

**ORDINANCE NUMBER 81 - 07**

**AMENDMENTS TO THE MASON COUNTY  
FLOOD DAMAGE PREVENTION ORDINANCE**

AN ORDINANCE amending the Mason County Flood Damage Prevention Ordinance, Mason County Code Chapter 14.22, under the authority of Chapters 36.70 and 36.70A RCW.

WHEREAS, under consideration are amendments to the Mason County Flood Damage Prevention Ordinance and the principal purpose of this ordinance is to “promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions...” ; and

WHEREAS, the ordinance implements both the National Flood Insurance Program and Frequently Flooded Areas pursuant to the State of Washington Growth Management; and

WHEREAS, the Mason County Board of Commissioners, Mason County Planning Advisory Commission, and the Mason County Department of Community Development held a series of public workshops and hearings from April 24, 2006 through July 17, 2007 about the proposed changes and additions; and

WHEREAS, the public had a reasonable opportunity to review the proposed changes and alternative language prior to the end of the comment period; and

WHEREAS, the State Environmental Policy Act review was done, a Determination of Nonsignificance was issued, and the public comment period had passed prior to the end of the amendment comment period and prior to Board action; and

WHEREAS, Mason County commissioned a channel migration and avulsion potential analyses for the Skokomish River Valley in Mason County to update the scientific information available; and

WHEREAS, Mason County obtained best available science as provided in WAC 365-195-910 and considered such science as shown in the record and approved findings of fact; and

WHEREAS, Mason County is aware of and supports ongoing activities such as the Army Corp of Engineers for the comprehensive and long-term study of possible solutions to flood related and environmental issues in the Skokomish River Valley; and

WHEREAS, based upon the staff report, text of the proposed, a review of best available science, and public testimony, the Mason County Board of Commissioners has approved the findings of fact to support its decision as ATTACHMENT B.

NOW, THEREFORE, BE IT HEREBY ORDAINED, the Mason County Board of Commissioners hereby approves and ADOPTS the revisions to the Mason County Flood Damage Prevention Ordinance, as described by ATTACHMENT A.

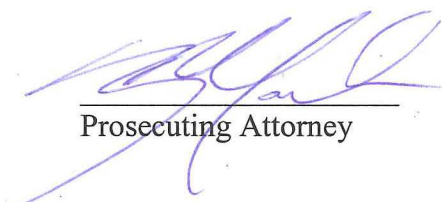
DATED this 17<sup>h</sup> day of July 2007.


**BOARD OF COUNTY COMMISSIONERS  
MASON COUNTY, WASHINGTON**

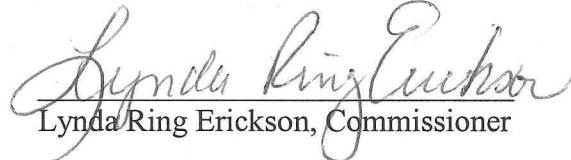
ATTEST:

  
Clerk of the Board

APPROVED AS TO FORM:

  
Prosecuting Attorney

  
Ross Gallagher, Commissioner

  
Lynda Ring Erickson, Commissioner

  
Tim Sheldon, Commissioner

**MASON COUNTY FLOOD DAMAGE PREVENTION ORDINANCE  
Ordinance #81-07, Amendments Approved July 17, 2007**

**SECTION 1.0  
STATUTORY AUTHORIZATION, PURPOSE, AND OBJECTIVES**

**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. RCW 36.70A.060 and RCW 36.70A.170 provides for the designation and regulation of Frequently Flooded Areas, and ~~RCW~~Chapter 86.16 RCW provides for the administration of ~~national~~National Flood Insurance Program regulation requirements by local governments. This ordinance as adopted and amended shall be known as the Mason County Flood Damage Prevention Ordinance.

**1.2 PURPOSE**

**1.2-1 Background**

The flood hazard areas of Mason County are subject to periodic inundation which can result in loss of life and property, health, and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare. These flood losses could be exacerbated by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately floodproofed, elevated, or otherwise protected from flood damage also contribute to the flood loss.

Mason County has prepared this flood damage prevention ordinance to implement comprehensive flood damage reduction ~~control~~ measures that are necessary for public health safety and welfare and that allow property owners to protect their property. Additional information about the Skokomish River valley has been developed through recent studies, and such data is relevant to this ordinance. ~~The Skokomish River Comprehensive Flood Hazard Management Plan, February 1997 was adopted and contains a hydraulic study and recommendations for density based floodplain development regulations in the Skokomish River Valley. A channel migration zone and avulsion potential study, and an existing dike inspection report were completed in December 2005 by HDR Engineering and GeoEngineers on behalf of The engineers Skillings Connolly have completed the Draft Lower South Fork and Upper Skokomish River Hydraulic and Geomorphic Analysis (August 1997), the Discussion of Skokomish River Valley Flood and Avulsion Hazards (September 1997), and the South Fork of the Skokomish River and Vance Creek Hydraulic and Geomorphic Analysis and Recommendations for Action (June 1999, revised September 1999) that include the~~

~~general documentation of the existence of flood hazard risk areas.~~ Mason County. - Further studies in the Skokomish River floodplain are currently being undertaken under the authority of the Army Corps of Engineers.

#### 1.2-2 Purpose

It is therefore the purpose of this ordinance to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

- (1) To protect human life, health and property;
- (2) To minimize expenditure of public money and costly flood damage control projects;
- (3) To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) To minimize prolonged business and farming interruptions;
- (5) To minimize damage to public facilities and utilities such as water and gas mains, electric telephone and sewer lines, streets, and bridges located in areas of special flood hazard;
- (6) To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
- (7) To ensure that potential buyers are notified that property is in an area of special flood hazard; and
- (8) To ensure that those who occupy the areas of special flood hazard participate, along with government, in assuming responsibility for their actions.
- (9) To allow individuals to protect their life, health, and property when it is done in accordance with all applicable laws and regulations.
- (10) Implement applicable recommendations of *Skokomish River Comprehensive Flood Hazard Management Plan, Draft Lower South Fork and Upper Skokomish River Hydraulic and Geomorphic Analysis, Discussion of Skokomish River Flood and Avulsion Hazards and South Fork of the Skokomish River and Vance Creek Hydraulic and Geomorphic Analysis and Recommendations for Action* and Channel Migration Zone Study and Dike Observation report for the Skokomish River.
- (11) Provide for continued eligibility for ~~FEMA~~ National Flood Insurance Program

#### 1.3 METHODS OF REDUCING FLOOD LOSSES

In order to accomplish its purposes, this ordinance provides regulatory methods and provisions for:

- (1) Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
- (2) Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

- (3) Controlling the alteration of natural floodplains, stream channels, and natural protection barriers, which help accommodate or channel flood waters;
- (4) Controlling filling, grading, and other development which may increase flood damage; and
- (5) Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or may increase flood hazards in other areas.
- (6) Controlling excessive erosion by constructing sound erosion control structures and obtaining appropriate permits and exemptions from all applicable local, state, and federal jurisdictions.
- (7) Implementing the recommendations of adopted flood hazard studies and plans.

## SECTION 2.0 DEFINITIONS

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application.

“A-ZONE” or “ZONE A” means those areas shown on the Federal Flood Insurance Rate Maps (FIRM) as that area of land within the floodplain which would be inundated by the Base Flood (100-year or one percent annual chance) flood.

“ACCESSORY STRUCTURE” means nonresidential structures such as detached garages, sheds, garden buildings, pole buildings, and barns which are considered normal for farming and ranching activities.

“ADMINISTRATOR” means the Director of the Mason County Department of Community Development or designee.

“APPEAL” means the right to request for a review of the Administrator’s interpretation of any provision of this ordinance or a request for a variance.

“AREA OF SHALLOW FLOODING” means a designated AO or AH Zone on the Flood Insurance Rate Map (FIRM). The base flood depths range from one to three feet; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and, velocity flow may be evident. AO is characterized as sheet flow and AH indicates ponding.

“AREA OF SPECIAL FLOOD HAZARD” means the land in the floodplain within a community subject to a one percent or greater chance of flooding on any given year. In Mason County, the designation of these areas on FIRM maps always includes the letter A. Areas of special flood hazard are designated as Frequently Flooded Areas.

“AVULSION” means a sudden cutting off of land by flood, currents, or change in course of a body of water.

“~~AVULSION RISK AREAS~~POTENTIAL ZONES” are the areas ~~which have been determined to have too high of a risk of avulsion to permit new structures or expansion of existing structures~~ subject to risk due to sudden shifts in the location of stream channels for the stream channels described in Section 5.5 and as shown on the Mason County’s Channel Migration Zone and Avulsion Potential Zone map for the Skokomish River valley.

“BASE FLOOD” means the flood having a (1) percent chance of being equaled or exceeded in any given year. Also referred to as the “100-year flood.” In Mason County, the designation on FIRM maps always includes the letter A.

“BASEMENT” means any area of the building having its floor subgrade (below ground level) on all sides.

“BREAKAWAY WALL” means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

“CHANNEL MIGRATION ZONES” are areas subject to risk due to stream bank erosion and shifts in the location of stream channels for the stream channels described in Section 5.5 and as shown on the Mason County’s Channel Migration Zone and Avulsion Potential Zone map for the Skokomish River valley

“CONDITIONAL BUILD ZONE” means that area designated within the Special Flood Risk Zone as the areas outside of the no new footprint zones. This zone is mapped on Special Flood Risk Area Map 1, is based on best information available, and is subject to on site verification.

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

“DEVELOPMENT” means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, diking, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials. The area contained within ring levees is considered to be part of the development area due to its impact on flood waters.

“DEVELOPMENT PERMIT” see definition for “Permit” under this Ordinance.

“DETAILED STUDY AREA” generally means that portion of the mapped floodplain for which FEMA has performed a detailed study. Within Special Flood Risk Zone Section 5.54-4 of this Ordinance, the Zone A2 floodplain of the Skokomish River and tributaries is referred to as the “Detailed Study Area.”

“ELEVATED BUILDING” means for insurance purposes, a nonbasement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings, or columns.

“EMERGENCY” means an unanticipated and imminent threat to public health, safety, or the environment which requires immediate action within a time period too short to allow for normal development permit application and review. All emergency development shall be consistent with all Mason County Development Regulations.

“ENGINEERING REPORTS” are reports compiled under this Ordinance to address flood-related issues shall be by an engineer licensed in the state of Washington with knowledge and experience in hydrology. The method and rigor of all investigation, analysis and design shall be in accordance with current generally accepted engineering standards.

“FLOOD” or “FLOODING” means a general and temporary condition of partial or complete inundation of normally dry land areas from: (1) The overflow of inland or tidal waters and/or (2) The unusual and rapid accumulation of runoff of surface waters from any source.

“FLOOD INSURANCE RATE MAP (FIRM)” means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

“FLOOD INSURANCE STUDY” means the official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Boundary-Floodway Map, and the water surface elevation of the base flood.

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

“FLOOD PROTECTION ELEVATION” means one foot above the base flood elevation.

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

“FOOTPRINT” means the total area of the first floor of a structure, regardless of how the structure is supported, or the total perimeter of any development other than a structure.

“FREQUENTLY FLOODED AREAS” are critical areas designated by Mason County in its Resource Ordinance.

“LOT” means a designated parcel, tract, or area of land established by plat, subdivision or as otherwise permitted by law, to be used, developed or built upon as a unit.

“LOWEST FLOOR” means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area is not considered a building’s lowest floor, PROVIDED that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance found at Section 5.2-1(2).

“MANUFACTURED HOME” means 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 connected to the required utilities. The term “manufactured home” does not include a “recreational vehicle”.

“NO NEW FOOTPRINT ZONE” is the general term used to identify those areas within the floodplains of the Skokomish River and Vance Creek and tributaries, where new construction following the effective date of this ordinance is restricted due to the occurrence of high flood hazards. Repair and substantial improvement shall be allowed contingent on conditions described herein. See also Section 5.5-2 of this ordinance.

“NEW CONSTRUCTION” means structures for which the “start of construction” commenced on or after the effective date of this ordinance.

“PERMIT” means a written authorization from Mason County for any construction or development activity on all lands regulated by this ordinance. Such permits shall include but are not limited to excavation and grading, permits for fills and excavations under Chapter 70 of the Uniform Building Code, shoreline permits for developments regulated by the Mason County Shoreline Master Program, building permits for all structures under the Uniform Building Code or Title 14, Mason County Code, or written authorization for development under this Ordinance.

“PERSON” means any individual, partnership, corporation, association, organization, cooperative, public or municipal corporation, or any agency of the state or local government unit however designated.

“REASONABLE USE EXCEPTION” means the public review process undertaken to allow a proposed development which is a reasonable use of a site and is consistent with the general purposes of this Ordinance and the public interest.

“RECREATIONAL VEHICLE” means a vehicle which is:

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

~~“REASONABLE USE EXCEPTION” means the public review process undertaken to allow a proposed development which is a reasonable use of a site and is consistent with the general purposes of this Ordinance and the public interest.~~

“REPETITIVE LOSS” means flood-related damages sustained by a structure on two occasions during a 10-year period for which the costs of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred.

“SPECIAL FLOOD RISK ZONE” means the Zones A and A2 floodplain of the Skokomish River, Vance Creek and tributaries, as identified on Flood Insurance Rate Maps 530115 0175 D and 530115 0180 D, both dated December 8, 1998, or as amended.

“START OF CONSTRUCTION” includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured 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 foundation or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For 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 the alteration affects the external dimensions of the building.

“STRUCTURE” means a walled and roofed building including a gas or liquid storage tank that is principally above ground, as well as a manufactured home.

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

“SUBSTANTIAL IMPROVEMENT” means any repair, reconstruction, or improvement of a structure, taking place during a 10-year period, in which the cumulative cost of which equals or exceeds 50 percent of the 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 part of the building commences, whether or not that alteration affects the external dimensions of the structure.

This term includes structures which have incurred “repetitive loss” or “substantial damage” regardless of the actual amount of repair work performed.

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 have been identified by the local code enforcement official, and which was in existence prior to the damage event or improvement, and which are solely necessary to assure safe living conditions, or

- (2) Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

“VARIANCE” means a grant of relief from the requirements of this ordinance which permits construction in a manner that would otherwise be prohibited by this ordinance.

“WETLANDS” refer to the definition in the Mason County Resource Ordinance.

#### **Table of Acronyms Used in the Ordinance Sections**

FEMA	Federal Emergency Management Agency
FIRM	Federal <u>lood</u> Insurance Rate Maps
NRCS	Natural Resources Conservation Service
RCW	Revised Code of Washington
WAC	Washington Administrative Code
<u>WSDOT</u>	<u>Washington State Department of Transportation</u>

## **SECTION 3.0 GENERAL PROVISIONS**

### **3.1 LANDS TO WHICH THIS ORDINANCE APPLIES**

This ordinance shall apply to all areas of special flood hazard within the jurisdiction of Mason County. These lands are designated as Frequently Flooded Areas by the Mason County Resource Ordinance pursuant to RCW 36.70A.

### **3.2 BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD**

The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for the Mason County" dated May 17, 1988, and revised December 8, 1998, with accompanying Flood Insurance Maps, and any subsequent amendments thereto, is hereby adopted by reference and declared to be a part of this ordinance. The Flood Insurance Study is on file at the Mason County Department of Community Development, Building I, 411 N. 5th St., Shelton, Washington.

### **3.3 PENALTIES FOR NONCOMPLIANCE**

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this ordinance and other applicable regulations. Violation of the provisions of this ordinance by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a misdemeanor. Any person who violates this ordinance or fails to comply with any of its requirements shall upon conviction thereof be fined not more than \$1,000 imprisoned for not more than 60 days, or both, for each violation, and in addition shall pay all costs and expenses involved in the case. Nothing herein contained shall prevent Mason County from taking such other lawful action as is necessary to prevent or remedy any violation. The Mason County Development Code Chapter 15.13 provides for enforcement of violations to permits.

### **3.4 ABROGATION AND GREATER RESTRICTIONS**

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

### **3.5 INTERPRETATION**

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

- (1) Considered as a minimum requirements;
- (2) Deemed neither to limit nor repeal any other powers granted under State statutes.

### 3.6 WARNING AND DISCLAIMER OF LIABILITY

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of Mason County, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

## **SECTION 4.0 ADMINISTRATION**

### **4.1 ESTABLISHMENT OF DEVELOPMENT PERMIT**

#### **4.1-1 Development Permit Required**

A development permit shall be obtained before construction or development begins within any area of special flood hazard established in Section 3.2. The permit shall be for all structures including manufactured homes, and for all development including fill and other activities, as set forth in the "DEFINITIONS." If no other county permit is required, a development permit shall be required.

#### **4.1-2 Application for Development Permit**

Application for a development permit shall be made on forms furnished by Mason County, which can be obtained from the Mason County Department of Community Development. Application materials may include but not be limited to plans in triplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question and existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing. Specifically, the following information is required:

- (1) Elevation in relation to mean sea level, of the lowest floor (including basement) of all new or substantially improved structures;
- (2) Elevation in relation to mean sea level to which any structure has been floodproofed;
- (3) Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in Section 5.2-2; and
- (4) Description of the extent to which a watercourse will be altered or relocated as a result of proposed development.

### **4.2 DESIGNATION OF THE ADMINISTRATOR**

The Administrator is hereby appointed to administer and implement this ordinance by granting or denying development permit applications in accordance with ordinance its provisions. The Administrator may consult with other departments and/or agencies with expertise to assist in permitting decisions.

### **4.3 DUTIES AND RESPONSIBILITIES OF THE ADMINISTRATOR**

Duties of the Administrator shall include, but not be limited to:

#### 4.3-1 Permit Review

- (1) Review all development permits to determine that the permit requirements of this ordinance have been satisfied.
- (2) Review all 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.
- (3) Review all development permits to determine if the proposed development is located in the floodway, or special flood risk zone as defined in Section 2.0. If located in the floodway, assure that the provisions of Section 5.34 are met. If located in a special flood risk zone, assure that the provisions of Section 5.45 are met.
- (4) Review applications for emergency permits. An emergency shall be defined as set forth in WAC 173.27.040 (2)d, which includes the following language:  
*"Emergency construction necessary to protect property from damage by the elements. An "emergency" is an unanticipated and imminent threat to public health, safety, or the environment which requires immediate action within a time too short to allow full compliance with this Ordinance . Emergency construction does not include development of new permanent protective structures where none previously existed. Where new protective structures are deemed by the administrator to be an appropriate means to address the emergency situation, upon abatement of the emergency situation, the new structure shall be removed or any permit which would have been required, absent an emergency, pursuant to Chapter 90.58 RCW of these regulations or the local master program, shall be obtained."*

#### 4.3-2 Use of Other Base Flood Data

When base flood elevation data has not been provided in accordance with Section 3.2, BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD, the Administrator shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source, in order to administer Section 5.2, SPECIFIC STANDARDS, 5.34 FLOODWAYS, and 5.45 SPECIAL FLOOD RISK ZONE.

#### 4.3-3 Information to be Obtained and Maintained

- (1) Where base flood elevation data is provided through the Flood Insurance Study or required as in Section 4.3-2, obtain and record the actual (as-built) elevation (in relation to mean sea level) of the lowest floor, including basement, of all new or substantially improved structures, and whether or not the structure contains a basement.
- (2) For all new or substantially improved floodproofed structures:
  - (i) Verify and record the actual elevation (in relation to mean sea level) to which the structure was flood-proofed, and
  - (ii) Maintain the floodproofing certifications required in Section 4.1-2(3).

- (3) Maintain for public inspection all records pertaining to these ordinance provisions.

#### 4.3-4 Alteration of Watercourses

- (1) Notify adjacent communities ~~or~~ and property owners, and the Washington State Department of Ecology and Washington State Department of Fish and Wildlife, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration.
- (2) Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.

#### 4.3-5 Interpretation of FIRM Boundaries

Make interpretations where needed, as to exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided by Section 4.4. However, if it is clear from examining the FIRM map that the subject property or development is located within the area of special flood hazard, the person contesting the location of the boundary shall apply to FEMA for a map amendment.

### 4.4 VARIANCE PROCEDURE AND REASONABLE USE EXCEPTION.

#### 4.4-1 Appeal Board

- (1) The Hearing Examiner shall act as the Board of Appeals to hear and decide appeals and requests for variances from the requirements of this ordinance, as provided by Title 15, Mason County Code.
- (2) The Board of Appeals shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Administrator in the enforcement or administration of this ordinance.
- (3) Those aggrieved by the decision of The Board of Appeals, or any taxpayer, may appeal such decision to the Superior Court, as provided in ~~RCW~~ Chapter 36.70 RCW.
- (4) In passing upon such applications, the Board of Appeals shall consider all technical evaluations, all relevant factors, standards specified in other sections of this ordinance and
  - (i) The danger that materials may be swept onto other lands to the injury of others;
  - (ii) The danger to life and property due to flooding or erosion damage;
  - (iii) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
  - (iv) The importance of the services provided by the proposed facility to the community;



- (v) The necessity to the facility of a waterfront location, where applicable;
  - (vi) The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
  - (vii) The compatibility of the proposed use with existing and anticipated development;
  - (viii) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
  - (ix) The safety of access to the property in times of flood for ordinary and emergency vehicles;
  - (x) 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; and
  - (xi) 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, water systems, streets and bridges.
  - (xii) The potential impacts to fish and riparian habitat, as provided for within the Fish and Wildlife Habitat Conservation Areas chapter of the Resource Ordinance.
- (5) Upon consideration of the factors of Section 4.4-1(4) and the purposes of this ordinance, the Board of Appeals may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.
  - (6) The Administrator shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration upon request.

#### 4.4-2 Conditions of Variances

- (1) Generally, the only condition under which a variance from the elevation standard may be issued is for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing items (i-xii) in Section 4.4-1(4) have been fully considered. As the lot size increases, the technical justification required for issuing the variance increases.
- (2) Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard to the procedures set forth in this section.
- (3) Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result..
- (4) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (5) Variances shall only be issued upon:
  - (i) A showing of good and sufficient cause;
  - (ii) A determination that failure to grant the variance would result in exceptional hardship to the applicant;
  - (iii) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public

expense, create nuisances, cause fraud on or victimization of the public as identified in Section 4.1-4(4), or conflict with existing local laws or ordinances.

- (6) Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from the flood elevations should be quite rare. Variances shall not be granted for residential or commercial construction in floodways designated by this Ordinance.
- (7) Variances may be issued for nonresidential buildings in very limited circumstances to allow a lesser degree of flood proofing than watertight or dry-flood proofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria except 4.4-2(1), and otherwise complies with Sections 5.1-1 and 5.1-2 of the GENERAL STANDARDS.
- (8) Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a lowest floor elevation below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

#### 4.4-3 Reasonable Use Exception

Nothing in this ordinance is intended to preclude all reasonable use of property. An applicant for a development proposal may file a request for a reasonable use exception which shall be considered by Hearing Examiner at a public hearing. The reasonable use exception shall not apply in the Skokomish River valley (Sec. 5.4.1) and is not intended to allow residential development in designated floodways or in No New Footprint Zones.

- (1) The Hearing Examiner may allow a use which is consistent with the general purposes of this ordinance and the public interest provided it meets the following criteria:
  - (i) There is no other reasonable use or feasible alternative to the proposed development with less impact on flood levels, critical areas, or resource lands; and
  - (ii) The proposed development does not pose a threat to the public health, safety or welfare on or off the site; and
  - (iii) The inability of the applicant to derive reasonable use of the property is not the result of actions by the applicant in creating the undevelopable condition after the effective date of the ordinance; and
  - (iv) The proposal is the minimum necessary while still allowing reasonable use of the site.
- (2) Applications shall include the following information:
  - (i) A description of the areas of the site which are critical areas and/or resource lands or within setbacks required under the Mason County Resource Ordinance;

- (ii) A description of the amount of the site which is within setbacks required by other County standards;
  - (iii) A description of the proposed development, including a site plan and topographic contour information adequate to determine flood depths on the site and property;
  - (iv) An analysis of the impact that the amount of development would have on the resource lands or critical areas;
  - (v) An analysis of whether any other reasonable use with less impact on the resource lands or critical areas is possible;
  - (vi) A design of the proposal so that the amount of development proposed as reasonable use will have the least impact practicable on the resource lands and/or critical areas;
  - (vii) An economic analysis establishing the respective present values of development allowed under these regulations without the reasonable use exception and with the requested exception or alternative exceptions.
  - (viii) Other information as the Administrator determines is reasonably necessary to evaluate the issue of reasonable use as it relates to the proposed development.
- (3) Application process and review.
- (i) The application shall be submitted to the Administrator along with fees established by ordinance for reasonable use exceptions.
  - (ii) Public notice shall be as provided in Title 15 for public hearings.
  - (iii) The Administrator shall prepare an analysis of the merits of the request and make recommendations to the Board of Commissioners.
- (4) Except when application from this ordinance would deny all reasonable use of a site, an applicant who seeks an exception from the regulations of the Ordinance shall pursue a variance as provided in this Section.
- (5) The Administrator shall maintain the records of all reasonable use exceptions granted and report them to the Federal Insurance Administration upon request.

## SECTION 5.0 PROVISIONS FOR FLOOD HAZARD REDUCTION

### \*5.1 GENERAL STANDARDS

In all areas of special flood hazards as shown on the Federal flood Insurance Rate Maps (FIRM) and as defined in Section 2.0, the following standards are required:

#### \*5.1-~~12~~ Anchoring

- (1) All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.
- (2) All manufactured homes must likewise be anchored to prevent flotation, collapse, or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors. (Reference “FEMA’s 85- Manufactured Home Installation in Flood Hazard Areas” guidebook for additional techniques.)

#### \*5.1-2 Construction Materials and Methods

- (1) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- (2) All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
- (3) Electrical, heating, ventilation, plumbing, and 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.

#### \*5.1-3 Utilities

- (1) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
- (2) The proposed water well shall be located on high ground that is not in the floodway. It shall be protected from a one hundred year flood and from any surface or subsurface drainage capable of impairing the quality of the ground water supply (WAC 173-160-171);
- (23) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.
- (34) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

#### \*5.1-4 Subdivision Proposals

- (1) All subdivision proposals shall be consistent with the need to minimize flood damage.
- (2) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
- (3) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage.
- (4) Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or 5 acres (whichever is less).
- (5) Proposals for Subdivisions or Boundary Line Adjustments shall not result in any lot which is nonconforming to the provisions of this ordinance.
- (6) Subdivisions located entirely within a floodplain shall not be allowed increased density through a Performance or Clustered Subdivision as described in Title 16. A performance subdivision may be used for parcels located partially within a floodplain provided all allowed building areas are located outside the floodplain, and all other regulatory provisions are met. When feasible, lots shall be designed to locate building sites outside the floodplain.
- (57) No parcel shall be created that would require a Reasonable Use Exception or Variance before new residential or commercial construction would be allowed.

#### \*5.1-5 Review of Building Permits

Where elevation data is not available either through the Flood Insurance Study or from another authoritative source (Section 4.3-2), applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgement and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two feet above the highest adjacent grade in these zones may result in higher insurance rates.

## 5.2 SPECIFIC STANDARDS

In all areas of special flood hazards and special flood risk zones where base flood elevation data has been provided as set forth in Section 3.2, BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD or Section 4.3-2 Use of Other Base Flood Data, the following provisions are required:

#### \*5.2-1 Residential Construction

- (1) New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated one foot or more above base flood elevation.
- (2) Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or 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 must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

- (i) 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;
  - (ii) The bottom of all openings shall be no higher than one foot above grade;
  - (iii) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
- (3) If crawlspaces are used and have enclosed areas or floors below the base flood elevation, then the following requirements apply:

- (i) The building must be designed and adequately anchored to resist flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. Hydrostatic loads and the effects of buoyancy can usually be addressed through the required openings discussed in the next bullet. Because of hydrodynamic loads, crawlspace construction is not recommended in areas with flood velocities greater than 5 feet per second unless the design is reviewed by a qualified design professional, such as a registered architect or professional engineer. Other types of foundations are recommended for these areas.
- (ii) The crawlspace is an enclosed area below the BFE and, as such, must have openings that equalize hydrostatic pressures by allowing for the automatic entry and exit of floodwaters. The bottom of each flood vent opening can be no more than 1 foot above the lowest adjacent exterior grade. For guidance on flood openings, see FEMA Technical Bulletin 1-93, *Openings in Foundation Walls*.
- (iii) Crawlspace construction is not permitted in V zones. Open pile or column foundations that withstand storm surge and wave forces are required in V zones.
- (iv) Portions of the building below the BFE must be constructed with materials resistant to flood damage. This includes not only the foundation walls of the crawlspace used to elevate the building, but also any joists, insulation, or other materials that extend below the BFE. The recommended construction practice is to elevate the bottom of joists and all insulation above BFE. Insulation is not a flood-resistant material. When insulation becomes saturated with floodwater, the additional weight often pulls it away from the joists and flooring. Ductwork or other utility systems located below the insulation may also pull away from their supports. See the section Flood-Resistant Materials, on page 8 of FEMA Technical Bulletin 1-93. For more detailed guidance on flood-resistant materials see FEMA Technical Bulletin 2-93, *Flood-Resistant Materials Requirements*.
- (v) Any building utility systems within the crawlspace must be elevated above BFE or designed so that floodwaters cannot enter or accumulate within the system components during flood conditions. Ductwork, in particular, must either be placed above the BFE or sealed from floodwaters. For further guidance on the placement of building utility systems in crawlspaces, see FEMA 348, *Protecting Building Utilities From Flood Damage*.

- (vi) The interior grade of a crawlspace below the BFE must not be more than 2 feet below the lowest adjacent exterior grade (LAG), shown as D in Figure 1.
- (vii) The height of the below-grade crawlspace, measured from the interior grade of the crawlspace to the top of the crawlspace foundation wall must not exceed 4 feet (shown as L in Figure 1) at any point. The height limitation is the maximum allowable unsupported wall height according to the engineering analyses and building code requirements for flood hazard areas (see the section Guidance for Pre-Engineered Crawlspaces, on page 7 of FEMA *Technical Bulletin 1-93*). This limitation will also prevent these crawlspaces from being converted into habitable spaces.
- (viii) There must be an adequate drainage system that removes floodwaters from the interior area of the crawlspace. The enclosed area should be drained within a reasonable time after a flood event. The type of drainage system will vary because of the site gradient and other drainage characteristics, such as soil types. Possible options include natural drainage through porous, well-drained soils and drainage systems such as perforated pipes, drainage tiles, or gravel or crushed stone drainage by gravity or mechanical means.
- (ix) The velocity of floodwaters at the site should not exceed 5 feet per second for any crawlspace. For velocities in excess of 5 feet per second, other foundation types should be used.
- (x) Below-grade crawlspace construction in accordance with the requirements listed above will not be considered basements.

Figure 1. Requirements regarding below-grade crawlspace construction.

#### 5.2-2 Nonresidential Construction

New construction and substantial improvement of any commercial, industrial or other nonresidential structure, except those defined as an accessory structure, shall either have the lowest floor, including basement, elevated one foot or more above the level of the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

- (1) Be flood proofed so that below one foot above the base flood level, the structure is watertight with walls substantially impermeable to the passage of water;
- (2) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;
- (3) Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the official as set forth in Section 4.3-3(2);
- (4) Nonresidential structures that are elevated, not flood proofed, must meet the same standards for space below the lowest floor as described in 5.2-1(2);
- (5) Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are one foot below the flood proofed level (e.g. a building flood proofed to one foot above the base flood level will be rated as at the base flood level).

#### 5.2-3 Accessory Structures



Construction or substantial improvement of accessory structures, as defined in Section 2.0, shall either have the lowest floor elevated one foot or more above the level of the base flood elevation; or must meet the following 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 provided they may permit the automatic entry and exit of flood waters.
- (4) Structures shall not be designed for human habitation.
- (5) Structures shall be firmly anchored to prevent flotation which may result in damage to other structures.
- (6) Service facilities such as electrical and heating equipment shall be elevated or flood proofed.

#### 5.2-4 Critical Facility

Construction of new critical facilities shall be, to the extent possible, located outside the limits of the base flood plain. Construction of new critical facilities shall be permissible within the base flood plain if no feasible alternative site is available. Critical facilities constructed within the base flood plain shall have the lowest floor elevated to three feet or more above the level of the base flood elevation at the site. Flood proofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into flood waters. Access routes elevated to or above the level of the base flood plain shall be provided to all critical facilities to the extent possible.

#### 5.2-5 Manufactured Homes

All manufactured homes to be placed or substantially improved within Zones A1-30, AH, and AE on the community's FIRM shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is one foot or more above the Base Flood Elevation; and is securely anchored to an adequately anchored foundation system in accordance with the provisions of Section 5.1-1(2). In unnumbered A zones, all manufactured homes shall be elevated such that their lowest floor is at least two feet above the highest adjacent elevation.

#### 5.2-6 Recreational Vehicles

Recreational vehicles placed on sites within Zones A1-30, AH, and AE on the Community's FIRM shall either:

- (1) Be on site for fewer than 180 consecutive days;
- (2) Be fully licensed and ready for highway use, on its wheels or jacking system, be attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions

### 5.3 AE AND A1-30 ZONES WITH BASE FLOOD ELEVATIONS BUT NO FLOODWAYS

In areas with base flood elevations (but a regulatory floodway has not been designated), no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

#### \*5.34 FLOODWAYS

Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles, and erosion potential, the following provisions apply.

- (1) Encroachments are prohibited including fill, new construction, substantial improvements, and other development unless certification by a registered professional engineer or architect is provided demonstrating through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that the proposed encroachments shall 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 repairs, reconstruction, or improvements to a structures which do not increase the ground floor area; 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, (a) before the repair, reconstruction, or repair is started, or (b) if the structure has been damaged, and is being restored, before the damage occurred. Work done on structures to comply with existing health, sanitary, or safety codes which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions or on to structures identified as historic places shall not be included in the 50 percent determination.
- (3) If Section 5.34(1) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Sections 5.0, PROVISIONS FOR FLOOD HAZARD REDUCTION.

#### 5.45 SPECIAL FLOOD RISK ZONE - FLOODPLAIN OF THE SKOKOMISH RIVER, VANCE CREEK AND TRIBUTARIES.

##### 5.5-1 Special Flood Risk Zone

A Special Flood Risk Zone is hereby established for the Zones A and A2 floodplain of the Skokomish River, Vance Creek and tributaries (as identified by FIRM map Community Panels #530115-0175D and # 530115-0180D, (both December 1998). The Special Flood Risk Zone is divided into two zones: No New Footprint Zones and Conditional Build Zones. These zones are shown on Special Flood Risk Zone Map 1.

#### 5.5-2 No New Footprint Zones

- (1) The No New Footprint zones are hereby established for the Special Flood Risk Zone as follows:
  - (i) The numbered No New Footprint Zones delineated in the *Skokomish River Comprehensive Flood Hazard Management Plan, February 1997*, as Zones 1, 2, 3, & 4, and in the *Draft Skokomish River Comprehensive Flood Hazard Management Plan April 1996*, as Zone 1. These areas are shown on Special Flood Risk Zone Map 2.
  - (ii) All portions within the Special Flood Risk Zone, outside of the Detailed Study Area, where the existing site elevation is more than 4 feet below the Base Flood Elevation, or where the flood velocity is estimated to exceed 5 feet per second. These areas are shown on Special Flood Risk Zone Map 3.
  - (iii) All areas within the identified Channel Migration Zones and Avulsion Potential Zones shown on the Channel Migration Zones and Avulsion Potential Zones map of the Skokomish River Valley. These areas are shown on Special Flood Risk Zone Map 4.

The No New Footprint zones are shown on Special Flood Risk Zone Map 1 based upon the best information available, but they are subject to site verification.

- (2) New construction or substantial improvement of residential structures is prohibited within designated No New Footprint Zones, except for repairs, reconstruction, or improvements to structures which do not increase the ground floor area.
- (3) Accessory buildings, as defined in Section 2.0, shall be allowed in zones designated in 5.5-2 (1) (ii) above, and in Avulsion Potential Zones, but not in Channel Migration Zones. All accessory buildings shall be constructed in accordance with the provisions of Section 5.2-3.
- (4) Construction or reconstruction of all other non-residential structures within the No New Footprint zones is prohibited except for repairs, reconstruction or improvements that are not substantial improvements.
- (5) All new construction and substantial improvements shall also meet the GENERAL STANDARDS presented in Section 5.1 and SPECIFIC STANDARDS presented in Sections 5.2-1 through 5.2-6.
- (6) Other encroachments are prohibited including fill and other development unless certification by a registered professional engineer or architect is provided demonstrating through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that the proposed encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

#### 5.5-3 Conditional-Build Zone

The Conditional-Build zone is hereby designated as those areas within the Special Flood Risk Zone, but outside of the No-New-Footprint zones. This area is shown on Special

Flood Risk Zone Map 1 based upon the best information available, but it is subject to site verification. New construction and substantial improvements may be allowed in the conditional-build zone where the following provisions are met:

- (1) If located within the Detailed Study Area Zone A2 floodplain of the Skokomish River and tributaries, the development meets the requirements of Section 5.5-4:
- (2) All new construction and substantial improvements shall also meet the GENERAL STANDARDS presented in Section 5.1 and SPECIFIC STANDARDS presented in Sections 5.2-1 through 5.2-6.
- (3) Other encroachments are prohibited including fill and other development unless certification by a registered professional engineer or architect is provided demonstrating through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that the proposed encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

#### 5.5-4 Detailed Study Area

Within the Detailed Study Area Zone A2 floodplain of the Skokomish River and tributaries (referred to below as the Detailed Study Area ), new construction and substantial improvements may be allowed where not otherwise prohibited and in accordance with other county regulations (such as Resource Lands), and all of the following provisions are met:

- (1) Location: All new construction and substantial improvements shall be located on the highest existing ground available. The Administrator, on a case-by-case basis may allow development on areas other than the highest existing ground available when it can be demonstrated that such location will not increase the flood hazards to the structure or adjacent properties. In making a determination the Administrator shall consider the size of the parcel, proposed access locations, proximity to other structures and any conflicts with setback requirements of this chapter, and may require a report from an engineer which addresses the flood hazard risk to the proposed structure or to adjacent properties.

~~5.4-1 A Special Flood Risk Zone is hereby established for the Zones A and A2 floodplain of the Skokomish River, Vance Creek and tributaries, and is illustrated on FIRM map Community Panels #530115-0175D and # 530115-0180D, (both December 1998). The Special Flood Risk Zone is hereby designated as a floodway and the entire floodway is hereby designated an avulsion risk area. Construction of a new structure or an expansion of the square foot area of an existing structure is prohibited in this designated floodway. For purposes of this subsection, the term structure shall not include a gas or liquid storage tank.~~

#### 5.45-25 Dikes, Levees and Other Water Flow Modification Structures

- (1) Areas where flood water releases and overflows from the main Skokomish River channel shall not be modified, meaning levied or diked, in any manner which would result in increased stream flow in the main channel.
- (2) Maintenance to existing legally established (constructed by past permits or historically occurring) levees, dikes, and other water flow modification structures shall be permitted with appropriate approvals from all affected agencies, provided that the maintenance does not result in increased stream flow within the main channel (as verified by a hydraulic engineer), and the maintenance is consistent with provisions and recommendations of the adopted Skokomish River Comprehensive Flood Hazard Management Plan. Emergency alterations to dikes and levees necessary for the protection of human life and property shall be permitted as provided for within the applicable regulatory permit processes.
- (3) If the Public Works Director finds an imminent flood threat to the public health, safety, and welfare exists based on:
  - (i) A flow capacity of 70% of the 100-year flood stage for the specific river or creek, or
  - (ii) A rainfall within the last 48 hours in excess of 4 inches, or
  - (iii) Issuance of a flood warning by the National Weather Service for the specific area, or
  - (iv) A significant isolated blockage occurs such as a log jam or slide, that impacts the geography or water velocity such that an overflow bank path has or is likely to occur;

then the Public Works Director may recommend to the Board of Commissioners that they declare an emergency flood condition, which shall then authorize the county to make on-site inspections on private property of dikes and other impediments as necessary, and to direct or design immediate or subsequent improvement, repair, removal, or modification to said dikes, levees, or other impediments, as subject to other regulations; and shall maintain a record of the condition and structure of said dikes.

(4) ~~DIKE MONITORING PROGRAM:~~

~~Information on the condition of levees, dikes, or other structures ascertained from successive on-site inspections shall be maintained by the county for the purpose of updating and cataloging existing conditions as part of their ongoing flood and dike management program. Dikes shall be monitored for safety purposes. Dikes shall be inspected by the Public Works Director at least biennially.~~

~~The Public Works Director and his designee is authorized to enter onto private or public land for the sole purpose of inspecting dikes for flood safety and for no other purpose. The inspections shall be done between the 8:00 AM and 4:00 PM time period, with notice to the property owner sent by certified mail at least 14 days in advance, unless there is a flood emergency.~~

~~The Public Works Director shall report on the condition of the dikes to the Board of County Commissioners at the interval of once every two years. The report shall include an assessment of the condition and structure of the dikes; an analysis of~~

whether any improvements needs to be done; a statement on the ability, or lack thereof, to inspect the dikes; and any other matter of importance to dike inspection and monitoring. The report shall also be based on the inspections and information gathered from dike monitoring. Existing dikes monitored shall be listed or be listed by reference to outside reports.

- (54) Alterations to dikes and levees, and bank stabilization efforts that would prevent legitimate potential emergency situations shall be permitted, PROVIDED that all affected agencies have been notified and appropriate permits have been acquired.
- (65) Activities related to the repair, maintenance or construction of bank stabilization, dikes, levees or other related development are a permit required activity under Section 4.1 of this ordinance, are subject to all provisions for development standards within this ordinance, and shall provide for appropriate inspections during and following construction and/or repair. Construction shall meet NRCS standards, as recommended within the *Skokomish River Comprehensive Flood Hazard Management Plan*, or as revised.
- (76) Projects proposed by government agencies under this Section as recommended within the *Skokomish River Comprehensive Flood Hazard Management Plan*, ~~or Skillings and Connolly studies dated September 1997, and September 1999,~~ shall be evaluated on a case-by-case basis. The Administrator shall include the following considerations in making an evaluation:
  - (i) Recommendations of applicable study;
  - (ii) Provisions of this Ordinance;
  - (iii) Project-specific engineering;
  - (iv) Public benefit;
  - (v) All applicable regulations.
- (87) All approved permits shall require the monitoring of performance which shall include, at a minimum, a post-construction inspection for compliance with the conditions of approval. Additional inspections may be required when recommended by the engineering report or the County Engineer. Monitoring shall be established as a condition of approval.

#### 5.5-6 Bridges and Roadways

- (1) Areas where flood water releases and overflows from the main Skokomish River channel shall not be modified by construction or reconstruction of bridges or roadways, in any manner which would result in increased stream flows or flood elevations (as verified by a hydraulic engineer).
- (2) Maintenance to existing legally established (constructed by past permits or historically occurring) bridges and roadways shall be permitted with appropriate approvals from all affected agencies, provided that the maintenance does not result in increased stream flows or flood levels (as verified by a hydraulic engineer), and the maintenance is consistent with provisions and recommendations of the adopted Skokomish River Comprehensive Flood Hazard Management Plan. Emergency alterations to bridges and roadways necessary for the protection of human life and property shall be permitted as provided for within the applicable regulatory permit processes.

- (3) If the Public Works Director finds an imminent flood threat to the public health, safety, and welfare exists based on:
- (i) A flow capacity of 70% of the 100-year flood stage for the specific river or creek, or
  - (ii) A rainfall within the last 48 hours in excess of 4 inches, or
  - (iii) Issuance of a flood warning by the National Weather Service for the specific area, or
  - (iv) A significant isolated blockage occurs such as a log jam or slide, that impacts the geography or water velocity such that an overflow bank path has or is likely to occur;
- then the Public Works Director may recommend to the Board of Commissioners that they declare an emergency flood condition, which shall then authorize the county to make on-site inspections on private property of bridges and roadways and other impediments as necessary, and to direct or design immediate or subsequent improvement, repair, removal, or modification to said impediments, as subject to other regulations; and shall maintain a record of such actions.
- (4) Alterations to bridges and roadways that would prevent legitimate potential emergency situations shall be permitted, PROVIDED that all affected agencies have been notified and appropriate permits have been acquired.
- (5) Activities related to the repair, maintenance or construction of bridges and roadways or other related development are a permit required activity under Section 4.1 of this ordinance, are subject to all provisions for development standards within this ordinance, and shall provide for appropriate inspections during and following construction and/or repair.
- (6) Projects proposed by government agencies under this Section as recommended within the *Skokomish River Comprehensive Flood Hazard Management Plan* shall be evaluated on a case-by-case basis. The Administrator shall include the following considerations in making an evaluation:
- (i) Recommendations of applicable study;
  - (ii) Provisions of this Ordinance;
  - (iii) Project-specific engineering;
  - (iv) Public benefit;
  - (v) All applicable regulations.
- (7) All approved permits shall require the monitoring of performance which shall include, at a minimum, a post-construction inspection for compliance with the conditions of approval. Additional inspections may be required when recommended by the engineering report or the County Engineer. Monitoring shall be established as a condition of approval.
- Projects proposed by WSDOT under this Section and receiving Federal Highway Administration funding shall be consistent with the recommendations within the *Skokomish River Comprehensive Flood Hazard Management Plan* and shall be evaluated on a case by case basis. The Administrator shall include the following considerations in making an evaluation and issuing a permit:
- (i) Recommendations of project specific studies prepared by or on behalf of WSDOT;

- (ii) All other provisions of this ordinance do not apply;
- (iii) Project specific engineering shall be completed in accordance with the WSDOT Design Manual;
- (iv) Provide a public benefit;
- (v) Provide less than a cumulative one foot rise in the proposed 100 year flood fringe as determined by a step backwater analysis or higher. The cumulative total rise will consider projects that have been approved as well as projects that are planned to be approved.
- (vi) Compliance with all applicable state and federal regulations



**Ordinance # 81-07, Attachment B**

**Mason County Board of County Commissioners  
July 17, 2007**

**FINDINGS OF FACT**

1.  
Under consideration are amendments to the Mason County Flood Damage Prevention Ordinance (FDPO). The principal purpose of this ordinance is to “promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions...”
2.  
The ordinance implements both the National Flood Insurance Program and Frequently Flooded Areas pursuant to the State of Washington Growth Management Act (GMA).
3.  
The county began its review process as part of the GMA mandated update of its comprehensive plan and development regulations. The concern with the existing regulations was their impact on the Skokomish Valley, in particular, the viability for long-term commercial agriculture and for the continuance of the local community. The existing regulations prohibited new or expanded agricultural buildings and new, expanded, or significantly improved residences anywhere in the floodplain of the Skokomish Valley.
4.  
The existing Mason County regulations were adopted relatively recently and incorporated best available science at the time of their adoption. The flood regulations that apply to the Skokomish River Valley were approved in 2003 by the Western Washington Growth Management Hearings Board in Case #95-2-0073.
5.  
The county retained a consultant with expertise on flood plain issues to review the adoption record and best available science (BAS) of the existing regulations, given the concerns identified in Finding 3. The resulting recommendation was to address the unknowns in the existing BAS by preparing a Skokomish Valley Channel Migration Zone (CMZ) Study that would also address the avulsion potential and result in a map that could distinguish areas that had a real risk of channel movement from those which had little or no realistic risk of damage. It was not known if any areas could be identified in which it might be considered safe enough to build, but the county believed that the question should be asked.
6.  
The county’s public participation and review began with the production of draft CMZ and avulsion potential zone (APZ) maps and continued after the finalization of the CMZ Study

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(Channel Migration and Avulsion Potential Analysis, Skokomish River Valley, Mason County, Washington, February 9, 2007). A series of public workshops or hearings were held, including:

- ◆ April 24, 2006
- ◆ May 15, 2006
- ◆ August 7, 2006
- ◆ August 21, 2006
- ◆ November 28, 2006
- ◆ December 19, 2006
- ◆ December 27, 2006
- ◆ July 17, 2007

Public participation opportunities were extensive, exceeded legal requirements, and were consistent with adopted county requirements.

7.

WAC 365-195-910 and WAC 365-195-915 provide guidance on obtaining and including best available science pursuant to the Growth Management Act. Following this guidance, the county requested best available science and specific recommendations from its contractor, HDR, Inc., with subcontractor, GeoEngineers, Inc., and from the state agencies.

8.

The Mason County Planning Advisory Committee did not make a recommendation on the Frequently Flooded Areas draft to the Board of Commissioners in 2006 because the majority of the changes proposed were based on the CMZ Study and that study was not completed prior to the requirement that the county update its critical area regulations in 2006. The new science represented by the study was intended to provide the basis for the changes to the regulations specific to the Skokomish Valley floodplain.

9.

Significant written comment and testimony was received from the public and from state and tribal agencies. Comments were reviewed for substance and for scientific content and many resulted in changes to the draft regulations.

10.

The county received comments not related to the Skokomish Valley Study regarding consistency with the requirements of the Federal Flood Insurance Program requirements and ambiguity with language on bridges and roads in the Skokomish Valley. The county adopted amendments based on those comments.

11.

The amendment of the ordinance is significantly more protective of the environment than the existing ordinance. With the designation of the CMZ, the 150 foot wide Fish and Wildlife

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Habitat Conservation Areas buffer no longer begins at the ordinary high water mark of the river, but now includes the entire CMZ and begins at the outer edge of the CMZ. There was also a condition added to the variance provisions of the FDPO that requires consideration of habitat issues. The effect of the FDPO variance condition may be limited because there is no indication that a variance has been granted in the almost 20 years of the program.

### **12.**

Various concerns were expressed on the proposed amendments in comments from the public and the Skokomish Tribe. These comments did not affect the conclusion that the CMZ Study is the BAS on the amendments specific to the Skokomish Valley.

While the Tribe requested peer reviewing of the GeoEngineers report, such peer reviewing was not done on the previous reports used to establish the avulsion based restrictions. The information in the comments and previous studies was reviewed by the author of the CMZ Study and incorporated as appropriate in the study.

Various residents had specific concerns regarding the areas shown on the draft mapping. Their comments were reviewed by the consultant, who interviewed them on-site, and resulted in a refinement of the maps.

### **13.**

The Skokomish Indian Tribe requested delay on any action because, in part, of the ongoing Army Corp of Engineers study of the Skokomish Valley. The Tribe and Mason County are cooperating with the ACOE on this study. While the county supports the study, there are no findings or new information from that work available to the county at this time. In addition, the expected timeline for the study is about five years. To wait for five years to address apparently unnecessary restrictions seems unreasonable and difficult to defend. This is particularly true given the severity of the restrictions and the minor amount of development that the amendments are expected to allow.

The Skokomish Indian Tribe also requested delay on any action because, in part, of the ongoing legal actions and licensing process for the Cushman hydro-electric project. The Tribe is expecting to see the river change as we see new flow management conditions on the Cushman dam. However, once again this is a multi-year process with no certainty about its outcome and no specific information about how it will affect the assumptions in the CMZ Study.

### **14.**

Staff analysis estimates that the amendments would allow at build-out a maximum of 51 new residences in the valley in the floodplain – or only 37 new residences under the assumption that the Skokomish Indian Tribe would not develop residentially the parcels they own within county jurisdiction. This analysis assumes that available parcels with all or a portion of the property in the conditional build zone could be divided into the maximum number of lots allowed under the

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zoning and then one house could be built on each lot. The total acreage of the lots available for development adds up to 533 acres so that the average density is 10.5 acres per dwelling (assuming the tribe develops the land) or 390 acres and a average density of also 10.5 acres per dwelling (assuming the tribe does not develop the land). If the houses were average in size at 2,550 square feet, then the area taken up by the new houses would be about 0.4% of these lots. All the other parcels in the valley either have land outside the floodplain to build on or have no conditional build zone land to build on. The amendments also provide that variances can not be granted for the purpose of allowing a house to be build where the code otherwise would not allow it.

The amendments would allow fewer than 100 new residents (assuming 37 residences and 2.5 persons per household). This compares with the build-out of the county under current zoning, which would allow 108,000 to 113,000 new residents as related in the county comprehensive plan.

### **15.**

The BAS relied upon for the frequently flooded areas (FFA) is primarily from the CMZ Study for amendments in relevant to the Skokomish Valley. Information from the previous record of action (ending in 2003) was reviewed and incorporated in the consultant's findings and recommendations. The consultant also prepared an existing dike inspection report in 2005.

The Comprehensive Flood Hazard Management Plan (CFHMP) is a policy document containing significant information and analysis. However, this 1997 document has be partially superceded by information and events since its creation and, in particular, by the new science in the CMZ Study. However, pending the more comprehensive review of the valley by the ACOE study, the CFHMP remains a significant document.

### **16.**

The FDPO serves to meet the Federal Emergency Management Agency's flood insurance program requirements in order for properties in Mason County to be eligible for flood insurance from the Federal program. Based on the insurance program and flood damage control requirements, rather than GMA compliance, the DOE has recommended some specific changes to the FDPO to meet Federal program requirement. In addition, the Washington Department of Transportation has expressed concern with the current FDPO and the ambiguous language regarding bridges and roads.

### **17.**

The Mason County Public Works Department summarized their findings and recommendations on dikes in the Skokomish Valley.

The Department determined that the majority of the dikes in the valley, with one exception, are on private property and the county has very little control of them and has limited ability to access

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them. The county inspected the dikes in 2005 and found that they are not in good condition, but that their condition has not changed much since the prior inspection of a few years previously. The Department's recommendation was to take no action on the dikes at this time. The only dike the county monitors outside of the FDPO monitoring program is along the roadway close to where the church is in the valley. That dike that was put in some time ago to protect the roadway. It's adjacent to the road, on the right of way, and the Department has been maintaining it for some time.

The Department recommended and requested the removal of the general dike monitoring requirement. They explained that their feeling is that the solution to flooding issues in the valley is not diking. They said that there is no diking system in the valley that is continuous and integral to protect the overall valley. The diking is intermittent; it is not continuous and it does not provide for controlling and containing the river in it's channel. The required effort does not add much value to the solutions the county and other parties are trying to seek for the problems in the valley. The county should work with others to be proactive in taking actions to do more to solve the problems there. There are other uses for county resources that will be more productive than just monitoring the dikes. Also, if there is a problem with one of the dikes, what assurance is there that the county could get authority to go in and take corrective actions to fix it, assuming that was even the right option to pursue? It requires approval of the property owner and the permitting agencies, as well as funding.

In addition, the flood elevation requirements apply within the flood plain with no adjustment based on the presence or absence of dikes. Also, the Comprehensive Flood Hazard Management Plan proposes the eventual removal of some or all of the existing dikes, although it suggests that dikes might be useful in the future for some limited purposes. Updated and comprehensive approaches to dikes and diking should be addressed in the ACOE study.

And finally, dike monitoring requirements are have been retained for permitted work (Section 4.5-5). This has a rationale for county monitoring - that the conditions of permits be met.

### **18.**

The existing floodway designation does not meet federal or state definitions of a floodway and therefore should not be applied. There is no federally designated floodway for the Skokomish Valley. The CFHMP contains a significant discussion of the issues and differences between a typical floodplain and the Skokomish River floodplain. The no new footprint areas provide an alternative way to provide for a floodway and have equivalent restrictions.

### **19.**

A determination of non-significance (DNS) was issued by Mason County on November 13, 2006 with the comment period ended November 28, 2006. After review of the comments received and consideration of the changes proposed since that issuance, it was determined by the Department of Community Development that no significant adverse impacts are expected from this action.

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**20.**

The Board finds that the amendments are consistent with the county-wide planning policies.

**21.**

The Board finds that the proposed amendments balance the goals of the Mason County comprehensive plan and the goals of the Growth Management Act.

**The preceding findings** summarize the reasons for the adoption of the proposed changes to the Mason County Resource Ordinance.

    
Chair, Mason County Board of County Commissioners

Date

8-10-07