

APPENDIX D: Ordinance 2083 – Critical Areas

RECEIVED

CITY OF SNOHOMISH
Snohomish, Washington

NOV 30 2017

DEPT OF ECOLOGY

ORDINANCE 2083

AN ORDINANCE OF THE CITY OF SNOHOMISH, WASHINGTON, COMPLYING WITH THE GROWTH MANAGEMENT ACT'S REQUIRED REVIEW AND UPDATING OF THE CITY'S DEVELOPMENT REGULATIONS BY ADOPTING A NEW CRITICAL AREAS CODE TO PROTECT THE CITY'S WETLANDS, CRITICAL AQUIFER RECHARGE AREAS, FLOODPLAINS, GEOLOGICALLY HAZARDOUS AREAS, AND HABITAT CONSERVATION AREAS, ADOPTING FINDINGS OF FACT, AND REPEALING CHAPTERS 14.47, 14.51, 14.53, AND 14.55 AND ADOPTING CHAPTERS 14.255, 14.260, 14.265, 14.270, 14.275, AND 14.280 OF THE SNOHOMISH MUNICIPAL CODE.

WHEREAS, as one of the cities in Snohomish County, the City of Snohomish is required under RCW 36.70A.130(4) to review and, if needed, revise its Comprehensive Plan and development regulations to ensure that the Plan and regulations comply with the Growth Management Act (GMA); and

WHEREAS, the City is meeting the spirit and intent of the GMA by adopting Ordinance 2070, which (1) sets forth the City's public participation program, (2) identifies needed revisions to the Comprehensive Plan and development regulations, and (3) adopts needed revisions to the Comprehensive Plan; and by adopting this Ordinance, which adopts needed revisions to the City's critical areas regulations; and

WHEREAS, in taking the actions set forth in this Ordinance, the City of Snohomish has made a good faith effort to comply with the regulations and recommendations of the Washington State Department of Community, Trade, and Economic Development (CTED) and the Washington State Department of Ecology (DOE), has submitted to CTED and DOE the proposed needed revisions to the City's critical areas regulations, and has duly considered the suggested changes from said agencies; and

WHEREAS, in taking the actions set forth in this Ordinance, the City of Snohomish has utilized the best available science (BAS) and has adopted measures to protect anadromous fish and other species in compliance with the GMA and the Endangered Species Act, as is documented in the findings of fact set forth herein; and

WHEREAS, the City of Snohomish has provided ample opportunity for public hearing input and written comments on the proposed revisions to the City's critical areas regulations and has duly considered said input and comments; and

WHEREAS, the City has issued a determination of non-significance pursuant to the State Environmental Policy Act, Ch. 43.21C RCW, related to the adoption of the new Critical Areas Code:

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

Section 1. Findings of Fact.

The City Council hereby adopts the following findings of fact in support of the adoption of the City's Critical Areas Code as set forth in this Ordinance:

- A. The Growth Management Act (GMA) requires the adoption of development regulations that protect critical areas designated in accordance with RCW 36.70A.170.
- B. Critical areas contain valuable natural resources, provide natural scenic qualities important to the character of the community, perform important ecological functions and processes, and/or present a hazard to life and property. Identification, management, and protection of these areas are, therefore, necessary to protect the public health, safety and general welfare of citizens.
- C. Beneficial biological and physical functions that critical areas provide include, but are not limited to: water quality protection and enhancement; fish and wildlife habitat; food chain support; flood storage; stormwater conveyance and attenuation; ground water recharge and discharge; erosion control; protection from hazards; historical and archaeological and aesthetic value protection; and recreation.
- D. The City's critical areas regulations, as set forth in the Critical Areas Code adopted in this Ordinance, are designed to implement the Comprehensive Plan's environmental protection element policies, regarding protecting functions and values of critical areas.
- E. RCW 36.70A.172 requires local governments to use best available science and to give special consideration to the conservation and protection measures necessary to preserve or enhance anadromous fisheries.
- F. The Critical Areas Code is based on the best available science as set forth in the Steward & Associates Study (May, 2004), prepared for the City by a team of qualified scientific professionals, as well as such state agency publications as the Example Code Provisions for Designating and Protecting Critical Areas, prepared by the Washington Department of Community, Trade, and Economic Development (CTED), and the Guidance Document for the

Establishment of Critical Aquifer Recharge Areas Ordinances, prepared by the Washington Department of Ecology (DOE).

G. The City deems it particularly important for the Critical Areas Code to give special consideration to preserve or enhance anadromous fisheries, as supported by the City's best available science study.

H. In addition to the best available scientific information, the Growth Management Act (GMA) also requires the City to consider various growth management policies in promulgating development regulations such as the Critical Areas Code. In the City of Snohomish, the availability of affordable, developable lots will be considerably diminished, if certain regulations in the CTED and DOE recommendations are not modified to be less restrictive in such matters as wetland or stream buffer widths. Accordingly, where the Critical Areas Code's buffer widths differ from those in the Example Code Provisions for Designating and Protecting Critical Areas or in the recommendations of the Department of Ecology, the City finds that such deviations are necessary in order to implement the GMA's policies in support of encouraging economic development, protecting property rights, reducing urban sprawl, increasing affordable housing, and accommodating urban growth. Additionally, the City finds that the best available science identifies no substantial risk to critical areas in enacting these alternative substantive requirements.

I. The City has given due consideration to the information available in CTED's model critical areas ordinance and in DOE's Wetland Identification and Delineation Manual and Wetland Rating System for Western Washington. Additionally, the City has considered, and has revised the Critical Areas Code to respond to, the written comments of the Department of Ecology with regard to the critical areas regulations adopted herein.

J. The City has received and duly considered numerous comments regarding the critical areas regulations from individual citizens, environmental groups, developer organizations, and government agencies.

K. The critical areas regulations set forth in this Ordinance are supported by the best available science as well as by the other goals and policies of the GMA, including reducing sprawl, encouraging growth in urban areas, encouraging economic development, protecting property rights, protecting the environment, open space, and recreation areas, and encouraging and coordinating public participation in the planning process.

L. In determining what critical areas are to be afforded a particular degree of protection, the City of Snohomish has evaluated the full scope of best available science and has relied on the best available science in making informed decisions that meet the goals and policies of the GMA referenced in Finding K and that also reflect the unique circumstances in Snohomish.

M. In addition to adopting this Ordinance, the City of Snohomish is also taking other actions recommended in its BAS study for the protection of its critical areas, including stormwater management standards and practices, critical areas restoration projects, and public education.

Section 2. Repealer.

Chapters 14.47, 14.51, 14.53, and 14.55 of the Snohomish Municipal Code are hereby repealed.

Section 3. Adoption of Critical Areas Code.

Chapters 14.255, 14.260, 14.265, 14.270, 14.275, and 14.280 of the Snohomish Municipal Code, as set forth in the attached **Exhibit A**, are hereby adopted as the Critical Areas Code of the City of Snohomish.

Section 4. Severability.

If any section, subsection, sentence, clause, phrase, or word of this Ordinance is held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the validity or unconstitutionality of the remainder of this Ordinance.

Section 5. Effective date. This Ordinance shall take effect five days after the date of its publication by summary.

PASSED by the City Council and APPROVED by the Mayor this 3rd day of May, 2005.

CITY OF SNOHOMISH

By _____
LIZ LOOMIS, Mayor

ATTEST:

By _____
TORCHIE COREY, City Clerk

Approved as to form:

By _____
GRANT K. WEED, City Attorney

Publish Date: May 7, 2005
Effective Date: May 12, 2005

Exhibit A

**Chapter 14.255
Critical Areas - General**

Sections

- 14.255.010 Findings
- 14.255.020 Purpose
- 14.255.030 Critical areas code
- 14.255.035 Best available science
- 14.255.040 Fees
- 14.255.050 Applicability
- 14.255.060 Exemptions
- 14.255.070 Review process
- 14.255.080 Critical area reports
- 14.255.090 Previous studies
- 14.255.100 Mitigation plan requirements
- 14.255.110 Independent review of critical area report
- 14.255.120 Substantive Requirements
- 14.255.130 Variances
- 14.255.140 Enforcement and inspections

14.255.010 Findings

The City Council of Snohomish finds as follows:

- A. Critical areas contain valuable natural resources, provide natural scenic qualities important to the character of the community, perform important ecological functions and processes, and/or present a hazard to life and property. Identification, management, and protection of these areas are, therefore, necessary to protect the public health, safety and general welfare of citizens.
- B. Beneficial biological and physical functions that critical areas provide include, but are not limited to: water quality protection and enhancement; fish and wildlife habitat; food chain support; flood storage; stormwater conveyance and attenuation; ground water recharge and discharge; erosion control; protection from hazards; historical and archaeological and aesthetic value protection; and recreation.
- C. The City's critical areas regulations, as set forth in the critical areas code, are designed to implement the comprehensive plan's environmental protection element policies, regarding protecting functions and values of critical areas.
- D. The critical areas code is based on the best available science as set forth in the Steward & Associates Study (May, 2004), prepared for the City by a team of qualified scientific professionals, as well as such state agency publications as the *Example Code Provisions*

for Designating and Protecting Critical Areas, prepared by the Washington Department of Community, Trade, and Economic Development (CTED), and the *Guidance Document for the Establishment of Critical Aquifer Recharge Areas Ordinances*, prepared by the Washington Department of Ecology (DOE).

- E. The City deems it particularly important for the critical areas code to give special consideration to preserve or enhance anadromous fisheries, as supported by the City's best available science study.
- F. In addition to the best available scientific information, the Growth Management Act (GMA) also requires the City to consider various growth management policies in promulgating development regulations such as the critical areas code. In the City of Snohomish, the availability of affordable, developable lots will be considerably diminished, if certain regulations in the CTED and DOE recommendations are not modified to be less restrictive in such matters as wetland or stream buffer widths. Accordingly, where the critical areas code's buffer widths differ from those in the *Example Code Provisions for Designating and Protecting Critical Areas* or in the recommendations of the Department of Ecology, the City finds that such deviations are necessary in order to implement the GMA's policies in support of encouraging economic development, protecting property rights, reducing urban sprawl, increasing affordable housing, and accommodating urban growth. Additionally, the City finds that the best available science identifies no substantial risk to critical areas in enacting these alternative substantive requirements.

14.255.020 Purpose

The City of Snohomish is required by the Washington State Growth Management Act (Chapter 36.70A RCW) to designate environmentally critical areas and to adopt development regulations to assure the conservation of such areas. In compliance with this mandate, the City finds that environmentally critical areas characterize certain portions of Snohomish and its urban growth area. These critical areas include wetlands, habitat conservation areas, critical aquifer recharge areas, geologically hazardous areas, and frequently flooded areas. Accordingly, it is the purpose of the Critical Areas Code to:

- A. Protect the functions and values of ecologically sensitive areas, while allowing for reasonable use of private property, through the application of the best available science.
- B. Implement the Growth Management Act and the natural environment goals of the Comprehensive Plan.
- C. Protect members of the public and public resources and facilities from injury, loss of life, or property damage due to landslides, steep slope failures, erosion, seismic events, or flooding.

- D. Protect citizens and the unique, fragile, and valuable elements of the environment, including ground and surface waters, wetlands, anadromous fish species, and other fish and wildlife, and their habitats.
- E. Prevent adverse and cumulative environmental impacts to critical areas, direct activities not dependent on critical area resources to less ecologically sensitive sites, and mitigate unavoidable impacts to critical areas by regulating alterations in and adjacent to critical areas and requiring specific mitigation measures to compensate for unavoidable impacts.
- F. Protect species listed as threatened or endangered under the Federal Endangered Species Act of 1973 (16 USC 1531 – 1534) and their habitats.

14.255.030 Critical Areas Code

Chapters 14.255 through 14.280 SMC shall collectively be known as the “Critical Areas Code”. Chapter 14.255 SMC shall establish the general framework for Chapters 14.260 through 14.280 SMC. The City Planner shall administer and interpret the Critical Areas Code.

14.255.035 Best Available Science (BAS)

- A. The City of Snohomish shall implement the use of best available science (BAS) in the application of the Critical Areas Code
- B. “Best available science” means information from research, inventory, monitoring, surveys, modeling and an assessment, which are used to designate, protect, or restore critical areas.
- C. As defined by WAC 365-195-900 through 365-195-925, best available science is derived from a process that includes peer reviewed literature, standard methods, quantitative analysis and documented references to produce reliable information.
- D. The use of best available science pursuant to the critical area code shall be consistent with the following:
 - 1. Protection for functions and values and anadromous fish. Critical area reports and decisions to alter critical areas shall rely on the best available science to protect the functions and values of critical areas and must give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fish and their habitat, such as salmon and bull trout.
 - 2. Best available science to be used must be consistent with criteria. The best available science is that scientific information applicable to the critical area prepared by local, state or federal natural resource agencies, a qualified scientific professional or team of qualified scientific professionals, which is consistent with criteria established in WAC 365-195-900 through WAC 365-195-925

3. Characteristics of a valid scientific process. In the context of critical areas protection, a valid scientific process is one that produces reliable information useful in understanding the consequences of a local government's regulatory decisions and in developing critical areas policies and development regulations that will be effective in protecting the functions and values of critical areas. The specific characteristics of a valid scientific process are as follows:
 - i. **Peer review.**
The information has been critically reviewed by other persons who are qualified scientific experts in that scientific discipline.
 - ii. **Methods.**
The methods used to obtain the information are clearly stated and reproducible. The methods are standardized in the pertinent scientific discipline or, if not, the methods have been appropriately peer-reviewed to assure their reliability and validity.
 - iii. **Logical conclusions and reasonable inferences.**
The conclusions presented are based on reasonable assumptions supported by other studies and consistent with the general theory underlying the assumptions. The conclusions are logically and reasonably derived from the assumptions and supported by the data presented.
 - iv. **Quantitative analysis.**
The data have been analyzed using appropriate statistical or quantitative methods.
 - v. **Context.**
The information is placed in proper context. The assumptions, analytical techniques, data, and conclusions are appropriately framed with respect to the prevailing body of pertinent scientific knowledge.
 - vi. **References.**
The assumptions, analytical techniques, and conclusions are well referenced with citations to relevant, credible literature and other pertinent existing information.

D. Nonscientific information. Nonscientific information may supplement scientific information, but it is not an adequate substitute for valid and available scientific information.

14.255.040 Fees

The City shall establish fees to recover its cost of reviewing development proposals, including the cost of engineering review, planning review, inspections, and administration. In addition to

the payment of said fees, the applicant shall be responsible for all required reports, assessments, studies, and plans.

14.255.050 Applicability

Unless exempted in SMC 14.255.060, the Critical Areas Code shall apply to all developments within one or more of the following critical areas or their associated buffers or building setback areas, regardless of whether the site has been previously identified as a critical area:

- A. Wetlands as designated in Chapter 14.260 SMC;
- B. Critical aquifer recharge areas as designated in Chapter 14.265 SMC;
- C. Floodplains as designated in Chapter 14.270 SMC;
- D. Geologically hazardous areas as designated in Chapter 14.275 SMC; and
- E. Habitat conservation areas as designated in Chapter 14.280 SMC.

14.255.060 Exemptions

The following activities when occurring in critical areas shall be exempt from the Critical Areas Code, provided that the activity must first be reviewed by the City Planner to confirm that the exemption applies:

- A. Emergency actions immediately necessary to prevent injury or property damage, provided that the action minimizes impact to critical areas and buffers. The person undertaking the action shall notify the City Planner within one (1) working day following commencement of the emergency action. The City Planner shall determine if the action was allowable under this subsection and commence enforcement if not. Within one year of the date of the emergency, the person undertaking the action shall fully mitigate any resulting impacts to the critical area and buffers in accordance with an approved critical area report and mitigation plan.
- B. Normal operation, maintenance, or repair of existing structures, utilities, roads, levees, drainage systems, or similar improvements, including vegetation management, if the action does not alter or increase the impact to or encroach upon the critical area or buffer, and if the action accords with best management practices and maintenance and does not impact an endangered or threatened species.
- C. Passive outdoor activities, such as recreation, education, and scientific research, that do not degrade the critical area.

- D. Forest practices in accordance with Chapter 76.09 RCW and Title 222 WAC, other than forest practice conversions.
- E. Structural modifications of, additions to, or replacements of, existing legal structures without increasing the impact to the critical area, provided that the City's regulations regarding legal non-conforming uses are complied with and such structural modifications shall not extend further into the critical area or buffer.
- F. Within improved public rights-of-way or private street easements, construction, replacement, or modification of streets, utilities, lines, mains, equipment, or appurtenances, excluding electrical substations, are exempt from the first two "sequencing" methods stated in SMC 14.255.120E, provided that actions that alter a wetland or watercourse, such as culverts or bridges, or that result in the transport of sediment or increased stormwater shall be subject to the following requirements wherever possible:
 - 1. Critical area and/or buffer widths shall be increased equal to the width of the right-of-way improvement, including disturbed areas; and
 - 2. Native vegetation shall be retained and/or replanted, per the City of Snohomish plant material list, along the right-of-way improvement.
- G. Minor utility projects, such as placement of a utility pole, street sign, anchor, or vault, which do not significantly impact critical areas function or values, if constructed using best management practices.
- H. Removal with hand labor and light equipment of invasive or State recognized noxious weeds or plants, as designated by the City Planner and including but not limited to:
 - 1. English Ivy (*Hedera helix*);
 - 2. Himalayan blackberry (*Rubus discolor*, *R. procerus*); and
 - 3. Evergreen blackberry (*Rubus laciniatus*).
- I. Removal of trees, which a qualified arborist, landscape architect, or forester has documented as posing a threat to public safety and which do not provide critical habitat such as eagle perches, provided that removed trees are left on-site.
- J. Measures to control fire or halt the spread of disease or damaging insects, consistent with the State Forest Practices Act, Chapter 76.09 RCW, provided that the removed vegetation shall be replaced with the same or similar species within one year or species in accordance with City of Snohomish plant material list and an approved plan.
- K. Application of herbicides, pesticides, or fertilizers, if necessary, provided that their use shall conform to Department of Fish and Wildlife Management Recommendations and the regulations of the Department of Agriculture and the U.S. Environmental Protection Agency and that written approval has been obtained from the City Planner.

- L. Minor clearing or digging necessary for surveys, soil logs, percolation tests, and similar activities, provided that critical area impacts are minimized and disturbed areas are immediately restored.
- M. Navigational aids and boundary markers.
- N. Proposed developments that have undergone critical area review at a previous stage of permit review, provided that the earlier permit has not expired and the proposed development has not significantly changed (in order to avoid duplicate review).
- O. Harvesting of wild crops without injuring their natural reproduction, tilling the soil, planting crops, applying chemicals, or altering the critical area.
- P. Conservation measures of soil, water, vegetation, fish, and other wildlife that do not adversely impact ecosystems.
- Q. Required environmental impact remediation.
- R. Existing and ongoing agricultural activities, where the land has not lain idle so long that modifications to the hydrological regime are necessary to resume operations; and
- S. Development within isolated Category III and IV wetlands less than 1,000 square feet in size.
- T. Development within isolated Category III and IV wetlands between 1,000 square feet and 3,000 square feet in area shall be exempt from the normal sequencing process but shall be fully mitigated as required elsewhere in the critical area requirements.

14.255.070 Review process

The City Planner's general sequence for administering this Critical Areas Code shall be per the following table, which shows questions the City Planner shall answer, and actions he or she shall take depending on the answer.

Step 1	Is the development proposal in a critical area or its buffer? The City Planner shall check maps, review the environmental checklist, visit the site, and require scientific determinations as necessary to make this determination.	
	Yes Go to step 2.	No Go to step 4.
Step 2	Is the development proposal exempt per SMC 14.255.060?	
	Yes Go to step 4.	No
		Require a critical area report. Don't issue Determination of Completeness until critical area report is received. Reference critical area report in any public notice.

Step 3	Does the proposal, with conditions of approval as necessary, conform to SMC 14.255.120, Substantive Requirements?	
	Yes	No
	Go to step 4.	Go to step 4.
Step 4	Document the review process in a manner appropriate to, and filed with, the permit(s) required for the proposed development, and act on the permit application in accordance with the findings.	

14.255.080 Critical area reports

Unless waived by the City Planner on the grounds that the specific information required in this section does not apply to the development in question, critical area reports shall be prepared for non-exempt proposed developments located within critical areas or their buffers. Said critical area reports shall:

- A. Be prepared by qualified professionals as defined in WAC 365-195-905(4). The following list shows the type of critical area report and the related professional discipline.
 - 1. Wetlands: wetland biologist.
 - 2. Critical aquifer recharge areas: hydrogeologist, geologist, or engineer.
 - 3. Floodplains: hydrologist or engineer.
 - 4. Geologically hazardous areas: engineer or geologist.
 - 5. Fish and wildlife habitats: biologist.

- B. Incorporate best available science.

- C. Cover a study area large enough to understand relationships with important off-site factors and identify any off-site critical area so near that its required buffer covers part of the project site.

- D. Contain the following:
 - 1. Name and contact information of the applicant, description of the proposed development, and identification of required permits;
 - 2. Site plan drawn to scale showing critical areas, buffers, existing structures, and proposed structures, clearing, grading, and stormwater management;
 - 3. Characterization of critical areas and buffers;
 - 4. Assessment of the probable impact to critical areas;
 - 5. Analysis of site development alternatives;
 - 6. Description of efforts to avoid, minimize, and mitigate impacts to critical areas pursuant to SMC 14.255.120.E (“sequencing”);
 - 7. Mitigation plans as needed, in accordance with SMC 14.255.100;
 - 8. Evaluation of compliance with this Critical Areas Code’s substantive requirements applicable to the proposed development;
 - 9. Financial guarantees to ensure compliance, such as a performance bond or deposit, if necessary;

10. Additional information as required in the chapter corresponding to the type of critical area;
11. Documentation of who prepared the report and when, with fieldwork and data sheets;
12. Statement specifying the accuracy of the report and assumptions relied upon, and
13. Additional information as required by the City Planner.

14.255.090 Previous studies

Critical area reports may rely upon, without duplication of effort, valid previous studies prepared for the site, taking into account any change in the site, the proposed development, or the surrounding area.

14.255.100 Mitigation plan requirements

If the City allows conformance with this Critical Areas Code's substantive requirements to be achieved by mitigation pursuant to Step 3 of SMC 14.255.070, the critical area report shall include a mitigation plan consisting of:

- A. An analysis of the anticipated impacts;
- B. A strategy for mitigating the impacts, including site selection factors;
- C. An analysis of the anticipated functions and values that will result from the mitigation, including an assessment of risks;
- D. A review of the best available science relative to the proposed mitigation;
- E. Specific standards for evaluating whether the mitigation is successful;
- F. Detailed construction plans, including:
 1. Construction timing;
 2. Grading and excavation details;
 3. Erosion and sediment control features;
 4. Planting plan; and
 5. Measures to protect plants until established;
- G. A program for monitoring the mitigation over at least five years, provided that ten (10) years of monitoring is required to ensure successful establishment of all trees and woody shrubs; and
- H. Potential corrective measures should the monitoring indicate standards are not being met.

14.255.110 Independent review of critical area report

The City Planner may have the critical area report evaluated by an independent qualified professional and/or request consultation from a government agency with expertise. If the report

and evaluations disagree, the City Planner shall determine which to utilize, based on which is most consistent with the best available science.

14.255.120 Substantive requirements

- A. All treatment of critical area shall be in accordance with best available science as defined in WAC 365-195-900 through 195-925, which is hereby adopted by reference, along with the Washington State Department of Community Development's *Citations of Recommended Sources of Best Available Science for Designating and Protecting Critical Areas*.
- B. Critical areas and their buffers shall be left undisturbed, except that the following may be permitted if best management practices are used:
 - 1. Authorized functional restoration or enhancement;
 - 2. In buffers: utility poles and utility lines which do not require excavation or clearing;
 - 3. In the outer 50 percent of buffers: permeable-surfaced walkways, trails, and minimal wildlife viewing structures;
 - 4. Developments for which mitigation is allowed per subsection E; and
 - 5. Other uses specifically authorized by the Critical Areas Code.
- C. No development shall occur which results in a net loss of the functions or values of any critical area except reasonable use variances per SMC 14.255.130.B. The pre- and post-development functional comparison shall be on a per function basis unless otherwise authorized by the Critical Areas Code.
- D. No development shall occur in critical areas and their buffers, which results in an unreasonable hazard to the public health and safety.
- E. These substantive requirements shall be met via one or more of the following methods, listed in preferential sequence (commonly known as "sequencing"). The methods used shall be those which are highest on the list yet consistent with the objectives of the proposed development:
 - 1. Avoiding the impact altogether by not taking a certain action or parts of an action;
 - 2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps, such as project redesign, relocation, or timing, to avoid or reduce impacts;
 - 3. Rectifying the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, and habitat conservation areas by repairing, rehabilitating, or restoring the affected environment to the historical conditions or the conditions existing at the time of the initiation of the project;
 - 4. Minimizing or eliminating the hazard by restoring or stabilizing the hazard area through engineered or other methods;

5. Reducing or eliminating the impact or hazard over time by preservation and maintenance operations during the life of the action;
6. Compensating for the impact to wetlands, critical aquifer recharge areas, frequently flooded areas, and habitat conservation areas by replacing, enhancing, or providing substitute resources or environments; and
7. Monitoring the hazard or other required mitigation and taking remedial action when necessary. Mitigation for individual actions may include a combination of the above measures.

F. As a condition of any permit approval, the City may require that:

1. The outer edge of the critical area or buffer be marked, signed, or fenced to protect the resource. Such protection may be temporary, during construction, or permanent such as to protect the resource from livestock or people. The City Planner shall specify the design and sign message if applicable, of such markers, signs, and fencing.
2. The applicant file a notice with the county records and elections division stating the presence of the critical area or buffer and the application of this Critical Areas Code to the property, in order to inform subsequent purchasers of the property.
3. The critical area and/or buffer be placed in a critical area tract or conservation easement, the purpose of which is to set aside and protect the critical area. The critical area tract or conservation easement shall be:
 - a. held by the City, a homeowner's association, a land trust or similar conservation organization, or by each lot owner within the development in an undivided interest;
 - b. recorded on all documents of title of record for the affected parcels;
 - c. noted on the face of any plat or recorded drawing; and
 - d. delineated on the ground with permanent markers and/or signs in accordance with local survey standards.

G. The City may allow averaging of buffer widths, if a qualified professional demonstrates that:

1. Functions and values are not adversely affected;
2. The total buffer area is not reduced; and
3. At no location is the buffer width reduced more than 40 percent.

H. Unless otherwise provided, buildings and other structures shall be set back a distance of ten feet from the edges of all critical areas and critical area buffers. The same protrusions into this setback area shall be allowed as the development code allows into property line setback areas.

- I. Critical areas and buffers shall not be allowed within any lot of a subdivision and/or short plats unless the plat was vested prior to the effective date and implementation of this ordinance. Subdivision and or/short plats shall show, on their face, any applicable critical area limitations.
- J. When any existing regulation, easement, covenant, or deed restriction conflicts with this Critical Areas Code, the one which provides more protection to the critical areas shall apply.
- K. When critical areas of two or more types coincide, the more restrictive buffer and requirements shall apply.
- L. Subject to approval through the planned residential development process, or approval by the City Planner, depending on who is the applicable decision-maker, in calculating allowable residential units per acre, up to 100% of the acreage of critical areas and buffers may be counted and this density transferred to buildable portions of the site.
- M. The substantive requirements unique to the type of critical area shall also be complied with, as set forth in the applicable chapter of the Critical Areas Code.

14.255.130 Variances

The City may grant variances from the Critical Areas Code's substantive regulations in accordance with Chapter 14.70 SMC, if the criteria in A or B below are met.

- A. The variance conforms to the variance criteria stated in SMC 14.70.040, plus the variance:
 - 1. Conforms with the purpose of the Critical Areas Code,
 - 2. Does not impact anadromous fish habitat; and
 - 3. Is justifiable in light of the best available science and the GMA policies referenced in SMC 14.255.010F.
- B. The variance is determined to be a reasonable use (conformance with the SMC 14.70.040 criteria not required) in accordance with the following:
 - 1. The application of the Critical Areas Code would otherwise deny all reasonable economic use of the property;
 - 2. The City does not offer to compensate the owner for the denial of reasonable economic use;
 - 3. No other reasonable economic use of the property or development design has less impact on the critical area;
 - 4. The proposal does not pose an unreasonable threat to the public health, safety, or welfare;
 - 5. The proposal conforms to other applicable regulations;

6. Impacts to critical areas are mitigated; and
7. The application is sufficiently documented (for example, critical area report, mitigation plan, permit applications, and environmental documents) to make a determination regarding these criteria.

14.255.140 Enforcement and inspections

- A. In enforcing violations of the Critical Areas Code per Chapter 14.85 SMC, the City Planner may require a restoration plan prepared by a qualified professional. Historic functions and values, soil configurations, and native vegetation shall be used as a guide for restoration. Flood and geological hazards shall be reduced to the pre-development level.
- B. Reasonable access to the development shall be provided to agents of the City for critical area inspections, monitoring, restoration, or emergency action.

Chapter 14.260

Wetlands

Sections

14.260.010	Purpose and intent
14.260.020	Rating and designation
14.260.030	Critical area reports
14.260.040	Substantive requirements
14.260.050	Mitigation

14.260.010 Purpose and intent

- A. Wetlands perform numerous important functions, including but not limited to provision of wildlife and fish habitat, water quality enhancement, flood and erosion control, ground water recharge and discharge, shoreline stabilization, research and education opportunity, and recreation. Protection of these systems is necessary to protect the public health, safety, and general welfare.
- B. To achieve the goal of “no net loss” of wetland functions and values within the City, the regulations of this chapter are intended to discourage or prohibit:
1. Activities that block water flows, or damage or destroy flood storage areas or storm barriers, thereby resulting in greater potential flood damages;
 2. Disposal of wastewater or solid wastes, or creation of unstable fills inappropriate to the function of wetlands, which may result in water pollution;
 3. Application of pesticides, herbicides and algaecides on wetlands unless warranted to protect the ecological functions of the wetland;
 4. Activities that limit the function of a wetland to control erosion or runoff; provide water storage; or provide wildlife breeding, spawning, nesting, wintering, or feeding grounds;
 5. Activities that detract from a wetland’s value in providing educational experiences, recreational uses, and/or open space.

14.260.020 Rating and designation

- A. Rating categories. Wetlands shall be rated Category I, II, III, or IV according to the Department of Ecology’s *Washington State Wetland Rating System for Western Washington (Ecology Publication #04-06-025)*. (See WAC 365-190-080(1)(a).) Wetland categories shall apply to the wetland as it exists on the date the City adopts the rating system, as the wetland naturally changes thereafter, or as the wetland changes in accordance with permitted activities. Wetland rating categories shall not change due to illegal modifications. The City will conduct an analysis of new wetlands rating systems as proposed by the State on an annual basis for consideration as an amendment to this chapter.

B. Designating wetlands.

1. As set forth in RCW 36.70A.030(20), wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas created to mitigate conversion of wetlands.
2. Pursuant to RCW 36.70A.175, wetlands are designated in accordance with the *Washington State Wetland Identification and Delineation Manual* (Ecology Publication #96-94).
3. The City has maps showing the approximate location and extent of wetlands. However, these maps are only a guide and will be updated as critical areas become better known. The exact location of a wetland's boundary shall be determined in accordance with the above-referenced manual.

C. Rating wetlands. Wetlands shall be rated according to the Department of Ecology wetland rating system, as set forth in the *Washington State Wetland Rating System for Western Washington* (Ecology Publication #04-06-025, or as revised and approved by DOE). These documents contain the definitions and methods for determining if the criteria below are met.

1. **Category I.** Category I wetlands are those wetlands that meet any of the following criteria:
 - a. wetlands that are identified by scientists of the Washington Natural Heritage Program/DNR as high quality wetlands;
 - b. bogs larger than a half acre;
 - c. mature and old growth forested wetlands larger than one acre;
 - d. wetlands that perform many functions well (score at least 70 points); or
 - e. wetlands that:
 - i. represent a unique or rare wetland type; or
 - ii. are more sensitive to disturbance than most wetlands; or
 - iii. are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or
 - iv. provide a high level of functions.

2. **Category II.** Category II wetlands are those wetlands that meet any of the following criteria:
 - a. a wetland identified by the Washington State Department of Natural Resources as containing "sensitive" plant species;
 - b. a bog between one-quarter and one-half acre in size; or
 - c. wetlands with a moderately high level of functions (score between 51 and 69 points).
3. **Category III.** Category III wetlands are wetlands with a moderate level of functions (score between 30 and 50 points), which generally have been disturbed in some way and which are often less diverse or more isolated from other natural resources in the landscape than Category II wetlands.
4. **Category IV.** Category IV wetlands have the lowest levels of functions (score less than 30 points) and are often heavily disturbed. These are wetlands that should be replaceable and in some cases improvable. However, experience has shown that replacement cannot be guaranteed in any specific case. These wetlands may provide some important functions and should be protected to some degree.

D. **Date of wetland rating.** Wetland rating categories shall be applied as the wetland exists on the date of adoption of the rating system by the local government, as the wetland naturally changes thereafter, or as the wetland changes in accordance with permitted activities. Wetland rating categories shall not change due to illegal modifications.

14.260.030 Critical area reports

In addition to the requirements of SMC 14.255.080, critical area reports for wetlands shall include the following:

- A. Wetland delineation map as surveyed and flagged in the field.
- B. Assessment of wetlands, including acreage, category, required buffers, evidence of past alterations, soil, topography, hydrology, ecology, and functional evaluation using a recognized method.
- C. Discussion of measures to preserve wetland functions and values, including the "sequencing" set forth in SMC 14.255.120.E.
- D. If mitigation is proposed, a mitigation plan including the existing and proposed status of:
 1. Wetland acreage;
 2. Vegetation and fauna;
 3. Surface and subsurface hydrology;
 4. Soils, substrate, and topography;

- 5. Required wetland buffers; and
- 6. Property ownership.

E. Proposed wetland management and monitoring.

14.260.040 Substantive requirements

In addition to the substantive requirements of SMC 14.255.120, the requirements of this section shall apply to developments in wetlands, except as exempted above.

A. The higher the wetland category (Category I is highest), the greater shall be the emphasis on higher-priority “sequencing” methods per SMC 14.255.120.E.

B. The following buffer width requirements are established as the minimum wetland buffer widths:

1. The standard buffer widths in this section are based on the fact that most impacts adjacent to wetlands in the City of Snohomish will be high intensity impacts characteristic of an urban area. Accordingly, one baseline buffer will generally apply to each category of wetland, as provided in subsection 14.060.040B2, unless the habitat function score requires increasing the buffer width, as provided in subsection 14.260.040B3, or unless the buffer width is increased, decreased, and/or averaged, as provided in subsections 14.260.040D, E, F, and G.

2. Standard/baseline buffer widths shall be:

Category I	150 feet
Category II	100 feet
Category III	50 feet (exempt if smaller than 1000 square feet: see SMC 14.255.060.S; between 1000 square feet and 3000 square feet in area shall be exempt from the normal sequencing process but shall be fully mitigated: see SMC 14.255.060.T)
Category IV	50 feet (exempt if smaller than 1000 square feet: see SMC 14.255.060.S; between 1000 square feet and 3000 square feet in area shall be exempt from the normal sequencing process but shall be fully mitigated: see SMC 14.255.060.T)

3. The standard/baseline buffer widths shall be increased for each Category of wetland to the following wetland buffer widths, if the habitat function scores (derived from the 2004 Wetland Rating System for Western Washington) meet the following thresholds:

Category I	200 feet , if habitat function score is at least 28
Category II	150 feet , if habitat function score is at least 28

Category III	100 feet, if habitat function score is at least 20
Category IV	50 feet, i.e. no increase regardless of habitat function score.

- C. Buffers shall be measured from the wetland boundary as surveyed in the field. If wetland enhancement is proposed, the requirements for the category of the wetland after enhancement shall apply.

- D. The above standard buffer widths presume the following:
 - 1. The buffer is at least moderately endowed with healthy native vegetation (i.e., 75% ground cover) and other factors affecting its ability to protect the wetland, such as favorable topography.
 - 2. The City Planner may increase the required buffer width or require buffer enhancement if the buffer is poorly endowed with healthy native vegetation or is otherwise handicapped in its ability to protect the wetland as specified in 14.260.040(E).
 - 3. The City Planner may reduce the required buffer width if the buffer is, or after enhancement will be, well endowed with healthy native vegetation or otherwise unusually able to protect the wetland as specified in 14.260.040(E).

- E. The City Planner may increase or reduce the standard buffer width if the function(s) served by the particular wetland need(s) more or less buffer width, as indicated by a wetland functional analysis. Buffer widths may be reduced not more than 25% of the standard/baseline buffer width and only if restoration or enhancement occurs within the remaining buffer such that no net loss of function is realized.

- F. The City Planner shall have the authority to average buffer widths on a case-by-case basis, where a qualified professional demonstrates to the City Planner's satisfaction that all the following criteria are met:
 - 1. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer.
 - 2. The buffer averaging does not reduce the functions or values of the wetland.
 - 3. The wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation.
 - 4. The director shall have the authority to increase the minimum width of the standard buffer on a case-by-case basis when such increase is necessary.
 - 5. Buffer width averaging does not reduce the original buffer width by more 50% at any one point.

- G. The City Planner may combine the use of buffer restoration or enhancement to reduce buffer width, as provided in subsection 14.260.040E, with the use of buffer width averaging, as provided in subsection 14.260.040F, provided that there is no net loss of function and the original buffer width is not reduced by more than 50% at any one point.

- H. Except as provided elsewhere in the Critical Areas Code, all existing native vegetation in wetland buffers shall be retained without disturbance, mowing, or hard surfacing, nor shall any action be taken to inhibit volunteer regrowth of native vegetation. Invasive weeds shall be removed for the duration of the monitoring period. Stormwater management facilities, bioswales, and treated-water outfalls are permitted in the outer 50 percent of the buffer of Category III or IV wetlands, provided that wetland functions and values are not significantly lost through fluctuations in wetland hydrology and construction integrates best management practices.

14.260.050 Mitigation

- A. All significant adverse impacts to wetlands and buffers as determined by the City Planner shall be fully mitigated in accordance with the standards in this section and a mitigation plan consistent with this section. Mitigation measures to be addressed in the mitigation plan shall include, in order of preference, avoidance, minimization, restoration, rehabilitation, and compensation.
- B. Mitigation for alterations to wetlands may be by restoring former wetlands, creating wetlands, or enhancing degraded wetlands, consistent with the *Department of Ecology Guidance on Wetland Mitigation in Washington State, Part 2* (Ecology Publication #04-06-013B)
- C. Mitigation shall generally replace wetland functions lost from the altered wetland except that the City may permit out-of-kind replacement when the lost functions are minimal or less important to the drainage basin than the functions that the mitigation action seeks to augment.
- D. Mitigation shall be in the same drainage basin or sub-basin as the altered wetland, unless a higher level of ecological functioning would result from an alternate approach.
- E. Mitigation projects shall be completed as quickly as possible, consistent with such factors as rainfall and seasonal sensitivity of fish, wildlife, and flora, and shall be completed no later than the first year following completion of the development project.
- F. Mitigation projects shall be designed with reference to the Department of Ecology's *Guidance on Wetland Mitigation in Washington State, Part 2* (Ecology Publication #04-06013B) and Appendix 8-C of the Department of Ecology's *Wetlands in Washington - Volume 2: Guidance for Protecting and Managing Wetlands* (Ecology Publication #04-06-024).
- G. Mitigation for alterations to wetlands shall achieve equivalent or greater biologic functions and shall provide similar wetland functions as those lost, except when:
1. The lost wetland provides minimal functions as determined by a site-specific function assessment and the proposed mitigation action(s) will provide equal or greater functions or will provide functions shown to be limiting within a watershed through a watershed assessment plan or protocol; or

2. Out-of-kind replacement will best meet formally identified regional goals such as replacement of historically diminished wetland types.
- H. Compensation in the form of wetland creation, restoration or enhancement is required when a wetland is altered permanently as a result of an approved project. Alterations shall not result in net loss of wetland area, except when compensation for wetland alterations is provided in the following order of preference:
1. Wetlands are restored on upland sites that were formerly wetlands.
 2. Wetlands are created on disturbed upland sites such as those with vegetative cover consisting primarily of exotic introduced species.
- I. Mitigation actions shall be conducted within the same subdrainage basin and on the same site as the alteration except when all of the following apply:
1. Either there are no reasonable on-site or in-subdrainage basin opportunities, or on-site and in-subdrainage basin opportunities do not have a high likelihood of success due to development pressures, adjacent land uses, or on-site buffers or connectivity are inadequate.
 2. Off-site mitigation has a greater likelihood of providing equal or improved wetland functions than the altered wetland.
 3. Where feasible, mitigation projects shall be completed prior to activities that will disturb wetlands. In all other cases, mitigation shall be completed immediately following disturbance and prior to use or occupancy of the activity or development.
 4. Construction of mitigation projects shall be timed to reduce impacts to existing wildlife and vegetation.
 5. The applicant shall develop a mitigation plan that provides for construction, maintenance, monitoring, contingencies and adaptive management of the wetland compensation projects, as required by conditions of approval and consistent with the requirements of this chapter.
- J. Wetland mitigation – Replacement ratios
1. When an applicant proposes to alter or eliminate a regulated wetland, the functions and values of the affected wetland and buffer shall be replaced through wetland creation, restoration, or enhancement, according to the minimum ratios established in the table in this section. The ratios shall apply to wetland creation, restoration, or enhancement, which is in-kind, on-site, of the same category, timed prior to or concurrent with alteration, and has a high probability of success.

2. Ratios for out-of-kind or off-site mitigation may be greater than set forth in the table, if the City Planner determines that additional mitigation is warranted to mitigate impacts. Ratios for remedial actions resulting from unauthorized alterations shall be greater than set forth in the table, provided that the extent of the increase shall be as determined by the City Planner to be appropriate in the circumstances.
3. Replacement ratios may be decreased by up to 25 percent by the City Planner, if the applicant demonstrates to the satisfaction of the City Planner that all of the following criteria are met:
 - a. documentation by a qualified professional demonstrates that the proposed mitigation actions have a very high likelihood of success;
 - b. documentation by a qualified professional demonstrates that the proposed mitigation actions will provide functions and values that are significantly greater than the wetland being altered;
 - c. the proposed mitigation actions are conducted in advance of the impact and shown to be successful through post-construction monitoring and function assessment.
4. The mitigation ratios in the following table are based on Appendix 8-C of the Department of Ecology's *Wetlands in Washington - Volume 2: Guidance for Protecting and Managing Wetlands* (Ecology Publication #04-06-024):

Acreege-based Mitigation Ratios Table

Affected Wetland	Mitigation Type and Ratio			
Category	Re-establishment or Wetland Creation	Rehabilitation	Re-establishment or Creation (R/C) and Enhancement (E)	Enhancement Only
Category IV	1.5:1	3:1	1:1 R/C and 2:1 E	6:1
Category III	2:1	4:1	1:1 R/C and 2:1 E	8:1
Category II	3:1	6:1	1:1 R/C and 4:1 E	12:1
Category I - Forested	6:1-	12:1	1:1 R/C 10:1 Enhancement	24:1
Category I - Score Based	4:1-	8:1	1:1 R/C 10:1 Enhancement	16:1
Category I - Bog	Not considered possible	6:1	Case by Case	Case by Case

K. Definitions specific to Wetland Mitigation:

1. **Restoration:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a

former or degraded wetland. For the purpose of tracking net gains in wetland acres, restoration is divided into re-establishment and rehabilitation, as follows:

- a. re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former wetland. Activities could include removing fill material, plugging ditches, or breaking drain tiles. Re-establishment results in a gain in wetland acres.
 - b. rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural or historic functions of a degraded wetland. Activities could involve breaching a dike to reconnect wetlands to a floodplain or return tidal influence to a wetland. Rehabilitation results in a gain in wetland function but does not result in a gain in wetland acres.
2. **Creation:** The manipulation of the physical, chemical, or biological characteristics present to develop a wetland on an upland or deepwater site, where a wetland did not previously exist. Activities typically involve excavation of upland soils to elevations that will produce a wetland hydroperiod, create hydric soils, and support the growth of hydrophytic plant species. Creation results in a gain in wetland acres.
3. **Enhancement:** The manipulation of the physical, chemical, or biological characteristics of a wetland site to heighten, intensify or improve specific function(s) or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for specified purposes such as water quality improvement, flood water retention or wildlife habitat. Activities typically consist of planting vegetation, controlling non-native or invasive species, modifying site elevations or the proportion of open water to influence hydroperiods, or some combination of these. Enhancement results in a change in some wetland functions and can lead to a decline in other wetland functions, but does not result in a gain in wetland acres.
4. The distinction between rehabilitation and enhancement for the purposes of the rating system is further explained as follows:
- a. rehabilitation includes:
 - i. Actions that restore the original hydrogeomorphic (HGM) class, or subclass, to a wetland whose current HGM class, or subclass, has been changed as a result of human activities; and
 - ii. Actions that restore the water regime that was present and maintained the wetland before human activities changed it.
 - b. Enhancement includes:
 - i. Any other actions taken in existing wetlands.

- ii. For example, a wetland that was once a forested riverine wetland was changed to a depressionnal, emergent wetland by the construction of a dike and through grazing. Rehabilitating the wetland would involve breaching the dike so the wetland becomes a riverine wetland again, removing the grazing, and reforesting the area. Removing the grazing and reforesting the wetland without reestablishing the links to the riverine system would be considered as enhancement.

Chapter 14.265 Critical Aquifer Recharge Areas

Sections

- 14.265.010 Designation
- 14.265.020 Exemptions
- 14.265.030 Critical area reports
- 14.265.040 Substantive requirements
- 14.265.050 Prohibited uses and activities

14.265.010 Designation

- A. Areas with a critical recharging effect on aquifers used for potable water as defined by WAC 365-190-030(2) are hereby designated critical areas and shall be subject to the provisions of this chapter.
- B. The city is not currently aware of any critical aquifer recharge area in its jurisdiction. However, upon discovery of scientific data attesting to the existence of a critical aquifer recharge area, the City will apply the Critical Areas Code to said area.

14.265.020 Exemptions

In addition to the developments listed in SMC 14.255.060, the following developments shall be exempt from this chapter:

- A. Construction of structures, improvements, and additions of less than 2,500 square feet of total site impervious surface area, which do not increase the risk to the critical area from hazardous substances.
- B. Development of parks, recreation facilities, or conservation areas that do not increase the risk to the critical area from hazardous substances.

14.265.030 Critical area reports

- A. In addition to the requirements of SMC 14.255.120, critical area reports for critical aquifer recharge areas shall include a hydrogeologic assessment.
- B. Level 1 (basic) hydrogeologic assessments shall be prepared for all critical aquifer recharge areas and shall include the following information:
 - 1. Available information regarding geology and hydrogeology of the site, including permeability of the unsaturated zone;
 - 2. Ground water depth, flow direction, and gradient based on available information;
 - 3. Available data on wells and springs within 1,300 feet;
 - 4. Location of other critical areas, including surface waters, within 1,300 feet; and

5. Best management practices proposed to be utilized.
- C. A Level 2 (more detailed) hydrogeologic assessment shall be prepared in compliance with the following:
1. A Level 2 hydrogeologic assessment shall be prepared for the following activities:
 - a. activities that divert, alter, or reduce the flow of surface or ground waters, or otherwise reduce the recharging of the aquifer;
 - b. the use of hazardous substances, other than household chemicals used according to the directions specified on the packaging;
 - c. injection wells; and
 - d. any other activity determined by the City Planner as being likely to have an adverse impact on ground water quality or quantity.
 2. A Level 2 Hydrogeologic assessments shall include the following information:
 - a. historic water quality data for the area to be affected by the proposed development;
 - b. ground water monitoring plan;
 - c. potential effects on water quality and quantity of nearby wells and water bodies; and
 - d. analysis of equipment or structures that could fail and regular inspection, repair, and replacement necessary to prevent such failure.

14.265.040 Substantive requirements

In addition to the substantive requirements of SMC 14.255.120, the following requirements shall apply to critical aquifer recharge areas:

- A. Proposed developments shall not cause contaminants to enter the aquifer or significantly reduce the recharging of the aquifer and shall comply with the water source protection requirements and recommendations of the U.S. Environmental Protection Agency, Washington State Department of Health, and county health department.
- B. Underground facilities for storing hazardous substances shall be designed to prevent releases due to corrosion or structural failure for the operational life of the tank.
- C. Above-ground facilities for storing hazardous substances shall be designed to prevent accidental release, shall have a primary containment enclosing or underlying the tank, and shall have a secondary containment built into the tank structure or consisting of an external dike.
- D. Vehicle repair and servicing shall be conducted over impermeable pads, within a covered structure capable of withstanding normal weather conditions. Chemicals shall be stored in

a manner that protects them from weather and provides containment should leaks occur. Dry wells are prohibited.

- E. Application of household pesticides, herbicides, and fertilizers shall not exceed times and rates specified on the packaging.
- F. Surface percolation or injection of reclaimed water shall conform to adopted water and sewer comprehensive plans, pursuant to RCW 90.46.080(1), RCW 90.46.010(10), and RCW90.46.042.
- G. The uses listed below shall be conditioned as necessary to protect critical aquifer recharge areas in accordance with the applicable state and federal regulations and to the extent that a City approval is required for said uses.

Statutes, Regulations, and Guidance Regarding Groundwater-Impacting Activities

Activity	Statute – Regulation – Guidance
Above Ground Storage Tanks	Chapter 173-303-640 WAC
Animal Feedlots	Chapter 173-216 WAC, Chapter 173-220 WAC
Automobile Washers	Chapter 173-216 WAC, Best Management Practices for Vehicle and Equipment Discharges (Washington Department of Ecology WQ-R-95-56)
Below Ground Storage Tanks	Chapter 173-360 WAC
Chemical Treatment Storage and Disposal Facilities	Chapter 173-303-182 WAC
Hazardous Waste Generator	Chapter 173-303 WAC (<i>Boat Repair Shops, Biological Research Facility, Dry Cleaners, Furniture Stripping, Motor Vehicle Service Garages, Photographic Processing, Printing and Publishing Shops, etc.</i>)
Injection Wells	Federal 40 CFR Parts 144 and 146, Chapter 173-218 WAC
Junk Yards and Salvage Yards	Chapter 173-304 WAC, Best Management Practices to Prevent Stormwater Pollution at Vehicles Recycler Facilities (Washington Department of Ecology 94-146)
Oil and Gas Drilling	Chapter 332-12-450 WAC, Chapter 173-218 WAC
On-Site Sewage Systems (Large Scale)	Chapter 173-240 WAC
On-Site Sewage Systems (< 14,500 gal/day)	Chapter 246-272 WAC, Local Health Ordinances
Pesticide Storage and Use	Chapter 15.54 RCW, Chapter 17.21 RCW
Sawmills	Chapter 173-303 WAC, Chapter 173-304 WAC, Best Management Practices to Prevent Stormwater Pollution at Log Yards (Washington Department of Ecology, 95-53)
Solid Waste Handling and Recycling Facilities	Chapter 173-304 WAC
Surface Mining	Chapter 332-18-015 WAC
Waste Water Application to Land Surface	Chapter 173-216 WAC, Chapter 173-200 WAC, Washington Department of Ecology Land Application Guidelines, Best Management Practices for Irrigated Agriculture

14.265.050 Prohibited activities and uses

The following activities and uses are prohibited in critical aquifer recharge areas (based on *Guidance Document for the Establishment of Critical Aquifer Recharge Area Ordinances*, by WDOE, Publication #97-30):

- A. Landfills and solid waste transfer stations, including landfills for hazardous waste, municipal solid waste, special waste, wood waste and inert and demolition waste;
- B. Underground injection wells: Class I, III, and IV wells and subclasses 5F01, 5D03, 5F04, 5W09, 5W10, 5W11, 5W31, 5X13, 5X14, 5X15, 5W20, 5X28, and 5N24 of Class V wells;
- C. Mining of metals, hard rock, sand, and gravel;
- D. Wood treatment facilities that allow any portion of the treatment process to occur over permeable surfaces;
- E. Creosote or asphalt manufacturing;
- F. Storage, processing, or disposal of hazardous, chemical, or radioactive substances;
- G. Electroplating;
- H. Class 1A or 1B flammable liquids manufacturing as defined by the Uniform Fire Code;
- I. Conversion of heating systems to fuel oil;
- J. New petroleum product pipelines;
- K. Activities that would significantly reduce the recharge to aquifers currently or potentially used for potable water; and
- L. Activities that would significantly reduce base flow to a regulated stream.

Chapter 14.270 Floodplains

Sections

- 14.270.010 Designation
- 14.270.020 Critical area reports
- 14.270.030 Substantive requirements
- 14.270.040 Floodway certification
- 14.270.050 Recordation
- 14.270.060 Disclaimer of liability

14.270.010 Designation

- A. Floodplains are those areas that provide important flood storage, conveyance and attenuation functions and include all land within such areas that are subject to a one percent or greater chance of flooding in any given year.
- B. Floodplains shall be designated by the City Planner in accordance with WAC 365-190-080(3).
 - 1. The City Planner shall use the “areas of special flood hazard” as identified on the Federal Emergency Management Administration’s most current Flood Insurance Rate Map for the City as the indicator of where floodplains exist, unless more detailed, current, and convincing evidence indicates otherwise.
 - 2. Floodplains shall include, at a minimum, the 100-year floodplain designations of the Federal Emergency Management Agency and the National Flood Insurance Program.

14.270.020 Critical area report

- A. The City Planner may waive the critical areas report required in SMC 14.255.080 for developments proposed in the floodplain, if the applicable permit application contains sufficient data to verify compliance with the substantive requirements, except as provided in subsection 14.270.020B.
- B. The critical area report shall not be waived for the following developments:
 - 1. Developments in the floodway, which is the area shown in the illustration that accompanies the definition of “floodplain” in SMC 14.100.020; and
 - 2. Developments that result in watercourse alteration.

14.270.030 Substantive requirements

In addition to the substantive requirements of SMC 14.255.120, the following requirements shall apply to floodplains:

- A. To the extent possible consistent with the development objective, all improvements shall be located on the non-floodplain portion of the site, if any, or on the highest ground on the site, as far as possible from the flood source.
- B. New and substantially improved residential structures shall have the lowest floor or basement elevated one foot or more above the 100-year flood elevation. In addition, new and substantially improved manufactured homes shall be securely anchored to resist flotation, collapse, and lateral movement.
- C. New and substantially improved nonresidential structures shall either:
 - 1. Have the lowest floor or basement elevated one foot or more above the 100-year flood elevation; or
 - 2. Together with utilities and sanitary facilities, be certified by a registered professional engineer or architect as being flood-proofed, so that the structure below one foot or more above the 100-year flood level the structure is watertight and capable of resisting hydrostatic and hydrodynamic loads and buoyancy.
- D. Fully enclosed areas below the lowest habitable floor that are not flood-proofed shall be certified by a registered professional engineer or architect as designed to resist hydrostatic flood forces.
- E. New and replacement water supply systems shall be designed to minimize infiltration of flood waters into the systems.
- F. New and replacement sanitary sewage systems and on-site septic systems shall be designed to minimize infiltration of flood waters into and discharges from the system.
- G. All new construction and substantial improvements, including electrical, heating, ventilation, plumbing, and air-conditioning equipment, shall be constructed using flood-resistant materials and methods.
- H. Alteration of natural watercourses, including side channels and channel migration zones, shall be avoided if feasible. If unavoidable, the City Planner shall notify adjacent communities, the Department of Ecology, and FEMA prior to alteration. Any stream-bank stabilization shall consider the use soft armoring (bioengineering). Removal of vegetation and woody debris shall be minimized. The alteration shall not block side channels or diminish flood-carrying capacity.
- I. Fill and grading may be placed in areas which in the event of a 100-year flood would be covered with relatively static floodwaters but not in a manner which would block side channels or inhibit channel migration.

- J. Recreational vehicles shall either be on the site for fewer than 180 consecutive days or be fully licensed and ready for highway use.

14.270.040 Floodway certification

All developments capable of blocking floodwaters, including new construction, substantial improvements, and fill, but excluding underground improvements and conservation or habitat enhancement projects, are prohibited in the floodway unless a registered professional engineer certifies that the proposed encroachment will not result in any increase in flood levels during a 100-year flood.

14.270.050 Recordation

The City Planner shall record:

- A. The as-built elevation above mean sea level of the lowest habitable floor, including basement, of all new or substantially improved structures, and whether the structure contains a basement;
- B. Certificates of flood-proofing and flood elevation; and;
- C. Permits and variances issued in accordance with this chapter.

14.270.060 Disclaimer of liability

Compliance with this chapter does not guarantee against flood damages, and the City shall not be liable for flood damages that result from reliance on this chapter.

Chapter 14.275

Geologically Hazardous Areas

Sections

14.275.010	Designation
14.275.020	Mapping
14.275.030	Exemptions
14.275.040	Critical area reports
14.275.050	Substantive Requirements
14.275.060	Decisions

14.275.10 Designation

- A. Geologically hazardous areas include areas in the City that are designated by the City Planner as potentially not suited to development based on public health, safety or environmental standards, because of such areas' susceptibility to erosion, sliding, earthquake, or other geological processes as designated by WAC 365-190-080(4).
- B. The City Planner may designate areas as geologically hazardous, including erosion, landslide, and seismic hazard areas, consistent with the following:
1. Erosion hazard areas are areas identified by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a moderate-to-severe, severe, or very severe rill and inter-rill (sheet wash) erosion hazard.
 2. Landslide hazard areas are areas subject to landslides based on geology, soils, topography, and hydrology, including:
 - a. areas delineated by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a severe limitation for building site development;
 - b. areas mapped by the Washington Department of Ecology (*Coastal Zone Atlas*) or the Washington State Department of Natural Resources (slope stability mapping) as unstable (U or class 3), unstable old slides (UOS or class 4), or unstable recent slides (URS or class 5);
 - c. areas designated as quaternary slumps, earthflows, mudflows, lahars, or landslides on maps published by the U.S. Geological Survey or Washington State Department of Natural Resources;
 - d. areas where the following coincide: slopes steeper than fifteen percent, relatively permeable sediment overlying a relatively impermeable sediment or bedrock, and ground water seepage;
 - e. areas that have shown movement in the past ten thousand years or that are underlain or covered by mass wastage debris of that time frame;

- f. slopes that are parallel or subparallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials;
 - g. slopes steeper than eighty percent subject to rock fall during seismic shaking;
 - h. areas potentially unstable because of rapid stream incision, stream bank erosion, and undercutting by wave action;
 - i. areas at risk from snow avalanches;
 - j. canyons or active alluvial fans subject to debris flows or catastrophic flooding; and
 - k. slopes of forty percent or steeper with a vertical relief of ten or more feet except areas composed of consolidated rock.
3. Seismic hazard areas are areas subject to severe risk of damage as a result of earthquake induced ground shaking, slope failure, settlement, soil liquefaction, lateral spreading, or surface faulting. One indicator of potential earthquake damage is a record of past earthquake damage. Settlement and soil liquefaction occur in areas underlain by cohesionless, loose, or soft-saturated soils of low density, typically in association with a shallow ground water table.
 4. Mine hazard, volcanic, and tsunami hazard areas (none known to be present in the City: see WAC 365-190-080)
 5. Other geologically hazardous areas include areas susceptible to mass wasting, debris flows, rock falls, and differential settlement.

14.275.020 Mapping

The following maps, which may be continuously updated, may be used as a guide for locating geologically hazardous areas.

- A. U.S. Geological Survey landslide hazard, seismic hazard, and volcano hazard maps;
- B. Washington State Department of Natural Resources seismic hazard maps for Western Washington;
- C. Washington State Department of Natural Resources slope stability maps; and
- D. Locally adopted maps.

14.275.030 Exemptions

In addition to those listed in SMC 14.255.060, the following developments shall be exempt from this chapter:

- A. Additions of fewer than 250 square feet to single-story residences, provided that the City Engineer determines the addition will not increase the risk to the residence or adjacent development;
- B. Fences; and
- C. Other minor developments as determined by the City Planner consistent with the purposes of the Critical Areas Code.

14.275.040 Critical area reports

In addition to the requirements of SMC 14.255.080, critical area reports for geologically hazardous areas shall include, where applicable:

- A. Site history regarding landslides, erosion, and prior grading;
- B. Topography in suitable contour intervals;
- C. Height of slope, slope gradient, slope stability, and slope retreat rate recognizing potential catastrophic events;
- D. Description of the geology (including faults), hydrology (including springs, seeps, and surface runoff features), soils (including, in seismic hazard areas, thickness of unconsolidated deposits and liquefaction potential), and vegetation;
- E. Type, extent, and severity of geologic hazard(s);
- F. Analysis of the proposal's risk from the geologic hazard and the proposal's potential for exacerbating off-site hazards or depositing sediment in wetlands or habitat areas;
- G. Recommended buffers and other conditions of approval. In areas of erosion or landslide hazard, the recommended conditions may include:
 - 1. Clearing, fill, and hard-surfacing limits, slope stabilization measures, and vegetation management plan;
 - 2. Limitation on clearing during the rainy season, generally from October 1 to May 1;
 - 3. Design parameters of foundations and retaining structures; and
 - 4. Drainage plan and erosion and sediment control plan in compliance with City stormwater management regulations; and

- H. Overview of field investigations, measurements, references, and past assessments of the site.

14.275.050 Substantive Requirements

In addition to the substantive requirements of SMC 14.255.120, the following requirements shall apply to geologic hazard areas:

- A. Alteration of geologically hazardous areas and buffers shall be prohibited except as expressly allowed in this chapter.
- B. Proposed developments shall not increase the long-term risk of or exposure to a geologic hazard on-site or off-site;
- C. Hazard mitigation shall not rely on actions that require extensive maintenance;
- D. Development near an erosion or landslide hazard area shall:
 - 1. Observe a buffer from the edges thereof, of adequate width to comply with the substantive requirements;
 - 2. Not decrease the factor of safety for landslides below the limits of 1.5 for static conditions and 1.2 for dynamic conditions. Analysis of dynamic conditions may be based on a minimum horizontal acceleration as established by the International Building Code;
 - 3. Cluster structures and improvements as necessary to avoid hazard areas;
 - 4. Use retaining walls that allow the retention of existing natural slopes when possible rather than graded artificial slopes;
 - 5. Place utility lines and pipes in erosion and landslide hazard areas only when no other alternative is available and when the line or pipe can be installed above ground in such a manner as to remain intact without leaks in the event of a slide;
 - 6. Discharge water from surface water facilities and roof drains onto or upstream from an erosion or landslide hazard area only if:
 - a. discharged at flow durations matching predeveloped conditions, with adequate energy dissipation, into existing channels; or
 - b. dispersed upslope of the steep slope onto a low-gradient undisturbed buffer of adequate infiltrate capacity without increasing saturation of the slope; and
 - 7. Locate any on-site sewage drain fields outside the hazard area and related buffers.

14.275.60 Decisions

- A. The City may approve, condition or deny development proposals in geologically hazardous areas based on the degree to which risks to public and private property and to health and safety can be mitigated.
- B. Conditions may include limitations of or on proposed uses, density modification, alteration of site layout and other changes to the proposal determined appropriate by the City Planner.
- C. Where the City Planner determines that potential adverse impacts cannot be effectively mitigated, or where the risk to public health, safety and welfare, property, or important natural resources is significant notwithstanding mitigation, the proposal shall be denied.

Chapter 14.280

Habitat Conservation Areas

Sections

- 14.280.010 Designation of habitat conservation areas
- 14.280.020 Designation of habitats and species of local importance
- 14.280.030 Mapping
- 14.280.040 Critical area reports
- 14.280.050 Substantive requirements
- 14.280.060 Habitat conservation area buffers

14.280.010 Designation of habitat conservation areas

Habitat conservation areas shall be designated by the City Planner to include the following:

- A. Areas having a primary association with fish and wildlife species identified by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service as being in danger of extinction or threatened to become endangered;
- B. Areas having a primary association with fish and wildlife species identified by the Washington Department of Fish and Wildlife as being in danger of extinction, threatened to become endangered, vulnerable, or declining and likely to become endangered or threatened in a significant portion of their range within the state without cooperative management or removal of threats. See WAC 232-12-014 (state endangered species) and WAC 232-12-011 (state threatened and sensitive species).
- C. State priority habitats as identified by the state Department of Fish and Wildlife;
- D. Habitats and species of local importance as identified by the City in accordance with SMC 14.280.020;
- E. Waters of the state, including lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington, as classified in WAC 222-16-031;
- F. Ponds under twenty acres that provide fish or wildlife habitat, except artificial ponds created for a non-wildlife purpose such as stormwater detention facilities, wastewater treatment facilities, farm ponds, and temporary construction ponds;
- G. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity;
- H. Natural area preserves and natural resource conservation areas as defined by the Washington State Department of Natural Resources;

- I. Areas of rare plant species and high quality ecosystems as identified by the Washington State Department of Natural Resources through the Natural Heritage Program (see Chapter 79.70 RCW); and
- J. Land useful or essential for preserving connections between habitat blocks and open spaces.

14.280.020 Designation of habitats and species of local importance

- A. Habitats and species of local importance are those identified by the City, including but not limited to those habitats and species that, due to their population status or sensitivity to habitat manipulation, warrant protection. Habitats may include a seasonal range or habitat element with which a species has a primary association, and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term.
- B. The City shall accept and consider nomination for habitat areas and species to be designated as locally important on an annual basis.
- C. Habitats and species to be designated shall exhibit at least one of the criteria in subsections C.1 through C.3 and shall meet criteria C.4 and C.5.
 - 1. Local populations of native species are in danger of extirpation based on existing trends, including:
 - a. Local populations of native species that are likely to become endangered; or
 - b. Local populations of native species that are vulnerable or declining; or
 - 2. The species or habitat has recreation, commercial, game, tribal, or other special value; or
 - 3. Long-term persistence of a species is dependent on the protection, maintenance, and/or restoration of the nominated habitat; and
 - 4. Protection by other county, state, or federal policies, laws, regulations, or nonregulatory tools is not adequate to prevent degradation of the species or habitat in the City; and
 - 5. Without protection, there is a likelihood that the species or habitat will be diminished over the long term.
- D. Areas nominated to protect a particular habitat or species must represent high-quality native habitat or habitat that either has a high potential to recover to a suitable condition and is of limited availability or provides landscape connectivity which contributes to the designated species or habitat's preservation.

- E. Habitats and species may be nominated for designation by any resident of Snohomish.
- F. The petition to nominate an area or a species to this category shall contain all of the following:
1. A completed SEPA environmental checklist.
 2. A written statement using best available science to show that nomination criteria are met;
 3. A written proposal including specific and relevant protection regulations that meet the goals of this Chapter. Management strategies must be supported by the best available science, and where restoration of habitat is proposed, a specific plan for restoration must be provided;
 4. Demonstration of relevant, feasible, management strategies that are effective and within the scope of this Chapter;
 5. Provision of species habitat location(s) on a map that works in concert with other City maps;
 6. A financial report identifying the cost of implementing a mitigation or protection plan and the financial impact of the requested designation upon affected properties.
 7. Documentation of public notice methods that the petitioner(s) have used. Examples of reasonable methods are:
 - a. Posting the property.
 - b. Publishing a paid advertisement in a newspaper or newsletter of circulation in the general area of the proposal, where interested persons may review information on the proposal. Information in the notice must contain a description of the proposal, general location of the affected area and where comments on the proposal may be sent.
 - c. Notification to public or private groups in the affected area that may have an interest in the petition.
 - d. News media articles that have been published concerning the proposal.
 - e. Notices placed at public buildings or bulletin boards in the affected area.

f. Mailing of informational flyers to property owners within the affected area.

8. Signatures of all petitioners.

G. The City Planner shall determine whether the nomination proposal is complete, and if complete, shall evaluate it according to the characteristics enumerated in subsection C and make a recommendation to the Planning Commission based on those findings.

H. The Planning Commission shall hold a public hearing for proposals found to be complete and make a recommendation to the City Council based on the characteristics enumerated in subsection C.

I. Following the recommendation of the Planning Commission, the City Council may hold an additional public hearing and shall determine whether to designate a Habitat or Species of Local Importance.

J. Approved nominations will be subject to the provisions of this Title.

14.280.030 Mapping

The following maps, which may be continuously updated, may be used as a guide for locating habitat conservation areas.

A. Washington Department of Fish and Wildlife Priority Habitat and Species maps;

B. Washington State Department of Natural Resources, Official Water Type Reference maps;

C. Washington State Department of Natural Resources Shorezone Inventory;

D. Washington State Department of Natural Resources Natural Heritage Program mapping data;

E. Anadromous and resident salmonid distribution maps contained in the Habitat Limiting Factors reports published by the Washington Conservation Commission; and

F. Washington State Department of Natural Resources State Natural Area Preserves and Natural Resource Conservation Area maps.

14.280.040 Critical area reports

In addition to the general critical area report requirements of SMC 14.255.080, critical area reports for habitat conservation areas shall include, where applicable:

A. Vegetation assessment; and

- B. Discussion of any federal, state, or local special management recommendations for species or habitats on or near the site.

14.280.050 Substantive requirements

In addition to the substantive requirements of SMC 14.255.120, the following requirements shall apply to habitat conservation areas:

- A. No plant, wildlife, or fish species not indigenous to the region shall be introduced into a habitat conservation area, except with approval of a state or federal agency with expertise.
- B. Preference in mitigation shall be given to contiguous wildlife habitat corridors.
- C. In reviewing development proposals, the City shall seek opportunities to restore degraded riparian fish and wildlife functions such as breeding, rearing, migration, and feeding.
- D. The City shall require buffers of undisturbed native vegetation adjacent to habitat conservation areas in accordance with SMC 14.280.060. Buffer widths shall reflect the sensitivity of the habitat and may reflect the intensity of nearby human activity.
- E. When a species is more sensitive to human activity during a specific season of the year, the City may establish an extra outer buffer from which human activity is excluded during said season.
- F. No development shall be allowed within a habitat conservation area or buffer with which state or federal endangered, threatened, or sensitive species have a primary association, except in exchange for restoration as approved by the City Planner or as provided in a management plan approved by a state or federal agency with appropriate expertise.
- G. When a development permit is applied for on land containing or adjacent to a bald eagle nest or communal roost, the City shall notify the Washington Department of Fish and Wildlife and otherwise comply with WAC 232-12-292.
- H. No development shall be permitted which degrades the functions or values of anadromous fish habitat, including structures or fills which impact migration or spawning, except in exchange for restoration.
- I. Construction and other activities within streams shall be seasonally restricted as necessary to protect the resource. Activities shall be timed to occur during work windows designated by the Washington Department of Fish and Wildlife for applicable fish species.
- J. Shoreline erosion control shall use bioengineering methods or soft armoring in accordance with an approved critical area report.

- K. Relocation of streams is not permitted unless it is part of a stream restoration project and it will result in equal or better habitat and water quality, and will not diminish the flow capacity of the stream.
- L. The following requirements shall apply to culverts:
1. Culverts may be allowed in streams only if they are necessary for the development to occur, if they are designed according to the Washington Department of Fish and Wildlife criteria for fish passage and if a state hydraulic project approval has been issued.
 2. The applicant or property owner shall keep every culvert free of debris and sediment at all times to allow free passage of water and, if applicable, fish.
 3. The City may require that a stream be removed from an existing culvert as a condition of approval, unless the culvert is not detrimental to fish habitat or water quality, or removal and/or replacement would be detrimental to fish or wildlife habitat or water quality on a long-term basis.
- M. Clearing and grading, when permitted as part of an authorized development activity or as otherwise allowed in these standards, shall comply with the following:
1. Grading shall be allowed only during the designated dry season, which is typically regarded as beginning April 1st and ending October 31st of each year; provided that the City may extend or shorten the designated dry season on a case-by-case basis to reflect actual weather conditions and the incorporation of best management practices to control stormwater.
 2. The soil duff layer shall remain undisturbed to the maximum extent possible. Where feasible, any soil disturbed shall be redistributed to other areas of the site, provided that such redistribution shall not constitute authorized fill.
 3. The moisture-holding capacity of the topsoil layer shall be maintained by minimizing soil compaction or reestablishing natural soil structure and infiltrative capacity on all areas of the project area not covered by impervious surfaces.
- N. To the extent facilities are allowed in habitat conservation areas, the following regulations shall apply.
1. Trails shall be on the outer edge of the stream buffer except for limited viewing platforms and crossings. Trails and platforms shall be of pervious materials as far as possible.
 2. Road bridges and culverts shall be designed according to the Washington Department of Fish and Wildlife *Fish Passage Design at Road Culverts*, 1999,

and the National Marine Fisheries Service *Guidelines for Salmonid Passage at Stream Crossings*, 2000.

3. Utility lines shall be accomplished by boring beneath the scour depth and hyporheic zone (the saturated zone beneath and adjacent to streams that filters nutrients and maintains water quality). Utilities shall avoid paralleling streams or changing the natural rate of shore or channel migration.
4. New and expanded public flood protection measures shall require a biological assessment approved by the agency responsible for protecting federally listed species.
5. In-stream structures such as high-flow bypasses, sediment ponds, instream ponds, retention and detention facilities, tide gates, dams, and weirs shall be allowed only as part of an approved restoration project.
6. Stormwater conveyance structures shall incorporate fish habitat features and the sides of open channels and ponds shall be vegetated to retard erosion, filter sediments, and shade the water.
7. Watercourse alterations shall be in accordance with SMC 14.270.030.H.

14.280.060 Habitat conservation area buffers

- A. The following table establishes the standard width of required stream buffers (also known as riparian habitat areas):

1. Table of habitat conservation area buffer widths for particular streams.

Stream type	Habitat buffer width
<ul style="list-style-type: none"> • Snohomish River • Pilchuck River 	100 feet, provided that 1) limited public access is allowed in the 50 feet nearer the river, and 2) water-dependent and water-related uses are allowed in the 50 feet further from the river, if mitigation measures result in the uses contributing toward projects that enhance salmonid rearing habitat as identified in the Snohomish ESA Strategy and if, as further mitigation, public access is permitted across the waterfront portion of the site when such a mitigation measure is supported by the particular circumstances and the purposes of the Critical Areas Code.
<ul style="list-style-type: none"> • Cemetery Creek, Bunk Foss Creek, and any tributaries thereof containing salmonids • • All streams flowing into Blackman's Lake, including that part of Swifty Creek above Blackman's Lake 	100 feet, provided that limited public access is allowed in the first 50 feet of buffer. 50 feet.
<ul style="list-style-type: none"> • Swifty Creek below Blackman's Lake • Myrick's Fork in the Cemetery Creek basin • Collins Creek in the Bunk Foss Creek basin (upstream of salmon spawning and rearing areas) 	50 feet, provided that limited public access is allowed in the 25 feet of buffer.

2. If the above table does not cover a particular stream, the following table shall apply:

Stream type	Standard buffer width
Type S (shorelines of the state per Shorelines Management Act)	100 feet
Type F (fish-bearing other than S)	75 feet
Type Np (non-fish, perennial)	50 feet
Type Ns (non-fish, seasonal)	35 feet

B. Widths shall be measured outward in each direction, on the horizontal plane, from the ordinary high water mark, or from the top of bank if the ordinary high water mark cannot be identified, or from the outer edge of the channel migration zone when present.

C. The City Planner may modify the buffer widths in the above tables in accordance with the following:

1. Buffer widths may be increased as necessary to fully protect riparian functions. For example, the buffer may be extended to the outer edge of the floodplain or windward into an area of high tree blow-down potential.
 2. Buffer widths may be reduced in exchange for restoration of degraded areas in accordance with an approved plan, or for buffer averaging in accordance with SMC 14.255.120.G.
 3. If the stream enters an underground culvert or pipe, and is unlikely to ever be restored aboveground, the City Planner may waive the buffer along the underground stream, provided that where the stream enters and emerges from the pipe the opposite outer edges of the buffer shall be joined by a radius equal to the buffer width, with said radius projecting over the piped stream.
- D. The shoreline master program, not the Critical Areas Code, shall determine allowable uses along and setbacks from lakes, provided that the Critical Areas Code shall govern wetlands, streams, and other critical areas lying within areas of shoreline management jurisdiction.

(

(

(

APPENDIX E: Ordinance 2090 – Flood Hazard Areas

CITY OF SNOHOMISH

Snohomish, Washington

ORDINANCE 2090

AN ORDINANCE OF THE CITY OF SNOHOMISH, WASHINGTON, REPEALING CHAPTER 14.270 OF THE SNOHOMISH MUNICIPAL CODE AND ADOPTING FLOOD HAZARD AREA REGULATIONS SUBSTANTIALLY SIMILAR TO THOSE PREVIOUSLY CODIFIED AS CHAPTER 14.47 OF THE SNOHOMISH MUNICIPAL CODE.

WHEREAS, with the enactment of Ordinance 2083 on May 3, 2005, the City Council adopted new regulations for critical areas, including wetlands, critical aquifer recharge areas, floodplains, geologically hazardous areas, and habitat conservation areas; and

WHEREAS, the new floodplain regulations enacted by Ordinance 2083 are codified as Chapter 14.270 of the Snohomish Municipal Code (SMC); and

WHEREAS, the flood hazard regulations repealed by Ordinance 2083 were codified as Chapter 14.47 SMC; and

WHEREAS, the Federal Emergency Management Agency of the Department of Homeland Security (FEMA) has determined that Chapter 14.270 SMC as presently constituted does not satisfy minimum eligibility requirements related to the National Flood Insurance Program (NFIP) but that reenacting the City's flood hazard regulations contained in the former Chapter 14.47 SMC with some additional 2005 FEMA update amendments will satisfy minimum eligibility requirements related to the NFIP; and

WHEREAS, the City Planner acting as the City's SEPA Responsible Official has reviewed this Ordinance and has determined that a negative threshold determination under the State Environmental Policy Act is appropriate for the City's action in enacting revised flood hazard area regulations that are substantially similar to those in effect until May 12, 2005;

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

Section 1. Repealer.

Chapter 14.270 of the Snohomish Municipal Code is hereby repealed.

Section 2. Adoption of Flood Hazard Area Regulations.

The provisions set forth in the attached Exhibit A are hereby adopted as the Flood Hazard Area regulations for the City of Snohomish and shall be codified as Chapter 14.270 of the Snohomish Municipal Code.

Section 3. Severability.

If any section, subsection, sentence, clause, phrase, or word of this Ordinance is held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the validity or unconstitutionality of the remainder of this Ordinance.

Section 4. Effective date. This Ordinance shall take effect five days after the date of its publication by summary.

PASSED by the City Council and APPROVED by the Mayor this 16th day of August, 2005.

CITY OF SNOHOMISH

By _____
LIZ LOOMIS, Mayor

ATTEST:

By _____
TORCHIE COREY, City Clerk

Approved as to form:

By _____
GRANT K. WEED, City Attorney

Publish Date: August 20, 2005
Effective Date: August 25, 2005

Exhibit A
Chapter 14.270
FLOOD HAZARD AREAS

Sections

14.270.010	Authority
14.270.020	Findings of Fact
14.270.030	Purpose and Methods
14.270.040	Definitions
14.270.050	General Provisions
14.270.060	Administration
14.270.070	General Standards for Flood Hazard Reduction
14.270.080	Specific Standards for Flood Hazard Reduction
14.270.090	Determination of Flood Insurance Risk
14.270.100	Floodplains as Critical Areas
14.270.110	Recordation

14.270.010 Authority

The Constitution and Legislature of the State of Washington have delegated the responsibility to city governments to adopt regulations designed to promote the public health, safety, and general welfare of their citizenry.

14.270.020 Findings of Fact

- A. The flood hazard areas of the City of Snohomish are subject to periodic inundation, which may 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.

- B. These flood losses are caused 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 flood proofed, elevated, or otherwise protected from flood damage also contribute to the flood loss.

14.270.030 Purpose and Methods

A. Statement of Purpose

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

1. To protect human life and health;
2. To minimize expenditure of public money and costly flood 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 interruptions;
5. To minimize damage to public facilities and utilities such as water and gas main, 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 to minimize future flood blight areas;
7. To help ensure that potential buyers are notified that property is in an area of special flood hazard; and
8. To help ensure that those who occupy areas of special flood hazard assume responsibility for their actions.

B. Methods of Reducing Flood Losses

In order to accomplish its purposes and to be consistent with the criteria set forth in Section 60 of the National Flood Insurance Program Regulations (NFIPR), this chapter includes 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 flood plains, stream channels, and protective barriers that help accommodate or channel floodwaters;
4. Controlling filling, grading, dredging, and other development that may increase flood damage; and
5. Preventing or regulating the construction of flood barriers that unnaturally divert floodwaters or may increase flood hazards in other areas.

14.270.040 Definitions (44 CFR 59.1)

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

Appeal: means a request for a review of the interpretation of any provision of this chapter or a request for a variance.

Area of Shallow Flooding: designated as **AO**, or **AH** Zone on the Flood Insurance Rate Map (FIRM). AO zones have base flood depths that range from one to three feet above the natural ground; a clearly defined channel does exist; the path of flooding is unpredictable and indeterminate; and, velocity flow may be evident. AO is characterized as sheet flow; AH indicates ponding, and is shown with standard base flood elevations.

Area of Special Flood Hazard: is the land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year. Designation on maps always includes the letters A or V.

Base Flood: means the flood having a one percent chance of being equaled or exceeded in any given year (also referred to as the "100-year flood." Designated on Flood Insurance Rate Maps by the letters A or V.)

Basement: means any area of the building having its floor sub-grade (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.

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, and 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, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials located within the area of special flood hazard.

Elevation Certificate: means the official form (FEMA Form 81-31) used to track development and provide elevation information necessary to ensure compliance with state and federal floodplain management ordinances.

Elevated Building: means for insurance purposes, a non-basement building that has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings, or columns.

Existing Manufactured Home Park or Subdivision: means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) and is completed before the effective date of the adopted floodplain management regulations.

Expansion to an Existing Manufactured Home Park or Subdivision: means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

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

1. The overflow on 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 (FIS): means the official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Insurance Rate Maps, and the water surface elevation of the base flood.

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.

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 Chapter. (i.e. provided there are adequate flood ventilation openings).

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 attached to the required utilities. The term "manufactured home" does not include a "recreational vehicle."

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

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

New Manufactured Home Park or Subdivision: means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of adopted floodplain management regulations.

Recreational Vehicle: means a vehicle,

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.

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 a 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 buildings, such as garages or sheds 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: means a walled and roofed building, including a gas or liquid storage tank that is principally above ground.

Substantial Damage: means 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 Improvement: means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure;

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 purposes of the 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.

The term can exclude:

1. Any project for improvement of a structure to correct pre-cited existing violations of state or local health, sanitary, or safety code specifications which have been previously identified by the local code enforcement official and which are the minimum 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 that permits construction in a manner that would otherwise be prohibited by this ordinance.

Water Dependent: means a structure for commerce or industry that cannot exist in any other location and is dependent on the water because of the intrinsic nature of its operations.

14.270.050 General Provisions (44 CFR 59.22 (a))

A. Lands to which this chapter applies

This chapter shall apply to all areas of special flood hazards and flood hazards within the jurisdiction of the City of Snohomish.

B. Basis For Establishing the Areas of Flood Hazard

The areas of flood hazard and special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for Snohomish County" dated September 16, 2005, and any revisions thereto, with an accompanying Flood Insurance Rated Map (FIRM), and any revisions thereto, are hereby adopted by reference and declared to be a part of this ordinance. The flood Insurance Study and the FIRM are on file at City Hall, 116 Union Street, Snohomish, WA 98290.

C. Penalties for Noncompliance

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this Chapter and other applicable regulations.

D. Interpretation

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

1. Considered as minimum requirements;

2. Liberally construed in favor of the governing body; and
3. Deemed neither to limit nor repeal any other powers granted under State statutes.

E. Warning and Disclaimer of Liability

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. However, larger floods can and will occur on rare occasions, and flood heights may be increased by man-made or natural causes. This chapter 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 chapter shall not create liability on the part of the City of Snohomish, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder.

14.270.060 Administration

A. Development Permit Required (*44 CFR 60.3 (b)(1)*)

A development permit is required before construction or development begins within any area of special flood hazard. The permit shall be for all structures including manufactured homes, as set forth in the "Definitions," and for all development including fill and other activities, also as set forth in the "Definitions."

B. Application for Development Permit

Application for a development permit shall be made on forms furnished by the City of Snohomish and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; 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 structures recorded on a current elevation certificate (FF 81-31) with Section B completed by the local official;
2. Elevation in relation to mean sea level to which any structure has been flood proofed;
3. Certification by a registered professional engineer or architect that the flood proofing methods for any non residential structure meet FEMA flood proofing criteria; and
4. Description of the extent to which a watercourse will be altered or relocated in the proposed development.

C. Designation of the Local Administrator (*44 CFR 59.22(b)(1)*)

The City Planner is the designated local administrator to administer and implement this chapter by granting or denying development permit applications in accordance with its provisions.

D. Permit Review

1. The City Planner shall review all development permits to determine that the permit requirements of this chapter have been satisfied.
2. The City Planner shall review all development permits to determine that all necessary permits required in this chapter have been obtained from those Federal, State, or local governmental agencies from which prior approval is required. *(44 CFR 60.3 (a)(2))*
3. The City Planner shall review all development permits to determine if the proposed development is located in the floodway. If located in the floodway, assure that the encroachment provisions of this chapter are met.

E. Use of Other Base Flood Data (In A and V Zones) *(44 CFR 60.3 (b)(4))*

When base flood elevation data has not been provided (in A or V Zones) in accordance with Section 14.270.050 B, Basis for Establishing the Areas of Flood Hazard, the City Planner 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 Sections 14.270.080 A through F of this Chapter.

F. Information to be Obtained and Maintained

1. Where base flood elevation data is provided through the Flood Insurance Study, FIRM, or required as in SMC 14.270.060 E, the City Planner shall 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. *(44 CFR 60.3 (b)(5)(i))* (The information shall be recorded on a current elevation certificate (FF 81-31) with Section B completed by the City Planner.)
2. For all new or substantially improved flood proofed nonresidential structures where base flood elevation data is provided through the FIS, FIRM, or as required in SMC 14.270.060 E, The City Planner shall:
 - i) Obtain and record the elevation (in relation to mean sea level) to which the structure was flood proofed *(44 CFR 60.3(b)(5)(ii))*
 - ii) Maintain the flood proofing certifications required by FEMA *(44 CFR 60.3(b)(5)(iii))*.
3. The City Planner shall maintain for public inspection all records pertaining to the provisions of this chapter. *(44 CFR 60.3(b)(5)(iii))*

G. Alteration of Watercourses *(44 CFR 60.3 (b)(6))*

1. The City Planner 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 Insurance Administration.

2. The City Planner shall require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.

H. Interpretation of FIRM Boundaries

The City Planner shall provide interpretations where needed, as to exact location of the boundaries of the areas of special flood hazards (e.g. where there appears to be a 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. Such appeals shall be granted consistent with the standards of Section 60.6 of the Rules and Regulations of the National Flood Insurance Program (*44 CFR 59-76*).

I. Conditions for Variances

1. Generally, the only condition under which a variance from the elevation standard be issued is for new construction and substantial improvements to be erected on a small or irregularly shaped lot contiguous to and surrounded by lots with existing structures constructed below the base flood level. As the lot size increases the technical justification required for issuing the variance increases.
2. Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.
3. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
4. 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; and
 - 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, or conflict with existing local laws or ordinances.
5. 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 they 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 flood elevations should be quite rare.

6. 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 and otherwise complies with recommended FEMA General Standards.
7. Any applicant to whom a variance is granted shall be given written notice that the permitted structure will be build with its lowest floor below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk.
8. In the case of a conflict between the application of the variance provisions of this section and SMC 14.255.130, this section shall control.

14.270.070 General Standards for Flood Hazard Reduction

In all areas of special flood hazards, the following standards are required:

A. Anchoring *(44 CFR 60.3(a)(b))*

1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure. *(44 CFR 60.3 (a)(3)(i))*
2. All manufactured homes shall 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. *(44 CFR 60.3(b)(8)). For more detailed information in application of this chapter, reference will be made to guidebook, FEMA-85, "Manufactured Home Installation in Flood Hazard Areas."*

B. 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. Locating such equipment below the base flood elevation may cause annual flood insurance premiums to be increased.

C. Utilities *(44 CFR 60.3(a)(5)(6))*

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

2. Water wells shall be located on high ground that is not in the floodway*
3. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;
4. Onsite waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding identified WAC 173-160-171.

D. Subdivision Proposals (*44 DFR 60.3(A)(4)(B)(3)*)

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 or eliminate 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).

E. Review of Building Permits (*44 CFR 60.3 (a)(3)*)

Where elevation data is not available either through the Flood Insurance Study, FIRM, or from another authoritative source (SMC 14.270.060E), applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate at least two feet above the highest adjacent grade in these zones may result in higher insurance rates.

14.270.080 Specific Standards for Flood Hazard Reduction (*44 CFR 60.3(c)(1)*)

In all areas of special flood hazards where base flood elevation data has been provided as set forth in this chapter, the following standards are required:

A. 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 the base flood elevation. (BFE)

**Minimum FEMA standards require the lowest floor to be elevated "to or above" the BFE; however, adding an additional foot of freeboard increases safety and can reduce insurance premiums by as much as 39 percent.*

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 areas 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 if they permit the automatic entry and exit of floodwaters. Foundation vent standards required by the IBC/IRC outside the floodplain do not meet this standard and are subject to the City Building Official's review.

B. Nonresidential Construction (*44 CFR 60.3(c)(3)(4)*)

All new construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated one foot or more above the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

1. Be flood proofed so that below one foot or more 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 load 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 as set forth in Section 14.270.060 F(2);
4. Nonresidential structures that are elevated, not flood proofed, must meet the same standards for space below the lowest floor as described in 14.270.080 A(2);
5. Applicants who are flood proofing nonresidential buildings should 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 the base flood level will be rated as one foot below). Flood proofing the building an additional foot will reduce insurance premiums significantly.

C. Manufactured Homes (*44 CFR 60.3(c)(6)(12)*)

All manufactured homes in the floodplain to be placed or substantially improved on sites shall be elevated on a permanent foundation such that the lowest floor of the manufactured

home is elevated one foot or more above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement.

D. Recreational Vehicles (*44 CFR 60.3(c)(14)*)

All recreational vehicles placed on sites are required to either:

1. Be on the site for fewer than 180 consecutive days; or
2. Be fully licensed and ready for highway use, on wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or
3. Meet the requirements of SMC 14.270.080 C and the elevation and anchoring requirements for manufactured homes.

E. AE and A1-30 Zones with Base Flood Elevations but No Floodways (*44 CFR 60.3(c)(10)*)

In all areas with base flood elevations (but for which 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 City'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 City.

F. Floodways

Located within areas of special flood hazard established in Section 14.270.050 B are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters that can carry debris and increase erosion potential, the following provisions apply:

1. Encroachments, including fill, new construction, substantial improvements, and other development are prohibited, unless certification by a registered professional engineer is provided, demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels during the occurrence of the base flood discharge, in which case all new construction and substantial improvements shall comply with all applicable standards for flood hazard reductions set forth in Sections 14.270.070 and 14.270.080. (*44 CFR 60.3(d)(3)*)
2. Construction or reconstruction of residential structures is prohibited within designated floodways, except for (i) repairs, reconstruction, or improvements to a structure 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 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 the local code enforcement

official and which are the minimum necessary to assure safe living conditions, or to structures identified as historic places, may be excluded from the 50 percent limitation. (WAC 173-158-070)

G. Critical Facilities Construction

Construction of new critical facilities shall be, to the extent possible, located outside the limits of the Special Flood Hazard Area (SFHA) (100-year floodplain). Construction of new critical facilities shall be permissible within the SFHA, if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three feet above BFE or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility should also be protected to the height utilized above. Flood proofing and sealing measures are required to ensure that toxic substances not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood elevation are required to all critical facilities to the maximum extent possible.

14.270.090 Determination of Flood Insurance Risk

For the purpose of the determination of applicable flood insurance risk within Zone A on Snohomish's Flood Hazard Boundary Map, the City Planner shall:

- A. Require the applicant to furnish the elevation in relation to mean sea level of the lowest habitable floor including basement of all new or substantially improved structures, and whether or not such structures contain a basement.
- B. Require the applicant to furnish if the structure has been flood proofed, the elevation in relation to mean sea level to which the structure was flood proofed through a certified professional engineer or architect.
- C. Maintain a record of all such information in the City's address file system.

14.270.100 Floodplains as Critical Areas

- A. For the purpose of the City's Critical Areas regulations, as set forth in SMC 14.255, Floodplains are those areas that provide important flood storage, conveyance and attenuation functions and include all land within such areas that are subject to a one percent or greater chance of flooding in any given year.
- B. Floodplains shall be designated by the City Planner in accordance with WA 365-190-080(3).
 - 1. The City Planner shall use the "areas of special flood hazard" as identified on the Federal Emergency Management Administration's most current Flood Insurance Rate Map for the City as the indicator of where floodplains exist, unless more detailed, current, and convincing evidence indicates otherwise.
 - 2. Floodplains shall include, at a minimum, the 100-year floodplain designations of the Federal Emergency Management Agency and the National Flood Insurance Program.

- C. The City Planner may waive the critical areas report required SMC 14.255.080 for developments proposed in the floodplain, if the applicable permit application contains sufficient data to verify compliance with the substantive requirements, except for the following developments:
1. Developments in the floodway, which is the area shown in the illustration that accompanies the definition of "floodplain" in SMC 14.100.020; and
 2. Developments that result in watercourse alteration.
- D. In addition to the requirements of SMC 14.255.050 and this chapter, the following requirements shall apply to floodplains:
1. To the extent possible consistent with the development objective, all improvements shall be located on the non-floodplain portion of the site, if any, or on the highest ground on the site, as far as possible from the flood source.
 2. Alteration of natural watercourses, including side channels, tributaries, and channel migration zones, is to be avoided when feasible. If unavoidable, the City Planner shall notify adjacent communities, the Department of Ecology, the State Department of Fish and Wildlife, and FEMA prior to alteration. Any stream-bank stabilization shall consider the use soft armoring or best available armoring science.

14.270.110 Recordation

The City Planner shall record:

- A. The as-built elevation above mean sea level of the lowest habitable floor, including basement, of all new or substantially improved structures, and whether the structure contains a basement;
- B. Certificates of flood-proofing and flood elevation; and
- C. Permits and variances issued in accordance with this chapter.