

SUMMARY OF CHANGES IN 2009 SURFACE WATER DESIGN MANUAL TO THE 2005 DESIGN MANUAL

The following is a summary of the most key changes made to the 2005 Surface Water Design Manual (SWDM). In general, there are three types of changes, those required by the Department of Ecology (DOE), those voluntary edits needed to improve standards, and those edits which correct minor errors. The edits required by DOE are intended to bring King County into compliance with the Phase I NPDES Municipal Stormwater Permit condition that requires all permittees including Phase II permit jurisdictions to have a stormwater manual that is equivalent to the latest version of the Stormwater Manual for Western Washington. In addition to the text edits, figures were redrafted using AUTOCAD to improve legibility and ease of use.

Chapter 1

- Drainage review thresholds updated to be equivalent to the DOE manual – they now include replaced impervious surface as well as new impervious surface.
- Thresholds for small project review updated to be equivalent to DOE thresholds.
- Downstream analysis requirement added to Core Requirement #2 to address impacts to identified water quality problems. Seven types of water quality problems are defined, along with mitigation requirements to be applied to specific problem types.
- Core Requirement #3 exemptions revised to be consistent with DOE thresholds and are now based on project area rather than threshold discharge area. Minor changes to the list of direct discharge major receiving waters. Exception to flow control facility requirement for Basic Flow Control Areas in highly urbanized basins eliminated. A minor change was made to the exceptions for Conservation Flow Control Areas and Flood Problem Flow Control Areas related to the cost of facilities to mitigate replaced impervious surface.
- Core Requirement #5 erosion control performance standard made more explicit.
- Core Requirement #8 soil treatment exemption requirements changed to conform to DOE standards. Changed threshold for Enhanced Basic treatment to be consistent with DOE manual. Modified Enhanced Basic water quality exception to allow use of a covenant that restricts future use of exposed metals on the property.
- Adjustment Section revised to include new process for approving and documenting adjustments that require an exception from the criteria for granting an adjustment.

Chapter 2

- Clarified requirements for Downstream Analysis related to water quality problems.
- Added requirement for submittal of electronic plans (CAD, .dwg file) and TIRs.
- Clarified requirements for Construction Stormwater Pollution Prevention (CSWPP) Plans.
- Clarified vertical datum requirement.

Chapter 3

- Minor edits to hydrologic analysis method to comply with DOE requirements.

Chapter 4

- Minor clarification of pipe standards to conform to current American Public Works Association (APWA) and King County Road Standards (KCRS) specifications.

Chapter 5

- Changed requirements to allow flow control orifices to be less than 0.5 inches, added debris protection screen.
- Made bollard spacing consistent with KCRS.
- Added notice of Underground Injection Control (UIC) Well registration requirement.
- Added flexibility in design of infiltration facilities to allow different storage configurations.
- Added means to reduce energy at the inlet to prevent scour in infiltration vault.

Chapter 6

- Stormfilter added to Basic Treatment Menu.
- Stormfilter paired with sand filter added to Sensitive Lake Treatment Menu.
- Stormfilter with ZPG, Stormfilter with CSF and sand filter added to Bog Protection Menu.
- Parking lot washing eliminated from Oil Control options.
- Clarification that new technologies must be approved through the DOE TAPE protocol.
- Eliminated use of SBUH for determining water quality design flow.
- Added vault access requirement when 5 x 10 foot grate is used for access.
- Added planting requirement for certain stormwater wetlands and presettling cells for certain media filters.
- Clarified sand filter design method.
- Updated Stormfilter design language.

Definitions

- Added definitions for commercial project/land use, industrial project/land use, and multifamily project/land use. Added definitions of the types of water quality problems addressed in the manual.

Appendix A

- Minor changes to improve maintenance standards.

Appendix C

- Changed requirement to allow reduced full dispersion flow path with outwash soil.
- Updated reforestation specifications.
- Updated erosion and sediment control requirements to be consistent with DOE manual.

Appendix D

- Minor revisions to regular and small site erosion control requirements to be consistent with DOE manual.

Reference Section

- Added Section 4-E detailing turbidity monitoring requirement and erosion control inspection checklist.
- Added Section 7-C showing Stormfilter Access requirements.
- Added FCBMPs to the list of required easements to TIR Worksheet.
- Added Section 8-Q, leachable metals covenant.

