than 5% of the native vegetation on that portion of the property in the Regulatory Floodplain.

7.3. Other Activities

All other activities not listed in Sections 7.1 or 7.2 that are allowed by the City's development regulations are allowed, provided they meet all the other requirements of this chapter, including the analysis required in Section 7.5 and the habitat impact assessment required under Section 7.7, and a floodplain development permit is issued.

7.4. Native Vegetation

The site plan required in Section 4.2 shall show existing native vegetation.

A. In the riparian habitat zone, native vegetation shall be left undisturbed, except as provided in Sections 7.1 and 7.2.C.

B. 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 parcel property can be counted toward this requirement.

C. If the proposed project does not meet these criteria of Sections 7.4.A and 7.4.B, a habitat impact assessment shall be conducted pursuant to Section 7.7 and, if necessary, a habitat mitigation plan shall be prepared and implemented pursuant to Section 7.8.

7.5. Floodway Standards

A. In addition to the other requirements of this chapter, a project to develop in the floodway as delineated pursuant to Sections 3.3.E, 3.3.F, or 3.5.D shall meet the following criteria:

1. 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.

2. Construction or reconstruction of residential structures is prohibited within designated floodways, except for the following. The following exceptions must still meet all other requirements in the chapter, including Section 7.5.A.1.

   (a) 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.

   (b) Repairs, replacement, reconstruction, or improvements to existing farmhouses located in designated floodways and located on designated agricultural lands that do not increase the building's total square footage of encroachment and are consistent with all requirements of WAC 173-158-075;

   (c) 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

(d) Repairs, reconstruction, or improvements to residential structures identified as historic structures that do not increase the building's dimensions.

B. In riverine Special Flood Hazard Areas where a floodway has not been delineated pursuant to Sections 3.3.E, 3.3.F or 3.5.D, 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 1.0 feet.

7.6. 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 displaces any effective flood storage volume. Compensatory storage shall:

A. 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;

B. Be hydraulically connected to the source of flooding; and

C. Provide compensatory storage in the same construction season as when the displacement of flood storage volume occurs and before the flood season begins.

D. The newly created storage area shall be graded and vegetated to allow fish access during flood events without creating fish stranding sites.

7.7. Habitat Impact Assessment

Unless allowed under Sections 7.1 – 7.2, a permit application to develop in the Regulatory Floodplain shall include an assessment of the impact of the project on water quality and aquatic and riparian habitat. The assessment shall be either:

A. A Biological Evaluation or Biological Assessment that has received concurrence from the US Fish and Wildlife Service or the National Marine Fisheries Service, pursuant to the Endangered Species Act; OR

B. Documentation that the activity fits within a Habitat Conservation Plan approved pursuant to Section 10 of the Endangered Species Act; OR

C. Documentation that the activity fits within Section 4(d) of the Endangered Species Act; OR

D. An assessment prepared in accordance with *Regional Guidance on Floodplain Habitat Assessment and Mitigation,* published by FEMA Region X, 2010. The assessment shall determine if the project would adversely impact on:

1. The primary constituent elements identified when a species is listed as threatened or endangered,
2. Essential Fish Habitat designated by the National Marine Fisheries Service,
3. Fish and wildlife habitat conservation areas,
4. Vegetation communities and habitat structures,
5. Water quality,
6. Water quantity, including flood and low flow depths, volumes and velocities,
7. The channel's natural meandering pattern,
8. Spawning substrate, if applicable, and/or
9. Floodplain refugia, if applicable.

7.8. Habitat Mitigation Plan

A. If the assessment conducted under Section 7.7 concludes the project is expected to have an adverse impact 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 *Regional Guidance on Floodplain Habitat Assessment and Mitigation,* published by FEMA Region X, 2010.

1. If the project is located outside the Protected Area, the mitigation plan shall include such avoidance, minimization, restoration, or compensation measures as are appropriate for the situation.
2. If the project is located in the Protected Area, the mitigation plan shall include such avoidance, restoration, or compensation measures as are needed to ensure that there is no net loss of habitat function due to the project. Minimization measures are not allowed in the Protected Area, unless they, in combination with other measures, result in no adverse effect.

B. The plan's habitat mitigation activities shall be incorporated into the proposed project. The floodplain development permit shall include the provisions of the acceptable mitigation plan and the plan shall become part of the permit record be based on the redesigned project and its mitigation components.

C. As required in Section 4.7, the City's designated official shall not issue a certification of use or a certificate of occupancy until all work identified in the Biological Evaluation, Biological Assessment, or 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 4.7.B.

7.9. Alteration of Watercourses

A. In addition to the other requirements in this Section 7, 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 and the provisions of the letter are made a part of the permit requirements.

B. The City's designated official 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.

C. 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.

TABLE 1
Granite Park - Paradise Lane
Minimum Floor Elevations

Granite Park Division 1

Lot #	Grd Elev [1]	Estimated Base Flood Elevation [2]	Safety Factor	Minimum Floor Elevation [3]	Approx Height of Floor above Ground
1	305	314.00	2	316.00	11
2	305	314.00	2	316.00	11
3	305	314.00	2	316.00	11
4	306	314.00	2	316.00	10
5	306	314.00	2	316.00	10
6	306	314.00	2	316.00	10
7	306	314.00	2	316.00	10
8	307	314.00	2	316.00	9
9	307	314.00	2	316.00	9
10	307	314.00	2	316.00	9
11	308	314.00	2	316.00	8
12	308	314.00	2	316.00	8
13	308	314.00	2	316.00	8
14	308	314.00	2	316.00	8
15	309	314.00	2	316.00	7
16	309	314.00	2	316.00	7
17	309	314.00	2	316.00	7
18	309	314.00	2	316.00	7
19	307	314.00	2	316.00	9
20	307	314.00	2	316.00	9
21	307	314.00	2	316.00	9
22	307	314.00	2	316.00	9
23	308	314.00	2	316.00	8
24	308	314.00	2	316.00	8
25	309	314.00	2	316.00	7
26	310	314.00	2	316.00	6
27	311	314.00	2	316.00	5
28	312	314.25	2	316.25	4
29	313	314.75	2	316.75	4
30	315	315.50	2	317.50	3
31	315	316.25	2	318.25	3
32	315	316.25	2	318.25	3
33	315	316.25	2	318.25	3
34	315	316.50	2	318.50	4
35	315	317.00	2	319.00	4
36	317	317.00	2	319.00	2
37	319	317.00	2	320.00	1

Lot #	Grd Elev [1]	Estimated Base Flood Elevation [2]	Safety Factor	Minimum Floor Elevation [3]	Approx Height of Floor above Ground
38	320	318.00	2	321.00	1
39	320	318.00	2	321.00	1
40	320	318.00	2	321.00	1
41	320	318.00	2	321.00	1
42	320	318.00	2	321.00	1
43	317	317.00	2	319.00	2
44	317	317.00	2	319.00	2

Granite Park Division 2

Lot #	Grd Elev [1]	Estimated Base Flood Elevation [2]	Safety Factor	Minimum Floor Elevation [3]	Approx Height of Floor above Ground
1	309	314.00	2	316.00	7
2	309	314.00	2	316.00	7
3	309	314.25	2	316.25	7
4	309	314.50	2	316.50	8
5	309	314.75	2	316.75	8
6	309	315.00	2	317.00	8
7	309	315.25	2	317.25	8
8	309	315.50	2	317.50	9
9	309	315.75	2	317.75	9
10	309	316.00	2	318.00	9
11	310	316.25	2	318.25	8
12	310	316.50	2	318.50	9
13	310	316.75	2	318.75	9
14	310	317.00	2	319.00	9
15	310	317.25	2	319.25	9
16	310	317.50	2	319.50	10
17	316	317.75	2	319.75	4
18	316	318.00	2	320.00	4
19	316	318.10	2	320.10	4
20	316	318.20	2	320.20	4
21	316	318.30	2	320.30	4
22	316	318.40	2	320.40	4
23	315	318.50	2	320.50	6
24	315	318.60	2	320.60	6
25	315	318.70	2	320.70	6

1. For waterfront lots the ground elevation shown is at a point approximately 200 feet from the shoreline. For other lots the elevation is approximately in the center of the lot.

2. Based upon Snohomish County August 2007 Pilchuck River - Interim Flood Hazard Mapping

3. All elevations shall be based upon NAVD 1988.

4. Note the minimum floor elevation in Division 1 Lots 37, 38, 39, 40, 41 and 42 shall be a minimum of one foot above grade or the elevation shown, whichever is greater.