August 17, 1992
91-454.ORD (MMc:clt/clrk)

Introduced by: Barden, Gruger Derdowski

Proposed No.: 91 - 454

ORDINANCE NO. 10513

AN ORDINANCE adopting the Bear Creek Basin Plan as a functional plan amplifying, augmenting the King County Comprehensive Plan, adopting surface water management and environmental policies in the plan area and adding a new section to K.C.C. 20.12.

PREAMBLE:

For the purpose of effective surface water management in the Bear Creek Basin, the King County council makes the following findings of fact:

1. The Bear Creek Basin covers approximately 51 square miles and includes Big Bear and Evans Creeks Basins in northern King County.

2. The King County council adopted Motion 7093 in February 1988 authorizing an Interlocal Agreement between the City of Redmond, Snohomish County, and King County to prepare the Bear Creek Basin Plan.

3. The Bear Creek Basin has some of the most diverse and abundant salmon and trout habitat in King County and the Puget Sound area and is a substantial contributor to the Puget Sound and Lake Washington fishery.

4. Parts of the Bear Creek Basin experience flooding, erosion, sediment deposition, water pollution, and loss of fish habitat due to land development and insufficient standards for storm water management.

5. The Bear Creek Basin Plan was developed as authorized by K.C.C. 9.08.040 to protect the basin's valuable aquatic resources and reduce surface water problems.

BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

SECTION 1. There is hereby added to K.C.C. 20.12 a new section to read as follows:

The Bear Creek Basin Plan, dated July 1990 as amended by the Utilities Committee on July 2, 1992 as shown in Attachment A, is adopted as a functional plan that implements the surface water management and environmental policies of the King County Comprehensive Plan. As an amplification and augmentation of the King County Comprehensive Plan, it constitutes official

county policy with regard to surface water management in the Bear Creek Basin.

INTRODUCED AND READ for the first time this 17th day of June, 1991.

PASSED this 17th day of August, 1992.

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

Cynthia Sullivan
VICE Chair

ATTEST:

Gerald A. Peterson
Clerk of the Council

APPROVED this 28th day of August, 1992.

Gary Locke
King County Executive

Attachment A

Utilities Committee Recommended Amendments to Bear Creek Basin Plan

On July 2, 1992, the Utilities Committee of the King County Council recommended the following amendments to the Basinwide and Countywide Recommendations in the Bear Creek Basin Plan.

These amendments are recommended in order to maximize the environmental protection afforded to this resource-rich basin, to accommodate the desires of the residents in the basin, and to incorporate new management information and analyses that were developed during the two-year period since the Bear Creek Basin Plan was published.

Amendments to Bear Creek Basin Plan

The following format is used to distinguish the original recommendation language as published in the July 1990 Bear Creek Basin Plan from the proposed revision language:

Original language proposed for change - Text is bracketed [] and ~~lined out~~ and should be deleted.

Original language to remain - Text is not lined out and should stay as is.

New language - <u>Text is underlined and should replace original language.</u>

All narrative text in the July 1990 Bear Creek Basin Plan will remain as is. The proposed changes are for the **<u>Recommendations</u>** starting on page 28 of the Plan and going through page 58. As a result, the text below does not include any of the Introduction, Status of each jurisdiction relative to the recommendation, or Discussion sections from the Plan. New narrative sections are recommended for inclusion only when absolutely necessary to define a Recommendation clearly.

BASINWIDE RECOMMENDATIONS SPECIFIC TO THE BEAR CREEK BASIN

STREAM ~~CORRIDOR~~ PROTECTION ZONING DENSITIES

Recommendations:

(BW-1) Low Density Zoning For Stream Protection. Areas mapped on Figure 6 should be zoned at rural densities of one dwelling unit per five acres with mandatory clustering away from surface waters applied to all site development.

This includes undeveloped property within 1/4 mile of the ordinary high water mark (OHWM) on each side of Class 1, 2, or 3 streams (as defined by King and Snohomish Counties) in Regionally and Locally Significant Resource Areas (RSRA and LSRA; see definitions in Discussion Section). The location of this zoning boundary ~~[should be]~~ is set at one quarter mile from the ordinary high water mark of the stream, ~~[unless a more detailed assessment adjusts the boundary]~~ and adjusted according to the following criteria:

- low density corridor is not applied where affected property is fully developed to urban densities by virtue of pre-existing urban lot sizes and sewer service on the site.

- If 1/4 mile boundary falls on a Class III Landslide Hazard Area or Erosion Hazard Area as defined in the Sensitive Areas Ordinance, boundary should be moved to include all parts of the sensitive area within one-half mile of OHWM.

- If a portion of the 1/4 mile corridor extends beyond the stream's drainage area, that portion can be excluded from the density control. If this reduces the corridor to 1/8 mile or less, stream buffers greater than those in recommendation CW-1 may be required.

In addition, the Paradise Lake RSRA should be zoned at rural densities within its entire tributary area with mandatory clustering away from surface waters applied to all site development.

Furthermore mandatory clustering away from surface waters should be applied to all other lands that are zoned AR (Rural Area), that are outside of the LSRAs and RSRAs, but within the Bear Creek basin area. Rural zoned lands include all land with underlying densities of one unit per 2.5 acres to one unit per 10 acres. Mandatory clustering of rural zoned sites will not apply where affected property is fully developed to the allowed rural density.

The area south and east of the Cottage Lake Creek wetland as shown

on the attached map "Density Control Subarea - Daniels and Cottage Lake Creeks" should be zoned for one dwelling unit per 2.5 acres (AR-2.5) in recognition of the existing lot pattern which ranges from about 1.5 to 5 acres.

CONTROL OF VOLUME AND TIMING OF RUNOFF FROM DEVELOPING SITES

(BW-2) Onsite Detention Standards. To control downstream or downslope impacts of new development, onsite retention/detention (R/D) facilities in the Bear Creek basin should be designed to control the post-development 2- and 10-year flows to corresponding pre-development levels using SCS curve number methods to compute event hydrographs as described in the 1990 King County Surface Water Design Manual. The calculated storage volume should be increased by a safety factor of 30 percent as described in the 1990 Design Manual. This basinwide standard shall be updated in accordance with the adoption of any revisions (including analytical and conceptual changes) to the Design Manual that affect the control of runoff through onsite detention.

Specific areas have special characteristics that warrant onsite standards different from the general basinwide standard above. These special standards, both Stream Protection and Master Plan Development standards shall be updated in accordance with the adoption of any revisions (including analytical and conceptual changes) to the Design Manual that affect the control of runoff through onsite detention in areas designated as requiring either Stream Protection or Master Plan Development standards.

These standards are:

~~[a. **Bear Creek Steep Slope Standard (modified).** Release shall be at 50 percent of the forested 2-year rate up to and including the 2-year/24-hour storm, at the forested 2-year rate up to the 10-year/24-hour storm and at the forested 10-year rate for the 100-year/24-hour storm. In addition to this Steep Slope standard for R/D ponds presently adopted in the Bear Creek Community Plan, the basin plan recommends that the calculated storage volume should be increased by a safety factor of 30 percent. These rate controls may be modified if discharge is via tightline to below the area of severe erosion potential. This standard is to be applied in the subcatchments indicated under "Community Plan Steep Slope Standard" retention/detention requirement in Tables 1a, 1b, 1c, and Figure 3.]~~

a.~~[b]~~. **Stream Protection Standard.** In subcatchments where higher future flows are expected to have significant adverse impacts on stream stability and habitat, onsite

R/D facilities should be designed to reduce post-development flow durations to their pre-developed levels for all flows greater than 50 percent of the 2-year event and less than the 50-year event. Additionally, the 100-year post-development peak flow shall be reduced to pre-development levels.

It is recommended that a calibrated continuous flow simulation model, such as HSPF, be used for this analysis. If a continuous model cannot be used, dDesign new onsite R/D facilities such that the post-development 2-year runoff is released at a maximum of 50 percent of the pre-developed 2-year rate, the post-developed 10-year rate at the pre-developed 2-year rate, and the post-developed 100-year rate at the pre-developed 10-year rate, all for a 24-hour design event. The calculated storage volume should be increased by a safety factor of 30 percent. This standard is to be applied in those subcatchments indicated under "Stream Protection Standard" retention/detention requirements in Tables 1a, 1b, 1c, and Figure 3.

b.~~(c)~~. **Master Plan Development (MPD) Standard.** ~~In~~ the Novelty Hill Master Plan Development (MPD) ~~areas~~, design R/D facilities to match pre-development ~~flow~~ peaks and flow durations for all discharges above ~~one~~-half of the pre-development two-year flows, ~~using~~ continuous flow modeling techniques. These ~~requirements~~ are conditions of the MPD approval for ~~the~~ Novelty Hill MPDs as part of the Bear Creek Community Plan. This standard is to be applied in the ~~subcatchments~~ indicated under "MPD Condition Standard" retention/detention requirements in Table 1a and in ~~F~~igure 3.

Amended per 8/17/92 Council Meeting. See the following page 4-1.

BEAR CREEK BASIN PLAN AMENDMENT

Page 4 of Attachment A, revise policy BW-2 b as follows:

Master Plan Development (MPD) standard. In the Novelty Hill Master Plan Development (MPD) areas, design R/D facilities to match pre-development flow peaks and flow durations for all discharges above one-half of the pre-development two-year flows, using continuous flow modeling techniques, and shall comply with all P-suffix drainage conditions of the Bear Creek Community Plan. ((~~These requirements are conditions of the MPD approval for the Novelty Hill MPDs as part of the Bear Creek Community Plan.~~)) This standard is to be applied in the subcatchments indicated under "MPD Condition Standard" retention/detention requirements in Table 1a and in Figure 3. Alternate facility designs and methods which meet the variance standards set out in the Surface Water Design Manual and the goals of the Bear Creek Community Plan and Area Zoning may be approved by SWM. Decisions of the manager with regard to any variances shall be appealable to the council as part of the Drainage Master Plan together with the council's review of rezone or plat applications implementing the Master Planned Developments.

8/17/92/2:00PM/MMc

FORESTED LAND COVER RETENTION

(BW-3) Clearing Limitations. In the Bear Creek Basin, ~~consider~~ adopt~~ing~~ the following clearing limitations in all rural and urban zoned areas. In addition, make the following changes in the language of the P-suffix conditions for vegetative coverage and impervious surfaces in the adopted Bear Creek Community Plan (Amendment 10) to simplify its implementation and avoid inequities in the clearing restrictions imposed on properties of nearly similar sizes:

1. Impose the following limits on areas to be cleared:

Lot Size	% of Lot Cleared	The Maximum of or Area of Lot Cleared
0 - 2.5 acres	25%	5,000 Square feet
2.5 - 5 acres	15%	27,225 square feet (5/8 acre)
greater than 5 acres	10%	32,670 square feet (3/4 acre)

2. Waive the above clearing restrictions in urban zoned lands if detention is provided to achieve a maximum post-development release rate of 70 percent of the pre-development two-year 24-hour design storm for events up to and including the ten-year 24-hour storm, using an SCS curve number method. The calculated pond volume should be increased by a 30-percent safety factor.

AMENDED per 8/17/92 Council meeting - See following page 5-1.

SEASONAL CLEARING AND GRADING LIMITS

(BW-4) Seasonal Clearing and Grading Limits. Bare ground associated with clearing, grading, utility installation, building construction, and other development activity should be covered or revegetated between October 1 and March 31 of each winter season in accordance with the King County Surface Water Design Manual. Earth moving or land clearing activity should not occur during this period within the Bear Creek Basin except for routine maintenance for public facilities (including roads), and public agency response to emergencies that threaten the public health, safety and welfare. Landscaping of single family residences, existing permitted Class I and II commercial forestry practices and mining activities in areas zoned for resource use, and clearing and grading of development sites with approved and constructed drainage facilities that infiltrate 100 percent of surface runoff, and routine maintenance of utility structures as provided in K.C.C. 21.54.030.D should be exempt from these restrictions.

FORESTED LAND COVER RETENTION

(BW-3) Clearing Limitations. In the Bear Creek Basin,((~~consider~~)) adopt((~~ing~~)) the following clearing limitations in all rural and urban zoned areas. In addition, make the following changes in the language of the P-suffix conditions for vegetative coverage and impervious surfaces in the adopted Bear Creek Community Plan (Amendment 10) to simplify its implementation and avoid inequities in the clearing restrictions imposed on properties of nearly similar sizes:

1. Impose the following limits on areas to be cleared:

Lot Size	% of Lot Cleared	The Maximum of or	Area of Lot Cleared
0-2.5 acres	25%		5,000 Square feet
2.5-5 acres	15%		27,225 Square feet (5/8 acre)
greater than 5 acres	10%		32,670 Square feet (3/4 acre)

2. Waive the above clearing restrictions in urban zoned lands, not including MPD lands, if detention is provided to achieve a maximum post-development release rate of 70 percent of the pre-development two-year 24-hour design storm for events up to and including the ten-year 24-hour storm, using an SCS curve number method. The calculated pond volume should be increased by a 30-percent safety factor.

3. Waive the above clearing restrictions on small lots (typically 1 acre or less) in rural zoned lands if the space requirements for the drain fields of the onsite sewage disposal system cannot be met. In such cases additional clearing will be allowed for the drain fields and no onsite detention will be required.

4. In addition to any penalties prescribed by law, a revegetation program approved by the Building and Land Development Division must be implemented on all forested lots within the Bear Creek basin that have been cleared in violation of the Bear Creak Community Plan P-Suffix standards in the Bear Creek Basin Plan if the remaining forested land is inconsistent with the limitations defined above. In addition, onsite detention as described in 2. above may be required at the discretion of the Building and Land Development Division in order to provide interim control for surface water runoff during the time period required for the new forest to mature.

(BW-5) Hillside Drainage Restrictions. To reduce the potential for mass wasting and erosion from stormwater runoff on steep slopes, King County, Snohomish County, and the City of Redmond should insure that drainage ~~[regulations and development]~~ plans for new development in potentially erodible slopes ~~[review]~~ minimize ~~[the]~~ drainage impacts through the use of tightlines or other comparable techniques ~~[on potentially erodible slopes]~~.

PERMIT ENFORCEMENT

(BW-6) Enforcement and Inspection Staff. ~~[Additional]~~ Enforcement and inspection staff should be maintained ~~[hired]~~ to reduce development-related code violations, particularly in resource-rich areas such as the Bear Creek Basin. Staffing should be adequate to insure that, in combination with other measures such as seasonal clearing restrictions (BW-4), development does not contribute any significant sediment to downstream watercourses and does not eliminate protected natural drainage features. ~~[Added]~~ Staff should be assigned based largely on permit activity, but areas of high resource value should receive a disproportionate share of inspectors' attention. If possible, individual inspectors should be wholly assigned to projects within this basin.

The effectiveness of enforcement and inspection ~~[increased]~~ efforts should be evaluated and expanded as needed to reflect future assessments of needed staffing levels plus any future changes in permit activity. In addition, any new or changed regulations, such as ~~[changes to the Sensitive Areas Ordinance]~~ critical areas ordinances or clearing limitations ~~[(King County) or the Aquatic Resources Protection Plan (Snohomish County),]~~ may require significant additional code enforcement staffing upon their adoption.

ROAD DITCH MAINTENANCE

(BW-7) Road and Utility Right-of-Way Maintenance. ~~Wherever feasible, road ditches should be cleaned only between June 15 and September 15 of each year, preferably with the use of a horizontal auger or comparable equipment. Where availability of staff and equipment limit the achievement of this recommendation basinwide, priority should be given to:~~

~~a. Streams in roadside ditches (Figure 18; the seasonal recommendation is already followed by King County);~~
~~b. Ditches within one-quarter mile of Class 1, 2, or 3 streams in RSRAs;~~
~~c. Ditches within one-quarter mile of any other Class 1, 2, or 3 streams;~~

~~d. All other ditches in the basin.~~

~~The feasibility and cost of follow-up reseeding for all ditches and backslopes cleaned during the summer should be studied for eventual implementation as well.~~

~~Using an equivalent priority ranking, herbicide spraying also should be avoided on road shoulders where alternative vegetation control is feasible (spraying within roadside ditches presently does not occur in King County, except in very few locations). Better refinement of these spraying recommendations should be made in conjunction with the County Health Department's ongoing monitoring of spraying effects.~~

~~In addition, piping of ditched streams should be avoided unless necessary in a Class 3 stream to prevent severe erosion of banks or roadbeds.~~ Where maintenance of roadside ditches is required, King County, Snohomish County, and City of Redmond Roads Divisions should conduct such maintenance during the dry season of each year so that vegetation is reestablished before the wet season and erosion is minimized. Ditches should be replanted immediately after maintenance. Where fish-bearing streams flow in roadside ditches, a maintenance plan should be developed by the three jurisdiction's Roads Divisions and their Surface Water Management Divisions that includes the following special maintenance practices:

a. Wherever possible, vegetation in streamside buffers should not be disturbed. In circumstances where removal of vegetation is unavoidable, the vegetation should be removed and composted off-site; and

b. Maintenance should comply with state HPA requirements and jurisdictional Sensitive/Critical Areas regulations.

For roads in the Bear Creek basin, the three jurisdiction's Roads Divisions and sewer, water, and electric power utilities should evaluate and pursue the use of mechanical cutting and other vegetation control methods (including integrated pest management and potentially adopt-a-ditch programs) instead of herbicides with the exception of herbicides for control of noxious weeds in accordance with RCW 17.10 and WAC 16-750.

a. Road right-of-ways where herbicides might otherwise be used to reduce vegetation growth on gravel shoulders, and

b. Utility right-of-ways where herbicides might otherwise be used to reduce vegetation growth.

Additionally, specific herbicide use by utilities and private

operators should be recorded with the Health Department in both King and Snohomish Counties.

BEAR CREEK BASIN MONITORING

(BW-8) Water Quality Monitoring. Present water quality efforts should be re-evaluated and monitoring adjusted to better detect water quality trends associated with urbanization. At a minimum, enhanced monitoring of temperature, dissolved oxygen, and turbidity in Evans Creek and stormwater monitoring throughout the basin should be increased because these are potential limiting factors for salmonids. A water quality monitoring program associated with the rare freshwater mussel populations at Bear Creek should begin at two sites, one in the Paradise Lake RSRA and one in the Cottage Lake RSRA. This program should, at a minimum, measure Ph, fecals, nutrients, total suspended solids, and possibly metals. Mussels are filter feeders and their presence tends to indicate excellent water quality.

Finally, sediment sampling at the mouths of Bear and Evans Creeks should occur annually, during the summer low flow period from depositional areas. An analysis should include the following compound groups: base-acid-neutral extractable compounds, pesticides and herbicides, PCBs, and metals. Since priority pollutants are generally associated with particulate matter and often below detection limits in the water column, they are often most effectively evaluated by analyzing samples of bottom sediment.

(BW-9) Flow and Development Monitoring.

a. All capital improvement projects in the basin should have a thorough physical and biological survey of the reach influenced by the project before construction. To ensure proper performance, flows entering and exiting major R/D facilities should be monitored for at least two years after construction. The performance of these facilities should be remodeled using this flow data and operations adjusted as needed (also see BW-11).

   One monitoring site in particular should be established on tributary 0110 at Union Hill, to evaluate the possible need for a future regional R/D facility at that site (see Evans Creek Sub-Basin Recommendations section).

b. To help identify major hydrologic changes, SWM Division's Finance and Billing records should be used to track annual increases in impervious surface area by subcatchment for use in the yearly report (see CW-15).

c. The two existing stream flow monitoring sites should be maintained to evaluate basin performance.

d. Field investigation should be conducted at least yearly by SWM Division staff to identify flow-related changes in the surface water system and major conveyance system additions.

(BW-10) Sediment Transport Monitoring. To track channel incision, four channel cross-sections should be located in the basin. These locations are on tributaries 0132 below Welcome Lake, 0117 near its confluence with 0115, 0110 just above Union Hill Road, and 0111A above the Evans Creek Valley floor. These sections should be resurveyed every two years, with baseline surveys made in the first year of monitoring to identify potential basin management policies. Results should be incorporated into the yearly report (see CW-15).

(BW-11) Aquatic Habitat Project Monitoring. For major habitat projects constructed as part of plan implementation, the following monitoring should occur:

a. Document the pre-project physical and biological characteristics of the reach including the affected upstream and downstream areas to use as baseline data.

b. Inspect projects semi-annually during both the summer and winter seasons.

c. Conduct monitoring activities on a one-year cycle for at least six years or for two life cycles of the target species, whichever is longer, to document the project effects. Depending on the project objectives, monitoring activities at the project site and the affected upstream and downstream reaches may include the following:

1. Develop and update a base map of project area showing type, location, and habitat formed. Note any failures and describe.
2. Document flow data obtained from continuous or staff gages.
3. Conduct adult and juvenile fish counts for the target species and for other species present in the project area.
4. Document the location and number of redds (egg beds) and the location and extent of mussel beds.
5. Sample and analyze the stream bed substrate materials.
6. Document approximate changes in the density and species of benthic organisms.

7. Photographically document vegetation using ground-based and aerial photographs.
8. Perform a survey of the channel to document changes produced by in-stream structures.

In addition to project monitoring, two additional monitoring tasks should be accomplished:

a. Freshwater mussels populations and distribution should be determined and a monitoring program set up to document their yearly changes (see also BW-8); and

b. A spawning survey and out-migrant smolt counts should be done for Cottage Lake Creek, specifically for Chinook salmon. In addition, it would be useful to identify all other Chinook spawning tributaries in the basin.

BASIN ~~[STREAM]~~ STEWARD

(BW-12) Basin ~~[Stream]~~ Steward. A basin ~~[stream]~~ steward should lead the implementation of the basin management program. This will be a full time staff person to cover all three jurisdictions of the Bear Creek Basin. The Basin ~~[Stream]~~ Steward will:

- educate the basin residents about how their actions affect water quality and stream resources,
- respond to citizen reports of code violations,
- facilitate the negotiation and installation of capital ~~[stream]~~ improvement projects,
- assist citizen based stream protection efforts,
- assist the collection of field data in the basin, and
- prepare an annual status report describing the watershed management accomplishments achieved in the basin.

WILDLIFE

(BW-13) Beaver Management Plan. The State Wildlife Department should be requested to develop a formal beaver management plan for the basin. This plan should be developed in coordination with the State Fisheries Department, United States Fish and Wildlife Service, Muckleshoot Indian Tribe, King County, Redmond, Snohomish County, and the streamside property owners.

As the basin develops with the currently adopted Bear Creek Community Plan, there will be more beaver-human conflicts. These conflicts will increase due to more humans and probably more beavers due to larger buffers, that will increase beaver habitat.

BASIN RECOMMENDATIONS WITH JURISDICTION-WIDE APPLICABILITY

STREAM AND WETLAND PROTECTION

(CW-1) Stream Buffers, Stream Crossings, and Wetland Buffers. A minimum buffer of 150 feet is required from the ordinary high water mark (OHWM) on each side of the stream for all Class 1 and Class 2 streams. ~~A minimum 100-foot buffer shall be required from OHWM for Class 2 streams with salmonids.~~ For ~~other Class 2 and for~~ Class 3 streams, the buffer shall be 50 feet from the OHWM on each side of the stream.

In RSRA designated areas (see Figure 6 and RSRA discussion in BW-1) a minimum buffer of ~~150~~ 100 feet is required from the OHWM on each side of the stream for ~~all class I1 and II2 streams. For~~ class ~~III~~3 streams. ~~, the buffer shall be a minimum 100 feet from the OHWM on each side of the stream.~~

Non-essential stream crossings should be minimized. Crossings over spawning areas should be prohibited. Stream crossings should be perpendicular to the stream and should not interfere with the free passage of fish nor restrict the future 100-year flows and shall use one of the following design alternatives (in decreasing order of preference):

1. Bridges with abutments placed outside the stream channel (OHWM).

2. Bottomless pipe arches with footings placed outside the stream channel (OHWM).

3. Arch culverts installed in accordance with the drainage design standard in the relevant jurisdiction.

Livestock access to streams and wetlands should be limited by fencing or other equivalent means, and grading and filling in streams, wetlands, and their buffers should be prohibited. For wetlands, the buffers shall be 100 feet from the wetland edge for class I, 50 feet for class II, and 25 feet for class III wetlands. Wetland classifications are defined in the King County and City of Redmond ~~(proposed)~~ Sensitive Areas Ordinances (SAOs) and proposed Snohomish County Aquatic Resources Protection Plan (ARPP).

Exceptions to these recommended buffer and crossing standards are noted in the recommendation sections. Class I, II, and III streams are defined in the King County and City of Redmond SAOs ~~(Drainage~~

~~Design Manual]~~ and the proposed Snohomish County ARPP. All class I streams in the Bear Creek system have salmonids.

(CW-2) Assessors Maps. County and City of Redmond-designated sensitive areas, particularly streams, wetlands, and their buffers, should be shown on King and Snohomish County Assessor's property line maps, and these maps should be made available to realtors and the public.

FLOODPLAIN ENCROACHMENT LIMITS

(CW-3) Floodplains. The "zero-rise" floodway standard based on future flows should be mapped and considered for adoption for the Bear Creek stream system and other streams with adopted basin plans.

CLEARING PERMITS

(CW-4) Clearing Permits. ~~[King County and]~~ Snohomish County should establish a clearing permit system, and King County and City of Redmond should revise their clearing permit systems so that all clearing permits include defined clearing standards and enforcement programs in accordance with area-specific limits. In the Bear Creek basin these limits are defined in BW-3 and BW-4. ~~[The City of Redmond already has a clearing permit process.]~~

WATER QUALITY IMPROVEMENT

(CW-5) Infiltration

a. High Densities. Onsite infiltration facilities used in conjunction with multifamily (more than seven units/acre), commercial, or industrial land uses (except for the land uses listed below) will be subject to commercial land use best management practices and the 1990 Surface Water Design Manual requirements including requirements for an off site analysis of the location of and water quality risks to potentially affected domestic and municipal supply wells. Infiltration will not be allowed from pipeline discharges, and businesses that have outdoor storage of toxic substances. In the Bear Creek basin, these standards would be administered under Special Requirement #4 of the 1990 Design Manual which allows

adopted basin plans to establish additional drainage requirements. ~~[To prevent infiltration, detention ponds in these areas should be sealed with plastic, clay, or concrete liners or other acceptable means. Open conveyance systems such as swales also should be sealed with liners.]~~

~~[In addition, biofiltration or other pretreatment required in the King County Surface Water Design Manual should be used to improve water quality before discharge to surface water. Runoff from certain commercial and industrial uses including automobile repair businesses should comply with the U.S. Environmental Protection Agency's Quality Criteria for Water.]~~

b. Low Densities. Onsite infiltration facilities built in conjunction with single-family residential development (densities of seven units/acre or less) should be required wherever acceptable soil types are located, in order to support baseflow in streams and wetlands. These facilities should comply with Special Requirement 5, Special Water Quality Controls, Section 1.3.5 of the King County Surface Water Design Manual to minimize groundwater contamination.

CODE COMPLIANCE

(CW-6) Citations. A system for issuing citations with civil penalties, analogous to traffic tickets but with stiffer penalties, should be established for violations of drainage and sensitive areas ordinances.

(CW-7) Penalties. The list of potential penalties for code violations should be expanded to include:

1. mitigation or compensation for the impacts of violations,
2. restoration of the lost resource,
3. required participation in surface water-related public education programs,
4. required participation in stream restoration as community service work, and
5. tougher penalties for repeat violations.

Significant civil fines should be levied against developers, contractors, property owners, and Federal, state, or local agencies, for violation of surface water and sensitive area regulations in all three jurisdictions. Significant fines means fines of hundreds or thousands of dollars for each occurrence and increasing each day that a violation remains uncorrected.

(CW-8) Violation Reporting. Reporting of code violations should be simplified by:

1. Development of a standard violation reporting form for county and city field employees, and

2. Publication of a central telephone number in the blue pages of the telephone book for information on how to report surface water related violations of the city and counties' codes.

TAX INCENTIVES

(CW-9) Current-Use Taxation. Consider providing current use taxation for properties that contain stream and wetland buffers and areas of natural vegetation recommended by this basin plan through the King County Open Space program and the Snohomish County Current Use Taxation Programs.

(CW-10) Conservation Easements. Encourage conservation easement donations for streams, wetlands, and their buffers in Regionally and Locally Significant Resource Areas in King County through the King County Open Space Program.

(CW-11) State Assessment Procedures. The statutes governing appeals of property tax assessments should be amended to allow simplified appeals where downzones or sensitive areas designations have affected potential development opportunities. The appeal results should apply without need for further property owner action until the next regular valuation becomes effective.

ONSITE RETENTION/DETENTION (R/D) MAINTENANCE

(CW-12) Onsite R/D and Biofiltration Facility Maintenance. ~~[Maintenance practices for soil liner and vegetation replacement, mowing, sediment removal, and disposal of material from onsite R/D facilities as outlined in the 1990 King County Surface Water Design Manual should be implemented in the Bear Creek basin. In the City of Redmond and Snohomish County portions of the basin, these or comparable maintenance practices should be considered for adoption.]~~

To ensure proper water quality control, catchbasins, onsite R/D facilities, and other drainage facilities in areas with active construction should be inspected and the necessary maintenance performed by the SWM Division at least twice a year, once before fall and once during late winter/early spring. Regional R/D facilities including constructed wetland facilities should be maintained according to a SWM Division approved operations and maintenance plan. A plan for emergency inspection and maintenance of facilities during the winter season should be developed by the SWM Division.

EDUCATION

(CW-13) Education. A surface water education program for basin residents and staff of the City of Redmond, Snohomish, and King Counties should be established to improve public knowledge of and participation in solutions to surface water-related problems. The program should cover at least the following topics:

a. Riparian ecology and citizens' roles in protecting that ecology,
b. Nonpoint pollution prevention,
c. Lake management district formation,
d. Jurisdictional code requirements and enforcement procedures,
e. Best management practices for farming, construction, and forestry,
f. Streamside residents best practices brochure,
g. Community signs
    - interpretive signs
    - acknowledging good streamside management,
h. Monitoring (i.e., lake gauges, rain gauges, fish counts),
i. Storm drain stenciling program,
j. Educational displays (permanent and traveling),
k. Produce television and radio attention events, and
l. News articles in local papers.

PLAN MONITORING AND UPDATE

(CW-14) Data Base Update. A basin specific database including land use, natural features, and other mappable basin features, should be developed. The database should be updated quarterly or after plan amendment. It is preferable that the database be computerized, geographically based, and readily available to King and Snohomish Counties, City of Redmond, and the Divisions within these jurisdictions. Monitoring data generated in the Redmond and Snohomish County portions of the basin should be included in the

database updates.

10513

(CW-15) Yearly Memorandum/Plan Amendment. The following recommendation will help maintain an up-to-date program.

a. A yearly memorandum should be prepared by the ~~[Stream]~~ Basin Steward (BW-12) near the end of each winter season for input to the SWM Program budget process of King County, Snohomish County, and the City of Redmond for the upcoming year. This memorandum should:

   1. describe the status of and schedule for plan implementation,
   2. identify monitoring results and significant unpredicted changes in the condition of the basin,
   3. recommend adjustments to management of the basin based on identified significant changes, and
   4. identify appropriate processes, such as basin plan amendment or capital project list changes, costs, and staffing requirements for basin management changes.

b. Some significant physical or regulatory changes may require amendment of basin plan recommendations or data. A basin plan amendment should be considered under the following circumstances.

   1. The yearly memorandum identifies the need for significant re-analyses that would delay other scheduled basin plan activities by three or more months. Examples of the type of action that might trigger this reassessment include:

      a) Community plan significantly changes the zoning of 500 acres or more in the basin, or

      b) Failure to adopt the zero-rise floodway as part of 1990 Sensitive Areas Ordinance amendments and allowing a one-foot future floodway elevation increase.

   2. The yearly memorandum recommends changes in the original basin plan recommendations that require Council approval.

~~[SWM PROGRAM AREA MONITORING]~~

~~[(CW-16) SWM Program Area Monitoring. Ongoing monitoring of basins with completed basin plans should be conducted within the framework of a countywide monitoring strategy. This strategy should be~~

~~developed cooperatively with other water quality and habitat management agencies in order to identify common goals and data-sharing opportunities and establish standard procedures. The strategy also should address how monitoring can better detect water quality trends associated with urbanization.]~~

PROGRAM MANAGEMENT

(CW-17) Annexations and Incorporations. If annexations or incorporations remove areas of the basin from King County's jurisdiction, ~~[interlocal agreements should be considered for adoption to ensure that city the]~~ surface water management plans for the newly incorporated areas should be developed that are consistent with, or more protective than, this basin plan. King County should oppose those proposed annexations that do not ~~[meet this standard]~~ establish such surface water management plans. Furthermore all newly incorporated areas within the King County portion of the basin plan area should define a revenue source and funding mechanism to support a proportional share of the costs (either direct or debt service) of the design, construction, and maintenance of any built or proposed capital improvement projects identified in this basin plan.

~~[(CW-18) SWM Revenue Redistribution. To better allocate funds for implementing basin plan recommendations within the Bear Creek system, King County SWM Program fees should be calculated and redistributed based on basin planning boundaries rather than community planning area boundaries.]~~

LAKE QUALITY

(CW-19) Lakes Program. The King County SWM Program should be expanded to include a lakes program which should:

a. help implement nonpoint pollution control strategies by assisting lakeside landowners in the development of projects eligible for state centennial grant funding and in the formation and operation of lake management districts,

b. establish legal lake elevations to assist in stormwater management, and

c. coordinate with other lake quality management agencies including Metro and the Washington State Department of Ecology in lake quality management programs.

GRADING LIMITATIONS

(CW-20) Grading Restrictions. The City of Redmond, King County, and Snohomish County grading regulations should consider limiting the maximum amount of fill allowed without a grading permit to 100 cubic yards total in upland areas and zero in "sensitive" or "critical areas" for any parcel. Approval of a drainage and erosion/sedimentation control plan prior to grading should be part of this grading regulation. This grading regulation should not preclude commercial agricultural practices that are performed outside of 'sensitive,' 'critical,' or 'development limited' areas, as designated by the jurisdiction.