

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

Introduced by: Barden, Gruger
Derdowski

Proposed No.: 91 - 454

ORDINANCE NO. **10513**

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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.

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

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

5 PASSED this 17th day of August, 1992.

6 KING COUNTY COUNCIL
7 KING COUNTY, WASHINGTON

8 
9 **VICE** Chair

10 ATTEST:

11 
12 Clerk of the Council

13 APPROVED this 28th day of August, 1992

14 
15 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 - Text is underlined and should replace original language.

All narrative text in the July 1990 Bear Creek Basin Plan will remain as is. The proposed changes are for the Recommendations 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 BASINSTREAM 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

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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, design 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. [e]. **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 Figure 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 adopting 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:

<u>Lot Size</u>	<u>% of Lot Cleared</u>	<u>The Maximum of Area of Lot Cleared</u>
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.

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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:

<u>Lot Size</u>	<u>% of Lot Cleared</u>	The Maximum of or <u>Area of Lot Cleared</u>
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 Creek 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;~~

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