



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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July 2, 2008

Aaron Reardon, County Executive
Snohomish County
3000 Rockefeller Ave , M/S 407
Everett, WA 98201

RE: Phase I Municipal Stormwater Permit #WAR04-4502
Detailed Comments Transmittal and Timeline Clarification for S5.C.5 Ordinance
and Manual Adoption

Dear Mr. Reardon,

On May 13, 2008 the Washington State Department of Ecology (Ecology) issued a letter to Snohomish County stating concerns regarding the County's first draft submittal of the Drainage Manual and Regulations under the Phase I Municipal Stormwater Permit (Phase I Permit). Snohomish County and Ecology representatives met to discuss those concerns on June 16, 2008. The attendees achieved a common understanding that the adjustment and variance decision-making processes and criteria specified in the permit must be applied to all aspects of the County's drainage manual and regulations that relate to thresholds, definitions, minimum requirements, site planning processes, and BMP design and selection criteria associated with facility function and performance. County staff are now working to develop a revised approach that can address this Phase I Permit requirement.

Detailed Comments Attached

Consistent with our meeting and Ecology's May 13th letter, Ecology is now transmitting detailed comments (attached) on the County's proposed program. Ecology's comments and requests for clarifications regarding the Draft Drainage Manual and Regulations are part of a review process that is ongoing and necessary for both parties to achieve an approvable program for new and redevelopment and construction sites. Ecology and Snohomish County representatives will be meeting on July 15th and 16th to discuss the detailed comments. At that time, Ecology requests that the County provide an overview of the potential approaches that the County is considering to address the structural and enforceability concerns discussed in the May 13th letter and at the June 16 meeting.

Adoption Deadline Update

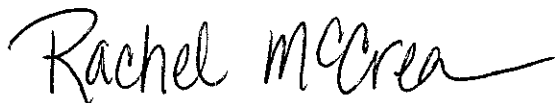
This letter also provides an updated deadline for adoption of the program under S5.C.5 in accordance with Special Condition S5.C.5.b.iv. Ecology is revising its earlier decision



that the date of the letter conveying our significant concerns (May 13, 2008) constitutes the "written response" date for the purposes of adoption deadline calculations. Because we did not provide detailed technical comments at that time, Ecology has reconsidered our earlier decision. The date of this transmittal letter will constitute the "written response" date and the deadline for adoption will be extended by the number of calendar days beyond 60 that this response was provided. **Ecology has re-calculated Snohomish County's deadline for adoption of the program under S5.C.5 to be October 23, 2008, or 78 days extended from August 16, 2008.**

Ecology is committed to working with Snohomish County with the common goal of arriving at an approvable local Drainage Manual and associated regulation. If you have any questions, contact me at 425-649-7223 or rmcc461@ecy.wa.gov.

Sincerely,



Rachel McCrea
Municipal Stormwater Specialist

enclosure: Ecology Comments on the Snohomish County Draft Drainage Code and Stormwater Manual 2-2008 Submittal

cc: *(note that copies were provided by email only)*
Bill Leif, Surface Water Management, Snohomish County
Randy Sleight, Planning and Development Services, Snohomish County
Linda Kuller, Planning and Development Services, Snohomish County
Craig Ladiser, Director, Planning and Development Services, Snohomish County
David Brookings, Director, Surface Water Management, Snohomish County
Jeannie Summerhays, Regional Director, Ecology NWRO
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Permit file

Snohomish County
Draft Drainage Code and Stormwater Manual 2-2008 Submittal
Ecology Comments

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GENERAL COMMENTS

- Ecology provided “big picture” comments regarding the structure of the County’s submittal and associated program in a May 13, 2008 letter. These comments are not generally repeated here.
- Draft ordinances for SCC 30.63A, 30.63B and 30.85 include *whereas* and *findings of fact* statements. The 30.63A findings of fact statements are particularly extensive. It is Ecology’s understanding that these statements do not themselves have authority. Ecology is not providing detailed comments on these statements and Ecology will not be approving these statements. Ecology suggests, however, that the County carefully review the accuracy of these statements and make any necessary corrections.
- Ecology understands that the draft code language submitted to Ecology had not been reviewed in detail by the County’s legal staff. Revised ordinances must go through this review before resubmittal to Ecology.
- Many citations in SCC 30.63A and 30.63B are not applicable. Where possible, these citation problems are identified in the following comments. However, a thorough cross-reference/citation check should be performed prior to resubmittal to Ecology.

DRAFT DRAINAGE CODE 30.63A

Note: page numbers refer to the 02/12/08 Transmittal Draft submitted to Ecology

PART 100 RELATIONSHIPS TO OTHER CODE AND DOCUMENTS

Page 30: Sections 020 and 030: It should be made clearer that use of LID in the Little Bear Creek watershed and in fully contained communities does not exempt any new or redevelopment project from complying with 30.63A (or 30.63B for land disturbing activities).

Page 31: Section 100(2): The purpose of this section is not clear. If this section is retained, note that the Municipal Stormwater Permit (NPDES Permit) is also issued under the State Water Pollution Control Law (Chapter 90.48 RCW).

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Page 31: Section 110(1) and (2): Ecology, not the County, determines whether the County's Drainage Manual (and associated aspects of EDDS and SCC) is equivalent to the 2005 Stormwater Management Manual for Western Washington (2005 Ecology Manual) and complies with Permit requirements. The County's Drainage Manual, as one piece of the County's overall drainage program for new and redevelopment and land disturbing activities, must not be considered merely technical guidance, nor as merely recommendations for BMPs, engineering design and drainage control measures.

Page 31: Section 110(4) and (5): Public works projects are not exempt from complying with all 30.63A (or 30.63B for land disturbing activities) thresholds and minimum requirements. The term "SWPPP thresholds" has no clear meaning; "thresholds" refer to all minimum requirements, not just MR#2 (Construction Stormwater Pollution Prevention Plan).

Page 32: Section 120: This section indicates that EDDS is an integral part of the County's overall drainage program. Ecology's review of EDDS is limited to Chapter 5, Drainage, and Chapter 11, Low Impact Development. If there are other chapters of EDDS that influence the site planning process and BMP selection and design criteria, Ecology must review this additional information as part of the County's resubmittal.

Page 32: Section 130(1): The first sentence of this section does not make sense. Clarify what is meant by "permit thresholds" perhaps by using a citation to the relevant SCC. The NPDES Permit requires that all new development and redevelopment projects (including land disturbing projects) of any size must meet MR#2. Ecology clarified this in a December 2007 document to the County prepared in response to County staff questions (see pages 2 and 3 of that document). Section 130's reference to erosion control requirements in SCC 30.63A.700(1)(a)-(o) is not consistent with NPDES Permit requirements (also typo in the reference; (1) should be (4)). The County will probably need to revise its list of erosion control BMPs used as attachments to site plans to comply with the MR#2 requirement. Ecology must review this BMP list for small projects as part of the County's resubmittal. Also, note that the County is required to inspect construction erosion and sediment control BMPs at all sites meeting or exceeding the NPDES Permit-required thresholds (S5.C.5.b.vi, 3rd bullet).

Page 33: Section 130(2): This subsection does not appear to contain drainage requirements. What is the purpose of this subsection?

Page 34: Section 160: LID projects using SCC 30.63C must also comply with SCC 30.63A or 30.63B.

PART 200 EXEMPTIONS

Page 35/36: Section 200(1): The NPDES Permit's exception to the agricultural exemption is written into subpart (b). This is an incorrect placement of this language. The phrase "except for conversions from timberland to agriculture and construction of impervious surfaces, including but not limited to roads" should be written into subpart (1) as it does not only apply to fallow rotation, planting and harvesting.

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Page 36: Section 200(2): This section references erosion control requirements in SCC 30.63A.700(4)(a)-(h). The NPDES Permit requires that all new development and redevelopment projects (including land disturbing projects) of any size must meet MR#2. Ecology clarified this in a December 2007 document to the County prepared in response to County staff questions (see pages 2 and 3 of that document). This section's reference to erosion control requirements in SCC 30.63A.700(1)(a)-(o) is not consistent with NPDES Permit requirements.

Page 36: Section 200(3): This section appears to have typos and/or duplicate information. This section references erosion control requirements in SCC 30.63A.700(4)(a)-(o), 30.63A.220(1) and 30.63A.710. The NPDES Permit requires underground utility projects to implement MR#2. MR#2 requirements for erosion and sediment control are more fully laid out in Section 715; Section 700 contains an incomplete listing. Explain what is meant by "abbreviated SWPPP." Is it the BMP list for small projects?

Page 36: Section 200(4): What is the County's intent for this section? Is it to draw a distinction between existing drainage facilities and drainage facilities approved in accordance this revised SCC 30.63A? Why would the County want to exempt maintenance from the only code that lays out the maintenance requirements? How does this fit with the County's strategy to comply with S5.C.9.b?

Page 36: Section 200(5): Projects described in this section should not be exempted from MR#2. See comments above regarding the application of MR#2, per the NPDES Permit, to all development and redevelopment projects.

Page 37: Section 200(6): This section references erosion control requirements in SCC 30.63A.700(4)(a)-(h) and refers to them as abbreviated SWPPP requirements. See comments above regarding the application of MR#2, per the NPDES Permit, to all development and redevelopment projects. MR#2 requirements for erosion and sediment control are more fully laid out in Section 715; Section 700 contains an incomplete listing.

Page 37: Section 200(7): This section indicates that public works projects are exempt from maintenance requirements, except those found in SCC 30.63A.300. Is this the correct citation? How does this fit with the County's strategy to comply with S5.C.9.b?

Page 37: Section 200(9): This section references erosion control requirements in SCC 30.63A.700(4)(a)-(h). See comments above regarding the application of MR#2, per the NPDES Permit, to all development and redevelopment projects. MR#2 requirements for erosion and sediment control are more fully laid out in Section 715; Section 700 contains an incomplete listing.

Page 37: Section 200(10): Use of the word "including" is not consistent with the NPDES Permit. The NPDES Permit specifies only those listed road maintenance activities as being exempt.

(b): The County's inclusion of the phrase "that creates new impervious surface" is incorrect because the NPDES Permit explicitly states that extending the pavement edge without

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increasing the size of the road prism and paving graveled shoulders are considered new impervious surfaces. Additionally, reference to the thresholds only in 30.63A.630 and 640 is not consistent with NPDES Permit requirements.

(c): The County's inclusion of the phrase "that are considered new impervious surfaces" is incorrect. The listed upgrades are all defined as new impervious surfaces in the NPDES Permit. Additionally, reference to the thresholds only in 30.63A.640 is not consistent with NPDES Permit requirements.

Page 38: Section 210: *Note. These comments refer to the updated section dated 05-01-2008 submitted to Ecology.*

- Ecology is concerned that the term "agricultural activities" as defined in SCC 30.91A.090 includes "... construction and maintenance of buildings... roads, bridges..." This exemption alone conflicts with the NPDES Permit. The NPDES Permit specifies that conversions from timberland to agriculture and the construction of impervious surfaces, including but not limited to roads, are not exempt agricultural activities.
- Ecology is also concerned that the language in subsection (1) that applies the agricultural exemption to any property on which agriculture is a legal use results in a broad exemption because agriculture is a legal use in most zoning/land uses in the County.
- Additionally, subsection (2a) limits the wetlands regulation consideration to certain exemptions in the federal regulations that are not consistent with State law. Note that the definition of wetlands in the Ecology Manual (Volume 1, Appendix I-D) and the County's definition in 30.91.W are more consistent with State law.

Ecology encourages the County to address these concerns. However, because the subsections (1), (2) and (3) are "and" clauses, and subsection (3) states that this exemption applies only when no other permit is required from the County, relevance of the Right to Farm provision in SCC 30.63A may be limited.

PART 300 SUBMITTAL ETC. PROCESS

Page 39: Section 310(2): Last two sentences: If a full drainage plan is required, it is not clear why that requirement might be waived if the applicant prepares a targeted drainage plan instead. It is confusing to have a process that would require both a full and targeted drainage plan. What is the difference in timing between "at the time of application for the underlying permit" and "at the time construction plans are submitted"? If a targeted drainage plan is intended to cover those projects only triggering MR 1 through 5, and a full drainage plan addresses flow control and treatment MRs (6 & 7), it does not make sense for a project needing a full drainage plan to be allowed to submit only a targeted drainage plan. Additional comments on this topic are provided for SCC 30.63A.630(1)(b), below. This discretionary approach, as currently described, is not approvable.

Page 39: Section 320: Ecology must review the County's standards for Targeted drainage plans to determine if the "conceptual layout" and "sufficient information" instructions are consistent with MR#1 requirements. Ecology understands that the authority to establish and revise written submittal requirements comes from SCC 30.70.030. SCC 30.70.030 provides for an exception to written submittal requirements as follows: *Submittal requirements shall not be waived, except that the department may determine in writing that a particular requirement is not applicable upon a clear*

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showing by the applicant that the requirement is not relevant to the proposed action and is not necessary to demonstrate compliance with applicable requirements. Where a submittal requirement is waived, the County must ensure that this action does not result in the project's failure to comply with applicable drainage requirements in SCC 30.63A or B (including the processes and criteria for granting modifications and waivers).

(2) This section includes citations to only part of the County's code covering MRs 1 through 5; SCC 30.63A.705 should also be cited. Additionally, Targeted plans for projects that exceed 2,000 sq. ft. of new plus replaced impervious surface or 7,000 sq. ft. of land disturbing activity must include an Erosion and Sediment Control Plan (a.k.a., Construction SWPPP) that fully meets all of the requirements in MR#2.

Page 40: Section 330: Ecology must review the County's standards for Full drainage plans to determine if the instructions are consistent with MR#1 requirements. Also, refer to the SCC 30.70.030 comment above regarding the exception to written submittal requirements. Where a submittal requirement is waived, the County must ensure that this action does not result in the project's failure to comply with an applicable drainage requirement in SCC 30.63A or B (including the processes and criteria for granting modifications and waivers).

Page 40: Section 340(4): EDDS deviations associated with drainage requirements (specifically the site planning process, and BMP selection and design criteria associated with BMP function and performance) must be subject to the Adjustment and Variance decision-making process and criteria in Appendix 1 of the NPDES Permit.

Page 41 & 42: Section 342: *NOTE – Comments below refer to the revised Section 342 submitted to Ecology on 4/4/08.*

Depending upon how the County proposes to address the "big picture" structural comments, the County may need to specify that the Modification requirements in Section 342 apply also to EDDS and the Drainage Manual. This section currently applies to "requirements of this chapter" only. Drainage Manual and EDDS deviations associated with drainage requirements (specifically the site planning process and BMP selection and design criteria associated with BMP function and performance) must be subject to the Adjustment and Variance decision-making process and criteria in Appendix 1 of the NPDES Permit.

(1)(b): This section refers to additional or more stringent controls. Change the word "different" in subsection (b) to "more stringent." What documentation is typically associated with director decisions for additional or more stringent controls?

(3)(d): SCC 30.63A.385 does not exist. Please correct or remove the citation.

(4): The reference to findings of fact per 342(a) and (b) is only partially correct. 342 also has a (c).

(5): This sub-section is not approvable. The bases for any modification must be the criteria in 2(a) and 2(b) of this section, in accordance with the NPDES Permit.

Page 42: Section 344: *NOTE – Comments below refer to the revised Section 344 submitted to Ecology on 4/4/08*

The sentence "jurisdiction-wide waivers must be approved by the Department of Ecology prior to county approval" is not appropriate for inclusion in the County's code. The County is the entity responsible for developing proposals for jurisdiction-wide waivers as part of this NPDES Permit submittal. A project applicant should not be able to request jurisdiction-wide waivers.

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(1): This section should be revised for clarity. Waivers may be granted following legal public notice of the application for a waiver, legal public notice of the decision about the waiver application, and only if the waiver meets the NPDES Permit-specified criteria (and documented in a written finding of fact).

(4): A waiver that does not meet the specified criteria must not be approved.

(4)(b): This language is not consistent with the NPDES Permit. Use of "is necessary" is not clear. Suggest using language similar to the NPDES Permit, such as "could be granted to comply with the intent of applicable Minimum Requirements specified in 30.63A705 through 850."

(4)(c) criteria: Suggest consistently stating "prior to DATE" which would be the date the County's revised ordinance is adopted, instead of referring to the NPDES Permit or leaving it vague.

Modifications and Waivers General: Keep in mind that County must not be approving use of alternative or emerging technologies that are outside of the scope of Ecology's TAPE or CIAPE processes. Consider whether you need to incorporate this concept into your code and/or EDDS.

PART 400 BASIN PLANNING AND REGIONAL FACILITIES

It is not clear why the County included Part 400. Basin planning is conducted by the local government, not by a project proponent. If there are completed basin plans in the County that have been approved by Ecology and influence the application of MR#6, 7 or 8, please identify these plans and standards. If there are regional facilities that have been or are planned for construction that were designed to accommodate additional inputs from projects not yet under development, please identify these facilities and their capabilities. Ecology will need to understand better the County's approach to basin planning and regional facilities.

Page 45: Section 400: The paragraph is not readable as written (typos?). Note that Ecology's approval of a basin plan that influences the application of minimum requirements is required.

Page 46: Section 410: The referenced sections 385 through 410 do not exist in this submittal. The subject matter of subsection (2) is quite different from the headline for this section; it appears to be criteria for a jurisdiction-wide waiver (or exception) for flow control and/or treatment (both terms are used in the County's proposal, but they are not interchangeable). Any jurisdiction-wide waiver must be approved by Ecology (as identified in Section 3.4 and Section 6 of Appendix 1 of the NPDES Permit). The County's proposed jurisdiction-wide waiver drafted in 30.63A.410(2) does not seem to be defensible as a severe economic hardship. Ecology has proposed to accept a stop-loss provision in this subject area from King County. That proposal from King County sets a much higher bar for assuming economic hardship. In addition, King County will require flow control up to the costs of that bar. If the County wishes to pursue a jurisdiction-wide waiver in this subject area, the County must first clarify its proposal, place the clause in the appropriate SCC section (344), and provide justification for the proposal to Ecology for our review and consideration.

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PART 600 DRAINAGE REVIEW THRESHOLDS AND REQUIREMENTS

General: This section uses the following undefined terms: minor development, major development, major new development, minor redevelopment and major redevelopment. Additionally, this section inconsistently uses "new, replaced or new plus replaced impervious surface" language. There also appear to be many citation or cross-referencing errors. Because of these issues, Ecology cannot determine what the County is proposing with certainty. The County's approach to threshold descriptions must be revised and clarified.

Page 48: Section 600

- (1): Why is this clause limited to new development?
- (2): Should this clause use "and/or" instead of "new *and* replaced...*and* land disturbing activity" so that a project which only includes one of these activities is addressed?
- (3): Unclear use of the term "major new development." See General comment above.

Page 48: Section 610: It is not clear how this section relates to the section before it (does it duplicate information or add or subtract requirements?). Based on the text provided, the County's approach is not approvable. For single family/duplex residential projects below 5,000 sq. ft. of impervious surface but above 2,000 sq. ft. of impervious surface, with unlimited amount of land conversion, the County does not require nor confirm compliance with M.R. #4 and #5 through a drainage plan review unless one of the criteria in subsection 4 is met. The County also does not require plan submission and review for all single family residential projects that exceed 7,000 sq. ft. of land disturbance. Both of these are not in conformance with the NPDES Permit. Also, for projects above the 2,000 & 7,000 sq. ft. thresholds, the reference to use of an abbreviated SWPPP checklist to comply with SCC 30.63A.700(a)-(o) is not approvable. See further comments below.

Page 50: Section 630(1)(a): Why would a project subject to a public hearing be an appropriate trigger for a targeted (instead of full) drainage plan?

(b): This section gives the County the option of allowing a targeted drainage plan (whose requirements we do not yet know) if any of the listed criteria is met. The problem with the criteria is that on an individual project basis, most projects would qualify. Many projects that otherwise exceed the threshold for full drainage review will not cause significant water quality impacts, flow rate changes, erosion, sedimentation, or flooding. The damage comes with their cumulative impact. Therefore, this section would appear to allow many, if not most projects, to only submit a targeted drainage plan. Based on the text provided, Section 630 is not approvable.

Page 50-52: Section 640: Ecology comments on other sections influence this section as well.

Page 52: Section 650: The concept of "threshold discharge area" is not only used for treatment (as implied by the title to this section), nor is it used for all thresholds (the draft code states "thresholds of the manual"). It is used only for the threshold analyses described in the NPDES Permit for M.R. #6, #7 and #8. Also, the purpose of the last sentence in this section is unclear. Consider moving the definition of "threshold discharge area" to the definitions section.

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PARTS 700 AND 800 MINIMUM REQUIREMENTS

Page 53: Section 700: It is not clear how this section relates to the contents of sections 710 and 715. Is it the County's intent to apply the requirements in section 700 to small projects below the 2,000 sq. ft. or 7,000 sq. ft. thresholds? Based on the text provided, this section is not approvable because it does not require all projects above 2,000 sq. ft. of impervious surface or above 7,000 sq. ft. of land disturbing activity to submit a Construction SWPPP that addresses how the site will comply with all of the statements in the 12 elements of M.R. #2. The County must review those plans. Additionally, see comments above regarding the application of MR#2, per the NPDES Permit, to all development and redevelopment projects. MR#2 requirements for erosion and sediment control are more fully laid out in Section 715; Section 700 contains an incomplete listing. The County must clarify their intended approach to MR#2 for small projects, abbreviated SWPPPs, and projects at the 2,000 sq. ft. or 7,000 sq. ft. thresholds.

Page 55: Section 705: This section refers to "thresholds in SCC 30.63A.320 and 330." These sections do not contain thresholds (citation error?). How do the site plan requirements in Chapter 3 Volume 1 of the Drainage Manual relate to the TDP and FDP content requirements? Do a TDP and an FDP both meet the requirements of MR#1?

Page 56: Section 710:

(2)(a): What does the last sentence (re: vesting) mean?

(2)(b): Which section is being referenced as "this section"?

(2)(c): The County can have a suggested, or canned format for single family residential construction SWPPPs. However, it cannot imply that the project is exempted from any of the statements in the 12 construction elements of Minimum Requirement #2. All of the statements in the 12 elements apply "unless site conditions render the element unnecessary and the exemption from that element is clearly justified in the SWPPP." The form can be crafted so that the applicant can more easily demonstrate that certain portions of the elements are not applicable to the project. This allows the County reviewer to get through the SWPPP review, including the explanations of non-applicability, more quickly.

Page 57: Section 715: The phrase "minimum SWPPP elements 1-5" should instead be "minimum requirements 1-5."

(4): Element 2: Add statements to clean roads each day or more frequently during wet weather if necessary. Also, add statements that sediment is to be removed by shoveling, or pick-up sweeping and transported to a controlled disposal area. Street washing is allowed only after sediment is removed in the above manner.

Page 61 - 62: Section 720:

(1): The first sentence limits the application of the source control requirement to "major development or redevelopment" per SCC 30.63A.630, which does not comply with the permit (see comment on Section 630 above). Minimum requirement #3 must apply to projects that exceed 2,000 sq. ft. of new plus replaced impervious surface or 7,000 sq. ft. of land disturbance.

(2) Alternative BMPs approved by the director are subject to the requirements of Adjustments (Modifications) and Variances (Waivers). Which "chapter" is being referenced in subsection (a)?

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(b): This section restricts the source control requirements to the facilities and land uses listed therein. MR#3, however, applies to all projects for which structural BMPs are included in the Ecology Manual. An example problem with the County's approach is a grocery store loading dock; per Ecology's Manual, the loading dock would be subject to structural source control BMPs.

Page 63-64: Section 725: *Note: Please provide a copy of the Drainage Needs Report or equivalent studies*

(1) & (2): Do you intend to say an *increase* of 0.1 cfs? Do you intend to state "100-year return flow" rather than "100-year storm"?

(3)-(6): How are these stipulations related to MR#4?

(6): Ecology needs to review 30.43 SCC. Is this section still relevant, given other Ecology comments regarding EDDS, 30.63C integration and the revised MR#5?

Page 65: Section 730: *Note: This section has been deleted per the 4/4/08 revised submittal.*

Page 65: Section 735: *Note: This comment refers to the 4/4/08 revised submittal.* Subsection 2 does not have a threshold for impervious surfaces that are non- PGIS.

Page 66: Section 740:

Table 30.63A.740: Should have *greater than or equal to* symbols.

(2)(a): Change "enhanced" to "phosphorus."

(5): The geographic limitation of ¼ mile to fish-bearing waters must be removed. All the listed discharges to waters that are tributary to fish-bearing waters shall apply Enhanced Treatment regardless of their distance from the fish-bearing waters.

Page 68: Section 745(2): The volume of runoff from a 6-month, 24-hour event, or the 91st percentile, 24-hour runoff volume are design criteria options for wetpool facilities. They do not apply to other BMP types at present. So the statement that treatment BMP sizing shall be based on one of those is too general. Also, the code should indicate that if "alternative methods" are used, they must receive prior approval by the Dept. of Ecology (through the TAPE program). Snohomish County is not authorized to approve of alternative methods without Ecology's prior approval of the method.

Page 68: Section 745(4): Because this section allows Public Works to develop its own selection, design, and maintenance schedules, those must be submitted to Ecology for review. We assume that this sentence intends Public Works to develop a generic set of requirements. If the sentence implies it is done on a case-by-case basis, it is not acceptable. How does this fit with the County's approach to complying with NPDES Permit O&M requirement S5.C.9 b.?

Page 68: Section 750(1): The first sentence is not understandable. The second sentence is not correct. Design criteria do not achieve performance goals. Design criteria must be assigned such that the treatment facility achieves the performance goals at the water quality design flow rate.

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Page 68: Section 750(2): As noted above, Snohomish County is not authorized to approve of alternative methods without receiving concurrence from the Dept. of Ecology.

Page 69: Section 760(1)(b): This provision was written by Ecology for use directly by municipalities. It is not an option available to individual project sites (similar to the above comment on Part 500). This provision could be excluded from the County code. If the County wants to use the provision, it must propose and justify specific areas that it thinks qualify. A proposal must receive Ecology concurrence before the County may allow its use. Based on an analysis of satellite images as described at Ecology's stormwater website, Ecology does not list any basins within unincorporated Snohomish County as eligible for application of this provision.

Page 69: Section 760(2): The introductory clause is circular and does not make sense.

(a) should not refer to a "100-year storm" because continuous runoff models do not identify flows from "100-year storms." It would be appropriate to say "...the peak 100-year frequency flow rate as predicted by an approved continuous runoff model.

(b)(ii): This section refers to a non-existent subsection 4.

(b)(iii): The reference should stop at 760(1).

(c)(B)(II): To make this statement context appropriate, it should probably end with "...unless specifically waived or exempted by the County and other regulatory agencies with jurisdiction."

(c)(B)(V): This section should be reformatted; not a subset of B.

(c)(B)(VI): This section from the Ecology manual was intended only for use by local governments. A local government, such as Snohomish County, may file a technically supported petition to exempt a geographic area. The section is not intended for private development. Therefore, the specific statement should not appear in the County's code. Rather, the County can apply for additions to the list of exempt waters in Appendix I-E.

Page 70: Section 760(3)(a): The first sentence is an incorrect statement of the flow duration standard. Ecology recommends using the terminology in Appendix 1, page 25, of the NPDES Permit.

Page 70: Section 760(3)(b): Ecology has different comments on 2 different aspects of this section:

Downstream Flooding: The option of using single event methods and a volume correction factor does not address the problem of over-prediction of pre-development flows by single event methods. That would potentially allow release rates that are too high, aggravating downstream flooding, and not meeting the flow duration standard for streams. The volume correction factors proposed were intended by the consultant to provide sufficient storage capacity so that the 1992 flow release standards (2/0.5 of the 2, 10/10, 100/100) were achieved. Those flow release standards have been replaced by the flow duration standard. Thus, the County's proposal is not approvable when used in the context of preventing downstream flooding. King County and Ecology previously determined a gross procedure for using single event methods to approximate release rates and pond sizes indicated by a flow duration standard. That procedure is described as an "Interim Guideline on pages 2-32 and -33 of Volume I of the 2001 Stormwater Management Manual for Western Washington." But even use of that procedure should

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not be necessary where the County wants to reduce the incidence of downstream flooding. In the WWHM or MGS Flood, the target release rate for the pre-developed condition can simply be adjusted to a lower level.

Closed Depressions: In instances, where the closed depression is not a category I, II, or III wetland, and will not overflow to a stream, the County can choose its regulatory approach. We suggest that the county should require water levels to not increase above pre-project conditions for various return frequencies (e.g., 2-year, 10-year, 25-year, 100-year). The WWHM or MGS Flood is a better tool for predicting water level elevations and return frequencies than a single event model, especially when it is calibrated to that site. The user can create a stage/storage table based on the topography of the pothole, regardless of its irregular shape, and can enter an infiltration rate that should be based on field measurements.

If the closed depression is a category I, II, or III wetland, as is often the case, the minimum requirement for maintaining the wetlands hydroperiod must be followed. In that case, the single event approach proposed by the County will not provide the information necessary to determine compliance with Guidesheet 2B of the Puget Sound Wetlands Guidance. Again, a continuous runoff model is a more appropriate tool.

Page 72: Section 770: This section needs re-wording to indicate that the discharge from the project site must meet the applicable flow control standard.

Page 72: Section 775: This section should add a statement that any basin-specific flow control strategies must have the approval of the Dept. of Ecology. See previous comment on Part 400.

Page 73: Section 790(1)(b): To be context appropriate, the second sentence should probably end as follows: "... unless directed otherwise by the County and other regulatory agencies with jurisdiction."

Page 73: Section 790(4): Does the County consider all wetlands created for mitigation purposes as Category 3 wetlands? Our understanding is that wetlands created for mitigation purposes have an intended rating (or categorization). Consistent with that rating, they should not have their hydroperiod changed. Therefore, subsection (e) is not sufficiently stringent for "created" (or mitigation) wetlands.

Page 75: Section 795(4): The requirement for a maintenance inspection once every 5 years on private facilities conflicts with the County's NPDES stormwater permit requirements. See Special Condition S5.C.9.

DRAFT UPDATE TO DEFINITIONS IN 30.91B

General: The SCC 30.91 definitions submittal does not appear to be complete. Is there one place in the County's program where all definitions reside? Which definitions from the Ecology Manual do you actually rely on? When noted that a term applies to Drainage and LDA chapters, the citations are not always the same. Why is this?

Specific definition comments are included below. Ecology may provide comments on additional definitions as the County's proposal is revised or clarified.

Best Management Practices: The definition includes anything approved by the director. For reasons already discussed with the County, this is not approvable.

Common Plan of Development or Sale: Please replace your definition with the definition in Appendix A of the Construction Stormwater General Permit. That definition is taken from federal rules. Maintaining a common definition will prevent potential conflicts and confusion.

Impervious Surface: Eliminate the last clause beginning with, "and causes water to runoff..." It is redundant with what is already included in the definition

Redevelopment: Remove the word "new" in the first line. Because redevelopment projects can involve simply the replacement of impervious surface, it should not be included.

Economic Hardship: This definition is inappropriate for the term. Economic Hardship is a severe financial burden that is determined using the criteria listed in Section 6 of Appendix 1 of the NPDES permit. (Note that the criteria in Section 6 of Appendix 1 were intended to prevent violating substantive due process, as that concept has been defined by the state supreme court) If the decision is that there is an economic hardship, AND the additional criteria of Section 6 are met, then an Exception may be granted. If the additional criteria are not met, the fact of an economic hardship does not qualify a project for an exemption. And, Ecology would argue that not granting an exemption in that case does not constitute a "taking" that requires just compensation.

Site: The proposed definition is synonymous with "project site." Ecology makes a distinction between these terms because of the way in which they are used in the Stormwater Management Manual for Western Washington. Because Snohomish County seems to use the term similarly, the definition should change to be very similar or the same as Ecology's. An example of the use of the term is the initial decision box in proposed Figure 2.2SC. In that instance, Ecology intends use of its definition of the term, site, not project site.

Waters of the State: This definition differs from that in the NPDES Permit. The source for this definition is not clear. Do you intend the Water Pollution Control Hearings Board, or the Water Pollution Control Commission? Why are you proposing to use a definition different from that in the NPDES Permit?

DRAFT UPDATE TO LAND DISTURBING ACTIVITIES CODE 30.63B

Note page numbers refer to the 02 12 08 Transmittal Draft submitted to Ecology

General: The County's submittal of 30.63B ended with 30.63B.360. It is not clear if there is more to the code that was inadvertently omitted. Please verify. Also, there are places where text appears within double parentheses that the County may have intended to delete. Ecology will need to review a complete and revised 30.63B with the County's resubmittal.

Page 18: Section 020: A specific citation to SCC 30.63A.715 would make the erosion and sediment control requirements of this section more clear.

(1)(c): Refer to earlier comment on SCC 30.63A.200(1). The same problem is present in this section.

(2): See earlier comments regarding SCC 30.63A.700 and 715; similar changes are needed in this section. Subsection 2(a) appears to exempt projects that disturb less than 7,000 sf from getting a land disturbing activity permit, yet allows the creation of up to 5,000 sf of new impervious surface – presumably without a permit. Does this mean that a project to build a 4,000 sf parking lot out of an existing pasture would slip through the County's regulations and not be required to implement any drainage controls?

Page 19: Section 020(3)(b)(c) & (d): Because Section 700 of Chapter 30.63A SCC is not sufficient for projects that exceed the 2,000/7,000 sq. ft. limits, citing it in this section will not be adequate for utility projects exceeding those thresholds. Section 715 should be cited. See earlier related comments.

Page 21: Section 025: *Note. These comments refer to the updated section dated 05-01-2008 submitted to Ecology*

Ecology commented on the related provision in SCC 30.63A. Those same concerns apply, however Ecology's conclusion is different. The County's LDA code requires a permit, so if the County exempts certain activities from the LDA permit, neither 30.63A nor 30.63B requirements apply. For agricultural projects that convert timberland to agriculture, and agricultural projects that construct impervious surfaces, when they will discharge stormwater to the County's MS4, the right to farm exemption appears to conflict with NPDES Permit requirements.

The County submitted a "right to farm exemptions" table with the revised section language that was intended to clarify how the right to farm exemption applies. Please clarify how that table's reference to "< 500 cy" under Grading is reflected in the draft code language. Ecology will need to understand the County's land disturbing permit triggers (such as cubic yards vs. square feet, slope, soil type, etc.) better in order to determine whether this exemption is approvable.

Page 37: Section 350: Revise this section, including references to 30.63A, based on earlier comments regarding MR#2

DRAFT EDDS, CHAPTERS 5 AND 11

GENERAL COMMENTS

The legal status of these standards must be addressed per. Must a designer follow these standards if they use LID technique?

The County must identify how credits for each LID technique will be assigned.

CHAPTER 5

Section 5-11 Flow Control: Detention Systems

Subsection A. Design

The design standard requires matching "pre-developed" discharge durations. It does not mention that the historic land cover should be used to generate the "pre-developed" discharge durations.

B. Detention Ponds

Subsection 3.iii. requires the berm to be 1 foot above "at the peak discharge from the 100-year, 24-hour storm." Detention ponds are not sized using single event methods that use concepts such as 100-year, 24-hour storms. This provisions needs to be rewritten to make sense in terms of continuous runoff hydrologic methods. For instance, it could say, "..... 1 foot above occurring at the 100-year, 1 hour (or 15 minute) flow rate as predicted by an approved continuous runoff model."

C. Detention Vaults

Subsection 10 indicates that "the volume of sediment storage required shall be determined by the engineer of record." This seems inappropriate. For detention ponds, the Ecology manual and the draft EDDS both specify minimum sediment storage volumes. Detention vaults should have a similar minimum sediment storage specified.

E. Emergency Overflow Structures

Subsection 2 specifies that an open channel shall be designed to pass the 100-year maximum developed flow. Because we are using continuous runoff models, you should specify a time step. For instance, the 100-year, 1-hour flow; or the 100-year, 15-minute flow. The WWHM currently indicates a 100-year, 1-hour flow. Ecology recommends that emergency spillways be designed for the 100-year, 15-minute flow. That rate is estimated by multiplying the 100-year, 1-hour flow rate by a factor of 1.6.

Please note that for ponds that can impound 10 acre-feet or more, a review by Ecology's Dam Safety Office is necessary for multiple dam safety requirements. Guidance documents from the Dam Safety Office are available. Emergency spillway provisions in that guidance over-ride the information in the paragraph immediately preceding.

H. Flow Restriction and Oil Pollution Control Structures

Subsection 1: The function of a FROP unit and where it is placed is not clear. In addition, standard drawings are referenced that have not been submitted.

Subsection 2: Same comments in regard to an Oil Pollution Control Unit.

Section 5-12 Flow Control: Dispersion Systems

B. Level Spreader Trenches

The text refers to a standard drawing that was not submitted for review. The text does not indicate any limit to the amount of flow that can be dispersed through level spreaders.

Section 5-13 Water Quality Treatment

A. General

Subsection 2 indicates that water quality treatment is necessary whenever the peak flow exceeds 0.1 cubic feet per second. This is an incomplete standard. There is no definition of peak flow. Peak flow would have to be defined in terms of a return frequency flow rate identified by an approved continuous runoff model. Ecology bases its treatment thresholds on a square footages of pollution-generating impervious surfaces and pervious surfaces. Is the County proposing to require water quality treatment for all impervious surfaces, not just for pollution-generating surfaces?

CHAPTER 11

General Comment: There are multiple statements concerning getting flow reduction credit for use of the BMPs listed in this section. Where is the enforceable document that details how these credits are awarded? Note that the Ecology Manual does not contain credits for all these LID techniques. Where applicable, those credits need to be consistent with Ecology's credits, or justification for the amount of credit must be provided. For many of the BMPs in this chapter, there is not sufficient design detail to justify the awarding of credit. We have tried to point-out areas where more specific guidance or a design change is needed.

Section 11.1.1 Amended Soils BMP

At the bottom of page 4, identify the title of the booklet with quotes or underlining. Also, the County should be using the booklet as a guide for implementing the soil quality and depth requirement. It contains worksheets for landscapers/developers that they can submit for the county's review. It also contains procedures for inspectors to verify compliance.

It is not clear that this BMP is mandatory for all turf & landscaped areas.

Section 11.1.2 Bioretention

There is an updated soil specification from Curtis Hinman of the WSU Cooperative Extension that the County should consider using. The specification is more specific in regard to the soil to import for mixing with compost. It will allow more predictability in the hydrologic performance of bioretention facilities.

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Page 5: In the first bullet, the intent of the paragraph would be clearer if it would indicate that the 1 foot depth applies only to those sites that do not exceed any of the three indicated areas. The sentence would then be consistent with Ecology's Manual.

Note 3 in the drawing refers to the text for underdrain criteria. The text does not include those criteria. Also, the County will need a document that identifies credits for this and other LID types. For bioretention facilities served by an underdrain, there are only two modeling options currently available: 1) no flow reduction credit; and 2) model the rain garden using a procedure identified by the City of Seattle.

If this is the only location at which design criteria for bioretention facilities is provided, the county needs to provide more design direction. Are you relying on the Drainage Manual component for this information? If so, please cite. For instance, in order to determine the amount of credit, the underlying native soil and its infiltration rates need to be determined.

Section 11.1.3 Stormwater Planter

The soil specification on page 2 is very subjective. If the County intends to give flow reduction credit for this BMP, the specification will have to be more prescriptive.

The Construction Considerations section indicates that the "infiltration rate of the native soil is key to determining size and viability." Do you intend to say the native soil that underlies that planter box? This situation is similar to bioretention facilities. The amount of flow reduction that these systems can achieve is determined by either the long-term infiltration rate of the soil mixture in the BMP, or by the initial infiltration rate of the underlying soil – whichever is less. If the County wants to give credit for these systems and rain gardens, they either have to be modeled as infiltration systems, or they can follow King County's approach concerning modeling of the drainage area, or develop and justify another approach.

The drawing at the end of the section references standard drawings that will have to be added to EDDS (or are missing from the submittal).

Section 11.1.4 Sustainable Landscaping

The first paragraph indicates that landscaping mitigates for parking lots. That is not correct. Creating landscaped areas with native plants and soils that meet the minimum quality and depth requirement does not mitigate for impervious areas. It may reduce the runoff from the landscaped area itself (as compared to not using sustainable practices), and may reduce the need for fertilizers and pesticides. As written, this is not a technique to meet MR#5. If this referred to the Ecology soil quality and depth BMP, it could be approvable.

Section 11.1.5 Infiltration Trench

There is no indication in this section that runoff from pollution-generating impervious surfaces must have at least basic treatment prior to entering an infiltration trench. This EDDS section should clearly indicate this requirement, even if it is found elsewhere in code or the Ecology Manual. Alternatively, if the soil beneath the trench meets the soil suitability requirements (CEC > 5, some organic capacity, lower infiltration rate) an approved pretreatment device may precede the trench.

The maintenance table does not apply to infiltration trenches

Section 11.1.6 Planter Boxes

The text is not adequate. Snohomish County is the local jurisdiction. The soil studies and design criteria need to be published by Snohomish County.

Filterra devices have only received a Pilot Level Use Designation from Ecology (refer to the TAPE program). The County cannot allow their general use as a treatment or flow reduction device. The County can allow their use if no hydrologic or treatment credit is given and the effluent is collected and routed to flow control (where applicable) and treatment.

Ecology has not approved any tree box designs for use as a treatment device. The text implies that boxes can be used to satisfy treatment requirements. Table 1 suggests that they are an acceptable device for phosphorus, ISS, and metals removal. Planter boxes can be used for MR#5, but not MR#6.

Section 11.2.1 Filter Strips

Filter strips are a treatment BMP option if they are sized and designed in accordance with criteria in the Western Washington Stormwater Manual.

The third bullet at the top of page 4 conflicts with standard design criteria.

The first paragraph on page 6 under "Design Method" is not acceptable for western Washington. It is an Eastern Washington criterion.

Q_{vfs} , the filter strip design flow rate, needs to be identified at the top of page 7 as the on-line water quality design flow rate times the factor k.

The first paragraph of the Special Requirements section is not germane to Snohomish County. The fifth bullet on page 9 provides an incorrect reference. It should reference section 4-5.3.3.1 of the 2008 Highway Runoff Manual.

Section 11.2.2 Natural Dispersion Areas

The first two bullets on page 6 should be deleted. They conflict with the correct design criteria which appear on page 7.

Section 11.2.4 Ecology Embankment

WSDOT has re-named this treatment option as a "Media Filter Drain." The County should change its terminology to avoid confusion.

The section lacks the mix specification. Please refer to the '08 Highway Runoff Manual.

Section 11.4.1 Vegetated Swales

There appears to be a number of conflicting design criteria. There is also considerable confusion caused by mixing the topics of conveyance, infiltration, and treatment.

Where a swale will be relied upon for infiltration losses, the design must include soil logs and estimations of infiltration rates of any imported or mixed soil and the underlying soil. As with rain gardens, the infiltration losses are controlled by the lower of the initial infiltration rate of the underlying native soil or the long-term infiltration rate of the swale soil. The system must be modeled in accordance with the Ecology Manual unless an equivalent or better method is justified by the County. References to credits awarded for the design of such systems in other states is not approvable.

Section 11.4.2 Conveyance Furrow

The text includes conflicting slope criteria. The design storm criteria listed are inappropriate for western Washington. They are not compatible with design using a continuous runoff model.

A soil specification is necessary.

The text refers to drain rock, but none is shown in the drawing.

This seems like a reasonable idea, but without tighter engineering controls through soil logs, measured infiltration rates, soil quality and depth specifications, there wouldn't be a reasonable way to assign credit for flow losses. Please explain.

Section 11.4.3 Conveyance Garden BMP

The County needs to explain the basis for the sizing in table 1.

Any systems, such as this one, for which an underdrain is included may not qualify for any flow reduction credit.

Section 11.5.1 Reverse Slope Sidewalk

Why are the size (other than 10 feet wide) and geometry of the receiving pervious area specified? It would seem necessary only if it is intended as a treatment system, e.g., as a vegetated filter strip. Because sidewalks are considered non-pollution generating, this seems unnecessary.

Section 11.5.2 Curb Extensions

The restriction on clearance to groundwater for sites serving over certain sizes of drainage area implies that a credit is intended. As with many other LID features in this section, the County must propose how it will assign credit. In this case, the only way to assign credit may be to use WWHM3 to direct sheet flow from an impervious area onto a designated pervious area.

Section 11.5.3 Street trees

Ecology has received a request from the City of Seattle in regard to granting runoff credits for street trees. The request includes a supporting analysis, with references to other studies, by Herrera Environmental Consultants on behalf of the City. Ecology will review that information and decide if and how much credit can be given for trees. This section of the County's EDDS should be consistent with that decision, unless the County provides additional information (e.g., a supporting analysis) for Ecology's consideration.

SNOHOMISH COUNTY ADDENDUM TO THE ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON

Chapter 1: Introduction

Section 1.3: The text indicates that the drainage manual is a guidance document. Alternatives to guidance in the manual may be approved by plan review staff without the need for approval of the director of PDS or PW. That legal standing is not approvable. Deviations from the manual may only be approved by the County through the adjustment or exception requirements in Appendix 1 of the NPDES Permit. Compliance with the content of the drainage manual must be mandatory. The project reviewer must not have the option of approving an alternative except through the code requirements established for granting adjustments. Granting of exceptions/waivers should be restricted to the Director.

The same interpretation must hold true for the standards in the EDDS.

Section 1.4 Document Relationship Example:

The only technique of the LID guidance manual that is an approved treatment option is a rain garden. But the amount of "credit" given to a rain garden is proportional to the volume of water it is predicted to pass through its soil profile as estimated by using approved modeling techniques in an approved continuous runoff model.

In the example of a designer wanting to use engineering designs that vary from those found in EDDS, the proper procedure would be to determine whether the requested variation constituted an adjustment or an exception/waiver. Then, the County would follow the appropriate approval procedure as required by the permit.

In the example of a request for a different seed mixture, it is conceptually okay to have the project reviewer make the decision. However, it would still constitute an adjustment, and the proper criteria applied and documented. In this specific example, if the project reviewer had knowledge that the growth needs of a replacement plant were similar to the original, he/she would be qualified to make that decision. If the reviewer does not, he/she should not make a decision because he/she does not have the expertise to determine that it would provide an equivalent environmental protection function.

Chapter 2: Summary of Modifications to the SMMWW

Alternative methods for hydrology calculations: The proposal is not approved. See the comment on Section 760 of SCC 30.63A.

Chapter 3: Modifications to the SMMWW

Section 3.1.2: Figures 2.2SC and 2.3 SC (the 2-08 and 4-08 versions) are not approvable for the reasons given in the comments on the corresponding code sections.

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Sections 2.5.1 through 2.5.4: See comments on the code.

Section 2.5.5: On-site Stormwater Management: The code requires compliance with the soil quality BMP in Chapter 5 of Volume V. Please explain the County's understanding of this BMP and confirm that it will apply to all lawn and landscaped areas that trigger MR#5.

Section 3.1.3: Preparation of Stormwater Site Plans: Comments on the acceptability of the cited code sections are provided in the comments for the code. Independent of Ecology's objections to the thresholds and requirements applicable to different size projects, those code sections do not provide the user with a step-by-step approach for compiling the site plan. What will the County direct designers to use for developing stormwater site plans? Special Condition S5.C.5.b ii requires the County to have a site planning process specified that meets AKART. The County may choose to use the process in the SMMWW to fulfill this requirement.

Section 3.1.4: BMP and Facility Selection Process: The text indicates that this section (Chapter 4 of Volume 1) is technical guidance. That implies that the user can take it or leave it. Special Condition S5.C.5.b ii requires the County to have a BMP and Facility Selection Process that meets AKART. The County cannot claim it meets AKART with a process that is only guidance.

Section 3.1.5: Vol. 1, Appendix 1-D: The cited sections of the code do not provide detailed hydroperiod change constraints that appear in Appendix 1-D. What is the County's intent?

Section 3.3.2. Hydrologic Analysis. See comments under the drainage code in regard to Ecology's non-concurrence with the proposed Closed Depression Analysis.

Section 3.3.3. Flow Control Design: References to Appendix A should be changed to Appendix B.

Section 3.3.5: Volume III, Appendix III-C: Changes to the design criteria in the LID manual must be approved by Ecology. If the County has such changes in EDDS (other than the Chapter 11 contents submitted in February 2008), this must be provided to Ecology with the County's resubmittal.

Section 3.5.2: Vol. V, Chapter 2: Because the County is not using the optional off-site analysis in Section 2.6, what information will the County provide so that designers can determine the receiving water, and thus the treatment requirement for the project site?

Section 3.5.7: Vol. V, Chapter 8: Changes to the Design Criteria must be approved through the Dept. of Ecology. If such changes were not provided in February 2008 submittal, this information must be provided to Ecology with the County's resubmittal.

Appendix C: Volume IV - Source Control BMPs:

5.4 BMPs for Storing Containers of Liquids, Food Waste, or Dangerous Waste & 5.5 BMPs for Storing Liquids in Permanent Above-Ground Tanks:

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The minimum volume of the diked area is not sufficient. It must be 10 percent of the enclosed volume of all containers or 110 percent of the largest container, or, if a single container, 110 percent of the volume of that container.

The following activities are not addressed in Chapter 5:
Commercial Composting