

Part Two – Critical Areas

Aquatic Areas

Aquatic areas are defined as any nonwetland water feature including all shorelines of the state, rivers, streams, marine waters, inland bodies of open water including lakes and ponds, reservoirs and conveyance systems and impoundments of these features if any portion of the feature is formed from a stream or wetland and if any stream or wetland contributing flows is not created solely as a consequence of storm water pond construction. "Aquatic area" does not include water features that are entirely artificially collected or conveyed storm or wastewater systems or entirely artificial channels, ponds, pools or other similar constructed water features.

Water types

Reference CAO Section 192

Type S

Type S waters include all aquatic areas inventoried as "shorelines of the state" under King County's Shoreline Master Program, K.C.C. Title 25, in accordance with chapter 90.58 RCW, including segments of streams where the mean annual flow is more than 20 cubic feet per second, marine shorelines and lakes 20 acres in size or greater.

Examples include: Puget Sound, Snoqualmie River, Ames Lake, Issaquah Creek.

Type F

Type F waters include all segments of aquatic areas that are not Type S waters and that contain fish or fish habitat¹, including waters diverted for use by a federal, state or tribal fish hatchery from the point of diversion for 1,500 feet or the entire tributary if the tributary is highly significant for protection of downstream water quality.

Examples include: Tuck Creek, Mill Creek, Rock Creek, all lakes and ponds smaller than 20 acres that contain fish or fish habitat.

¹ Salmonid use can be determined by using the criteria in the Public Rule: Presumption and Rebuttal of Presumption (the public rule will be updated). The CAO has additional criteria that the department can use to determine when an area upstream of a legal human-made barrier is not fish habitat (See CAO Section 192C).

Type N

Type N waters include all segments of aquatic areas that are not Type S or F waters and that are physically connected to Type S or F waters by an above-ground channel² system, stream or wetland.

Examples include: the steep upper reaches (often seasonal) of other wetlands or fish bearing streams.

Type O

Type O waters include all segments of aquatic areas that are not Type S, F or N waters and that are not physically connected to Type S, F or N waters by an above-ground channel system, stream or wetland.

Examples include: springs from hillsides that then infiltrate with no known surface connection, ephemeral streams with no fish-bearing potential or associated wetlands, an isolated pond or closed depression that dries out or are too acidic or too shallow for fish to live.

Buffers

Reference CAO Section 193

Riparian corridors provide a wide range of highly valuable functions and are essential for sustaining wild fish populations. The most common way to protect these areas is with buffers. A stream buffer is a designated area contiguous to and intended to protect and be an integral part of a stream. Buffers are generally upland areas of vegetation that protect the ecological structure and riparian function of streams from indirect impacts and from the adverse impacts of an adjacent land use. Ecological structure refers to the type, size, age of vegetation, and habitat diversity. The ecological function assessment would evaluate which function or functions the buffer or aquatic area provide and which functions would be lost or compromised from the impact. Not all buffers perform all functions and they provide functions to varying degrees. There are several functional assessment methods that have been developed for the Pacific Northwest.

Stream buffers are measured horizontally from the edge of the ordinary high water mark (OHWM) or top of the stream bank if the OHWM cannot be determined.

² An above ground channel is considered to be present if the 100-year floodplains of both contributing and receiving waters are connected. The 100-year floodplain is determined by conducting a floodplain analysis using best available data from FEMA studies and adopted FEMA floodplain maps.

In situations where the aquatic area is located within a mapped severe channel migration hazard area, the aquatic area buffer width will be the greater of the two buffers (i.e., either the outer edge of the aquatic area or the outer edge of the severe channel migration area). If the aquatic area buffer includes a steep slope or a landslide hazard, then the aquatic buffer width is the greater of the two or 25 feet from the top of the hazard area.

The required buffer setback area is determined by one or more of the following:

- The water type;
- The location of the aquatic area inside or outside of the Urban Growth Area established by the King County Comprehensive Plan;
- The Basin or Shoreline Designation Map (found in Appendix A of the CAO); or
- Location in the Bear Creek drainage basin.

Required Buffers

Table 1. Required buffer widths for aquatic areas located within the Urban Growth Area

Water Type	Required Buffer Width	Required Buffer Width (designated “high” ³)
Type S	115 feet	165 feet
Type F	115 feet	165 feet
Type N	65 feet	65 feet
Type O	25 feet	25 feet

Table 2. Required buffer widths for aquatic areas located outside the Urban Growth Area

Water Type	Required Buffer Width	Required Buffer Width (Bearcreek ⁴)
Type S	165 feet	165 feet
Type F	165 feet	165 feet
Type N	65 feet	100 feet
Type O	25 feet	25 feet

³ If an aquatic area is located in a basin or shoreline designated as “high” on the Basin & Shoreline Map, the required buffers for Type S and F water types are increased (see CAO Attachment A).

⁴ The required buffer for Type N aquatic areas located within the Bear Creek drainage basin.

Buffer width modification

The department may approve a modification of the minimum required buffer in the following ways:

1. Buffer averaging

The buffer width may be reduced if the ecological structure and function of the reduced buffer is equivalent to or greater than the structure and function of the buffer before averaging and meets all of the following:

- the total area of the buffer is not reduced;
- the buffer area is contiguous with the existing buffer; and
- averaging does not result in the reduction of the minimum buffer for the buffer area waterward of the top of the associated steep slope or for a severe channel migration hazard area.

Buffer width averaging criteria and implementation are detailed in the Public Rule: Buffer Width Averaging for Stream and Wetland Buffers. (The Public Rule is in the process of being updated and will include methods for determining buffer function).

2. Buffer cannot provide certain functions

The buffer may be reduced if it cannot provide certain functions because of the soils, geology, or topography, providing that the department establishes buffers which protect the remaining ecological functions that the buffer can provide.

3. Reduction through a Rural Stewardship Plan

This reduction is applicable to sites that are zoned RA and have an approved Rural Stewardship Plan. For details on the Rural Stewardship Plan, refer to CAO Section 139.

4. Roadway transects buffer

Where a legally established road transects a buffer, the minimum required buffer width may be reduced to the edge of the roadway if the buffer on the other side of the roadway provides insignificant biological or hydrological buffer functions in relation to the portion of the buffer adjacent to the aquatic area.

A legally established roadway is defined as "roadway: the maintained areas cleared and graded within a road right-of-way or railroad prism". For a road right-of-way, "roadway" includes all maintained and traveled areas, shoulders,

pathways, sidewalks, ditches and cut and fill slopes. For a railroad prism, "roadway" includes the maintained railbed, shoulders, and cut and fill slopes. "Roadway" is equivalent to the "existing, maintained, improved road right-of-way or railroad prism" as defined in the regional road maintenance guidelines.

5. Aquatic Area created through a non-development proposal

If the aquatic area was created as a result of a non-development enhancement or restoration project and is not mitigation for a development proposal or alteration the buffer may be reduced.

Building and setback lines

Reference CAO Section 157

A building setback line (BSBL) of 15 feet is required between the edge of the aquatic area buffer and any building or structure. Landscaping, uncovered decks, building overhangs that do not exceed more than 18 inches into the setback area, driveways, patios, and drainfields, and some utility connections are allowed within the BSBL.

Permanent survey marking, signs, and fencing

Reference CAO Section 154

Aquatic area in tract

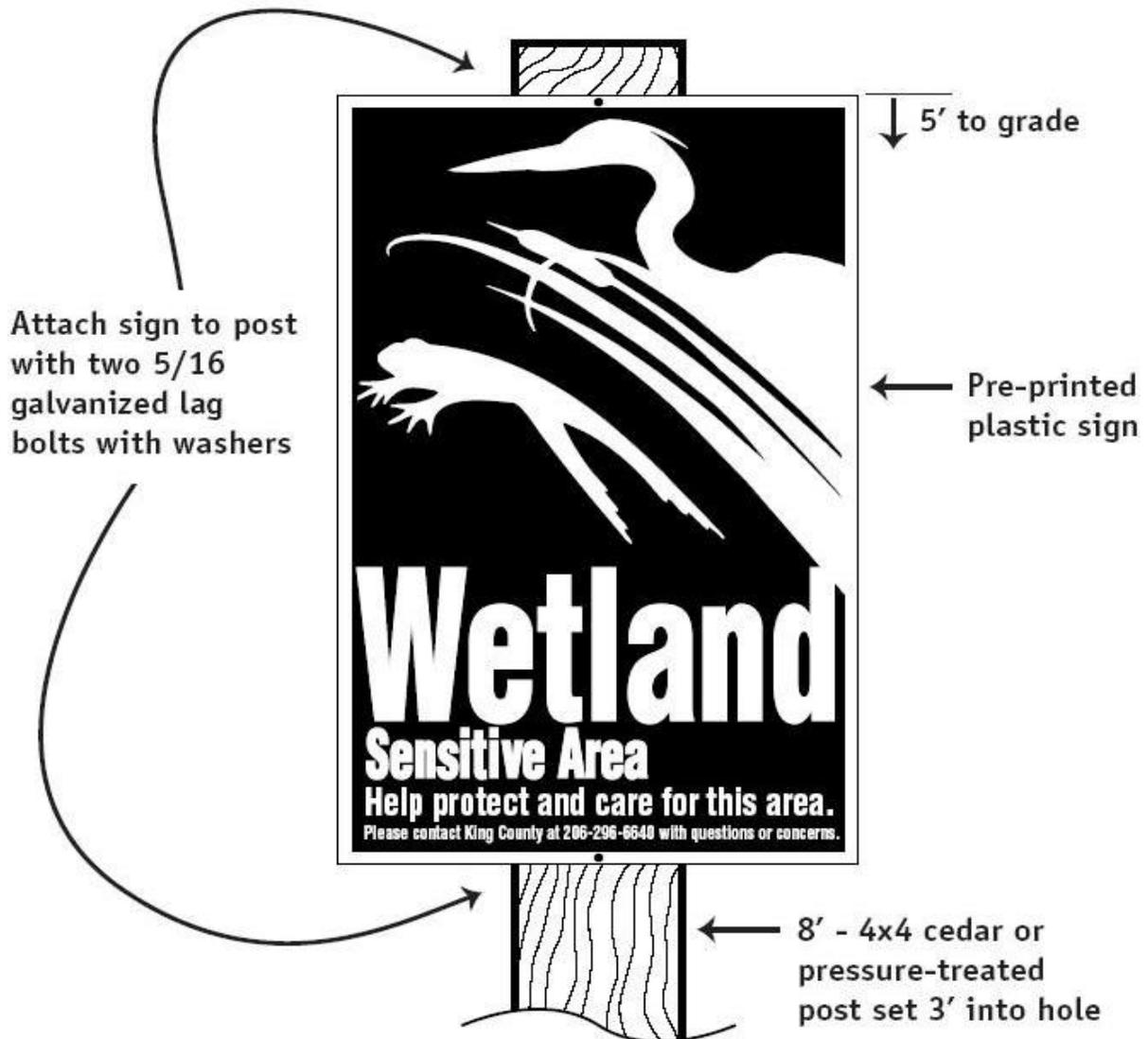
The development proposal must include permanent survey stakes delineating the boundary of the aquatic area tract and adjoining property. Wetland/Stream signs must be placed at the edge of the tract.

Aquatic area not in tract

Wetland/Stream signs and fences may be required by the department.

Sign and fence requirements

The signs must be placed at the edge of the required buffer, between the buffer and the 15-foot BSBL. The spacing of the signs will be determined during the review of the development proposal. Generally signs are spaced every 50 feet to 150 feet and stationed in a prominent location (i.e., at the closest point to the proposed development). Signs may be attached to a post or fence. Stream Sensitive Areas Boundary signs are available from the King County Department of Development and Environmental Services for \$2.50.



King County wetland/stream sign installation detail

The fence should be permanent, a minimum 4-feet high, and be wildlife passable. Wildlife should be able to get into and out of the mitigation site through the fence. Small animals should be able to travel under the fence and large mammals should be able to jump over the fence. Often split rail or smooth wire fences are used.

Notice of critical areas

Reference CAO Section 155

The applicant/owner of any development proposal that contains an aquatic area, aquatic area buffer, or aquatic areas mitigation, will be required to file a Notice of Critical Areas. The paperwork for the Notice of Critical Areas will be approved and

prepared by the department. The applicant/owner will be responsible for filing the Notice of Critical Areas with King County Records and Elections.

Critical area tracts

Reference CAO Section 156

The applicant will use a recorded critical area tract to delineate and protect aquatic areas and buffers in development proposals for subdivisions, short subdivisions, or binding site plans.

Critical area review

Reference CAO Section 146

Prior to any clearing, grading, or site preparation for a development proposal permit application, or any other reason to alter a site, a critical area review must be conducted to determine whether there is an aquatic area or buffer located on the site or mapped or identified within 300-feet of the development site. As part of the critical area review, the department will review critical area reports to determine that all of the critical areas have been accurately identified, determine if the critical area or its buffer will be altered due to the development proposal and determine if the development proposal is consistent with this chapter. If impacts are proposed, the review will determine if the proposal has avoided impacts to the critical area and to insure that the mitigation measures and monitoring are consistent with the goals, objectives, and requirements of this chapter.

Report requirements

Reference CAO Section 147

The applicant for the development proposal is required to submit a Critical Areas Report to the department for review. The department will determine whether a Level I, II, III or IV Critical Areas Report is required.

A Level I report is required for development proposals requiring a critical area review and includes the following basic information:

- Valid Critical Areas Designation. The aquatic area will be identified by an expert and the results from the study will designate the aquatic area regarding the presence, type, and location on the property. The applicant may choose to hire a consultant or a King County DDES Environmental Scientist to conduct the study. Additional information and application form for the designation process can be found at: <http://www.metrokc.gov/ddes> or by calling DDES at 206-296-6600;

- If applicable, a critical area review performed for the same site or portion of the site for another permit approval process in the prior five years;
- If applicable, an approved Farm Management Plan approved after January 1, 1993 and consistent with CAO Section 138, a Rural Stewardship Plan consistent with CAO Section 139, an approved Forest Stewardship Plan effective date of this section; and
- A basic checklist determined by the department for each critical area on or adjacent to the site and buffer including topographic features, general vegetation types and potential habitat and breeding sites, and any information related to the classification, type or category of the critical area.

Level II, III and IV four reports are required when additional information beyond what is described above is needed to determine potential impacts or risks, functions, and appropriate mitigation. Refer to CAO Section 147C.

Avoiding impacts to critical areas

Reference CAO Section 149

If the development is proposing impacts or alterations to the aquatic area or buffer then the applicant must try to avoid the impact to the extent possible by applying the sequential measures described in this section. Often referred to as mitigation sequencing, there are seven mitigation measures that are listed in order of priority. The applicant will be required to document in the critical area report that the appropriate measure was applied. For instance, the first measure is to avoid the impact by not taking the action. Avoidance includes redesigning the proposed development to avoid all impacts to the aquatic area and buffer. If the site conditions do not allow for redesigning the proposed development, then the second mitigation measure, minimizing the impact would be applied. Section 149 lists the avoidance measures.

Mitigation and monitoring

Reference CAO Section 150, 188

Mitigation is required to compensate for impacts to the aquatic area or aquatic area buffer. Prior to determining the appropriate mitigation, a Critical Areas Report has been verified and approved by the department. In addition, the sequential mitigation measures regarding avoidance of the impact have been applied and documented in the report.

Specific mitigation requirements are discussed later in this chapter. Once the mitigation plan has been approved by the department the applicant may implement the plan. When the plan is installed, the applicant will contact the department so that an inspection can be conducted. The applicant will also have to provide the

department reasonable access to the property for future monitoring inspections during the monitoring period.

The purpose of the monitoring plan is to monitor the performance of the mitigation plan and includes; compliance with this title, provides a contingency plan in the event of a failure of mitigation or of unseen impacts. The monitoring schedule may extend throughout the impact of the activity. The duration, frequency, and methods of monitoring depend on the goals and objectives and performance standards for the project. In general, mitigation projects will be monitored for at least three to five years.

There are several sources of information on how to prepare a mitigation plan and monitoring plan.

For single-family projects which involve minor encroachments into the buffer:

King County DDES “Restoration & Enhancement Guidelines of Sensitive Areas in King County”. Available on the King County Web site:
<http://metrokc.gov/ddes>.

For projects that propose a stream crossing or work within the ordinary high water mark:

- King County Department of Transportation Roads Services Division “Culvert Fish Passage Construction Guidelines for Maintenance Crews October 25, 2004”. Available by calling 206-296-8100.
- Washington Department of Fish and Wildlife’s Manual” 2003 “Design of Road Culverts for Fish Passage.” Available at
<http://wdfw.wa.gov/hab/engineer/cm/>.

For stream restoration methods such as placing LWD placement, etc:

Washington State Department, U.S. fish and Wildlife Service, and Washington Department of fish and Wildlife “Stream Habitat Restoration Guidelines 2004) available at: <http://wdfw.wa.gov/hab/ahg/shrg/index.htm>

Any construction activity that will use, divert, obstruct, or change the bed or flow of state waters must obtain a Hydraulic Permit Approval (HPA). Contact <http://www.wdfw.wa.gov/hab/hpapage.htm>.

Offsite mitigation

Reference CAO Section 151

The applicant should mitigate for impacts to aquatic areas and buffers on or contiguous to the site. If this is not possible, then the department may approve mitigation off the development site if the applicant:

- Can demonstrate that it is not practical to mitigate on the site or contiguous to the site; and
- The offsite mitigation will achieve equal or greater hydrological, water quality and wetland habitat features.

Priority will be given to locations that are within the same drainage subbasin and are mitigation banking sites, resource mitigation reserves, private mitigation sites, or public mitigation sites authorized by this chapter. The department may require documentation that the mitigation site has been permanently preserved from future development.

The department is in the process of developing a list of sites available for offsite mitigation projects, a fee in-lieu of program and resource mitigation reserve .

Specific mitigation requirements

Reference CAO Section 197

This section describes how to determine the mitigation for the adverse impacts from an alteration to the aquatic area or aquatic area buffer. The mitigation measures must achieve equivalent or greater functions including but not limited to:

- Habitat complexity, connectivity, and other biological functions;
- Seasonal hydrological dynamics, water storage capacity and water quality; and
- Geomorphic and habitat process and functions .

To the maximum extent practical⁵, permanent alterations that require restoration or enhancement must consider the following design factors as applicable to the function being mitigated:

- The natural channel or shoreline reach dimensions including its depth, width, length, and gradient;
- The horizontal alignment and sinuosity;
- The channel bed, sea bed, or lake bottom with identical or similar substrate and similar erosion and sediment transport dynamics;
- Bank and buffer configuration and erosion and sedimentation rates; and
- Similar vegetation species diversity, size, and densities in the channel, sea bed, or lake bottom and on the riparian bank or buffer .

⁵ Maximum extent practical is defined as the highest level of effectiveness that can be achieved through the use of best available science or technology .

Mitigation to compensate for adverse impacts shall meet the following standards:

- Not upstream of a barrier to fish passage;
- Is equal or greater in biological function; and
- To the maximum extent practical is located on the site of the alteration or within one-half mile of the site and in the same aquatic reach at a 1:1 ratio of area of mitigation to area of alteration; OR
- Is located in the same aquatic area⁶ drainage subbasin or marine shoreline and attains the following ratios of area of functional mitigation to area of alteration:

Type S or F	3:1
Type N or O	2:1

Reference CAO Section 197 E

Reducing mitigation ratios

The department may reduce the mitigation ratios of this section to 2:1 for Type S or F aquatic areas and 1.5:1 for Type N and O aquatic areas if the applicant provides a scientifically rigorous mitigation monitoring program. Refer to CAO Section 197.E for the elements that need to be included in the report.

Allowed alterations to aquatic areas and buffers

Reference CAO Sections 137 (subsection D), 195

The standards established in CAO Section 137 apply to all developments that are proposed within an aquatic area or its buffer. Alterations are allowed in the aquatic area and buffer if the alteration complies with the development standards, mitigation requirements, and other applicable requirements in this chapter. Refer to the table in CAO Section 137 that lists the allowed alteration (labeled as A) with the corresponding number (1-59) which refers to the alteration condition that applies.

Several general limitations have been added to the provisions listed in Section 137 regarding alterations within aquatic areas or their buffers (*CAO Section 195*). The additional standards include:

- Grading in buffers is only allowed from May 1 to October 1, provided that this period may be modified when the department determines it is necessary along marine shorelines to protect critical forage and salmonid migration.

⁶ A mitigation measure is in the same aquatic area reach if the length of aquatic area shoreline meets the criteria in CAO Section 197D.

- The moisture-holding capacity of the topsoil layer on all areas of the site not covered by impervious surfaces should be maintained by minimizing soil compaction or reestablishing natural soil structure and the capacity to infiltrate. Refer to the CAO Section 10 F and G of the Clearing and Grading Code.
- New structures within buffers should be sited to avoid the creation of future hazard trees and to minimize the impact on groundwater movement.
- To the maximum extent practical, the soil duff layer should not be disturbed, but if disturbed the soil should be redistributed to other areas of the project; a spatial connection should be provided between vegetation within and outside of the buffer to prevent creation of wind throw hazards; and hazard trees should be retained in the buffer and either topped or pushed over toward the aquatic area.

Allowed alterations

The allowed alterations from Section 137 are summarized below.

Single detached dwelling unit

Construction of single detached dwelling units is allowed within a buffer of a lake that is 20 acres or larger on a lot that was created before January 1, 2005, if:

- At least 75 percent of the lots abutting the shoreline of the lake or 75 percent of the lake frontage, whichever constitutes the most developable lake frontage, has existing density of four dwelling units per acre or more;
- The development proposal, including mitigation required by this chapter, will have the least adverse impact on the critical area;
- Existing native vegetation within the critical area buffer will remain undisturbed except as necessary to accommodate the development proposal and required building setbacks;
- Access is located to have the least adverse impact on the critical area and critical area buffer;
- The alteration is the minimum necessary to accommodate the development proposal and in no case in excess of a development footprint of 5,000 square feet;
- The alteration does not exceed the residential development setbacks required under K.C.C. chapter 25.04 and in no circumstances shall the alteration be allowed closer than:
 1. 25 feet of the ordinary high water mark of the lake shoreline designated urban under K.C.C. chapter 25.16,
 2. 50 feet of the ordinary high water mark of a lake shoreline designated rural under K.C.C. chapter 25.20 or conservancy under K.C.C. chapter 25.24, or
 3. 100 feet of the ordinary high water mark of a lake shoreline designated natural under K.C.C. chapter 25.28; and

- To the maximum extent practical, alterations are mitigated on the development proposal site by enhancing or restoring remaining critical area buffers.

Nonresidential structures

Construction of nonresidential farm structures is allowed within grazed or tilled wet meadows or buffers of wetlands or aquatic areas where:

- The site is predominately used for the practice of agriculture;
- The structure is in compliance with an approved Farm Management Plan (*See CAO Section 138*);
- The structure is either:
 1. On or adjacent to existing nonresidential impervious surface areas, additional impervious surface area is not created waterward of existing impervious surface areas and the area was not used for crop production;
 2. Higher in elevation and no closer to the severe channel migration hazard area or aquatic area or aquatic area buffer than its existing position;
 3. Located away from existing impervious surface area that is determined to be the optimum site in the Farm Management Plan;
 4. Best management practices associated with the structure specified in the Farm Management Plan are installed and maintained; or
 5. Installation of fencing in accordance with K.C.C. chapter 21A.30 does not require the development of a Farm Management Plan if required best management practices are followed and the installation does not require clearing of critical areas or their buffers.

In the severe channel migration hazard area portion of an aquatic buffer only if:

- There is no feasible location on site;
- The structure is not used to house animals or store hazardous substances; and
- The total footprint of all accessory structures within the severe channel migration hazard area will not exceed the greater of 1,000 square feet within the severe channel migration hazard or two percent of the severe channel migration hazard area on site.

Existing structures

Existing structures may be maintained or repaired.

Expansion or replacement of existing primary structures is allowed within a severe channel migration hazard area if:

- There is not an increase of the footprint of any existing structure;
- There is not a substantial improvement as defined in K.C.C. 21A.06.1270; and
- Expansion or replacement does not increase the footprint of a nonresidential structure.

Expansion or replacement of existing accessory structures is allowed if:

- Addition to the footprint will not make the total footprint of all existing structures more than 1,000 square feet; and
- There is not an expansion of the footprint towards any source of channel migration hazard unless the applicant demonstrates that the location is less subject to risk and has less impact on the critical area.

Expansion or replacement of existing primary structures is allowed only in grazed wet meadows or the buffer or building setback outside a severe channel migration hazard area if:

- The expansion or replacement does not increase the footprint of a nonresidential structure;
- The expansion or replacement does not increase the footprint of a dwelling unit by more than 1,000 square feet and the location of the expanded area has the least adverse impact on the critical area;
- The structure was not established as the result of a variance, buffer averaging or reasonable use exception, and
- To the maximum extent practical, the expansion or replacement is not located closer to the critical area or within the relic channel that can be connected to an aquatic area.

Existing structures are allowed upon another portion of an existing impervious surface outside a severe channel migration hazard area if:

- The structure is not located closer to the critical area; and
- The existing impervious surface within the critical area or buffer is not expanded.

Remodeling

Interior remodeling is allowed.

Docks or piers

Construction of new docks or piers is limited to seasonal floating docks or piers in a Category II, III, IV wetland or its buffer or along a lake shoreline or its buffer where:

- The existing and zoned density of all properties abutting the entire lake shoreline averages three dwelling units per acre or more;
- At least 75 percent of the lots abutting the shoreline or 75 percent of the lake frontage, whichever constitutes the most lake frontage, has been developed with dwelling units;
- There is not any significant vegetation where the alteration is proposed and the loss of vegetation was not the result of any violation of law;
- The wetland or lake shoreline is not a salmonid spawning area;
- Hazardous substances or toxic material are not used;
- Allowed on Type N or O aquatic areas if hazardous substances or toxic materials are not used; or
- Allowed on Type S or F aquatic areas outside of the severe channel migration hazard area and if in compliance with K.C.C. Title 25 (Shorelines).

Maintenance, repair or replacement of docks or piers is allowed if:

- Allowed on Type N or O aquatic areas if hazardous substances or toxic materials are not used; or
- Allowed on Type S or F aquatic areas outside of the severe channel migration hazard area and if in compliance with K.C.C. Title 25 (Shorelines)

Grading

The following are allowed in the severe channel migration hazard area if:

- Conducted more than 165 feet from the ordinary high water mark (See definition in CAO Section 82) in the rural area and 115 feet from the ordinary high water mark in the urban area;
- Grading up to 50 cubic yards on lots less than five acres; and
- Clearing up to 1,000 square feet or up to a cumulative 35 percent of the severe channel migration hazard area.

Construction of new slope stabilization is allowed only where erosion or landsliding threatens a structure, utility facility, roadway, drive way, public trails, aquatic area or wetland if to the maximum extent practical, stabilization work must not disturb the slope and its vegetation cover or any associated critical areas.

Maintenance of existing slope stabilization is allowed when performed by or at the direction of a government agency in accordance with regional road maintenance guidelines. These guidelines are available online at <http://www.metrokc.gov/kcdot/roads/esa/index.cfm>.

Maintenance of existing slope stabilization is allowed when not performed under the direction of a government agency only if:

- The maintenance does not involve the use of herbicides, hazardous substances, sealants or other liquid oily substances in aquatic areas, wetlands or their buffers; and
- When the maintenance or the replacement of bridges or culverts involves waters used by salmonids, the work is in compliance with ditch standards in a Public Rule and the maintenance of culverts is limited to removal of sediment and debris from the culvert and its inlet, invert and outlet and the stabilization of the disturbed or damaged bank or channel immediately adjacent to the culvert and does not involve the excavation of a new sediment trap adjacent to the inlet. The King County Public Rule is available on line at: http://www.metrokc.gov/ddes/pub_rule/#rules (Chapter 21A.24 Sensitive Areas: Maintenance of Ditches Used by Salmonids).

Clearing

The following are allowed in the severe channel migration hazard area if:

- Conducted more than 165 feet from the ordinary high water mark (*See definition in CAO Section 82*) in the rural area and 115 feet from the ordinary high water mark in the urban area;
- Grading up to 50 cubic yards on lots less than five acres; and
- Clearing up to 1,000 square feet or up to a cumulative 35 percent of the severe channel migration hazard area.

Clearing is allowed for the removal of hazard trees (*See CAO Section 107*) and vegetation as necessary for surveying or testing purposes. Clearing is also allowed for harvesting of plants and plant materials, such as plugs, stakes, seeds or fruits, for restoration and enhancement projects.

Cutting of firewood is:

- Not allowed in a wildlife habitat conservation area;
- Allowed within a critical area for personal use with an approved Forest Management Plan or Rural Stewardship Plan; and
- Allowed within a wildlife network with an approved management plan under K.C.C.21A.14.270 as recodified by this ordinance.

Removal of vegetation for fire safety is allowed in buffers if in accordance with best management practices approved by the King County Fire Marshal.

Removal of noxious weeds or invasive vegetation is allowed if:

- In accordance with an approved Forest Management Plan, farm plan, or Rural Stewardship Plan; or

- Without an approved Forest Management Plan or Rural Stewardship Plan if:
 1. Removal is undertaken with hand labor, including hand-held mechanical tools, unless the King County Noxious Weed Control Board otherwise prescribes the use of riding mowers, light mechanical cultivating equipment or biological control methods. Call 206-296-0290 or visit the King County Noxious Weed Control Web site at: <http://dnr.metrokc.gov/wlr/lands/weeds/index.htm>. The area of noxious weed or invasive vegetation removal must be stabilized to avoid re-growth or regeneration and the area must be re-vegetated with native or non-invasive vegetation and stabilized against erosion; and
 2. Herbicide use is in accordance with federal and state law.

Forest practices

Non-Conversion Class IV-G Forest Practice is allowed if conducted in accordance with chapter 76.09 RCW and Title 222 WAC and a Forest Management Plan is approved for the site by the King County Department of Natural Resources and Parks. The property owner must also provide a notice of intent in accordance with RCW 76.09.060 that the site will not be converted to non-forestry use within six years. Additional information on Forest Management Plans is available at:

<http://dnr.metrokc.gov/wlr/lands/forestry/index.htm>

Class I, II, III, IV-S forest practice is allowed.

Roads

Construction of new roads, right-of way structure on unimproved right-of way is allowed if:

- There is no feasible location with less adverse impact on an aquatic area and its buffer;
- The road corridor is not located over habitat used for salmonid rearing or spawning or by any species listed as endangered or threatened by the state and federal government unless the department determines there are no other feasible crossing sites;
- The road corridor width is minimized to the maximum extent practical;
- The construction occurs during approved periods for instream work; and
- The corridor will not change or diminish the overall aquatic area flow peaks, duration or volume or the flood storage capacity.

Maintenance of a public road right-of-way structure is allowed:

- When performed by or at the direction of a government agency in accordance with the regional road maintenance guidelines. These guidelines are available online at: <http://www.metrokc.gov/kcdot/roads/esa/index.cfm>.

Expansion beyond public road right-of-way structure is allowed when:

- There is no feasible location with less adverse impact on an aquatic area and its buffer;
- The road corridor is not located over habitat used for salmonid rearing or spawning or by any species listed as endangered or threatened by the state and federal government unless the department determines there are no other feasible crossing sites;
- The road corridor width is minimized to the maximum extent practical;
- The construction occurs during approved periods for instream work; and
- The corridor will not change or diminish the overall aquatic area flow peaks, duration or volume or the flood storage capacity.

Repair, replacement or modification within the roadway is allowed if:

- When performed by or at the direction of a government agency in accordance with the regional road maintenance guidelines. These guidelines are available online at: <http://www.metrokc.gov/kcdot/roads/esa/index.cfm>.

Driveways and private access roads

Construction of a driveway or private access road is allowed if:

- An alternative access is not available;
- Impact to the critical area is minimized to the maximum extent practical including the use of walls to limit the amount of cut and fill necessary;
- The risk associated with landslide and erosion is minimized;
- Access is located where it is least subject to risk from channel migration; and
- Construction occurs during approved periods for instream work.

Farm field access drives

Construction of farm field access drives is allowed with an approved Farm Management Plan. See CAO Section 138 relating to Farm Management Plans.

Maintenance of a driveway, private access road, or farm field access drive is allowed. When the maintenance is not performed under the direction of a government agency, the maintenance is allowed only if:

- The maintenance does not involve the use of herbicides, hazardous substances, sealants or other liquid oily substances in aquatic areas, wetlands or their buffers, and
- When the maintenance or the replacement of bridges or culverts involves waters used by salmonids, the work is in compliance with ditch standards in a

Public Rule and the maintenance of culverts is limited to removal of sediment and debris from the culvert and its inlet, invert and outlet and the stabilization of the disturbed or damaged bank or channel immediately adjacent to the culvert and does not involve the excavation of a new sediment trap adjacent to the inlet. The King County Public Rule is available online at: http://www.metrokc.gov/ddes/pub_rule/#rules (Chapter 21A.24 Sensitive Areas: Maintenance of Ditches Used by Salmonids).

Bridges or culverts

Maintenance or repair of a bridge or a culvert is allowed when:

- Performed by or at the direction of a government agency in accordance with regional road maintenance guidelines. These guidelines are available online at: <http://www.metrokc.gov/kcdot/roads/esa/index.cfm>;
- The maintenance does not involve the use of herbicides, hazardous substances, sealants or other liquid oily substances in aquatic areas, wetlands or their buffers, and
- When the maintenance or the replacement of bridges or culverts involves waters used by salmonids, the work is in compliance with ditch standards in a Public Rule and the maintenance of culverts is limited to removal of sediment and debris from the culvert and its inlet, invert and outlet and the stabilization of the disturbed or damaged bank or channel immediately adjacent to the culvert and does not involve the excavation of a new sediment trap adjacent to the inlet. The King County Public Rule is available online at: http://www.metrokc.gov/ddes/pub_rule/#rules (Chapter 21A.24 Sensitive Areas: Maintenance of Ditches Used by Salmonids).

Replacement of a bridge or culvert is allowed when:

- Performed by or at the direction of a government agency in accordance with regional road maintenance guidelines. These guidelines are available online at: <http://www.metrokc.gov/kcdot/roads/esa/index.cfm>.
- The replacement of a bridge or culvert is made fish passable in accordance with the most recent Washington State Department of Fish and Wildlife manuals or with the National Marine and Fisheries Services guidelines for federally listed salmonid species. The document Washington State Fish and Wildlife Service “Design of Fish Passage at Culverts” is available at: <http://wdfw.wa.gov/hab/engineer/cm>. The National Marine and Fisheries Services guidelines for federally listed salmonid species is available at: <http://pacific.fws.gov/jobs/orojitw/standard/fish-std.htm>.
- The site must be restored with appropriate native vegetation.

Expansion of a bridge or culvert is allowed if it is necessary to bring the bridge or culvert up to current standards; and

- There is no other feasible alternative solution available with less impact on the aquatic area and its buffer; and
- The bridge or culvert must be located to the maximum extent practical to minimize impacts to the aquatic area and its buffer.

Utilities and other infrastructure

New utility corridors or utility facilities are allowed if they are located within an existing roadway and are consistent with the regional road maintenance guidelines. These guidelines are available online at:

<http://www.metrokc.gov/kcdot/roads/esa/index.cfm>.

New utilities and other infrastructure are limited to construction of pipelines, cables, wires and support structures of utility facilities within utility corridors. The following requirements must be met:

- New pipelines, cables, wires and support structures are allowed only when there is no alternative location with less adverse impact on the critical area and critical area buffer.
- New utility corridors must meet all of the following requirements to the maximum extent practical:
 1. do not locate over habitat used for salmonid rearing or spawning or by a species listed as endangered or threatened by the state or federal government unless the department determines that there is no other feasible crossing site. A list species that are endangered or threatened is available at: <http://wdfw.wa.gov/wlm/diversty/soc/concern.htm>.
 2. Do not locate a new utility corridor in an aquatic area if the mean annual flow rate is equal to or greater than 20 cubic feet per second.
 3. Paralleling the channel or following a down-valley route near the channel should be avoided.
- To the maximum extent practical, new utility corridors must be located as follows:
 1. minimize the width of the utility corridor;
 2. minimize the removal of trees greater than 12 inches diameter at breast height; and
 3. Provide additional, contiguous and undisturbed critical area buffer, equal in area to the disturbed critical area buffer area including any allowed maintenance roads.
- To the maximum extent practical, access for maintenance of utility corridors must be at limited access points into the aquatic area buffer rather than by a parallel maintenance road. If a parallel maintenance road is necessary, the following standards must be met:
 1. minimize the width of the maintenance road to the maximum extent practical and in no event can it be greater than 15 feet; and

2. locate the maintenance road contiguous to the utility corridor on the side of the utility corridor farthest from the critical area.
- New utility corridors or utility facilities must not change or diminish the overall aquatic area hydrology or flood storage capacity.
 - Construction must occur during approved periods for instream work. This period is usually from about June 15th to September 30th, but work at other times can sometimes be approved on a site-by site basis. The timing is usually specified in the HPA and in DDES permit conditions.
 - The utility corridor must serve multiple purposes and properties to the maximum extent practical.
 - Bridges or other construction techniques that do not disturb the critical areas must be used to the maximum extent practical.
 - Bored, drilled or other trenchless crossings of the aquatic area or buffer must be laterally constructed at least four feet below the maximum depth of scour for the base flood.
 - Bridge piers or abutments for bridge crossing must not be placed within the FEMA floodway or the ordinary high water mark.
 - Open trenching may only be used during low flow periods and only within aquatic areas when they are dry. The department may approve open trenching of Type S or F aquatic areas only if there is no feasible alternative and equivalent or greater environmental protection can be achieved.
 - Minor communication facilities may collocate on existing utility facilities if:
 1. no new transmission support structure is required; and
 2. equipment cabinets are located on the transmission support structure.

Maintenance, repair or replacement is allowed for private individual utility service connections on site or to public utilities if the disturbed area is not expanded and no hazardous substances, pesticides or fertilizers are applied.

Wells and onsite sewage disposal systems

Maintenance or repair of existing wells and onsite sewage disposal systems is allowed if the disturbed area is not expanded, clearing is limited to the maximum extent practical and no hazardous substances, pesticides or fertilizers are applied.

Surface water systems

Construction of new surface water conveyance systems, surface water flow control or surface water quality treatment facilities are allowed if they are within an existing roadway and are constructed to be consistent with the regional road maintenance guidelines. These guidelines are available online at <http://www.metrokc.gov/kcdot/roads/esa/index.cfm>. If not within the roadway, only vegetation may be used to construct a new surface water conveyance system.

Maintenance, repair or replacement of existing surface water conveyance systems or surface water flow control or surface water quality treatment facilities is allowed if performed by or at the direction of a government agency in accordance with the regional road maintenance guidelines. These guidelines are available online at <http://www.metrokc.gov/kcdot/roads/esa/index.cfm>.

Open, vegetated storm water management conveyance systems and outfall structures that simulate natural conditions may be maintained, repaired or replaced if:

- Fish habitat features necessary for feeding, cover and reproduction are included, when appropriate;
- The vegetation is maintained and added adjacent to all open channels and ponds, if necessary, to prevent erosion, filter out sediments or shade the water; and
- Bioengineering techniques are used to the maximum extent practical.

Closed, tight lined conveyance system and outfall structures may be maintained, repaired or replaced if:

- Necessary to avoid erosion of slopes; and
- Bioengineering techniques are used to the maximum extent practical.

Flood protection facilities

Construction of a new flood protection facility is allowed in a severe channel migration hazard area portion of an aquatic area buffer to prevent bank erosion only if consistent with the Washington State Integrated Stream Protection Guidelines and if bioengineering (See CAO Section 11) techniques are used to the maximum extent practical, unless the applicant can demonstrate that other methods provide equivalent structural stabilization and environmental function. The Washington State Integrated Stream Protection Guidelines are available online at: <http://dnr.metrokc.gov/wlr/biostabl/>. New flood protection facilities are only allowed in a severe channel migration hazard area to protect the following:

- Public roadways;

- Sole access routes that were in existence before February 16, 1995; or
- New primary dwelling units, accessory dwelling units or accessory living quarters and residential accessory structures located outside the severe channel migration hazard area if:
 1. the site is adjacent to or abutted by properties on both sides containing buildings or sole access routes protected by legal bank stabilization in existence before February 16, 1995. The buildings, sole access routes or bank stabilization must be located no more than 600 feet apart as measures parallel to the migrating channel; and
 2. the new primary dwelling units, accessory dwelling units, accessory living quarters or residential accessory structures are located no closer to the aquatic area than similar structures on abutting adjacent properties.

Maintenance, repair or replacement of lawfully established flood protection facilities is allowed if:

- Maintained by a public agency;
- The height of the facility is not increased;
- The linear length of the affected edge of the facility is not increased;
- The footprint of the facility is not expanded waterward;
- If consistent with the King County's Guidelines for Bank Stabilization Projects and if bioengineering (*See CAO Section 11*) techniques are used to the maximum extent practical; and
- The site is restored with appropriate native vegetation.

Instream structures

New instream structures (*See CAO Section 68*) or instream work is allowed if performed by or at the direction of a government agency in accordance with the regional road maintenance guidelines, which are available online at: <http://www.metrokc.gov/kcdot/roads/esa/index.cfm>.

If the aquatic area is a Type N or O, the new instream structure or work must be done in the least impacting way and at the least impacting time of the year. It must also be done in conformance with applicable best management practices and all the affected instream and buffer features restored. If the aquatic area is a Type S or F, the new instream structure or work must be included as part of a project to evaluate, restore or improve habitat, and must be sponsored or co-sponsored by a public agency that has natural resource management as a function or by a federally recognized tribe.

Existing instream structures may be maintained or repaired.

Recreation areas

Construction of a new trail is not allowed in a wildlife habitat conservation area. Otherwise, a new trail is allowed as far landward as feasible in the buffer if:

- The trail surface is not made of impervious material except that public multipurpose trails may be made of impervious materials if they meet all the requirements in K.C.C. chapter 9.12; and
- To the maximum extent practical, buffers are expanded equal to the width of the trail corridor including disturbed area.

Maintenance of outdoor public park facilities, trails and publicly improved recreation areas is allowed only if the maintenance:

- Does not involve the use of herbicides or other hazardous substances except for the removal of noxious weeds or invasive vegetation;
- When salmonids are present, the maintenance must be in compliance with the King County Public Rule for *Maintenance of Agricultural Ditches and Streams Used by Salmonids*. This Public Rule is available online at: <http://www.metrokc.gov/ddes/pub%5Frule/acrobat/21a-24AgDitch01.pdf>; and
- Does not involve the expansion of any roadway, lawn, landscaping, ditch, culvert, engineered slope or other improved area being maintained.

Habitat and science projects

Habitat restoration or enhancement projects are limited to:

- Those sponsored by a public agency that has natural resource management as a primary function or by a federally recognized tribe.
- Habitat restoration or enhancement projects prepared by a qualified biologist; or
- Conducted in accordance with an approved forest or Farm Management Plan or Rural Stewardship Plan.

Scientific sampling for salmonids is allowed if done in accordance with a scientific sampling permit issued by Washington State Department of Fish and Wildlife and where applicable an incidental take permit issued under Section 10 of the Endangered Species Act. Contact: <https://fortress.wa.gov/dfw/scp/scp/index.jsp>.

Drilling and testing for Critical Areas Reports is allowed for limited clearing and grading needed to prepare a Critical Areas Report. If associated spoils are contained on site (i.e. in a manner that the spoils will not mobilize or erode), the following are allowed:

- Data collection and research if carried out by non-mechanical or hand-held equipment to the maximum extent practical;
- Survey monument placement;
- Site exploration and gage installation if performed in accordance with state-approved sampling protocols and accomplished to the maximum extent practical by hand-held equipment; and
- Similar work associated with an incidental take permit issued under Section 10 or consultation under Section 7 of the Endangered Species Act. See <https://fortress.wa.gov/dfw/scp/scp/index.jsp>.

Agricultural activities

Horticulture activities, including tilling, disking, planting, seeding, harvesting, preparing soil, rotating crops and related activities, and grazing of livestock are allowed if these activities have been in existence since January 1, 2005, and there is no expansion into the critical area or critical area buffer. "Continuous existence" includes cyclical operations and managed periods of soil restoration, enhancement or other fallow states associated with these horticultural and agricultural activities.

Allowed for the expansion of existing or new agricultural activities where:

- The site is predominately involved in the practice of agriculture;
- There is no expansion into an area that has been cleared under a I, II, III, IV-S Forest Practice Permit; or
- Is more than 10,000 square feet with tree cover at a uniform density of more than 90 trees per acre and with the predominant mainstem diameter of the trees at least 4 inches in diameter at breast height, not including areas that are actively managed as agricultural crops for pulpwood, Christmas trees or ornamental nursery stock;
- The activities are in compliance with an approved Farm Management Plan (See *CAO Section 132*); and
- All best management practices associated with the activities specified in the Farm Management plan are installed and maintained.

Livestock manure storage facilities

Construction or maintenance of livestock manure storage facilities is allowed under the same conditions above for horticultural activities, but are only allowed in grazed or tilled wet meadows or their buffers if:

- The facilities are designed to the standards of an approved Farm Management Plan (See *CAO Section 138*) or an approved Livestock Management Plan in accordance with K.C.C. chapter 21A.30.
- There is no feasible alternative location available on the site; and

- The facilities are located close to the outside edge of the aquatic area buffer to the maximum extent practical;

Construction or maintenance of livestock manure storage facilities is allowed in a severe channel migration hazard area portion of an aquatic area buffer if:

- The facilities are designed to the standards of an approved Farm Management Plan (*See CAO Section 138*);
- There is no feasible alternative location available on the site; and
- The structure is located where it is least subject to risk from channel migration.

Construction or maintenance of a livestock flood sanctuary is allowed in a severe channel migration hazard area portion of an aquatic area buffer if:

- The facilities are designed to the standards of an approved Farm Management Plan (*See CAO Section 138*);
- There is no feasible alternative location available on the site; and
- The structure is located where it is least subject to risk from channel migration.

Agricultural drainage

Construction of agricultural drainage is allowed if in compliance with an approved Farm Management Plan (*See CAO Section 132*) and all best management practices associated with the activities specified in the Farm Management Plan are installed and maintained.

Maintenance of agricultural drainage is allowed if these activities have been in existence since January 1, 2005, and there is no expansion into the critical area or critical area buffer. "Continuous existence" includes cyclical operations and managed periods of soil restoration, enhancement or other fallow states associated with these horticultural and agricultural activities. Maintenance of agricultural drainage is allowed if:

- The site is predominately involved in the practice of agriculture;
- There is no expansion into an area that has been cleared under I, II, III, IV -S or Conversion IV -G Forest Practice Permits or where there is more than 10,000 square feet with tree cover at a uniform density of more than 90 trees per acre and with the predominant mainstem diameter of the trees at least 4 inches in diameter at breast height, not including areas that are actively managed as agricultural crops for pulpwood, Christmas trees or ornamental nursery stock;
- The activities are in compliance with an approved Farm Management Plan (*See CAO Section 132*); and

- All best management practices associated with the activities specified in the Farm Management Plan are installed and maintained.

Maintenance of an agricultural drainage that is used by salmonids is allowed if it is in compliance with an approved farm plan.

Farm ponds, fish ponds, livestock watering ponds

Construction or maintenance of farm ponds, fish ponds, or livestock watering ponds is allowed if these activities have been in existence since January 1, 2005, and there is no expansion into the critical area or critical area buffer. "Continuous existence" includes cyclical operations and managed periods of soil restoration, enhancement or other fallow states associated with these horticultural and agricultural activities.

New farm ponds, fish ponds, or livestock watering ponds or expansion of existing farm ponds, fish ponds, or livestock watering ponds are allowed if:

- The site is predominately involved in the practice of agriculture;
- There is no expansion into an area that has been cleared under I, II, III, IV -S or Conversion IV -G Forest Practice Permits or where there is more than 10,000 square feet with tree cover at a uniform density of more than 90 trees per acre and with the predominant mainstem diameter of the trees at least 4 inches in diameter at breast height, not including areas that are actively managed as agricultural crops for pulpwood, Christmas trees or ornamental nursery stock;
- The activities are in compliance with an approved Farm Management Plan (*See CAO Section 138*); and
- All best management practices associated with the activities specified in the Farm Management Plan are installed and maintained.

Cemetery graves

Excavation of cemetery graves in an established and approved cemetery is allowed. Maintenance of cemetery graves is allowed, whether in an established and approved cemetery or not.

Lawns, landscaping and gardening

Maintenance of lawns, landscaping and gardening for personal consumption is allowed within existing landscaped areas or other previously disturbed areas.

Golf courses

Maintenance of golf courses is allowed when not performed under the direction of a government agency only if:

- The maintenance does not involve the use of herbicides, hazardous substances, sealants or other liquid oily substances in aquatic areas, wetlands or their buffers; and
- When the maintenance or the replacement of bridges or culverts involves waters used by salmonids, the work is in compliance with ditch standards in a Public Rule and the maintenance of culverts is limited to removal of sediment and debris from the culvert and its inlet, invert and outlet and the stabilization of the disturbed or damaged bank or channel immediately adjacent to the culvert and does not involve the excavation of a new sediment trap adjacent to the inlet. The King County Public Rule is available online at: http://www.metrokc.gov/ddes/pub_rule/#rules (Chapter 21A.24 Sensitive Areas: Maintenance of Ditches Used by Salmonids).