



King County

Water and Land Resources Division

Department of Natural Resources and Parks

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June 13, 2018

TO: Scott Smith, Principal Engineer, Department of Permitting and Environmental Review (DPER)

FM: Curt W. Crawford, Manager, Stormwater Services Section, Water and Land Resources Division (WLRD), Department of Natural Resources and Parks (DNRP) 

RE: Blanket Adjustment for Optional Use of Dispersive/Infiltrative FCBMPs in Erosion Hazard Areas

Background

According to Appendix C of the 2016 King County Surface Water Design Manual (SWDM), flow control best management practices (FCBMPs), including limited and full infiltration devices, basic and full dispersion devices, bioretention, and permeable pavements are not allowed within 50 feet of an erosion hazard area and require geotechnical analysis and approval if proposed for use within 200 feet of an erosion hazard area.

Restricting use of these FCBMPs in erosion hazard areas limits applicants' options in achieving compliance with Core Requirement # 9 (Flow Control BMPs) of the SWDM, which requires all proposed projects, including redevelopment projects, to apply onsite FCBMPs to mitigate the impacts of storm and surface water runoff generated by surfaces targeted for mitigation.

Allowing applicants whose development sites are within or adjacent to erosion hazard areas the option of using dispersive/infiltrative BMPs may be beneficial in protecting downstream properties from potential surface water impacts, as long as provisions are made to mitigate any concerns relative to the underlying erosive soils. Onsite FCBMPs manage stormwater at the source and can dampen high flows that could result in erosion.

Proposed Adjustment

Allow optional use of bioretention, limited or full infiltration, full dispersion, basic dispersion, and permeable pavements within 50 feet of erosion hazard areas; and do not require geotechnical approval for optional installations of these same FCBMPs located within 200 feet of erosion hazard areas for purposes of meeting the requirements of Core Requirement #9 of the 2016 SWDM.

Findings

In general, the SWDM's disallowance of dispersive/infiltrative FCBMPs within 50 feet of erosion hazard areas and the requirement for geotechnical approval for those located within 200 feet of erosion hazard areas is found to be overreaching in context of other regulatory requirements—building within erosion hazard areas is allowed by King County Code (KCC) and projects need to discharge resultant stormwater. The concern in erosion hazard areas is that underlying erosive soils will be laid bare and made subject to erosion. This concern is already dealt with by clearing restrictions and provisions for monitoring, as described in detail in the excerpt from KCC 21.A.24.220 provided below. Erosion hazard areas are further addressed by Core Requirement #1, “Discharge at the Natural Location,” of the SWDM, which requires that applicants for projects adjacent to or containing an erosion hazard area demonstrate that onsite drainage facilities and/or flow control BMPs will not create a significant adverse impact to downhill properties or drainage systems. In addition, projects subject to simplified drainage review that are determined to drain to erosion hazard areas must comply with the SWDM, Appendix C, Section C.1.2.2 “Erosion Hazard Areas,” which states that these projects “may be required to provide additional flow control BMPs or other measures that must be engineered.” Given these regulatory measures, adding further limitations to use of FCBMPs in erosion hazard areas does not further mitigate risks. On the contrary, properly designed, installed, and sited FCBMPs can dampen flows to downstream properties by way of infiltrating and/or dispersing stormwater on site.

Excerpt from King County Zoning Code

21A.24.220 Erosion hazard areas—development standards and alterations. *The following development standards apply to development proposals and alterations on sites containing erosion hazard areas:*

- A. *Clearing in an erosion hazard area is allowed only from April 1 to October 1, except that:*
 1. *Clearing of up to fifteen-thousand square feet within the erosion hazard area may occur at any time on a lot;*
 2. *Clearing of noxious weeds may occur at any time; and*
 3. *Forest practices regulated by the department are allowed at any time in accordance with a clearing and grading permit if the harvest is in conformance with Chapter 76.09 RCW and Title 222 WAC;*
- B. *All subdivisions, short subdivisions, binding site plans, or urban planned developments on sites with erosion hazard areas shall retain existing vegetation in all erosion hazard areas until building permits are approved for development on individual lots. The department may approve clearing of vegetation on lots if:*
 1. *The clearing is a necessary part of a large scale grading plan; and*
 2. *It is not feasible to perform the grading on an individual lot basis; and*
- C. *If the department determines that erosion from a development site poses a significant risk of damage to downstream wetlands or aquatic areas, based either on the size of the project, the proximity to the receiving water, or the sensitivity of the receiving water, the*

applicant shall provide regular monitoring of surface water discharge from the site. If the project does not meet water quality standards established by law or public rules, the county may suspend further development work on the site until such standards are met. (Ord. 15051 § 160, 2004; Ord. 10870 § 469, 1993).

Conclusion/Decision

The blanket adjustment to allow optional use of bioretention, limited or full infiltration, full and basic dispersion, and permeable pavements within 50 feet of erosion hazard areas, and to not require geotechnical approval for optional installations of these same FCBMPs located within 200 feet of erosion hazard areas in order to meet the requirements of Core Requirement 9 of the 2016 SWDM is approved subject to the following conditions:

Conditions of Approval

1. Applicants whose projects are subject to full or large project drainage review must provide documentation of compliance with Core Requirement #1, “Discharge at the Natural Location”—a particularly relevant element of which is excerpted as follows: *“For projects adjacent to or containing a landslide, steep slope, or erosion hazard area as defined in KCC 21A.06, the applicant must demonstrate that onsite drainage facilities and/or flow control BMPs will not create a significant adverse impact to downhill properties or drainage systems.”*
2. Applicants whose projects are subject to full or large project drainage review must provide documentation of compliance with Core Requirement #2, “Offsite Analysis,” sufficient to support a conclusion that the proposed FCBMPs will not create a significant adverse impact to downhill properties or drainage systems.
3. Applicants whose projects are subject to simplified or targeted drainage review must comply with Appendix C, Section 1.2.2. “Erosion Hazard Areas,” which **may** require: implementation of additional flow control BMPs or other engineered measures; more strict ESC measures as well as a notice on title as specified in KCC 21A.24; and/or site-specific construction sequence and engineered site improvement/ESC plans prepared by a civil engineer.
4. Applicants whose projects are subject to directed drainage review must comply with either conditions #1 and #2 above, or condition #3 as determined by DPER.
5. The proposed FCBMPs must otherwise be considered feasible and meet the design criteria as documented in Appendix C of the SWDM.
6. The use of the proposed FCBMPs must not be disallowed by any other regulation.

Please note that approval of this adjustment does not relieve applicants from other county, state, or federal requirements, including any requirements imposed through the SEPA process. Individual designs proposing use of this adjustment will be reviewed and approved during plan review to ensure that compliance with the conditions stated herein is achieved.

Scott Smith
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If you have any questions, please call Mark Wilgus, Engineer IV with the Stormwater Services Section, at 206-477-4848.

Approved by WLRD and DPER as follows:


Curt W. Crawford, Manager
Stormwater Services Section
King County WLRD

6/11/18
Date


Scott Smith, Principal Engineer
King County DPER

6/11/2018
Date

CC:MW:bgD03

cc: Mark Wilgus, Engineer IV, Stormwater Services Section, Water and Land Resources Division, Department of Natural Resources and Parks