

EXHIBIT A

Chapter 20.20 Definitions

Critical Areas An area with one or more of the following environmental characteristics:

A. Geologic hazard areas, including but not limited to:

Steep slopes;

Landslide hazard areas;

Seismic hazard areas; and

Erosion hazard areas;

B. Flood plain hazard areas;

~~C. Soils classified as having high water tables;~~

~~D. Soils classified as highly erodible, subject to erosion, or highly acidic;~~

~~E. Seismic hazard areas;~~

~~FC. Stream corridors~~areas;

~~G. Estuaries;~~

~~HD. Aquifer recharge areas;~~

EI. Wetlands and wetland transition areas;
and

FJ. Fish and wildlife Hhabitat conservation
areass of endangered species.

(Ord. 352 § 1, 2004).

20.20.044 R definitions.

Reasonable Use The minimum use to which a property owner is entitled under applicable State and Federal constitutional provision, including takings and substantive due process. ~~Reasonable use shall be liberally construed to protect the constitutional rights of the applicant.~~
(Ord. 324 § 1, 2003).

20.20.046 S definitions.

Streams Those areas ~~in the City of Shoreline~~ where surface waters produce a defined channel or bed, not including irrigation ditches, canals, storm or surface water runoff devices or other entirely artificial watercourses, unless they are used by salmonids or are used to convey streams naturally occurring prior to construction. A channel or bed need not contain water year-round, provided that there is evidence of at least intermittent flow during years of normal rainfall.

[All other definitions in Chapter 20.20 SMC would remain unchanged.]

Chapter 20.50 Development Standards

Subchapter . Tree Conservation, Land Clearing and Site Grading Standards

20.50.290 Purpose.

20.50.300 General requirements.

20.50.310 Exemptions from permit.

20.50.320 Specific activities subject to the provisions of this subchapter.

20.50.330 Project review and approval.

20.50.340 Basic operating conditions and standards of performance.

20.50.350 Development standards for clearing activities.

20.50.360 Tree replacement and site restoration.

20.50.370 Tree protection standards.

20.50.290 Purpose.

The purpose of this subchapter is to reduce the environmental impacts of site development while promoting the reasonable use of land in the City by addressing the following:

- A. Prevention of damage to property, harm to persons, and environmental impacts caused by excavations, fills, and the destabilization of soils;
- B. Protection of water quality from the adverse impacts associated with erosion and sedimentation;
- C. Promotion of building and site planning practices that are consistent with the City's natural topography and vegetative cover;
- D. Preservation and enhancement of trees and vegetation which contribute to the visual quality and economic value of development in the City and provide continuity and screening between developments;
- E. Protection of critical areas from the impacts of clearing and grading activities;
- F. Conservation and restoration of trees and vegetative cover to reduce flooding, the impacts on existing drainageways, and the need for additional stormwater management facilities;
- G. Protection of anadromous fish and other native animal and plant species through performance based regulation of clearing and grading;

- H. Retention of tree clusters for the abatement of noise, wind protection, and mitigation of air pollution;
- I. Rewarding significant tree protection efforts by granting flexibility for certain other development requirements;
- J. Providing measures to protect trees that may be impacted during construction;
- K. Promotion of prompt development, effective erosion control, and restoration of property following site development; and
- L. Replacement of trees removed during site development in order to achieve a goal of no net loss of tree cover throughout the City over time. (Ord. 238 Ch. V § 5(A), 2000).

20.50.300 General requirements.

- A. Tree cutting or removal by any means is considered a type of clearing and is regulated subject to the limitations and provisions of this subchapter.
- B. All land clearing and site grading shall comply with all standards and requirements adopted by the City of Shoreline. Where a Development Code section or related manual or guide contains a provision that is more restrictive or specific than those detailed in this subchapter, the more restrictive provision shall apply.
- C. **Permit Required.** No person shall conduct clearing or grading activities on a site without first obtaining the appropriate permit approved by the Director, unless specifically exempted by SMC 20.50.310.
- D. When clearing or grading is planned in conjunction with a new or expanded building or complex that is not exempt from the provisions of this subchapter, all of the required application materials for approval of tree removal, clearing and rough grading of the site shall accompany the development application to allow concurrent review.
- E. The Director may require the submittal of required application materials for approval of tree removal, clearing and rough grading of the site with an application for formal subdivision, short subdivision, conditional use or any other land use approval in order to meet the purpose and intent of this subchapter.

- F. A clearing and grading permit shall be required if the regulated activity is not associated with another development application on the site that requires a permit.
- G. No clearing shall be allowed on a site for the sake of preparing that site for sale or future development where no specific plan for future development has been submitted. The Director may issue a clearing and grading permit as part of a phased development plan where a conceptual plan for development of the property has been submitted to the City and the owner or developer agrees to submit an application for a building permit or other site development permit in less than 12 months.
- H. Replacement trees planted under the requirements of this subchapter on any parcel in the City of Shoreline may not be removed without the written approval of the Department.
- I. Any disturbance to vegetation within critical areas and their corresponding buffers is subject to the procedures and standards contained within the critical areas overlay district chapter of the Shoreline Development Code, Chapter 20.80 SMC, Special Districts, in addition to the standards of this subchapter. The standards which result in the greatest protection of the critical areas shall apply. (Ord. 238 Ch. V § 5(B), 2000).

20.50.310 Exemptions from permit.

- A. **Complete Exemptions.** The following activities are exempt from the provisions of this subchapter and do not require a permit:
 - 1. Emergency situations involving danger to life or property or substantial fire hazards. Any tree or vegetation which is an immediate threat to public health, safety, or welfare, or property may be removed without first obtaining a permit regardless of any other provision contained in this subchapter. If possible, trees should be evaluated prior to removal using the International Society of Arboriculture method, Hazard Tree Analysis for Urban Areas, in its most recent adopted form. The party removing the tree will contact the City regarding the emergency, if practicable, prior to removing the tree.
 - 2. Removal of trees and/or ground cover by the City and/or utility provider in situations involving immediate danger to life or property, substantial fire hazards, or interruption of services provided by a utility. The City retains the right to dispute the emergency and require that the party obtain a clearing permit and/or require that replacement trees be replanted as mitigation.

3. Installation and regular maintenance of public utilities, under direction of the Director, except substation construction and installation or construction of utilities in parks or environmentally sensitive areas.
4. Cemetery graves involving less than 50 cubic yards of excavation, and related fill per each cemetery plot.
5. Removal of trees from property zoned RB & I, CB & NCBD and NB & O, unless within a Critical Area or Critical Area Buffer.

B. Partial Exemptions. With the exception of the general requirements listed in SMC 20.50.300, the following are exempt from the provisions of this subchapter, provided the development activity does not occur in a critical area or critical area buffer. For those exemptions that refer to size or number, the thresholds are cumulative during a 36-month period for any given parcel:

1. The removal of up to six significant trees (see Chapter 20.20 SMC, Definitions) and associated removal of understory vegetation from any property.
2. Landscape maintenance and alterations on any property that involves the clearing of less than 3,000 square feet, or less than 1,500 square feet if located in a critical drainage area, provided the tree removal threshold listed above is not exceeded. (Ord. 238 Ch. V § 5(C), 2000).

20.50.320 Specific activities subject to the provisions of this subchapter.

All activities listed below must comply with the provisions of this subchapter. For those exemptions that refer to size or number, the thresholds are cumulative during a 36-month period for any given parcel:

- A. The construction of new residential, commercial, institutional, or industrial structures or additions.
- B. Earthwork of 50 cubic yards or more. This means any activity which moves 50 cubic yards of earth, whether the material is excavated or filled and whether the material is brought into the site, removed from the site, or moved around on the site.
- C. Clearing of 3,000 square feet of land area or more or 1,500 square feet or more if located in a critical drainage area.

- D. Removal of more than six significant trees from any property.
- E. Any clearing or grading within a critical area or buffer of a critical area.
- F. Any change of the existing grade by four feet or more.
- G. Any work that occurs within or requires the use of a public easement, City-owned tract or City right-of-way.
- H. Any land surface modification not specifically exempted from the provisions of this subchapter.
- I. Construction or creation of new impervious surface over 1,500 square feet in size, or 500 square feet in size if located in a landslide hazard area or critical drainage area.
- J. Any construction of public drainage facilities to be owned or operated by the City.
- K. Any construction involving installation of private storm drainage pipes 12-inch in diameter or larger.
- L. Any modification of, or construction which affects a stormwater quantity or quality control system. (Does not include maintenance or repair to the original condition).
- M. Applicants for forest practice permits (Class IV – general permit) issued by the Washington State Department of Natural Resources (DNR) for the conversion of forested sites to developed sites are also required to obtain a clearing and grading permit. For all other forest practice permits (Class II, III, IV – special permit) issued by DNR for the purpose of commercial timber operations, no development permits will be issued for six years following tree removal. (Ord. 238 Ch. V § 5(D), 2000).

20.50.330 Project review and approval.

- A. **Review Criteria.** The Director shall review the application and approve the permit, or approve the permit with conditions; provided, that the application demonstrates compliance with the criteria below.
 - 1. The proposal complies with SMC 20.50.340 through 20.50.370, or has been granted a variance.

2. The proposal complies with all standards and requirements for the underlying permit.
3. If the project is located in a critical area or buffer or has the potential to impact a critical area, the project must comply with the critical areas standards.
4. The project complies with all requirements of the engineering standards and the Surface Water Design Manual.
5. All required bonds or other assurance devices are posted with the City.

B. Professional Evaluation. In determining whether a tree removal and/or clearing is to be approved or conditioned, the Director may require the submittal of a professional evaluation and/or a tree protection plan prepared by a certified arborist at the applicant's expense, where the Director deems such services necessary to demonstrate compliance with the standards and guidelines of this subchapter. Third party review of plans, if required, shall also be at the applicant's expense. The Director shall have the sole authority to determine whether the professional evaluation submitted by the applicant is adequate, the evaluator is qualified and acceptable to the City, and whether third party review of plans is necessary. Required professional evaluation(s) and services may include:

1. Providing a written evaluation of the anticipated effects of proposed construction on the viability of trees on a site;
2. Providing a hazardous tree assessment;
3. Developing plans for, supervising, and/or monitoring implementation of any required tree protection or replacement measures; and/or
4. Conducting a post-construction site inspection and evaluation.

C. Conditions of Approval. The Director may specify conditions for work at any stage of the application or project as he/she deems necessary to ensure the proposal's compliance with requirements of this subchapter, critical area standards, engineering standards, the adopted stormwater management regulations, and any other section of the Shoreline Development Code, or to protect public or private property. These conditions may include, but are not limited to hours or seasons within which work may be conducted, or specific work methods.

D. Designation of Protected Trees.

1. For the following areas, the retention and planting plan and any application and permit plans shall show all trees designated for protection: areas designated as "protected trees," "native growth protection areas," "sensitive areas," "sensitive area buffers," or such other designation as may be approved by the Director. Protected vegetation, including protected trees, shall not be modified, harmed or removed except as provided in this subchapter.
2. The Director may require that protected trees be permanently preserved within a tract, easement or other permanent protective mechanism. When required, the location, purpose, and limitation of these protected areas shall be shown on the face of the deed, plat, binding site plan, or similar document and shall be recorded with the King County Department of Records and Elections or its successor. The recorded document shall include the requirement that the protected areas shall not be removed, amended or modified without the written approval of the City.

E. Preconstruction Meeting Required. Prior to the commencement of any permitted clearing and grading activity, a preconstruction meeting shall be held on site with the permittee and appropriate City staff. The project site shall be marked in the field as follows:

1. The extent of clearing and grading to occur;
2. Delineation of any critical areas and critical area buffers;
3. Trees to be removed and retained; and
4. Property lines. (Ord. 238 Ch. V § 5(E), 2000).

20.50.340 Basic operating conditions and standards of performance.

- A. Any activity that will clear, grade or otherwise disturb the site, whether requiring a clearing or grading permit or not, shall provide erosion and sediment control (ESC) that prevents, to the maximum extent possible, the transport of sediment from the site to drainage facilities, water resources and adjacent properties. Erosion and sediment controls shall be applied as specified by the temporary ESC measures and performance criteria and implementation requirements in the adopted stormwater management design manual.

B. Cuts and fills shall conform to the following provisions unless otherwise approved by the Director:

1. **Slope.** No slope of cut and fill surfaces shall be steeper than is safe for the intended use and shall not exceed two horizontal to one vertical, unless otherwise approved by the Director.

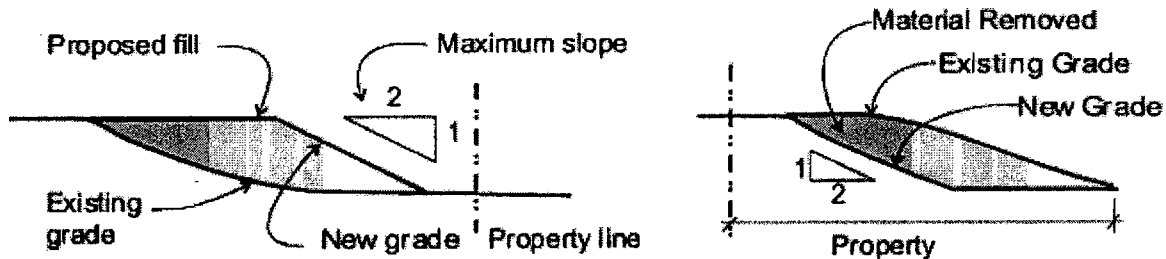


Figure 20.50.340(B): Illustration of fill and cut with maximum slope 2:1.

2. **Erosion Control.** All disturbed areas including faces of cuts and fill slopes shall be prepared and maintained to control erosion in compliance with the Surface Water Design Manual.
3. **preparation of Ground.** The ground surface shall be prepared to receive fill by removing unsuitable material such as concrete slabs, tree stumps, construction materials, brush and other debris.
4. **Fill Material.** Detrimental amounts of organic material shall not be permitted in fills. Only earth materials which have no rock or similar irreducible material with a maximum dimension greater than 12 inches shall be used. In the absence of an approved soils engineering report, these provisions may be waved by the Director for minor fills not intended to support structures.
5. **Drainage.** Provisions shall be made to:
 - a. Prevent any surface water or seepage from damaging the cut face of any excavations or the sloping face of a fill;
 - b. Carry any surface waters that are or might be concentrated as a result of a fill or excavation to a natural watercourse, or by other means approved by the department of public works;
6. **Bench/Terrace.** Benches, if required, at least 10 feet in width shall be back-sloped and shall be established at not more than 25 feet vertical intervals to

control surface drainage and debris. Swales or ditches on benches shall have a maximum gradient of five percent.

7. **Setbacks.** The tops and the toes of cut and fill slopes shall be set back from property boundaries as far as necessary for safety of the adjacent properties and to prevent damage resulting from water runoff or erosion of the slopes. The tops and the toes of cut and fill slopes shall be set back from structures as far as is necessary for adequacy of foundation support and to prevent damage as a result of water runoff or erosion of the slopes. Slopes and setbacks shall be determined by the Director.

C. **Access Roads – Maintenance.** Access roads to grading sites shall be maintained and located to the satisfaction of the Director to minimize problems of dust, mud and traffic circulation.

D. **Access Roads – Gate.** Access roads to grading sites shall be controlled by a gate when required by the Director.

E. **Warning Signs.** Signs warning of hazardous conditions, if such exist, shall be affixed at locations as required by the Director.

F. **Temporary Fencing.** Temporary fencing, where required by the Director, to protect life, limb and property, shall be installed. Specific fencing requirements shall be determined by the Director.

G. **Hours of Operation.** Hours of operation for tree cutting, clearing and grading, unless otherwise authorized by the Director, shall be between 7:00 a.m. and 7:00 p.m. weekdays and 9:00 a.m. to 9:00 p.m. on Saturdays and Sundays. Additionally, tree cutting (felling) shall further be limited to daylight hours.

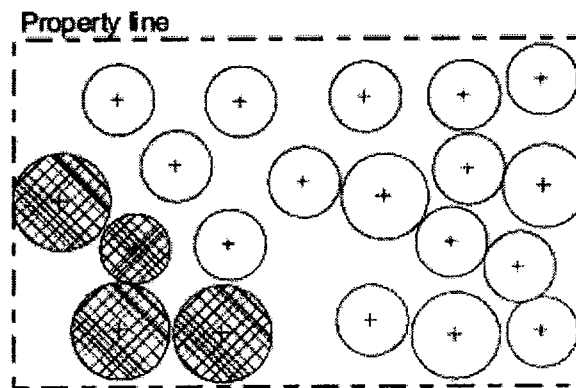
H. **Traffic Control and Haul Plan.** The applicant shall be required to submit a plan detailing traffic control and proposed timing, volume, and routing of trucks and equipment as determined to be necessary by the Director. (Ord. 238 Ch. V § 5(F), 2000).

20.50.350 Development standards for clearing activities.

A. No trees or ground cover shall be removed from critical area or buffer unless the proposed activity is consistent with the critical area standards.

B. Minimum Retention Requirements. All proposed development activities that are not exempt from the provisions of this subchapter shall meet the following:

1. At least 20 percent of the significant trees on a given site shall be retained, excluding critical areas, and critical area buffers, or
2. At least 30 percent of the significant trees on a given site (which may include critical areas and critical area buffers) shall be retained.
3. The Director may require the retention of additional trees to meet the stated purpose and intent of this ordinance, as required by the critical areas standards, or as site-specific conditions demand using SEPA substantive authority.



LEGEND

⊗ Indicates trees to be retained

Figure 20.50.350(B)(1): Demonstration of the retention of 20 percent of the trees on a site containing no critical areas.

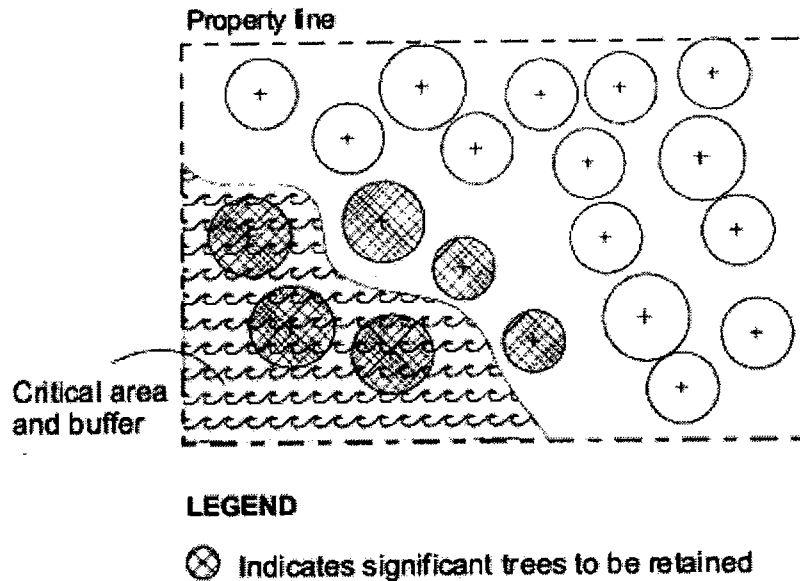


Figure 20.50.350(B)(2): Demonstration of the retention of 30 percent of the trees on a site containing a critical area.

Exception 20.50.350(B):

1. The Director may allow a reduction in the minimum significant tree retention percentage to facilitate preservation of a greater number of smaller trees, a cluster or grove of trees, contiguous perimeter buffers, distinctive skyline features, or based on the City's concurrence with a written recommendation of an arborist certified by the International Society of Arboriculture and approved by the City that retention of the minimum percentage of trees is not advisable on an individual site.
2. In addition, the Director may allow a reduction in the minimum significant tree retention percentage if all of the following criteria are satisfied: The exception is necessary because:
 - There are special circumstances related to the size, shape, topography, location or surroundings of the subject property.
 - Strict compliance with the provisions of this Code may jeopardize reasonable use of property.
 - Proposed vegetation removal, replacement, and any mitigation measures are consistent with the purpose and intent of the regulations.
 - The granting of the exception or standard reduction will not be detrimental to the public welfare or injurious to other property in the vicinity.
3. If an exception is granted to this standard, the applicant shall still be required to meet the basic tree replacement standards identified in SMC 20.50.360

for all significant trees removed beyond the six allowed per parcel without replacement and up to the maximum that would ordinarily be allowed under SMC 20.50.350(B).

4. In addition, the applicant shall be required to plant four trees for each significant tree removed that would otherwise count towards the minimum retention percentage. Trees replaced under this provision shall be at least 12 feet high for conifers and three inches in caliper if otherwise. This provision may be waived by the Director for restoration enhancement projects conducted under an approved vegetation management plan.

C. Incentives for Higher Levels of Tree Protection. The Director may grant reductions or adjustments to other site development standards if the protection levels identified in subsection (B) of this section above are exceeded. On a case by case review, the Director shall determine the balance between tree protection that exceeds the established minimum percentage and variations to site development requirements. If the Director grants adjustments or reductions to site development standards under this provision, then tree protection requirements shall be recorded on the face of the plat, as a notice to title, or on some other legal document that runs with the property. Adjustments that may be considered are:

1. Reductions or variations of the area, width, or composition of required open space and/or landscaping;
2. Variations in parking lot design and/or and access driveway requirements;
3. Variations in building setback requirements;
4. Variations of grading and stormwater requirements.

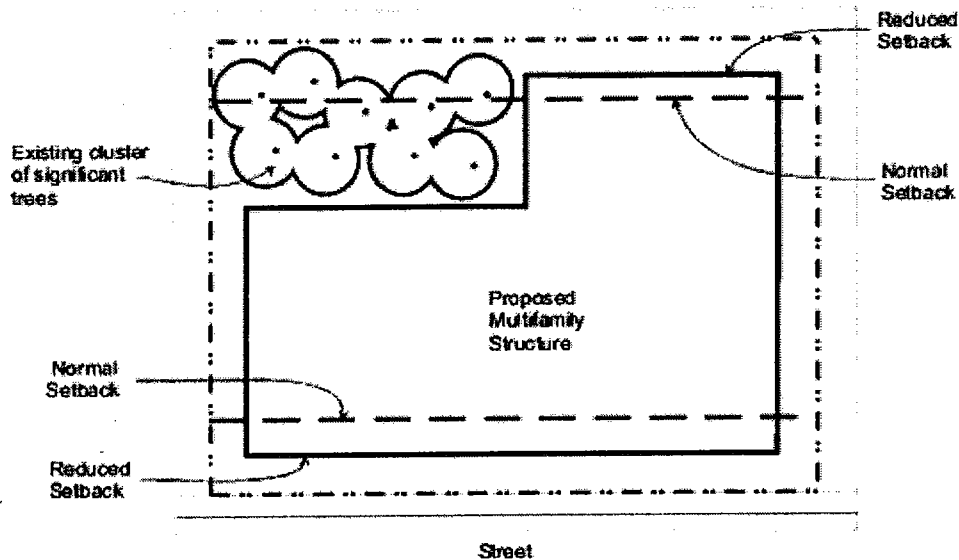


Figure 20.50.350(C): Example of aggregate setback to preserve a cluster of significant trees.

D. Site Design. Site improvements shall be designed and constructed to meet the following:

1. Trees should be protected within vegetated islands and stands rather than as individual, isolated trees scattered throughout the site.
2. Site improvements shall be designed to give priority to protection of trees with the following characteristics, functions, or location:

Existing stands of healthy trees that have a reasonable chance of survival once the site is developed, are well shaped to withstand the wind and maintain stability over the long term, and will not pose a threat to life or property;

Trees which exceed 50 feet in height.

Trees and tree clusters which form a continuous canopy.

Trees that create a distinctive skyline feature.

Trees that have a screening function or provide relief from glare, blight, commercial or industrial harshness;

Trees providing habitat value, particularly riparian habitat;

Trees within the required yard setbacks or around the perimeter of the proposed development;

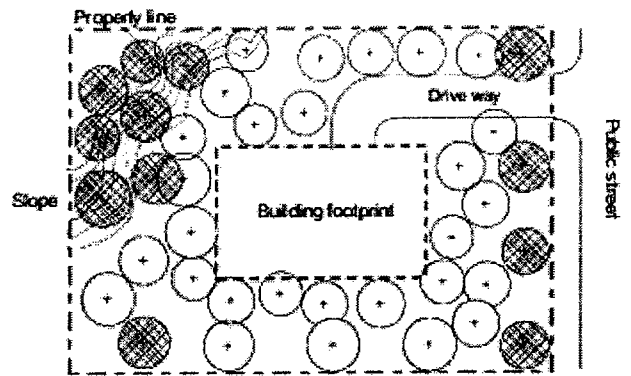
Trees having a significant land stability function;

Trees adjacent to public parks, open space, and sensitive area buffers.

Trees having a significant water-retention function, such as cottonwoods.

3. Building footprints, parking areas, roadways, utility corridors and other structures shall be designed and located with a consideration of tree protection opportunities.
4. The project grading plans shall accommodate existing trees and avoid alteration to grades around existing significant trees to be retained.
5. Required open space and recreational space shall be designed and located to protect existing stands of trees.
6. The site design and landscape plans shall provide suitable locations and adequate area for replacement trees as required in SMC 20.50.370.
7. In considering trees for protection, the applicant shall avoid selecting trees that may become hazardous because of wind gusts, including trees adjacent to utility corridors where falling trees may cause power outages or other damage. Remaining trees may be susceptible to blow downs because of loss of a buffer from other trees, grade changes affecting the tree health and stability and/or the presence of buildings in close proximity.
8. If significant trees have been removed from a closed, forested situation, an adequate buffer of smaller trees shall be retained or planted on the fringe of such significant trees as determined by a certified arborist.
9. All trees located outside of identified building footprints and driveways and at least 10 feet from proposed structures shall be considered as eligible for preservation. However, all significant trees on a site shall be considered when calculating the minimum retention percentage.

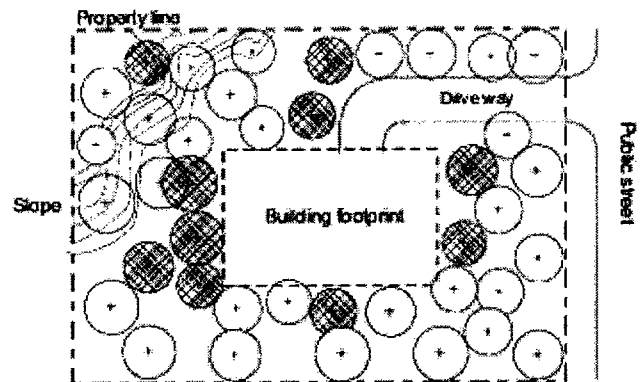
DO THIS



LEGEND

-  Appropriately retained trees - in clusters on a slope and along the street
-  Trees proposed for removal

DON'T DO THIS



LEGEND

-  Inappropriately retained trees - too close to the building and/or scattered single trees
-  Trees proposed for removal

Figure 20.50.350(D): Example of the application of tree retention site design standards. Appropriate retention of a cluster of trees on a slope and frontage trees are shown above. Inappropriate retention of scattered single trees and trees near structures are shown below.

- E. **Cutting and Pruning of Protected Trees.** Trees protected under the provisions of this section shall not be topped. Pruning and maintenance of protected trees shall be consistent with best management practices in the field of arboriculture and

further the long-term health of the tree. Excessive pruning, including topping, stripping, or imbalances, shall not be allowed unless necessary to protect life and property.

F. Landmark Trees. Trees which have been designated as landmark trees by the City of Shoreline because they are 30 inches or larger in diameter or particularly impressive or unusual due to species, size, shape, age, historical significance and/or is an outstanding row or group of trees, has become a landmark to the City of Shoreline or is considered a specimen of its species shall not be removed unless the applicant meets the exception requirements of subsection (B) of this section. The Director shall establish criteria and procedures for the designation of landmark trees. (Ord. 238 Ch. V § 5(G), 2000).

20.50.360 Tree replacement and site restoration.

A. Plans Required. Prior to any tree removal, the applicant shall demonstrate through a clearing and grading plan, tree retention and planting plan, landscape plan, critical area protection and mitigation plan, or other plans acceptable to the Director that tree replacement will meet the minimum standards of this section. Plans shall be prepared by a qualified person or persons at the applicant's expense. Third party review of plans, if required, shall be at the applicant's expense.

B. The City may require the applicant to relocate or replace trees, shrubs, and ground covers, provide erosion control methods, hydro seed exposed slopes, or otherwise protect and restore the site as determined by the Director or designee.

C. Replacement Required. Up to six significant trees and associated vegetation may be removed per parcel with no replacement of trees required. Any significant tree proposed for removal beyond this limit should be replaced as follows:

1. One existing significant tree of eight inches in diameter at breast height for conifers or 12 inches in diameter at breast height for all others equals one new tree.
2. Each additional three inches in diameter at breast height equals one additional new tree, up to three trees per significant tree removed.
3. Minimum size requirements for trees replaced under this provision: deciduous trees shall be at least 1.5 inches in caliper and evergreens six feet in height.

Exception 20.50.360(C):

1. No tree replacement is required in the following cases: when
~~The tree is hazardous, dead, diseased, injured or in a declining condition with no reasonable assurance of remaining vigor.~~
The tree is proposed for relocation to another suitable planting site; provided, that relocation complies with the standards of this section.
2. The Director may allow a reduction in the minimum replacement trees required or off-site planting of replacement trees if all of the following criteria are satisfied:
There are special circumstances related to the size, shape, topography, location or surroundings of the subject property.
Strict compliance with the provisions of this Code may jeopardize reasonable use of property.
Proposed vegetation removal, replacement, and any mitigation measures are consistent with the purpose and intent of the regulations.
The granting of the exception or standard reduction will not be detrimental to the public welfare or injurious to other property in the vicinity.
3. The Director may waive this provision for site restoration or enhancement projects conducted under an approved vegetation management plan.
- D. The Director may require that a portion of the replacement trees be native species in order to restore or enhance the site to predevelopment character.
- E. The condition of replacement trees shall meet or exceed current American Nursery and Landscape Association or equivalent organization's standards for nursery stock.
- F. Replacement of removed trees with appropriate native trees at a ratio determined by the Director will be required in critical areas.
- G. The Director may consider smaller-sized replacement plants if the applicant can demonstrate that smaller plants are more suited to the species, site conditions, and to the purposes of this subchapter, and are planted in sufficient quantities to meet the intent of this subchapter.
- H. All required replacement trees and relocated trees shown on an approved permit shall be maintained in healthy condition by the property owner throughout the life of the project, unless otherwise approved by the Director in a subsequent permit.
- I. Where development activity has occurred that does not comply with the requirements of this subchapter, the requirements of any other section of the Shoreline

Development Code, or approved permit conditions, the Director may require the site to be restored to as near preproject original condition as possible. Such restoration shall be determined by the Director and may include, but shall not be limited to, the following:

1. Filling, stabilizing and landscaping with vegetation similar to that which was removed, cut or filled;
 2. Planting and maintenance of trees of a size and number that will reasonably assure survival and that replace functions and values of removed trees; and
 3. Reseeding and landscaping with vegetation similar to that which was removed, in areas without significant trees where bare ground exists.
- J. Significant trees which would otherwise be retained, but which were unlawfully removed or damaged or destroyed through some fault of the applicant or their representatives shall be replaced in a manner determined by the Director.
- K. **Performance Assurance.** A performance bond or other acceptable security device to ensure the installation, maintenance and adequate performance of tree retention, replacement, and protection measures may be required in an amount determined by the Director.
- L. **Monitoring.** The Director may require submittal of periodic monitoring reports as necessary to ensure survival of replacement trees. The contents of the monitoring report shall be determined by the Director.
- M. **Discovery of Undocumented Critical Areas.** The Director may stop work authorized by a clearing and grading permit if previously undocumented critical areas are discovered on the site. The Director has the authority to require additional studies, plans and mitigations should previously undocumented critical areas be found on a site. (Ord. 299 § 1, 2002; Ord. 238 Ch. V § 5(H), 2000).

20.50.370 Tree protection standards.

The following protection measure shall be imposed for all trees to be retained on-site during the construction process.

- A. All required tree protection measures shall be shown on the tree protection and replacement plan, clearing and grading plan, or other plan submitted to meet the requirements of this subchapter.
- B. Tree dripline areas shall be protected. No fill, excavation, construction materials, or equipment staging or traffic shall be allowed in the dripline areas of trees that are to be retained.
- C. Prior to any land disturbance, temporary construction fences must be placed around the dripline of trees to be preserved. If a cluster of trees is proposed for retention the barrier shall be placed around the edge formed by the drip lines of the trees to be retained.
- D. Tree protection barriers shall be a minimum of four feet high, constructed of chain link, or polyethylene laminar safety fencing or similar material, subject to approval by the Director. "Tree Protection Area" signs shall be posted visibly on all sides of the fenced areas. On large or multiple-project sites, the Director may also require that signs requesting subcontractor cooperation and compliance with tree protection standards be posted at site entrances.
- E. Where tree protection areas are remote from areas of land disturbance, and where approved by the Director, alternative forms of tree protection may be used in lieu of tree protection barriers; provided, that protected trees are completely surrounded with continuous rope or flagging and are accompanied by "Tree Leave Area – Keep Out" signs.
- F. Rock walls shall be constructed around the tree, equal to the dripline, when existing grade levels are lowered or raised by the proposed grading.
- G. Retain small trees, bushes and understory plants within the tree protection zone to the maximum extent practicable.
- H. **Preventative Measures.** In addition to the above minimum tree protection measures, the applicant should support tree protection efforts by employing, as appropriate, the following preventative measures, consistent with best management practices for maintaining the health of the tree:
 - 1. Pruning of visible deadwood on trees to be protected or relocated;
 - 2. Application of fertilizer to enhance the vigor of stressed trees;

3. Use of soil amendments and soil aeration in tree protection and planting areas;
4. Mulching over tree drip line areas; and
5. Ensuring proper watering during and immediately after construction and throughout the first growing season after construction.

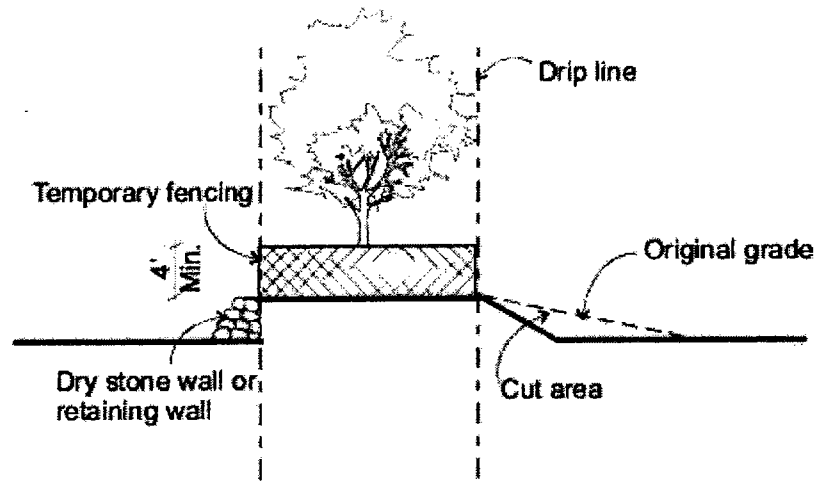


Figure 20.50.370: Illustration of standard techniques used to protect trees during construction.

Exception 20.50.370:

The Director may waive certain protection requirements, allow alternative methods, or require additional protection measures based on concurrence with the recommendation of a certified arborist deemed acceptable to the City. (Ord. 238 Ch. V § 5(I), 2000).

Sections:

Subchapter 1. Critical Areas – General Provisions

- 20.80.010 Purpose.
- 20.80.020 Critical areas maps.
- 20.80.025 Applicability.
- 20.80.030 Exemptions.
- 20.80.040 Partial exemptions.
- 20.80.045 Relationship to other regulations.
- 20.80.050 Notice to title.
- 20.80.060 Permanent field marking.
- 20.80.070 Alteration of critical areas.
- 20.80.080 Alteration or development of critical areas – Standards and criteria.
- 20.80.090 Buffer areas.
- 20.80.100 Classification and rating of critical areas.

Subchapter 2. Geologic Hazard Areas

- 20.80.210 Description and purpose.
- 20.80.220 Classification.
- 20.80.230 Required buffer areas.
- 20.80.240 Alteration.
- 20.80.250 Mitigation performance standards and requirements.

Subchapter 3. Fish and Wildlife Habitat Conservation Areas

- 20.80.260 Description and purpose.
- 20.80.270 Classification.
- 20.80.280 Required buffer areas.
- 20.80.290 Alteration.
- 20.80.300 Mitigation performance standards and requirements.

Subchapter 4. Wetlands

- 20.80.310 Description and purpose.
- 20.80.320 Classification.
- 20.80.330 Required buffer areas.
- 20.80.340 Alteration.
- 20.80.350 Mitigation performance standards and requirements.

Subchapter 5. Flood Hazard Areas

- 20.80.360 Description and purpose.
- 20.80.370 Classification.
- 20.80.380 Flood fringe – Development standards and permitted alterations.
- 20.80.390 Zero-rise floodway – Development standards and permitted alterations.
- 20.80.400 FEMA floodway – Development standards and permitted alterations.
- 20.80.410 Flood hazard areas – Certification by engineer or surveyor.

Subchapter 6. Aquifer Recharge Areas

- 20.80.420 Description and purpose.
- 20.80.430 Classification.
- 20.80.440 Alteration.
- 20.80.450 Performance standards and requirements.

Subchapter 7. Stream Areas

- 20.80.460 Description and purpose.
- 20.80.470 Classification.
- 20.80.480 Required buffer areas.
- 20.80.490 Alteration.
- 20.80.500 Mitigation performance standards and requirements.

20.80.010 Purpose.

- A. The purpose of this chapter is to establish supplemental standards for the protection of critical areas in compliance with the provisions of the Washington Growth Management Act of 1990 (Chapter 36.70A RCW) and consistent with the goals and policies of the Shoreline Comprehensive Plan in accordance with the procedures of Chapter 20.30 SMC.
- B. By identifying and regulating development and alterations to critical areas and their buffers, it is the intent of this chapter to:
 - 1. Protect the public from injury, loss of life, property damage or financial losses due to flooding, erosion, landslide, seismic events, soils subsidence or steep slope failure;
 - 2. Protect unique, fragile and valuable elements of the environment;
 - 3. Reduce cumulative adverse environmental impacts to water quality, wetlands, streams and other aquatic resources, fish and wildlife habitat, steep slopes and geologically unstable features;
 - 4. Meet the requirements of the National Flood Insurance Program and maintain the City of Shoreline as an eligible community for Federal flood insurance benefits;
 - 5. Ensure the long-term protection of ground and surface water quality;

6. Alert members of the public, including appraisers, assessors, owners, potential buyers, or lessees, to the development limitations of critical areas and their required buffers;
7. Serve as a basis for exercise of the City's substantive authority under the State Environmental Policy Act (SEPA) and the City's Environmental Procedures (Chapter 20.30 SMC, Subchapter 8); and comply with the requirements of the Growth Management Act (Chapter 36.70A RCW) and its implementing rules;
8. Establish standards and procedures that are intended to protect environmentally critical areas while accommodating the rights of property owners to use their property in a reasonable manner; and
9. Provide for the management of critical areas to maintain their functions and values and to restore degraded ecosystems. (Ord. 324 § 1, 2003; Ord. 238 Ch. VIII § 1(A), 2000).

20.80.020 Critical areas maps.

- A. The approximate location and extent of identified critical areas within the City's planning area are shown on the critical areas maps adopted as part of this chapter. These maps shall be used for informational purposes only to assist property owners and other interested parties. Boundaries and locations indicated on the maps are generalized. Critical areas and their buffers may occur within the City which have not previously been mapped.
- B. The actual presence or absence, type, extent, boundaries, and classification of critical areas shall be identified in the field by a qualified professional, and determined by the City, according to the procedures, definitions and criteria established by this chapter. In the event of any conflict between the critical area location or designation shown on the City's maps and the criteria or standards of this chapter, the criteria and standards shall prevail.
- C. The critical areas maps shall be periodically updated by the City and shall reflect any permit activity, results of special studies and reports reviewed and approved by the City, amendments to the Comprehensive Plan Environmental Element and Department identified errors and corrections. (Ord. 324 § 1, 2003; Ord. 238 Ch. VIII § 1(D), 2000. Formerly 20.80.040.).

20.80.025 Applicability.

- A. Unless explicitly exempted, the provisions of this chapter shall apply to all land uses and within all zoning designation in the City of Shoreline. All persons within the City shall comply with the requirements of this chapter.
- B. The City shall not approve any permit or otherwise issue any authorization to alter the condition of any land, water or vegetation or to construct or alter any structure or improvement without first assuring compliance with the requirements of this chapter.
- C. Approval of a development proposal pursuant to the provisions of this chapter does not discharge the obligation of the applicant to comply with the provisions of this chapter.
- ~~D. When any provisions of any other section of the City Code conflicts with this chapter or when the provisions of this chapter are in conflict, that provision which provides more protection to critical areas shall apply unless specifically provided otherwise in this chapter or unless such provision conflicts with Federal or State laws or regulations.~~
- ~~D.-E.~~ The provisions of this chapter shall apply to any forest practices over which the City has jurisdiction pursuant to Chapter 76.09 RCW and WAC Title 222. (Ord. 324 § 1, 2003; Ord. 238 Ch. VIII § 1(E), 2000. Formerly 20.80.050.).

20.80.030 Exemptions.

The following activities shall be exempt from the provisions of this chapter:

- A. Alterations in response to emergencies which threaten the public health, safety and welfare or which pose an imminent risk of damage to private property as long as any alteration undertaken pursuant to this subsection is reported to the City as soon as possible. Only the minimum intervention necessary to reduce the risk to public health, safety, or welfare and/or the imminent risk of damage to private property shall be authorized by this exemption. The City shall confirm that an emergency exists and determine what, if any, additional applications and/or measures shall be required to protect the environment consistent with the provisions of this chapter, and to repair any damage to a preexisting resource;
- B. Public water, electric and natural gas distribution, public sewer collection, cable communications, telephone, utility and related activities undertaken pursuant to City-approved best management practices, and best available science with regard to protection of threatened and endangered species, as follows:

1. Normal and routine maintenance or repair of existing utility structures or rights-of-way;
 2. Relocation of electric facilities, lines, equipment or appurtenances, not including substations, with an associated voltage of 55,000 volts or less, only when required by the City of Shoreline, which approves the new location of the facilities;
 3. Replacement, operation, repair, modification or installation or construction in an improved City road right-of-way or City authorized private roadway of all electric facilities, lines, equipment or appurtenances, not including substations, with an associated voltage of 55,000 volts or less;
 4. Relocation of public sewer local collection, public water local distribution, natural gas, cable communication or telephone facilities, lines, pipes, mains, equipment or appurtenances, only when required by the City of Shoreline, which approves the new location of the facilities; and
 5. Replacement, operation, repair, modification, relocations, installation or construction of public sewer local collection, public water local distribution, natural gas, cable communication or telephone facilities, lines, pipes, mains, equipment or appurtenances when such facilities are located within an improved public right-of-way or City authorized private roadway.
- C. Maintenance, operation, repair, modification or replacement of publicly improved roadways and associated stormwater drainage systems as long as any such alteration does not involve the expansion of roadways or related improvements into previously unimproved rights-of-way or portions of rights-of-way;
- D. Maintenance, operation or repair of publicly improved recreation areas as long as any such activity does not involve the expansion of uses and/or facilities into a previously unimproved portion of a preexisting area. Maintenance, operation and repair of publicly improved recreation areas within designated fish and wildlife habitat areas shall be permitted if all activities are performed consistent with the development standards of this chapter, best available science or adaptive management plans as recognized by the City;
- ~~E. Activities involving artificially created wetlands or streams intentionally created from nonwetland sites, including but not limited to grass-lined swales, irrigation and drainage ditches, detention facilities and landscape features, except wetlands,~~

~~streams or swales created as mitigation or that provide or contribute to critical habitat for salmonid fishes;~~

EF. Activities affecting isolated Type IV wetlands which are individually smaller than 1,000 square feet.

FG. Activities occurring in areas which may be considered small steep slopes (areas of 40 percent slope or greater with a vertical elevation change of up to, but not greater than 20 feet), such as berms, retaining walls, excavations and small natural slopes, and activities on steep slopes created through prior legal grading activity may be exempted based upon City review of a soils report prepared by a qualified geologist or geotechnical engineer which demonstrates that no adverse impact will result from the exemption;

G. Minor conservation and enhancement of critical areas that does not alter the location, dimensions or size of the critical area or buffer, and results in improvement of the critical area functions.

H. Removal of hazardous trees in accordance with SMC 20.50.310(A)(1)

IH. Site investigative work and studies necessary for preparing land use applications, including soils tests, water quality studies, wildlife studies and similar tests and investigations; provided, that any disturbance of the critical area shall be the minimum necessary to carry out the work or studies;

J. When it can be demonstrated that there will be no undue adverse effect, the following activities may be allowed within critical areas and their buffers: Educational activities, scientific research, and outdoor recreational activities, including but not limited to interpretive field trips, bird watching, public beach access including water recreation related activities, ~~and the use of existing trails for horseback riding,~~ bicycling and hiking, that will not have an undue adverse effect on the critical area;

KJ. Normal and routine maintenance and operation of existing landscaping and gardens provided they comply with all other regulations in this chapter;

LK. Minor activities not mentioned above and determined by the City to have minimal impacts to a critical area;

ML. Notwithstanding the exemptions provided by this section, any otherwise exempt activities occurring in or near a critical area should meet the purpose and intent of SMC 20.80.010 and should consider on-site alternatives that avoid or minimize impacts. (Ord. 324 § 1, 2003; Ord. 238 Ch. VIII § 1(G), 2000. Formerly 20.80.070.).

N. Mitigation projects related to utilities construction in critical areas or their buffers.

20.80.040 Partial exemptions.

- A. The following are exempt from the provisions of this chapter except for the notice to title provisions and the flood hazard area provisions, if applicable.
1. Structural modification of, addition to, or replacement of structures, except single detached residences, in existence before November 27, 1990, which do not meet the building setback or buffer requirements for wetlands, streams or steep slope hazard areas if the modification, addition, replacement or related activity does not increase the existing building footprint of the structure lying within the above-described building setback area, sensitive area or buffer;
 2. Structural modification of, addition to, or replacement of single detached residences in existence before November 27, 1990, which do not meet the building setback or buffer requirements for wetlands, streams or steep slope hazard areas if the modification, addition, replacement or related activity does not increase the existing footprint of the residence lying within the above-described buffer or building setback area by more than 750 square feet over that existing before November 27, 1990, and no portion of the modification, addition or replacement is located closer to the critical area or, if the existing residence is within the critical area, extend farther into the critical area; and
 3. Maintenance or repair of structures which do not meet the development standards of this chapter for landslide or seismic areas if the maintenance or repair does not increase the footprint of the structure and there is no increased risk to life or property as a result of the proposed maintenance or repair.
- B. A permit or approval sought as part of a development proposal for which multiple permits are required is exempt from the provisions of this chapter, except for the notice to title provisions, as applicable if:

1. The City of Shoreline has previously reviewed all critical areas on the site; and
2. There is no material change in the development proposal since the prior review; and
3. There is no new information available which may alter previous critical area review of the site or a particular critical area; and
4. The permit or approval under which the prior review was conducted has not expired or, if no expiration date, no more than five years have lapsed since the issuance of that permit or approval; and
5. The prior permit or approval, including any conditions, has been complied with. (Ord. 324 § 1, 2003; Ord. 238 Ch. VIII § 1(H), 2000. Formerly 20.80.080.).

20.80.045 Relationship to other regulations.

- A. These critical area regulations shall apply as an overlay and in addition to zoning, land use and other regulations established by the City of Shoreline. In the event of any conflict between these regulations and any other regulations of the City, the regulations which provide greater protection to the environmentally critical areas shall apply.
- B. Areas characterized by particular critical areas may also be subject to other regulations established by this chapter due to the overlap or multiple functions of some critical areas. Wetlands, for example, may be defined and regulated according to the provisions for fish and wildlife habitat conservation areas contained in this chapter, as well as provisions regulating wetlands. In the event of any conflict between regulations for particular critical areas in this chapter, the regulations which provide greater protection to environmentally critical areas shall apply. (Ord. 324 § 1, 2003; Ord. 238 Ch. VIII § 1(K), 2000. Formerly 20.80.110.).

20.80.050 Notice to title.

- A. To inform subsequent purchasers of real property of the existence of critical areas, when development is permitted in an identified critical area which is comprised of a regulated critical area and/or its associated buffer, a notice to title applicable to the property shall be filed with the King County Department of Records. The notice shall state that critical areas or buffers have been identified on the property and the fact that limitations on actions in or affecting the critical area or buffer may exist. The notice shall run with the land. This notice shall not be required for development by a public agency or public or private utility when:

1. Within a recorded easement or right-of-way; or

2. On the site of a permanent public facility.

~~the area shall be placed either in a separate tract on which development is prohibited, protected by execution of an easement, dedicated to a conservation organization or land trust, or similarly preserved through a permanent protective mechanism acceptable to the City. The location and limitations associated with the critical area shall be shown on the face of the deed or plat applicable to the property and shall be recorded with the King County Department of Records.~~

- B. Subdivisions, short subdivisions, development agreements, and binding site plans ~~which include critical areas or their buffers shall establish a separate tract (a critical areas tract) as a permanent protective measure for wetlands, streams, fish and wildlife habitat, landslide hazard areas and their buffers.~~ The plat or binding site plan for the project shall clearly depict the critical areas tract, and shall include all of the subject critical area and any required buffer, as well as additional lands, as determined by the developer. Restrictions to development within the critical area tract shall be clearly noted on the plat or plan. Restrictions shall be consistent with this chapter for the entire critical area tract, including any additional areas included voluntarily by the Developer. Should the critical area tract include several types of critical areas the developer may wish to establish separate critical areas tracts. (Ord. 324 § 1, 2003; Ord. 238 Ch. VIII § 1(M), 2000. Formerly 20.80.130.).

20.80.060 Permanent field marking.

- A. All critical areas tracts, easements or dedications shall be clearly marked on the site using permanent markings, placed every 300 feet which include the following text:

This area has been identified as a <<INSERT TYPE OF CRITICAL AREA>> by the City of Shoreline. Activities, including clearing and grading, removal of vegetation, pruning, cutting of trees or shrubs, planting of nonnative species, and other alterations may be prohibited. Please contact the City of Shoreline Department of Development (206) 546-1811 for further information.

- B. It is the responsibility of the landowner to maintain and replace if necessary all permanent field markings. (Ord. 324 § 1, 2003; Ord. 238 Ch. VIII § 1(N), 2000. Formerly 20.80.140.).

20.80.070 Alteration of critical areas.

Alteration of critical areas, including their established buffers, may only be permitted subject to the criteria in this chapter, and compliance with any Federal and/or State

permits required. (Ord. 324 § 1, 2003; Ord. 238 Ch. VIII § 2(A), 2000. Formerly 20.80.160.).

20.80.080 Alteration or development of critical areas – Standards and criteria.

~~□ All impacts to critical areas functions and values shall be mitigated.~~ This section applies to mitigation required with all critical areas reviews, approvals and enforcement pursuant to this Chapter. This section is supplemented with specific measures under subchapters for particular critical areas. The proponent for a project involving critical areas shall avoid, minimize and mitigate the impacts to the critical areas through Mitigation actions by an applicant or property owner shall that occur in the following sequence:

- A. Avoiding the impact altogether by not taking a certain action or parts of actions;
- B. Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- C. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- D. Reducing or eliminating the impact over time through preservation and maintenance operations during the life of the action; and/or
- E. Compensating for the impact by replacing or providing substitute resources or environments. (Ord. 324 § 1, 2003; Ord. 238 Ch. VIII § 2(B), 2000. Formerly 20.80.170.).
- F. Monitoring, measuring and reporting the impact to the Planning Director and taking appropriate corrective measures.

20.80.085 Pesticides, Herbicides and Fertilizers on City Owned Property

Pesticides, herbicides and fertilizers which have been identified by state or federal agencies as harmful to humans, wildlife, fish, shall not be used in a city-owned riparian

corridor, shoreline habitat or its buffer, wetland or its buffer, except as allowed by the Director for the following circumstances:

1. When the Director determines that an emergency situation exists where there is a serious threat to public safety, health, or the environment and that an otherwise prohibited application must be used as a last resort.

2. Compost or fertilizer may be used for native plant revegetation projects in any location.

20.80.090 Buffer areas.

The establishment of buffer areas shall be required for all development proposals and activities in or adjacent to critical areas. In all cases the standard buffer (i.e. the maximum buffer required by the City) shall apply unless the Director determines that no net loss of functions and values will occur. The purpose of the buffer shall be to protect the integrity, function, value and resource of the subject critical area, and/or to protect life, property and resources from risks associated with development on unstable or critical lands. Buffers shall consist of an undisturbed area of native vegetation established to achieve the purpose of the buffer. If the buffer area has previously been disturbed, it shall be revegetated pursuant to an approved planting plan. Buffers shall be protected during construction by placement of a temporary barricade if determined necessary by the City, on-site notice for construction crews of the presence of the critical area, and implementation of appropriate erosion and sedimentation controls. Restrictive covenants or conservation easements may be required to preserve and protect buffer areas. (Ord. 324 § 1, 2003; Ord. 238 Ch. VIII § 2(C), 2000. Formerly 20.80.180.).

20.80.100 Classification and rating of critical areas.

To promote consistent application of the standards and requirements of this chapter, critical areas within the City of Shoreline shall be rated or classified according to their characteristics, function and value, and/or their sensitivity to disturbance. Classification of critical areas shall be determined by the City using the following tools:

- A. Application of the criteria contained in these regulations;
- B. Consideration of the technical reports submitted by qualified professionals in connection with applications subject to these regulations; and
- C. Review of maps adopted pursuant to this chapter. (Ord. 324 § 1, 2003; Ord. 238 Ch. VIII § 2(E), 2000. Formerly 20.80.200.).

SMC 20.80.110 Critical Areas Reports Required

If uses, activities or developments are proposed within designated critical areas or their buffers, an applicant shall pay the City for environmental reviews, including site-specific information that must be obtained by expert investigation and analysis. This provision is not intended to expand or limit an applicant's other obligations under WAC 197-11-100. Such site specific reviews shall be performed by qualified professionals, as defined by Section 20.20.242, who are in the employ of the City or under contract to the City and who shall be directed by and report to the Director or his designee.

Subchapter 2. Geologic Hazard Areas

20.80.210 Description-Designation and purpose.

- A. Geologic hazard areas include—are those lands that are affected by natural processes that make them susceptible to geologic events, such as landslides, seismic activity and severe erosion, especially bluff and ravine areas and steep slopes. Areas susceptible to one or more of the following types of hazards shall be designated as geologically hazardous areas:

1. Erosion hazard;

2. Landslide hazard;

3. Seismic hazard;

- B. The primary purpose of geologic hazard area regulations is to avoid and minimize potential impacts to life and property from geologic hazards, conserve soil resources, and minimize structural damage relating to seismic hazards. This purpose shall be accomplished through appropriate levels of study and analysis, application of sound engineering principles, and regulation or limitation of land uses, including maintenance of existing native vegetation, regulation of clearing and grading activities, and control of stormwater. (Ord. 238 Ch. VIII § 3(A), 2000).

20.80.220 Classification.

Geologic hazard areas shall be classified according to the criteria in this section as follows:

A. Landslide Hazard Areas. Landslide hazard areas are classified as "Class I", "Class II", "Class III" or "Class IV" as follows:

- ~~1. Class I/Low Hazard: Areas with slopes of less than 15 percent.~~
21. Class II/Moderate Hazard: Areas with slopes between 15 percent and 40 percent and that are underlain by soils that consist largely of sand, gravel or glacial till.
32. Class III/High Hazard: Areas with slopes between 15 percent and 40 percent that are underlain by soils consisting largely of silt and clay.
- ~~-3. Class IV/Very High Hazard: Areas with slopes steeper than 15 percent with zones of emergent water (e.g., springs or ground water seepage), areas of landslide deposits regardless of slope, and all steep slope hazard areas sloping 40 percent or steeper.~~

B. Seismic Hazard Areas. Seismic hazard areas are lands that, due to a combination of soil and ground water conditions, are subject to severe risk of ground shaking, subsidence or liquefaction of soils during earthquakes. These areas are typically underlain by soft or loose saturated soils (such as alluvium) and have a shallow ground water table.

C. Erosion and Sedimentation Hazards. Erosion hazard areas are lands or areas underlain by soils identified by the U.S. Department of Agriculture Natural Resources Conservation Service (formerly the Soil Conservation Service) as having "severe" or "very severe" erosion hazards. This includes, but is not limited to, the following group of soils when they occur on slopes of 15 percent or greater: Alderwood-Kitsap (AkF), Alderwood gravely sandy loam (AgD), Kitsap silt loam (KpD), Everett (EvD) and Indianola (InD).

~~**D. Steep Slopes.** Steep slopes are those areas sloping 40 percent or steeper.~~

(Ord. 238 Ch. VIII § 3(B), 2000).

20.80.230 Required buffer areas.

- A. Required buffer widths for geologic hazard areas shall reflect the sensitivity of the hazard area and the risks associated with development and, in those circumstances permitted by these regulations, the type and intensity of human activity and site design proposed to be conducted on or near the area. ~~Buffers or setbacks shall be measured from the top and toe of the slope and along the sides of the slope.~~
- B. In determining the appropriate buffer width, the City shall consider the recommendations contained in any technical a geotechnical report required by these regulations and prepared by a qualified consultant.
- C. For landslide hazard areas, the standard buffer shall be 50 feet from all edges of the landslide hazard area. Larger buffers may be required as needed to eliminate or minimize the risk to people and property based on a geotechnical report prepared by a qualified professional.
- ~~GD.~~ Landslide hazard area B buffers may be reduced to a minimum of 15 feet when technical studies conclusively demonstrate that the reduction will not increase the risk of the hazard to people or property on or off site. ~~adequately protect the proposed and surrounding development from the critical landslide hazard.~~
- ~~DE.~~ Critical H Landslide hazard areas and their associated buffers shall be placed either in a separate tract on which development is prohibited, protected by execution of an easement, dedicated to a conservation organization or land trust, or similarly preserved through a permanent protective mechanism acceptable to the City. The location and limitations associated with the critical landslide hazard and its buffer shall be shown on the face of the deed or plat applicable to the property and shall be recorded with the King County Department of Records and Elections. (Ord. 238 Ch. VIII § 3(C), 2000).

20.80.240 Alteration.

- A. The City shall approve, condition or deny proposals in a geologic hazard area as appropriate based upon the effective mitigation of risks posed to property, health and safety. The objective of mitigation measures shall be to render a site containing a geologic hazard as safe as one not containing such hazard. Conditions may include limitations of proposed uses, modification of density, alteration of site layout and other appropriate changes to the proposal. Where potential impacts cannot be effectively mitigated, ~~or where the~~ to eliminate a significant risk to public health, safety and welfare, ~~public or private property, or important natural resources is significant notwithstanding mitigation,~~ the proposal shall be denied.

B. ~~Class IV~~**Very High Landslide Hazard Areas.** Development shall be prohibited in ~~Class IV (very high) landslide hazards areas~~ or their buffers except as granted by a critical areas special use permit or a critical areas reasonable use permit.

C. ~~Class II, III, IV~~**Moderate and High Landslide Hazards.** Alterations proposed to ~~Class II, III, and IV moderate and high~~ Landslide Hazards or their buffers shall be evaluated by a qualified professional through the preparation of the geotechnical report. However, for proposals that include no development, construction, or impervious surfaces, the City, in its sole discretion, may waive the requirement for a geotechnical report. The recommendations contained within the geotechnical report shall be incorporated into the alteration of the landslide hazard area or their buffers.

The geotechnical engineer and/or geologist preparing the report shall provide assurances that the risk of damage from the proposal, both on-site and off-site, are minimal subject to the conditions set forth in the report, that the proposal will not increase the risk of occurrence of the potential landslide hazard, and that measures to eliminate or reduce risks have been incorporated into the report's recommendations.

D. **Critical Seismic Hazard Areas.**

1. For one-story and two-story residential structures, a qualified professional shall conduct an evaluation of site response and liquefaction potential based on the performance of similar structures with similar foundation conditions; or
2. For all other proposals, the applicant shall conduct an evaluation of site response and liquefaction potential including sufficient subsurface exploration to determine the site coefficient for use in the static lateral force procedure described in the Uniform Building Code.

E. **Erosion Hazard Areas.**

1. Up to 1,500 square feet may be cleared on any lot in an erosion hazard area without a permit, unless the site also contains another type of critical area or any other threshold contained in SMC 20.50.320 would be exceeded.
2. All development proposals on sites containing erosion hazard areas shall include a temporary erosion and sediment control plan consistent with the requirements of the adopted surface water design manual and a revegetation plan to ensure permanent stabilization of the site. Specific requirements for revegetation plans shall be determined on a case-by-case basis during permit

review and administrative guidelines shall be developed by the Department. Critical area revegetation plans may be combined with required landscape, tree retention, and/or other critical area mitigation plans as appropriate.

3. All subdivisions, short subdivisions or binding site plans on sites with erosion hazard areas shall comply with the following additional requirements:
 - a. Except as provided in this section, existing vegetation shall be retained on all lots until building permits are approved for development on individual lots;
 - b. If any vegetation on the lots is damaged or removed during construction of the subdivision infrastructure, the applicant shall be required to implement the revegetation plan in those areas that have been impacted prior to final inspection of the site development permit or the issuance of any building permit for the subject property;
 - c. Clearing of vegetation on individual lots may be allowed prior to building permit approval if the City of Shoreline determines that:
 - i. Such clearing is a necessary part of a large scale grading plan,
 - ii. It is not feasible to perform such grading on an individual lot basis, and
 - iii. Drainage from the graded area will meet water quality standards to be established by administrative rules.
4. Where the City of Shoreline determines that erosion from a development site poses a significant risk of damage to downstream receiving water, the applicant shall be required to provide regular monitoring of surface water discharge from the site. If the project does not meet water quality standards established by law or administrative rules, the City may suspend further development work on the site until such standards are met.
5. The City may require additional mitigation measures in erosion hazard areas, including, but not limited to, the restriction of major soil disturbing activities associated with site development between October 15th and April 15th to meet the stated purpose contained in SMC 20.80.010 and SMC 20.80.210.
6. The use of hazardous substances, pesticides and fertilizers in erosion hazard areas may be prohibited by the City of Shoreline.

~~F. When development is permitted in geologic hazard areas by these regulations, an applicant and/or its qualified consultant shall provide assurances which include the following:~~

- ~~1. A report from the geotechnical engineer and/or geologist who prepared the studies required by these regulations that the risk of damage from the proposal, both on-site and off-site, are minimal subject to the conditions set forth in the report, that the proposal will not increase the risk of occurrence of the potential geologic hazard, and that measures to eliminate or reduce risks have been incorporated into the report's recommendations; and~~
- ~~2. A legal statement which shall be recorded and noted on the face of the deed or plat, executed in a form satisfactory to the City, that characterizes the site as being located within a geologic hazard area, and states that there may or may not be risks associated with the development of the site. In addition the provisions for permanent field marking (SMC 20.80.140) may apply; and~~
- ~~3. Posting of a bond, guarantee or other assurance device approved by the City to cover the cost of monitoring, maintenance and any necessary corrective actions. (Ord. 352 § 1, 2004; Ord. 324 § 1, 2003; Ord. 299 § 1, 2002; Ord. 238 Ch. VIII § 3(D), 2000).~~

20.80.250 Mitigation performance standards and requirements.

The following performance standards shall apply to any mitigations for development proposed within geologic hazard areas located within the City:

- A. Relevant performance standards from SMC 20.80.080, 20.80.300, 20.80.350 and 20.80.500 as determined by the City, shall be incorporated into mitigation plans.
- B. The following additional performance standards shall be reflected in proposals within geologic hazard areas:
 1. Geotechnical studies shall be prepared by a qualified consultant to identify and evaluate potential hazards and to formulate mitigation measures.
 2. Construction methods will reduce or not adversely affect geologic hazards.
 3. Site planning should minimize disruption of existing topography and natural vegetation.

4. Impervious surface coverage should be minimized.
5. Disturbed areas should be replanted as soon as feasible pursuant to an approved landscape plan.
6. Clearing and grading regulations as set forth by the City shall be followed.
7. The use of retaining walls that allow maintenance of existing natural slope areas are preferred over graded slopes.
8. Temporary erosion and sedimentation controls, pursuant to an approved plan, shall be implemented during construction.
9. Undevelopable geologic hazard areas larger than one-half acre shall be placed in a separate tract, provided this requirement does not make the lot nonconforming.
10. A monitoring program shall be prepared for construction activities permitted in geologic hazard areas.
11. A bond, guarantee or other assurance device approved by the City shall be posted to cover the cost of monitoring, maintenance and any necessary corrective actions.
1112. Development shall not increase instability or create a hazard to the site or adjacent properties, or result in a significant increase in sedimentation or erosion. (Ord. 238 Ch. VIII § 3(E), 2000).

Subchapter 3. Fish and Wildlife Habitat Conservation Areas

20.80.260 ~~Description~~ Designation and purpose.

- A. Fish and wildlife habitat conservation areas include nesting and breeding grounds for State and Federal threatened, endangered, critical or priority species as ~~identified~~listed by the Washington State Department of Fish and Wildlife, including corridors which connect priority habitat, and those areas which provide habitat for

species of local significance which have been or may be identified in the City of Shoreline Comprehensive Plan.

- B. The purpose of fish and wildlife habitat conservation areas shall be to provide opportunities for food, cover, nesting, breeding and movement for fish and wildlife within the City; maintain and promote diversity of species and habitat within the City; coordinate habitat protection with elements of the City's established open space corridors wherever possible; help to maintain air and water quality; control erosion; provide areas for recreation, education and scientific study and aesthetic appreciation; and contribute to the established character of the City.
- C. The City of Shoreline has given special consideration to the identification and regulation of fish and wildlife habitat conservation areas that support anadromous fisheries in order to preserve and enhance species which are or may be listed as endangered, threatened or priority species by State and Federal agencies. (Ord. 238 Ch. VIII § 4(A), 2000).

20.80.270 Classification.

A. Fish and wildlife habitat conservation areas are those areas designated by the City based on review of the best available science; input from Washington Department of Fish and Wildlife, Washington Department of Ecology, and other agencies; and any of the following criteria.:

1. The presence of species proposed or listed by the Federal government or the State of Washington as endangered, threatened, critical, or priority; or

2. The presence of heron rookeries or priority raptor nesting trees; or

3. Streams and wetlands and their associated buffers that provide significant habitat for fish and wildlife.

B. The City designates the following fish and wildlife habitat conservation areas that meet the above criteria, and this designation does not preclude designation of additional areas as provided in SCC 20.80.270(A):

1. All regulated streams and wetlands and their associated buffers as determined by a qualified specialist.

2. The waters, bed and shoreline of Puget Sound up to the ordinary high water mark.

~~Fish and wildlife habitat areas are those areas that meet any of the following criteria:~~

- ~~A. The documented presence of species proposed or listed by the Federal government or State of Washington as endangered, threatened, critical, or priority; or~~
- ~~B. The presence of heron rookeries or raptor nesting trees; or~~
- ~~C. Type I wetlands, as defined in these regulations; or~~
- ~~D. Type I streams, as defined in these regulations; or~~
- ~~E. Those areas which include the presence of locally significant species, if the City has designated such species. (Ord. 238 Ch. VIII § 4(B), 2000).~~

20.80.280 Required buffer areas.

- A. Buffer widths for fish and wildlife habitat areas shall be based on consideration of the following factors: species specific recommendations of the Washington State Department of Fish and Wildlife; recommendations contained in a habitat management plan submitted by a qualified consultant; and the nature and intensity of land uses and activities occurring on the and adjacent to the site.
- B. Low impact uses and activities which are consistent with the purpose and function of the habitat buffer and do not detract from its integrity may be permitted within the buffer depending on the sensitivity of the habitat area. Examples of uses and activities which may be permitted in appropriate cases include trails that are pervious, viewing platforms, stormwater management facilities such as bio-swales, utility easements and other similar uses and activities; provided, that any impacts to the buffer resulting from such permitted facilities shall be fully mitigated.
- C. Fish and wildlife habitat conservation areas and their associated buffers shall be placed either in a separate tract on which development is prohibited, protected by execution of an easement, dedicated to a conservation organization or land trust, or similarly preserved through a permanent protective mechanism acceptable to the City. The location and limitations associated with the critical habitat and its buffer shall be shown on the face of the deed or plat applicable to the property and shall be recorded with the King County Department of Records and Elections. (Ord. 238 Ch. VIII § 4(C), 2000).

20.80.290 Alteration.

- A. Alterations of fish and wildlife habitat conservation areas shall be avoided, subject to the reasonable use provision section (SMC 20.30.336) or special use permit section (SMC 20.30.333).
- B. Any proposed alterations permitted, consistent with special use or reasonable use review, to fish and wildlife habitat conservation area shall require the preparation of a habitat management plan, consistent with the requirements of the Washington State Department of Fish and Wildlife Priority Habitat Program. The habitat management plan shall be prepared by a qualified consultant and reviewed and approved by the City. (Ord. 238 Ch. VIII § 4(D), 2000).

20.80.300 Mitigation performance standards and requirements.

- A. Relevant performance standards for other critical areas (such as wetlands and streams) that may be located within the fish and wildlife habitat conservation area, as determined by the City, shall be incorporated into mitigation plans.
- B. The following additional mitigation measures shall be reflected in fish and wildlife habitat conservation area mitigation planning:
 - 1. The maintenance and protection of habitat values shall be considered a priority in site planning and design.
 - 2. Buildings and structures shall be located in a manner that preserves and minimizes adverse impacts to important habitat areas. This may include clustering buildings and locating fences outside of habitat areas.
 - 3. Retained habitat shall be integrated into open space and landscaping.
 - 4. Where possible, habitat and vegetated open space shall be consolidated in contiguous blocks.
 - 5. Habitat shall be located contiguous to other habitat areas, open space or landscaped areas both on and off site to contribute to a continuous system or corridor that provides connections to adjacent habitat areas.
 - 6. Native species shall be used in any landscaping of disturbed or undeveloped areas and in any enhancement of habitat or buffers.

7. The heterogeneity and structural diversity of vegetation shall be emphasized in landscaping.
8. Significant trees, preferably in groups, shall be preserved, consistent with the requirements of Chapter 20.50 SMC, Subchapter 5, Tree Conservation, Land Clearing and Site Grading, and with the objectives found in these standards. (Ord. 238 Ch. VIII § 4(E), 2000).

Subchapter 4. Wetlands

20.80.310 Description-Designation and purpose.

- A. 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 prevelance of vegetation typically adapted for life in saturated soil conditions, as defined by the Washington State Wetlands Identification and Delineation Manual (Department of Ecology Publication #96-94). 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, bio-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 to mitigate the conversion of wetlands.

- B. Wetlands help to maintain water quality; store and convey stormwater and floodwater; recharge ground water; provide important fish and wildlife habitat; and serve as areas for recreation, education, scientific study and aesthetic appreciation.
- BC. The City's overall goal shall be to achieve no net loss of wetlands. This goal shall be implemented through retention of the function, value and acreage of wetlands within the City. Wetland buffers serve to moderate runoff volume and flow rates; reduce sediment, chemical nutrient and toxic pollutants; provide shading to maintain desirable water temperatures; provide habitat for wildlife; protect wetland resources from harmful intrusion; and generally preserve the ecological integrity of the wetland area.

~~GD.~~ The primary purpose of the wetland regulations is to avoid detrimental wetland impacts and achieve a goal of no net loss of wetland function, value and acreage; and where possible enhance and restore wetlands. (Ord. 238 Ch. VIII § 5(A), 2000).

20.80.320 Classification.

Wetlands, as defined by this section, shall be ~~designated Type I, Type II, Type III, Type IV and artificial~~classified according to the following criteria:

A. "Type I wetlands" are those wetlands which meet any of the following criteria:

1. The presence of species proposed or listed by the Federal government or State of Washington as endangered, threatened, critical or ~~monitored~~priority, or the presence of critical or outstanding actual or potential habitat for those species; or
2. Wetlands having 40 percent to 60 percent open water in dispersed patches with two or more wetland subclasses of vegetation; or
3. High quality examples of a native wetland listed in the terrestrial and/or aquatic ecosystem elements of the Washington Natural Heritage Plan that are presently identified as such or are determined to be of Heritage quality by the Department of Natural Resources; or
4. The presence of plant associations of infrequent occurrence. These include, but are not limited to, plant associations found in bogs and in wetlands with a coniferous forested wetland class or subclass occurring on organic soils.

B. "Type II wetlands" are those wetlands which are not Type I wetlands and meet any of the following criteria:

1. Wetlands greater than one acre (43,560 sq. ft.) in size;
2. Wetlands equal to or less than one acre (43,560 sq. ft.) but greater than one-half acre (21,780 sq.ft.) in size and have three or more wetland classes; or
3. Wetlands equal to or less than one acre (43,560 sq. ft.) but greater than one-half acre (21,780 sq.ft.) in size, and have a forested wetland class or subclasses.

- C. "Type III wetlands" are those wetlands that are equal to or less than one acre in size and that have one or two wetland classes and are not rated as Type IV wetlands, or wetlands less than one-half acre in size having either three wetlands classes or a forested wetland class or subclass.
- D. "Type IV wetlands" are those wetlands that are equal to or less than 2,500 square feet, hydrologically isolated and have only one, unforested, wetland class.
- ~~E. "Artificially created wetlands" are those landscape features, ponds and stormwater detention facilities purposefully or accidentally created. Artificially created wetlands do not include wetlands created as mitigation or wetlands modified for approved land use activities. Purposeful or accidental creation must be demonstrated to the City through documentation, photographs, statements or other evidence. Artificial wetlands intentionally created from nonwetland sites for the purposes of wetland mitigation are regulated under this subchapter. (Ord. 238 Ch. VIII § 5(B), 2000).~~

20.80.330 Required buffer areas.

- A. Required wetland buffer widths shall reflect the sensitivity of the area and resource or the risks associated with development and, in those circumstances permitted by these regulations, the type and intensity of human activity and site design proposed to be conducted on or near the critical area. Wetland buffers shall be measured from the wetland edge as delineated and marked in the field using the 1987 Department of Ecology Wetland Manual or adopted successor.

- B. Wetland buffers shall be established as follows:

Table 20.80.330B

Wetland Type	Maximum Standard Buffer Width (ft)	Minimum Buffer Width (ft)
Type I	150	400 115
Type II	400 115	50 75
Type III	50 65	25 35
Type IV	40 35	40 25

DC. The ~~maximum standard~~ buffer width shall be established, provided that the buffer may be reduced to the minimum buffer listed above if ~~unless~~ the applicant can demonstrate that a smaller area is adequate to protect the wetland functions and one or both of the following:

1. The proposed use and/or activities are considered low impact, and may include the following:
 - a. A site layout with no parking, outdoor storage, or use of machinery;
 - b. The proposed use does not involve usage or storage of chemicals; and/or
 - c. Passive areas are located adjacent to the subject buffer; and/or
 - d. Both the wetland and its buffer are incorporated into the site design in a manner which eliminates the risk of adverse impact on the subject critical area.
2. Wetland and buffer enhancement is implemented that will result in equal or greater wetland functions. This includes but is not limited to the following:
 - a. Enhancement of fish and wildlife habitat by incorporating structures that are likely to be used by wildlife, including wood duck houses, bat boxes, nesting platforms, snags, rootwads/stumps, birdhouses, and heron nesting areas.
 - b. Planting native vegetation that would increase value for fish and wildlife habitat, improve water quality, or provide aesthetic/recreational value.

D. When a wetland has salmonid fish use consistent with SMC 20.80.470, the corresponding wetland or stream buffer, whichever is greater, shall be established.

CE. ~~Applicants may choose to establish additional protections beyond the maximum.~~ The City may extend the width of the buffer on the basis of site-specific analysis when necessary to achieve the goals of this subchapter.

E. Wetland buffer widths may be modified by averaging buffer widths as set forth herein. Buffer width averaging shall be allowed only where the applicant

demonstrates to the City; ~~that the wetland contains variations in sensitivity due to existing physical characteristics; that lower intensity land uses would be located adjacent to areas where buffer width is reduced;~~

1. ~~that width averaging will not adversely impact the wetland functional values~~The ecological structure and function of the buffer after averaging is equivalent to or greater than the structure and function before averaging;
2. ~~and t~~That the total area contained within the buffer after averaging is no less than that contained within the standard buffer prior to averaging.
3. Buffer averaging shall will not result in a buffer width being reduced by more than 25 percent of the required buffer as set forth in Table 20.80.330B and in no case may the buffer be less than 40 feet in~~than the stated minimum width.~~
4. A habitat survey shall be conducted within the area of concern in order to identify and prioritize highly functional fish and wildlife habitat within the study area.

The City may require buffer averaging to be designed to protect areas of greater sensitivity and function based on the recommendations of a wetland report prepared by a qualified professional.

- GF. Low impact uses and activities which are consistent with the purpose and function of the wetland buffer and do not detract from its integrity may be permitted within the buffer depending on the sensitivity of the wetland. Examples of uses and activities which may be permitted in appropriate cases include trails constructed in a manner to reduce impervious surfaces, viewing platforms, and utility easements; provided, that any impacts to the buffer resulting from such permitted activities is fully mitigated. Uses permitted within the buffer shall be located as far from the wetland as possible.
- GH. Stormwater management facilities, such as bio-swales, may not be located within the minimum buffer area as set forth in Table 20.80.330B unless it is determined that the location of the facility will enhance the buffer area, and protect the wetland.
- HI. A regulated wetland and its associated buffer shall either be placed in a separate tract on which development is prohibited, protected by execution of an easement,

dedicated to a conservation organization or land trust, or similarly preserved through a permanent protective mechanism acceptable to the City. The location and limitations associated with the wetland and its buffer shall be shown on the face of the deed or plat applicable to the property and shall be recorded with the King County Department of Records. (Ord. 238 Ch. VIII § 5(C), 2000).

20.80.340 Alteration.

A. Type I Wetlands. Alterations of Type I wetlands shall be prohibited subject to the reasonable use provisions and special use permit provision of this title.

B. Type II, III and IV Wetlands.

1. Any proposed alteration and mitigation shall comply with the mitigation performance standards and requirements of these regulations; and
2. No net loss of wetland function and value may occur; and
3. Where enhancement or replacement is proposed, ratios shall comply with the requirements of this subchapter. (Ord. 238 Ch. VIII § 5(D), 2000).

20.80.350 Mitigation performance standards and requirements.

A. Appropriate Wetland Mitigation Sequence and Actions. Where impacts cannot be avoided, and the applicant has exhausted feasible design alternatives, the applicant or property owner shall seek to implement other appropriate mitigation actions in compliance with the intent, standards and criteria of this section. In an individual case, these actions may include consideration of alternative site plans and layouts, reductions in the density or scope of the proposal, and/or implementation of the performance standards listed in this subchapter.

B. Impacts to wetland functions and values shall be mitigated. Mitigation actions shall be implemented in the preferred sequence: Avoidance, minimization, restoration and replacement. Proposals which include less preferred and/or compensatory mitigation shall demonstrate that:

1. All feasible and reasonable measures will be taken to reduce impacts and losses to the critical area, or to avoid impacts where avoidance is required by these regulations; and

2. The restored, created or enhanced critical area or buffer will be as available and persistent as the critical area or buffer area it replaces; and
3. In the case of wetlands and streams, no overall net loss will occur in wetland or stream functions and values.

C. Location and Timing of Wetland Mitigation.

1. Wetland mitigation shall be provided on-site, unless on-site mitigation is not scientifically feasible due to the physical features of the property. The burden of proof shall be on the applicant to demonstrate that mitigation cannot be provided on-site.
2. When mitigation cannot be provided on-site, mitigation shall be provided in the immediate vicinity of the permitted activity on property owned or controlled by the applicant such as an easement, provided such mitigation is beneficial to the critical area and associated resources. It is the responsibility of the applicant to obtain title to off-site mitigation areas.
3. In-kind mitigation shall be provided except when the applicant demonstrates and the City concurs that greater functional and habitat value can be achieved through out-of-kind mitigation.
4. Only when it is determined by the City that subsections (C)(1), (2), and (3) of this section are inappropriate and impractical shall off-site, out-of-kind mitigation be considered.
5. When wetland mitigation is permitted by these regulations on-site or off-site, the mitigation project shall occur near an adequate water supply (river, stream, ground water) with a hydrologic connection to the proposed wetland mitigation area to ensure successful development or restoration.
6. Any agreed upon mitigation proposal shall be completed prior to project construction, unless a phased schedule that assures completion concurrent with project construction, has been approved by the City.
7. Wetland acreage replacement ratios shall be as specified in this section.

8. When wetland mitigation is permitted by these regulations, native plant materials salvaged from the original wetland area shall be utilized to the maximum extent possible.

D. Wetland Replacement Ratios.

1. Where wetland alterations are permitted by the City, the applicant shall restore or create areas of wetlands in order to compensate for wetland losses. Equivalent areas shall be determined according to acreage, function, type, location, timing factors and projected success of restoration or creation.
2. When creating or enhancing wetlands, the following acreage replacement ratios shall be used:

Table 20.80.350D

Wetland Type	Wetland Creation Replacement Ratio (Area)	Wetland Enhancement Ratio (Area)
Type I	6:1	<u>2</u> 16:1
Type II	<u>2</u> 3:1	<u>4</u> 12:1
Type III	2:1	<u>4</u> 8:1
Type IV	1_ <u>2</u> 5:1	<u>4</u> 6:1

The Department shall have discretion to increase these standards where mitigation is to occur off-site or in other appropriate circumstances based on the recommendations of a wetlands report that includes best available science and is prepared by a qualified professional.

3. Enhanced wetlands shall have higher wetland values and functions than the altered wetland. The values and functions transferred shall be of equal or greater quality to assure no net loss of wetland values and functions.
4. Enhanced and created wetlands shall be appropriately classified and buffered.

5. An enhanced or created wetland and its associated buffer shall be placed either in a separate tract on which development is prohibited, protected by execution of an easement, dedicated to a conservation organization or land trust, or similarly preserved through a permanent protective mechanism acceptable to the City and shall be recorded with the King County Department of Records.

E. Wetlands Performance Standards. The performance standards in this section shall be incorporated into mitigation plans submitted to the City for impacts to critical areas. In addition, the City may prepare a technical manual which includes guidelines and requirements for report preparation. The following performance standards shall apply to any mitigations proposed within Type I, Type II, Type III and Type IV wetlands and their buffers.

1. Plants indigenous to the region (not introduced or foreign species) shall be used.
2. Plant selection shall be consistent with the existing or projected hydrologic regime, including base water levels and stormwater event fluctuations.
3. Plants should be commercially available or available from local sources.
4. Plant species high in food and cover value for fish and wildlife shall be used.
5. Mostly perennial species should be planted.
6. Committing significant areas of the site to species that have questionable potential for successful establishment shall be avoided.
7. Plant selection must be approved by a qualified consultant.
8. The following standards shall apply to wetland design and construction:
 - a. Water depth shall not exceed six and one-half feet (two meters).
 - b. The grade or slope that water flows through the wetland shall not exceed six percent.

- c. Slopes within the wetland basin and the buffer zone shall not be steeper than 3:1 (horizontal to vertical).
 - d. The wetland (excluding the buffer area) should not contain more than 60 percent open water as measured at the seasonal high water mark.
- 9. Substrate should consist of a minimum of one foot, in depth, of clean (uncontaminated with chemicals or solid/hazardous wastes) inorganic/organic materials.
 - 10. Planting densities and placement of plants should be determined by a qualified consultant and shown on the design plans.
 - 11. The planting plan shall be approved by the City.
 - 12. Stockpiling should be confined to upland areas and contract specifications should limit stockpiling of earthen materials to durations in accordance with City clearing and grading standards, unless otherwise approved by the City.
 - 13. Planting instructions shall be submitted which describe proper placement, diversity, and spacing of seeds, tubers, bulbs, rhizomes, sprigs, plugs, and transplanted stock.
 - 14. Controlled release fertilizer shall be applied (if required) at the time of planting and afterward only as plant conditions warrant (determined during the monitoring process).
 - 15. An irrigation system shall be installed, if necessary, for the initial establishment period.
 - 16. All construction specifications and methods shall be approved by a qualified consultant and the City.
 - 17. Construction management shall be provided by a qualified consultant. On-going work on-site shall be inspected by the City.

F. Approved Wetland Mitigation Projects – Signature. On completion of construction, any approved mitigation project shall be signed off by the applicant's

qualified consultant and approved by the City. Signature of the qualified consultant and approval by the City will indicate that the construction has been completed as planned.

G. Monitoring Program and Contingency Plan.

1. A monitoring program shall be implemented by the applicant to determine the success of the mitigation project and any necessary corrective actions. This program shall determine if the original goals and objectives are being met.
2. A contingency plan shall be established for indemnity in the event that the mitigation project is inadequate or fails. A performance and maintenance bond or other acceptable ~~security device~~ financial guarantee is required to ensure the applicant's compliance with the terms of the mitigation agreement. The amount of the performance and maintenance bond shall equal 125 percent of the cost of the mitigation project for a minimum of five years. The bond may be reduced in proportion to work successfully completed over the period of the bond. The bonding period shall coincide with the monitoring period.
3. Monitoring programs prepared to comply with this section shall reflect the following guidelines:
 - a. Scientific procedures shall be used to establish the success or failure of the project.
 - b. For vegetation determinations, permanent sampling points shall be established.
 - c. Vegetative success shall, at a minimum, equal 80 percent survival of planted trees and shrubs and 80 percent cover of desirable understory or emergent plant species at the end of the required monitoring period. Additional standards for vegetative success, including (but not limited to) minimum survival standards following the first growing season, may be required after consideration of a report prepared by a qualified consultant.
 - d. Monitoring reports on the current status of the mitigation project shall be submitted to the City. The reports are to be prepared by a qualified consultant and reviewed by the City or a consultant retained by the City and should include monitoring information on wildlife, vegetation, water quality, water flow, stormwater storage and conveyance, and existing or potential degradation, as applicable, and shall be produced on the

following schedule: at the time of construction; 30 days after planting; early in the growing season of the first year; at the end of the growing season of the first year; twice during the second year; and annually thereafter.

- e. Monitoring programs shall be established for a minimum of five years.
- f. If necessary, failures in the mitigation project shall be corrected.
- g. Dead or undesirable vegetation shall be replaced with appropriate plantings.
- h. Damage caused by erosion, settling, or other geomorphological processes shall be repaired.
- i. The mitigation project shall be re-designed (if necessary) and the new design shall be implemented and monitored, as is subsection (G)(3)(d) of this section.
- j. Correction procedures shall be approved by a qualified consultant and the City. (Ord. 238 Ch. VIII § 5(E), 2000).

Subchapter 5. Flood Hazard Areas

20.80.360 Description and purpose.

- A. A flood hazard area consists of the following components: floodplain; flood fringe; zero-rise floodway; and Federal Emergency Management Agency (FEMA) floodway.
- B. It is the purpose of these regulations to ensure that the City of Shoreline meets the requirements of the National Flood Insurance Program and maintains the City as an eligible community for Federal flood insurance benefits. (Ord. 238 Ch. VIII § 6(A), 2000).
- C. A tsunami hazard area may be designated as a flood hazard area by the Federal or State Government.

20.80.370 Classification.

Flood hazard areas shall be determined after obtaining, reviewing and utilizing base flood elevations and available floodway data for a flood having a one percent chance of being equaled or exceeded in any given year, often referred to as the "100-year flood." The base flood is determined for existing conditions, and is shown on Flood Insurance Rate Maps for King County (FIRM) and incorporated areas, current version; or mapped on the King County Sensitive Areas Folio, unless a more complete basin plan including projected flows under future developed conditions has been completed and adopted by the City of Shoreline, in which case these future flow projections shall be used. In areas where the flood insurance study for the City includes detailed base flood calculations, those calculations may be used. (Ord. 238 Ch. VIII § 6(B), 2000).

20.80.380 Flood fringe – Development standards and permitted alterations.

- A. Development proposals shall not reduce the effective base flood storage volume of the floodplain. Grading or other activity which would reduce the effective storage volume shall be mitigated by creating compensatory storage on the site or off the site if legal arrangements can be made to assure that the effective compensatory storage volume will be preserved over time.
- B. No structure shall be allowed which would be at risk due to stream bank destabilization including, but not limited to, that associated with channel relocation or meandering.
- C. All elevated construction shall be designed and certified by a professional structural engineer licensed by the State of Washington and the design shall be approved by the City prior to construction.
- D. Subdivisions, short subdivisions, lot line adjustments and binding site plans shall meet the following requirements:
 - 1. New building lots shall contain no less than 5,000 square feet of buildable land outside the zero-rise floodway, and building setback areas shall be shown on the face of the plat to restrict permanent structures to this buildable area;
 - 2. All utilities and facilities such as stormwater facilities, sewer, gas, electrical and water systems shall be located and constructed consistent with the standards and requirements of this section;
 - 3. Base flood data and flood hazard notes shall be shown on the face of the recorded subdivision, short subdivision, lot line adjustment or binding site plan

including, but not limited to, the base flood elevation, required flood protection elevations and the boundaries of the floodplain and the zero-rise floodway, if determined; and

4. The following notice shall also be shown on the face of the recorded subdivision, short subdivision, lot line adjustment or binding site plan for all affected lots:

NOTICE

Lots and structures located within Flood Hazard Areas may be inaccessible by emergency vehicles during flood events. Residents and property owners should take appropriate advance precautions.

- E. New residential structures and improvements that include the creation of new impervious surfaces associated with existing residential structures shall meet the following requirements:

1. The lowest floor shall be elevated to the flood protection elevation;
2. Portions of a structure which are below the lowest floor area shall not be fully enclosed. The areas and rooms below the lowest floor shall be designed to automatically equalize hydrostatic and hydrodynamic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for satisfying this requirement shall meet or exceed the following requirements:
 - a. A minimum of two openings on opposite walls having a total open area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided;
 - b. The bottom of all openings shall be no higher than one foot above grade; and
 - c. Openings may be equipped with screens, louvers or other coverings or devices if they permit the unrestricted entry and exit of floodwaters;
3. Materials and methods which are resistant to and minimize flood damage shall be used; and

4. All electrical, heating, ventilation, plumbing, air conditioning equipment and other utility and service facilities shall be floodproofed to or elevated above the flood protection elevation.

F. New nonresidential structures and substantial improvements of existing nonresidential structures shall meet the following requirements:

1. **Elevation.**

- a. Requirements for residential structures contained in subsection (E)(1) of this section shall be met; or
 - b. The structure shall be floodproofed to the flood protection elevation and shall meet the following requirements:
 - i. The applicant shall provide certification by a professional civil or structural engineer licensed by the State of Washington that the floodproofing methods are adequate to withstand the flood depths, pressures, velocities, impacts, uplift forces and other factors associated with the base flood. After construction, the engineer shall certify that the permitted work conforms with the approved plans and specifications; and
 - ii. Approved building permits for floodproofed nonresidential structures shall contain a statement notifying applicants that flood insurance premiums shall be based upon rates for structures which are one foot below the floodproofed level;
2. Materials and methods which are resistant to and minimize flood damage shall be used; and
3. All electrical, heating, ventilation, plumbing, air conditioning equipment and other utility and service facilities shall be floodproofed to or elevated above the flood protection elevation.

G. All new construction shall be anchored to prevent flotation, collapse or lateral movement of the structure.

H. ~~Mobile homes and mobile home parks shall not be permitted in flood hazard areas.~~

I. Utilities shall meet the following requirements:

1. New and replacement utilities including, but not limited to, sewage treatment facilities shall be floodproofed to or elevated above the flood protection elevation;
2. Aboveground utility transmission lines, other than electric transmission lines, shall only be allowed for the transport of nonhazardous substances; and
3. Buried utility transmission lines transporting hazardous substances shall be installed at a minimum depth of four feet below the maximum depth of scour for the base flood, as predicted by a professional civil engineer licensed by the State of Washington, and shall achieve sufficient negative buoyancy so that any potential for flotation or upward migration is eliminated.

J. Critical facilities may be allowed within the flood fringe of the floodplain, but only when no feasible alternative site is available. Critical facilities shall be evaluated through the conditional or special use permit process. Critical facilities constructed within the flood fringe shall have the lowest floor elevated to three or more feet above the base flood elevation. Floodproofing and sealing measures shall be taken to ensure that hazardous substances will not be displaced by or released into floodwaters. Access routes elevated to or above the base flood elevation shall be provided to all critical facilities from the nearest maintained public street or roadway.

K. Prior to approving any permit for alterations in the flood fringe, the City shall determine that all permits required by State or Federal law have been obtained. (Ord. 238 Ch. VIII § 6(C), 2000).

20.80.390 Zero-rise floodway – Development standards and permitted alterations.

A. The requirements which apply to the flood fringe shall also apply to the zero-rise floodway. The more restrictive requirements shall apply where there is a conflict.

B. A development proposal including, but not limited to, new or reconstructed structures shall not cause any increase in the base flood elevation unless the following requirements are met:

1. Amendments to the flood insurance rate map are adopted by FEMA, in accordance with 44 CFR 70, to incorporate the increase in the base flood elevation; and

2. Appropriate legal documents are prepared in which all property owners affected by the increased flood elevations consent to the impacts on their property. These documents shall be filed with the title of record for the affected properties.
- C. The following are presumed to produce no increase in base flood elevation and shall not require a special study to establish this fact:
1. New residential structures outside the FEMA floodway on lots in existence before November 27, 1990, which contain less than 5,000 square feet of buildable land outside the zero-rise floodway and which have a total building footprint of all proposed structures on the lot of less than 2,000 square feet;
 2. Substantial improvements of existing residential structures in the zero-rise floodway, but outside the FEMA floodway, where the footprint is not increased; or
 3. Substantial improvements of existing residential structures meeting the requirements for new residential structures in this title.
- D. Post or piling construction techniques which permit water flow beneath a structure shall be used.
- E. All temporary structures or substances hazardous to public health, safety and welfare, except for hazardous household substances or consumer products containing hazardous substances, shall be removed from the zero-rise floodway during the flood season from September 30th to May 1st.
- F. New residential structures or any structure accessory to a residential use shall meet the following requirements:
1. The structures shall be outside the FEMA floodway; or
 2. The structures shall be on lots in existence before November 27, 1990, which contain less than 5,000 square feet of buildable land outside the zero-rise floodway. Structures shall be designed and situated to minimize encroachment into the zero-rise floodway.

- G. Utilities may be allowed within the zero-rise floodway if the City determines that no feasible alternative site is available, subject to the requirements of this section. Construction of sewage treatment facilities shall be prohibited.
- H. Critical facilities shall not be allowed within the zero-rise floodway except as provided in subsection (I) of this section.
- I. Structures and installations which are dependent upon the floodway may be located in the floodway if the development proposal is approved by all agencies with jurisdiction. Such structures include, but are not limited to:
 - 1. Dams or diversions for water supply, flood control, or fisheries enhancement;
 - 2. Flood damage reduction facilities, such as levees and pumping stations;
 - 3. Stream bank stabilization structures where no feasible alternative exists for protecting public or private property;
 - 4. Stormwater conveyance facilities subject to the development standards for streams and wetlands and the surface water design manual;
 - 5. Boat launches and related recreation structures;
 - 6. Bridge piers and abutments; and
 - 7. Other fisheries enhancement or stream restoration projects. (Ord. 238 Ch. VIII § 6(D), 2000).

20.80.400 FEMA floodway – Development standards and permitted alterations.

- A. The requirements which apply to the zero-rise floodway shall also apply to the FEMA floodway. The more restrictive requirements shall apply where there is a conflict.
- B. A development proposal including, but not limited to, new or reconstructed structures shall not cause any increase in the base flood elevation.
- C. New residential or nonresidential structures shall be prohibited within the FEMA floodway.

- D. Substantial improvements of existing residential structures in the FEMA floodway, meeting the requirements of WAC 173-158-070, as amended, are presumed to produce no increase in base flood elevation and shall not require a special study to establish this fact. (Ord. 238 Ch. VIII § 6(E), 2000).

20.80.410 Flood hazard areas – Certification by engineer or surveyor.

- A. For all new structures or substantial improvements in a flood hazard area, the applicant shall provide certification by a professional civil engineer or land surveyor licensed by the State of Washington of:
1. The actual as-built elevation of the lowest floor, including basement; and
 2. The actual as-built elevation to which the structure is floodproofed, if applicable.
- B. The engineer or surveyor shall indicate if the structure has a basement.
- C. The City shall maintain the certifications required by this section for public inspection. (Ord. 238 Ch. VIII § 6(F), 2000).

Subchapter 6. Aquifer Recharge Areas

20.80.420 Description and purpose.

- A. Aquifer recharge areas provide a source of potable water and contribute to stream discharge during periods of low flow. Urban-type pollutants may enter watercourse supplies through potential infiltration of pollutants through the soil to ground water aquifers.
- B. The primary purpose of aquifer recharge area regulations is to protect aquifer recharge areas by providing for regulation of land use activities that pose a risk of potential aquifer contamination and to minimize impacts through the application of strict performance standards. (Ord. 238 Ch. VIII § 7(A), 2000).

20.80.430 Classification.

Aquifer recharge areas shall be classified based on the soil and ground water conditions and risks to surface water during periods of low hydrology. Classification depends on the combined effects of hydrogeological susceptibility to contamination and contaminant

loading potential, and includes upland areas underlain by soils consisting largely of silt, clay or glacial till, upland areas underlain by soils consisting largely of sand and gravel, and wellhead protection areas and areas underlain by soils consisting largely of sand and gravel in which there is a predominantly downward or lateral component to ground water flow. (Ord. 238 Ch. VIII § 7(B), 2000).

20.80.440 Alteration.

The following land uses and activities shall require implementation of Best Management Practices (BMPs) as established by the Department of Ecology:

- A. Land uses and activities that involve the use, storage, transport or disposal of significant quantities of chemicals, substances or materials that are toxic, dangerous or hazardous, as those terms are defined by State and Federal regulations.
- B. On-site community sewage disposal systems.
- C. Underground storage of chemicals.
- D. Petroleum pipelines.
- E. Solid waste landfills. (Ord. 238 Ch. VIII § 7(C), 2000).

20.80.450 Performance standards and requirements.

Any uses or activities located in a aquifer recharge area, as defined within this subchapter, that involve the use, storage, transport or disposal of significant quantities of chemicals, substances, or materials that are toxic, dangerous or hazardous, as those terms are defined by State and Federal regulations, shall comply with the following additional standards:

- A. Underground storage of chemicals, substances or materials that are toxic, hazardous or dangerous is discouraged.
- B. Any chemicals, substances or materials that are toxic, hazardous or dangerous shall be segregated and stored in receptacles or containers that meet State and Federal standards.

- C. Storage containers shall be located in a designated, secured area that is paved and able to contain leaks and spills, and shall be surrounded by a containment dike.
- D. Secondary containment devices shall be constructed around storage areas to retard the spread of any spills and a monitoring system should be implemented.
- E. A written operations plan shall be developed, including procedures for loading/unloading liquids and for training of employees in proper materials handling.
- F. An emergency response/spill clean-up plan shall be prepared and employees properly trained in to react to accidental spills.
- G. Any aboveground storage tanks shall be located within a diked containment area on an impervious surface. The tanks shall include overfill protection systems and positive controls on outlets to prevent uncontrolled discharges.
- H. Development should be clustered and impervious surfaces limited where possible.
- I. No waste liquids or chemicals of any kind shall be discharged to storm sewers.
- J. All development shall implement Best Management Practices (BMPs) for water quality, as approved by the City, including the standards contained within the City of Shoreline Stormwater Design Manual, such as biofiltration swales and use of oil-water separators, and BMPs appropriate to the particular use proposed. (Ord. 238 Ch. VIII § 7(D), 2000).

Subchapter 7. Stream Areas

20.80.460 Description Designation and purpose.

- A. Streams are those areas where surface waters produce a defined channel or bed, not including irrigation ditches, canals, storm or surface water runoff devices or other entirely artificial watercourses, unless they are used by salmonids or are used to convey streams naturally occurring prior to construction. A channel or bed need not contain water year-round, provided that there is evidence of at least intermittent flow during years of normal rain fall.

B. Stream areas and their associated buffers provide important fish and wildlife habitat and corridors; help to maintain water quality; store and convey stormwater and floodwater; recharge groundwater; and serve as areas for recreation, education and scientific study and aesthetic appreciation.

BC. The primary purpose of the stream area regulations is to avoid impacts to streams and associated riparian corridors and where possible, provide for stream enhancement and rehabilitation. (Ord. 238 Ch. VIII § 8(A), 2000).

20.80.470- Streams

A. "Type I streams" are those streams identified as "Shorelines of the State" under the City Shoreline Master Program.

B. "Type II streams" are those ~~natural~~ streams that are not Type I streams and are either perennial or intermittent and have one of the following characteristics:

1. Salmonid fish use;

2. Demonstrated salmonid habitat value as determined by a qualified professional. ~~Potential for salmonid fish use; or~~

3. ~~Significant recreational value.~~

C. "Type III Streams" are those ~~natural streams which are not Type I or Type II streams~~ with perennial (year round) or intermittent flow with channel width of two feet or more taken at the ordinary high water mark and are not used by salmonid fish. ~~and have no potential to be used by salmonid fish.~~

D. "Type IV streams", which are not Type I, Type II, or Type III are those streams and ~~natural drainage swales~~ with perennial or intermittent flow with channel width less than two feet taken at the ordinary high water mark that are not used by salmonid fish.

E. "Piped stream segments" are those segments of streams, regardless of their type that are fully enclosed in and underground pipe or culvert.

F. For the purposes of this section, "salmonid fish use" and "used by salmonid fish" is presumed for:

1. Streams where naturally recurring use by salmonid populations has been documented by a government agency;

2. Streams that are fish passable or have the potential to be fish passable by salmonid populations, including those from Lake Washington or Puget Sound.

as determined by a qualified professional based on review of stream flow, gradient and barriers and criteria for fish passability established by the Washington Department of Fish and Wildlife; and

3. Streams that are:

a. planned for restoration in a 6-year capital improvement plan adopted by a government agency that will result in a fish passable connection to Lake Washington or Puget Sound.

b. planned removal of the private dams that will result in a fish passable connection to Lake Washington and Puget Sound

~~E. "Intentionally created streams" are those manmade streams defined as such in these regulations, and do not include streams created as mitigation. Purposeful creation must be demonstrated to the City through documentation, photographs, statements and/or other evidence. Intentionally created streams may include irrigation and drainage ditches, grass-lined swales and canals. Intentionally created streams are excluded from regulation under this subchapter, except manmade streams that provide critical habitat for species of fish and wildlife that are proposed or listed by the Federal government or State of Washington as endangered, threatened, critical, or priority species. Intentionally created streams that provide documented critical habitat for these species shall be classified and treated as natural streams. (Ord. 238 Ch. VIII § 8(B), 2000).~~

20.80.480 Required buffer areas.

A. Required buffer widths shall reflect the sensitivity of the stream type, the risks associated with development and, in those circumstances permitted by these regulations, the type and intensity of human activity and site design proposed to be conducted on or near the stream area. Stream buffers shall be measured from the ordinary high water mark (OHWM) or the top of the bank, if the OHWM can not be determined.

B. The following buffers are established for streams:

Table 20.80.480B

Stream Type	Standard Buffer Width (ft)	Minimum Buffer Width (ft)
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Type I	150	400 <u>115</u>
Type II	400 <u>115</u>	75
Type III	50 <u>65</u>	25 <u>35</u>
Type IV	25 <u>35</u>	40 <u>25</u>
Piped Stream Segments	<u>10</u>	<u>10</u>

C. The maximum standard buffer width will shall be established, provided that the buffer may be reduced to the minimum buffer listed above if unless the applicant can demonstrate that a smaller buffer is adequate to protect the stream functions and implements one or more enhancement measures to result in a net improvement to the stream and buffer. The measures determined most applicable and/or appropriate will be considered in reducing buffer requirements. These include but are not limited to:

1. Removal of fish barriers to restore accessibility to anadromous fish.
2. Enhancement of fish habitat using log structures incorporated as part of a fish habitat enhancement plan.
3. Enhancement of fish and wildlife habitat structures that are likely to be used by wildlife, including wood duck houses, bat boxes, nesting platforms, snags, rootwads/stumps, birdhouses, and heron nesting areas.
4. Additional enhancement measures may include:
 - a. Planting native vegetation within the buffer area, especially vegetation that would increase value for fish and wildlife, increase stream bank or slope stability, improve water quality, or provide aesthetic/recreational value; or
 - b. Creation of a surface channel where a stream was previously underground, in a culvert or pipe. Surface channels which are "daylighted" shall be located within a buffer area and shall be designed with energy dissipating functions such as meanders to reduce future erosion;

- c. Removal or modification of existing stream culverts (such as at road crossings) to improve fish passage and flow capabilities; or
 - d. Upgrading of retention/detention facilities or other drainage facilities beyond required levels.
- D. No structures or improvements shall be permitted within the stream buffer area, including buildings, decks, docks, except as otherwise permitted or required under the City's adopted Shoreline Master Program, or under one of the following circumstances:
- 1. When the improvements are part of an approved rehabilitation or mitigation plan; or
 - 2. For the construction of new roads and utilities, and accessory structures, when no feasible alternative location exists; or
 - 3. The construction of trails, over and in the buffer of piped stream segments, and the construction of trails near other stream segments consistent with the following criteria:
 - a. Trails should be constructed of permeable materials;
 - b. Trails shall be designed in a manner that minimizes impact on the stream system;
 - c. Trails shall have a maximum trail corridor width of 10 feet; and
 - d. Trails should be located within the outer half of the buffer, i.e., that portion of the buffer that is farther away from the stream; or
 - 4. The construction of footbridges; or
 - 5. The construction and placement of informational signs or educational demonstration facilities limited to no more than one square yard surface area and four feet high, provided there is no permanent infringement on stream flow; or

6. The establishment of stormwater management facilities, such as bio-swales, over and in the buffer of piped stream segments and when located outside of the minimum buffer area for other stream segments as set forth in the Table 20.80.480B.
- E. The City may extend the width of the buffer on the basis of site-specific analysis when necessary to comply with an adopted basin plan in accordance with City, County, State or Federal plans to preserve endangered or threatened species.
- F. Stream buffer widths may be modified by averaging buffer widths as set forth herein. Buffer width averaging shall be allowed only where the applicant demonstrates to the City:
- ~~1. Buffer width averaging shall be allowed only where the applicant demonstrates to the City that the stream contains variations in sensitivity due to existing physical characteristics, that lower intensity land uses would be located adjacent to areas where buffer width is reduced,~~
 1. The ecological structure and function of the buffer after averaging is equivalent to or greater than the structure and function before averaging;
 2. and that the total area contained within the buffer after averaging is no less than that contained within the standard buffer prior to averaging.
 23. Buffer averaging shall not result in the buffer width being reduced by more than 25 percent of the required buffer as set forth in the table in subsection B of this section and in no case may the buffer be less than 25 feet in the stated minimum width.
 4. A habitat survey shall be conducted within the area of concern in order to identify and prioritize highly functional fish and wildlife habitat within the study area.
- The City may require buffer averaging to be designed to protect areas of greater sensitivity and function based on the recommendations of a stream report prepared by a qualified professional.
- G. ~~Relocation of a Type I, II, III stream in order to facilitate general site design shall not be allowed. Relocation of these classes of streams may take place only when the proposed relocation is part of an approved mitigation or rehabilitation plan, will~~

result in equal or better habitat and water quality, and will not diminish the flow capacity of the stream. Relocation of a Type IV stream shall be allowed only when the proposed relocation will result in equal or better habitat and water quality and will not diminish the flow capacity of the stream.

H. Restoring piped watercourses.

1. The city allows the voluntary opening of previously channelized/culverted streams and the rehabilitation and restoration of streams, especially on public property or when a property owner is a proponent in conjunction with new development.
2. When piped watercourse sections are restored, a protective buffer shall be required of the stream section. The buffer distance shall be based on an approved restoration plan, regardless of stream classification, and shall be a minimum of 10 to 25 feet, at the discretion of the Director, to allow for restoration and maintenance. The stream and buffer area shall include habitat improvements and measures to prevent erosion, landslide and water quality impacts. Opened channels shall be designed to support fish access, unless determined to be unfeasible by the City.
3. Removal of pipes conveying streams shall only occur when the City determines that the proposal will result in a net improvement of water quality and ecological functions and will not significantly increase the threat of erosion, flooding, slope stability or other hazards.
4. Where the buffer of the restored stream would extend beyond a required setback on an adjacent property, the applicant shall obtain a written agreement from the affected neighboring property owner.

(Ord. 299 § 1, 2002; Ord. 238 Ch. VIII § 8(C), 2000).

20.80.490 Alteration.

- A. Bridges shall be used to cross Type I streams. Culverted crossings and other obstructive means of crossing Type I streams shall be prohibited.
- B. Culverts are allowable only under the following circumstances:
 1. Crossing of Type II, III, and IV streams;

2. When fish passage will not be impaired;
 3. When the following design criteria are met:
 - a. Oversized culverts will be installed;
 - b. Culverts will include gradient controls and creation of pools within the culvert for Type II streams where appropriate; and
 - c. Gravel substrate will be placed in the bottom of the culvert to a minimum depth of one foot for Type II streams;
 4. The applicant or successors shall, at all times, keep any culvert free of debris and sediment to allow free passage of water and, if applicable, fish.
- C. The City may require that a culvert be removed from a stream as a condition of approval, unless it is demonstrated conclusively that the culvert is not detrimental to fish habitat or water quality, or removal would be detrimental to fish or wildlife habitat or water quality. (Ord. 238 Ch. VIII § 8(D), 2000).

20.80.500 Mitigation performance standards and requirements.

- A. **Appropriate Stream Mitigation Sequence and Actions.** Where impacts cannot be avoided, and the applicant has exhausted feasible design alternatives, the applicant or property owner shall seek to implement other appropriate mitigation actions in compliance with the intent, standards and criteria of this section. In an individual case, these actions may include consideration of alternative site plans and layouts, reductions in the density or scope of the proposal, and/or implementation of the performance standards listed in this section.
- B. Significant adverse impacts to stream area functions and values shall be mitigated. Mitigation actions shall be implemented in the preferred sequence: Avoidance, minimization, restoration and replacement. Proposals which include less preferred and/or compensatory mitigation shall demonstrate that:
1. All feasible and reasonable measures will be taken to reduce impacts and losses to the stream, or to avoid impacts where avoidance is required by these regulations; and

2. The restored, created or enhanced stream area or buffer will be available and persistent as the stream or buffer area it replaces; and
3. No overall net loss will occur in stream functions and values.

C. Location and Timing of Stream Mitigation.

1. Mitigation shall be provided on-site, unless on-site mitigation is not scientifically feasible due to the physical features of the property. The burden of proof shall be on the applicant to demonstrate that mitigation cannot be provided on-site.
 2. When mitigation cannot be provided on-site, mitigation shall be provided in the immediate vicinity of the permitted activity on property owned or controlled by the applicant such as an easement, provided such mitigation is beneficial to the critical area and associated resources. It is the responsibility of the applicant to obtain title to off-site mitigation areas.
 3. In-kind mitigation shall be provided except when the applicant demonstrates and the City concurs that greater functional and habitat value can be achieved through out-of-kind mitigation.
 4. Only when it is determined by the City that subsections (B)(1), (2), and (3) of this section are inappropriate and impractical shall off-site, out-of-kind mitigation be considered.
 5. When stream mitigation is permitted by these regulations on-site or off-site, the mitigation project shall occur near an adequate water supply (river, stream, ground water) with a hydrologic connection to the mitigation area to ensure successful development or restoration.
 6. Any agreed upon mitigation proposal shall be completed prior to project construction, unless a phased schedule, that assures completion concurrent with project construction, has been approved by the City.
 7. Restored or created streams, where permitted by these regulations, shall be an equivalent or higher stream value or function than the altered stream.
- D. The performance standards in this section and the relevant performance standards located within the wetland standards of SMC 20.80.350(E)(1) through (17) shall be

incorporated into mitigation plans submitted to the City for impacts to critical areas. In addition, the City may prepare a technical manual which includes guidelines and requirements for report preparation. The performance standards shall apply to any mitigations proposed within Type I, Type II or Type III streams within the City.

- E. On completion of construction, any approved mitigation project must be signed off by the applicant's qualified consultant and approved by the City. Signature of the qualified consultant and approval by the City will indicate that the construction has been completed as planned.
- F. **Monitoring Program and Contingency Plan.** A monitoring program shall be implemented by the applicant to determine the success of the mitigation project and any necessary corrective actions. This program shall determine if the original goals and objectives are being met. The monitoring program will be established consistent with the guidelines contained in SMC 20.80.350(G). (Ord. 238 Ch. VIII § 8(E), 2000).