

Comment	Original Page #	Code	Secti on	Subsec tion	Topic	Ecology responses (2/6/2015):	Seattle response to Ecology (5/11/2015):	Links (as applicable)	Ecology Response/Backcheck notes (6/12/15)	Seattle's Response to Ecology's 6/12/15 Comments (9/23/15)	Ecology Response / Backcheck (11/20/15)	Seattle Redline Changes based on Ecology 11/20/15 Comments (11/24/15)	Final Ecology Response (12/2/15)
1	22	800		030.A	Grading	Applicability to grading/land disturbing activities: Changes at 22.800.030.A; also page 69, lines 38-39; minor edits throughout regarding grading – Confirm applicability of stormwater code to land disturbing activities (i.e., grading). SMC 22.170 contains grading permit thresholds; please provide for verification.	RECOMMEND NO FURTHER ACTION Changed 22.800.030.A & 22.807.020.A.1.a back to original text that includes "grading" & "Any land disturbing activity encompassing an area of seven hundred fifty (750) square feet or more;", respectively.  Excerpt from Seattle Grading Code: 22.170.060 - Grading Permit Required C. Compliance Required. All grading and other land disturbing activity, whether or not it requires a grading permit, shall comply with the provisions of this code, the Stormwater Code, and all other applicable laws.	<a href="#">22.170.060 - Grading Permit Required</a> <a href="#">C. Compliance Required. All grading and other land disturbing activity, whether or not it requires a grading permit, shall comply with the provisions of this code, the Stormwater Code, and all other applicable laws.</a>	Acceptable.	Noted.			
2	22	800		040.A	MS4 v RW	Distinguishing between the MS4 and Receiving Waters	RESOLVED - Revised definition of Receiving Waters to distinguish from MS4.		Acceptable.	Noted.			
3	22	800		040.A	MS4 v RW	Drainage system vs. stormwater system (edit at 22.800.040.A.6.c, pg 5, line 16 and throughout definitions). Ecology is concerned how numerous terms are used when you need to distinguish between the MS4, a private stormwater system and the receiving waters. See below.	RESOLVED - See following response to comments.		see below	Noted.			
4	22	800		040.A	MS4 v RW	"Drainage system" includes MS4 and receiving waters.	RESOLVED - Removed ambiguity and clarified that drainage system is not receiving waters.		Acceptable. This change substantially addresses several of the related comments that follow.	Noted.			
5	22	800		040.A	MS4 v RW	"Drainage water" is what is allowed in a stormwater system (stormwater and allowed discharges)	RESOLVED - Resolved by revising definition of "drainage system".		Acceptable.	Noted.			
6	22	800		040.A	MS4 v RW	"public drainage system" is the drainage system owned or used by Seattle (but includes receiving waters)	RESOLVED - Resolved by substituting "operated" instead of "used"; and by revising definition of "drainage system"		Acceptable.	Noted.			
7	22	800		040.A	MS4 v RW	"informal drainage system" is undefined (presumably includes receiving waters)	RESOLVED - Term removed and will not be used.		Acceptable.	Noted.			
8	22	800		040.A	MS4 v RW	"private drainage system" is undefined (presumably includes receiving waters)	RESOLVED - Added definition for "private drainage system" - means a drainage system that is not a public drainage system.		Acceptable.	Noted.			
9	22	800		040.A	MS4 v RW	"Public storm drain" is wholly or partially piped, owned or operated by city, designed to carry only drainage water. Unclear if this includes receiving waters.	RESOLVED - Revised definition of drainage system; now clear that drainage system excludes receiving water.		Acceptable.	Noted.			
10	22	800		040.A	MS4 v RW	Use in 22.802.020 B&C (IDDE) suggests receiving waters and drainage system are distinct. However the definitions do not clearly separate the two.	RESOLVED Resolved by revising definition of "drainage system".		Acceptable.	Noted.			
11	22	800		040.A	MS4 v RW	"Watercourse" is the route surface waters flow not including "designated receiving waters." Surface waters are not defined. Do they include drainage water as well as receiving water, as the definition implies (i.e., ditches)?	NOTED - Watercourse is used in this code generally to prohibit obstruction of smaller receiving waters. The definition has been modified to specify receiving waters and remove ambiguity.		Acceptable.	Noted.			
12	22	800		040.A.4	Considerations for Duwamish Source Control	22.800.040.A.4 & 5 present opportunities for LDW source control. Consider how they factor into the Seattle source control strategy.	NOTED - SPU will consider how these Code sections may be used in development of future source control programs and efforts in the LDW.		Acceptable.	Noted.			
13	22	800		050	Considerations for Duwamish Source Control	22.800.050 Potentially Hazardous Locations – Consider whether B would include sites/buildings where TSCA level PCBs are present.	NOTED - SPU will consider its authority pursuant to this section. SMC 22.800.050 A may also apply.		Acceptable.	Noted.			
14	22	800		040.B.3	Changes to final project during construction	22.800.040.B.3 – Ensure a documented process is in place for filing such changes with the Director and incorporating into GIS? Refer to a related EPA Audit finding.	CLARIFICATION - Refer to DPD website for procedures on permit revisions for construction permits.	<a href="http://www.seattle.gov/dpd/permits/permitchanges/buildingpermitrevisions/default.htm">http://www.seattle.gov/dpd/permits/permitchanges/buildingpermitrevisions/default.htm</a>  <a href="http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/dpdd017439.pdf">http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/dpdd017439.pdf</a>  <a href="http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/dpdd017440.pdf">http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/dpdd017440.pdf</a>	Ensure intent of comment is understood. Documented process is in place for project proponents to follow. Intent was to ensure internal Seattle process in place for getting revised drainage system information into the GIS system. No code change necessary.	This is addressed outside of the Code and Manual Update process, SSC5.a.iii.	No action necessary.		
15	22	800		040.C.1.d	Roadway Project Exception	22.800.040.C.1.d (pages 6 & 7) introduce a proposal for a jurisdiction-wide exception associated with roadway project construction conditions. Ecology does not approve this jurisdiction-wide exception. However we acknowledge that you are trying to solve specific problems that may be better solved in other provisions. Detailed concerns, questions, and clarifications are provided below.	RESOLVED - Removed Roadway Exception criteria from SMC 22.800.030.C. See SMC 22.805.060.E for Roadway Project infeasibility criteria.		Language in 22.805.060.E needs corrected so that the modified requirement applies to -B., -C, and -D (not A). Soil amendment requirement not modified. Seattle's proposal is to require on-site stormwater management, flow control and treatment "to the degree that the project can avoid the infeasibility described at (a) and (b)." Where (a) is the relocation of defined existing major infrastructure or utility element and (b) is the inability to gravity flow. This jurisdiction-wide exception is acceptable for Seattle's existing urban build-out conditions.	Correction made, see page 64 of 104 of Stormwater Code Ordinance.	Acceptable.		
16	322	800		040.C.1.d	Roadway Project Exception	"severe construction feasibility hardship" is not defined. The City has verbally explained that this is intended for technical feasibility issues, not economics.	RESOLVED - Removed Roadway Exception criteria from SMC 22.800.030.C. See SMC 22.805.060.E for Roadway Project infeasibility criteria.		Addressed.	Noted.			

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17	3	22	800	040.C.1.d	Roadway Project Exception	<ul style="list-style-type: none"> <li>It is not clear how one would "weigh" a severe construction feasibility hardship against the "requirement's benefits."</li> </ul>	RESOLVED - Removed Roadway Exception criteria from SMC 22.800.030.C. See SMC 22.805.060.E for Roadway Project infeasibility criteria.		Addressed.	Noted.			
18	3	22	800	040.C.1.d	Roadway Project Exception	<ul style="list-style-type: none"> <li>The proposed exceptions would be subject to public notice and review at C.6.</li> </ul>	RESOLVED - Removed Roadway Exception criteria from SMC 22.800.030.C. See SMC 22.805.060.E for Roadway Project infeasibility criteria.		No longer applicable.	Noted.			
19	3	22	800	040.C.1.d	Roadway Project Exception	<ul style="list-style-type: none"> <li>The City has explained verbally that "infrastructure limitations" refers to situations where facilities would interfere with or be located in proximity to existing major utility lines; and that "hydraulic limitations" refers to a lack of hydraulic head for discharges from underground vaults (and thus the installation of a pump in the roadway).</li> </ul>	RESOLVED - Removed Roadway Exception criteria from SMC 22.800.030.C. See SMC 22.805.060.E for Roadway Project infeasibility criteria.		Addressed.	Noted.			
20	3	22	800	040.C.1.d	Roadway Project Exception	<ul style="list-style-type: none"> <li>The cited WSDOT HRM Appendix 2-A describes a process to be followed. It is written in a guidance "consider" format and refers to processes that are only established in the WSDOT program. Such guidance is not relevant or appropriate for a city or county MS4 permittee.</li> </ul>	RESOLVED - Removed Roadway Exception criteria from SMC 22.800.030.C. See SMC 22.805.060.E for Roadway Project infeasibility criteria.		Addressed.	Noted.			
21	3	22	800	040.C.1.d	Roadway Project Exception	<ul style="list-style-type: none"> <li>The City verbally explained that other existing flexibilities (for Integrated Drainage Plan, fee-in-lieu, and off-site mitigation (22.800.080.E, F and G.)) would be pursued first, prior to use of the proposed exception.</li> </ul>	RESOLVED - Removed Roadway Exception criteria from SMC 22.800.030.C. See SMC 22.805.060.E for Roadway Project infeasibility criteria.		No longer applicable.	Noted.			
22	3	22	800	040.C.1.d	Roadway Project Exception	<ul style="list-style-type: none"> <li>Regarding the location in proximity to existing major utility lines in rights-of-way: Ecology has approved an approach in the Highway Runoff Manual to allow for the mitigation/management of this surface area and type in an alternative location as close to the project location as possible. This is similar to Seattle's off-site mitigation provision (22.800.080.G).</li> </ul>	RESOLVED - Removed Roadway Exception criteria from SMC 22.800.030.C. See SMC 22.805.060.E for Roadway Project infeasibility criteria.		No action necessary.	Noted.			
23	3	22	800	070.A.2	Applicability of Requirements to Older Projects	22.800.070.A.2 – Explain why this section waives the new MR5 only when the funded public project complies with the old GSI requirement.	RESOLVED - Removed incorrect language waiving GSI requirement. A limited number of City projects in rights of way or for park O&M are already on an extended planning and funding track; instead of the new ordinance, they must comply with Seattle's current Stormwater Code, which includes a substantive On-site requirements.		Acceptable.	Noted.			
24	3	22	800	100.C	Permit Application	22.800.100.C – Confirm definition of "permit application" is consistent with the Phase I Permit's S5.C.5a.iii, footnote 1.	CONFIRMED - "permit application" as stated in 22.800.100.C is consistent with Phase I Permit's S5.C.5a.iii, footnote 1.		Acceptable.	Noted.			
25	3	22	801	A	Definitions: 22.801	<b>Aquatic life use</b> – This is being introduced due to the enhanced treatment requirement language associated with fresh water discharges. It is a much more limited definition than that in WAC 173-201A, which defines fresh and marine waters, and surface waters of the state. Because Seattle's definition is not consistent with WAC 173-201A, and to avoid future confusion, suggest including a caveat clause, such as "for the purposes of this section" in this definition.	RESOLVED - Added "for the purposes of this subtitle" to definition of "Aquatic life uses".		Acceptable.	Noted.			
26	3	22	801	A	Definitions: 22.801	<b>Arterial</b> – Definition references Section 11.18.010. Please provide this reference.	RESOLVED - Changed reference to the root definition, based in state law: "SMC 11.14.035 - Arterial street. "Arterial street" means every street, or portion thereof, designated as such in Chapter 11.18. (RCW 46.04.030)".	<a href="https://www.municode.com/library/wa/seattle/codes/municipal_code?node=TIT_11VETR_SUBTITLE_ITRCO_P_TIGEPDAD_CH11.14DE_11.14.035ARST">https://www.municode.com/library/wa/seattle/codes/municipal_code?node=TIT_11VETR_SUBTITLE_ITRCO_P_TIGEPDAD_CH11.14DE_11.14.035ARST</a>	Acceptable.	Noted.			
27	3	22	801	C	Definitions: 22.801	<b>Capacity constrained system</b> – Confirm this definition works properly. What is the "informal drainage system" (term not defined)?	RESOLVED - Removed reference to "informal drainage system" and revised definition to work properly.		Acceptable.	Noted.			
28	3	22	801	C	Definitions: 22.801	<b>Compaction</b> – is out of alphabetical order.	RESOLVED - Placed in alphabetical order.		Addressed.	Noted.			
29	4	22	801	D	Definitions: 22.801	<b>Discharge point</b> – This definition makes sense in this code. Use of the modified Phase I Permit definition is not required.	NOTED - No change		Addressed.	Noted.			
30	4	22	801	G	Definitions: 22.801	<b>Green Stormwater Infrastructure</b> - While this term and definition parallel "LID BMPs", infiltration trenches, dry wells, and perforated stub-out connections are not LID BMPs.	RESOLVED - Removed all examples of GSI BMPs including "infiltration trenches, dry wells, and perforated stub-out connections".		Acceptable.	Noted.			
31	4	22	801	I	Definitions: 22.801	<b>Illicit connection</b> – Uses the term "public drainage system" in lieu of MS4. This is an example of the potential problem with Seattle's definition for "drainage system".	RESOLVED - Revised definition of "Public Drainage System".		Acceptable.	Noted.			
32	4	22	801	I	Definitions: 22.801	<b>Impervious surface, pervious surface, and pollution generating pervious and impervious surfaces</b> – Seattle has proposed to not use Ecology's "hard surface" term for project threshold evaluation requirements. However, Seattle's proposal is internally inconsistent and confusing. Ecology recommends following the "hard surface" approach per Appendix 1 of the Permit.	RESOLVED - Changed thresholds and definitions to include "hard surfaces". Moved "permeable pavement" to "hard surface" definition.		Acceptable.	Noted.			
33	4	22	801	I	Definitions: 22.801	<ul style="list-style-type: none"> <li>Seattle's "impervious surface" definition adds some pervious surfaces: permeable paving, vegetated roofs and areas with underdrains (i.e., playfields).</li> </ul>	RESOLVED - Removed "permeable paving" and "vegetated roofs" from definition of "impervious surface" and added these to the definition of "hard surface". (NOTE - In April 2014 submittal, "vegetated roofs" was incorrectly not underlined as a new addition to the 2009 Code.)  Seattle considers areas with "underdrains designed to remove stormwater from subgrade" as impervious and therefore did not remove reference to such areas in definition of "impervious surface".		Acceptable.	Noted.			
34	4	22	801	I	Definitions: 22.801	<ul style="list-style-type: none"> <li>However, it is the definition of "pollution generating pervious surfaces" that include permeable pavement subject to vehicle use and sports fields (natural and artificial turf).</li> </ul>	RESOLVED - Removed "permeable pavement" from definition of "Pollution-generating pervious surface" as "hard surfaces" includes permeable pavement.		Acceptable.	Noted.			
35	4	22	801	I	Definitions: 22.801	<ul style="list-style-type: none"> <li>Related note re: "areas with underdrains (i.e., playfields)" – consider clarification that this is not the same as infiltrating bioretention with underdrains.</li> </ul>	NOTED - Considered, but will rely on terminology in definition, "underdrains designed to remove stormwater from subgrade", and Stormwater Manual for clarity.		Acceptable.	Noted.			

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36	4	22	801	L	Definitions: 22.801	<b>Large Project</b> – Confirm how this term is used. Per 2008/2009 code work, this term is used to support regulation of piecemealing, and dewatering controls for capacity in downgradient system. Confirm this term is not used for stormwater code thresholds. Same for <b>small project</b> .	CLARIFICATION "Large Project" is used as the same as the 2008/2009 code work and is not used for Stormwater Code thresholds. See the following sections where "large project" terminology is used: 22.805.020.D.12 Minimum Requirements for Construction Site Stormwater Pollution Prevention Control: Control Dewatering; 22.805.020.H Ensure Sufficient Capacity; 22.807.020.A.2 Large project drainage control review and approval; 22.807.020.B.2 Information Required for Large Project Drainage Control Review; 22.808.010.A.1.g Violations Piecemeal of Projects  "Small Project" is used the same as the 2008/2009 code work and is not used for Stormwater Code thresholds. "Small Project" is defined to distinguish from a "Large Project".		Acceptable.	Noted.			
37	4	22	801	M	Definitions: 22.801	<b>Maximum extent feasible</b> – Is this term now used in very specific ways that are retained from the previous "GSI to the MEF" approach? It would seem the phrase should be unused now that we have explicit infeasibility criteria.	NOTED Seattle continues to use the term "maximum extent feasible" in sections 22.805.080 Minimum Requirements for flow control and 22.805.090 Minimum Requirements for Treatment. It is Seattle's policy that "on-site BMPs" shall be used to meet flow control and water quality requirements if feasible. This does not substitute for any Ecology requirements.		Acceptable. The reference to MEF in these sections is associated with using on-site BMPs to meet FC or Treatment to the MEF. MEF does not alter the OnSite requirements.	Noted.			
38	4	22	801	N	Definitions: 22.801	<b>Nutrient-critical receiving water</b> – Explain what "as prescribed in rules promulgated by the director of SPU" means. Ecology suggests referring to CWA 305(b) list. The previously approved definition was acceptable. What problem is this change trying to solve?	RESOLVED - Added that City rules "shall be based on consideration of waterbodies reported by Ecology, and approved by EPA, under Category 5 (impaired) under Section 303(d) of the Clean Water Act for total phosphorus through Ecology's Water Quality Assessment." The 303(d) list is a subset of Ecology's 305(b) report.		Acceptable.	Noted.			
39	4	22	801	R	Definitions: 22.801	<b>Receiving water</b> – Consider a partial update of this definition per the modified Phase I Permit (excluding "to which an MS4 discharges.")	RESOLVED - Revised definition. Added examples from Permit definition and clarified that drainage systems and public combined sewers are not receiving waters.		Acceptable.	Noted.			
40	4	22	801	S	Definitions: 22.801	<b>Sidewalk project</b> - The word "cannot" in the sidewalk project definition should be "can."	RESOLVED - Removed clause containing "cannot". Threshold for new and replaced impervious surface in the roadway is 10,000 SF; likelihood of new PGHS on typical sidewalk project is low.  Also streamlined and clarified definition.		Acceptable given Seattle's existing build-out conditions, including: 1) the low likelihood of a sidewalk project creating 5,000 sf new hard surfaces in the roadway (PGHS) that adds 50% or more to the existing hard surfaces, thus unlikely to trigger threshold for applying MR6 & MR7 to the new and replaced hard surfaces, and 2) Seattle does not use the TDA concept.	Noted.			
41	4	22	801		Definitions: 22.801	<b>Missing definitions:</b> rainwater harvesting, detention cisterns, infiltrating bioretention, permeable pavement surfaces, permeable pavement facilities	Seattle is adding to 22.805.070.D (On-site Lists): "All On-site BMPs evaluated and used must comply with the rules promulgated by the Director." The Stormwater Code does not define the terms noted because the necessary BMP details are to be found in the Manual at Volume 3 - Project Stormwater Control. Ecology has a similar approach of including full BMP descriptions in the Manual rather than defining all BMPs in the Permit Appendix.		Acceptable.	Noted.			
42	4	22	801	R	Definitions: 22.801	<b>Clarifying receiving water types:</b> Ecology is concerned that the City's approach to categorizing receiving waters is not clear and is further confused by the City's "drainage system"-related terms (see General Comment). Suggest reducing the complexity and/or the sheer number of different terms where possible.	RESOLVED - Removed ambiguity.			Noted.			
43	5	22	801	R	Definitions: 22.801	• Designated receiving water (not subject to flow control)	RESOLVED - Removed ambiguity by revising definition of "drainage system".		Acceptable. The improved definition of receiving water also helps.	Noted.			
44	5	22	801	R	Definitions: 22.801	• Flow critical receiving water (not a designated receiving water)	RESOLVED - Removed this term and definition.		Acceptable.	Noted.			
45	5	22	801	R	Definitions: 22.801	• Listed Creek Basins (defined page 24, lines 8-13) – Are these also flow critical receiving waters?	RESOLVED - Removed ambiguity by revising definition of "drainage system" and deleting "flow critical" definition. Code does not use term "flow critical receiving water."		Acceptable.	Noted.			
46	5	22	801	R	Definitions: 22.801	• Non listed creek basins (undefined creeks otherwise not listed) – Are these also flow critical receiving waters?	RESOLVED - Removed ambiguity by revising definition of "drainage system" and deleting "flow critical" definition. Code does not use term "flow critical receiving water."		Acceptable.	Noted.			
47	5	22	801	R	Definitions: 22.801	• Perhaps the definitions of Listed and NonListed creek basins should explain the purpose of calling them out (i.e., identifies the flow control target to be met in these flow critical receiving waters)?	NOTED Seattle prefers to leave code language as is. It is clear to Seattle that the purpose of defining the Listed and Non-Listed Creeks is to establish a flow control target. Code does not use term "flow critical receiving water."		Acceptable.	Noted.			
48	5	22	801	R	Definitions: 22.801	• Non-flow control basin (used in MR5 list; not included in definitions) discharges to a designated receiving water.	RESOLVED - Removed ambiguity. Removed term "non-flow control basin" from code.		Acceptable.	Noted.			

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49	5	22	801	R	Definitions: 22.801	<ul style="list-style-type: none"> <li>Projects discharging to a wetland, creek, public combined sewer, small lake or capacity constrained system basins (used in MRS list).</li> </ul>	RESOLVED - Removed ambiguity.		Definition comment resolved. Refer to the MRS tables for trail/sidewalk and roadway projects. A project could both discharge to something that is not a designated receiving water (creek, wetland, small lake) and a capacity constrained system (drainage system with ditches). Seattle has verbally indicated its intent is to have projects that fall into this situation use the more protective requirements (basins that are not flow control exempt; not a designated receiving water). Describe this clearly in code or Director's Rule.	RESOLVED - Table B, Footnote 'c' & Table D, Footnote 'g' address this situation. See pages 69 - 72 of 104 of Stormwater Code Ordinance.	Acceptable.		
50	5	22	802	030	22.802.030 Permissible Discharges	Page 34, line 28 adds "washing or rinsing of potable water storage reservoirs." BMPs are necessary to ensure nothing but water is used and you remove settled solids and chlorine prior to discharge to the MS4.	RESOLVED - Added text to clarify: "No chemicals may be added, and settleable solids must be removed prior to discharge." De-chlorination is also covered.		Acceptable.	Noted.			
51	5	22	802	030	22.802.030 Permissible Discharges	Page 34, lines 34-42: Add prohibition for swimming pool cleaning wastewater and filter backwash.	RESOLVED - Added text to match Ecology permit: "Swimming pool cleaning wastewater and filter backwash shall not be discharged" Also added "filter backwash wastewater" to list of prohibited discharges.		Acceptable.	Noted.			
52	5	22	802	030	22.802.030 Permissible Discharges	Page 35, line 11 - Refers to a "stormwater pollution prevention plan" but the permit does not use the word "stormwater" here in order to accommodate that some potentially allowable discharges are not stormwater.	RESOLVED - Removed "stormwater" from text.		Addressed.	Noted.			
53	5	22	802	030	22.802.030 Permissible Discharges	Page 35, lines 36 & 37: As a reminder, discharges from lawn watering and other irrigation runoff must be minimized through public education activities and water conservation efforts.	NOTED The City has active and ongoing public education activities and water conservation efforts to address this issue.		Acceptable.	Noted.			
54	5	22	805	020	22.805.020 - MRS for All Projects	Page 42, line 24 - Odd comma after "and all trees, and drainage courses..." Delete comma?	RESOLVED - Removed comma.		Addressed.	Noted.			
55	5	22	805	020	22.805.020 - MRS for All Projects	Page 45, line 6 - Refer to the Permit Appendix 1 for a clarification that the on-site treatment system must prevent a discharge to surface water (such as a closed loop recirc system or upland application). As written, SMC appears to allow discharge of treated wheel wash water. Not approvable.	RESOLVED - Added caveat from Appendix 1 to prohibit discharge to surface waters: "...that prevents discharge to surface water, such as closed-loop recirculation or upland application."		Acceptable.	Noted.			
56	5	22	805	020	22.805.020 - MRS for All Projects	Page 46, lines 38-43 - Install Permanent Flow Control and Water Quality Facilities. What is the purpose of this section? Should it also include the new citation to MRS onsite requirements? How does one know if they are required to comply? Note that E (soil quality and depth BMP) and F (GSI to the MEF) were deleted (page 47). Both referred to old MRS requirements. Neither were replaced in this section. Soil quality and depth requirement now located in 22.805.070.B2.	RESOLVED - Revised to make it clear that flow control and water quality facilities shall be installed as first order during construction (and not at the end of the project) if necessary to prevent erosion or transport of sediment or other pollutants from the site during construction. All permanent BMPs (On-site, Flow Control, & Water Quality Treatment) shall be installed prior to the final of the project.  Note, soil quality and depth (Soil Amendment) requirement now located in each project type and not in On-site requirement; Soil Amendment required for all project types regardless of size of land-disturbing or new/replaced hard surface.		Acceptable.	Noted.			
57	5	22	805	030	22.805.030 Threshold Summary for Single Family Residential Projects	Applies MRS to SFR projects; SFR projects defined to not trigger MRS 6 & 7. OK.	NOTED - Ecology's interpretation is correct - SFR projects by definition have thresholds that are below the requirements for flow control and water quality treatment requirements. If a given single-family project is above the thresholds noted in the definition for SFR Projects, then the project is instead defined as a "parcel-based project" and thresholds pertaining to parcel-based projects apply, including flow control and water quality treatment.		No action necessary. Acceptable.	Noted.			
58	6	22	805	040	22.805.040 Threshold Summary for Trail & Sidewalk Projects	Applies MRS to trail and sidewalk projects. Seattle proposes that a trail/sidewalk project would not have to do MR 6, 7 or 8. Ecology considers this a jurisdiction-wide exception under Section 6 of Appendix 1 of the Permit. This is generally approvable, pending resolution of related comments. Rationale considered by Ecology includes: Trail and sidewalk projects are linear and Ecology expects they would have multiple threshold discharge areas (TDA) over the length of the project. Seattle does not use the TDA concept in threshold evaluations for constructing drainage facilities; Trails are not classified as streets, and a trail project does not contain PGIS.; Sidewalk Projects are defined to result in less than 5,000 sf of new + replaced impervious surface in the roadway. Sidewalks themselves are not "in the roadway" but associated structures such as ADA ramps do require some roadway replacement.; Sidewalks are not pollution generating.; The definition of Roadway includes the parking strip (PGIS) and gutter where there is a curb, but not the shoulder where there is no curb.; Increasing nonmotorized transportation in this dense	NOTED Seattle supports this jurisdiction-wide exception.		Acceptable. Note sidewalk project redefined to not result in more than 10,000 sf new+replaced hard surface in the roadway.	Noted.			
59	6	22	805	050	22.805.050 Threshold Summary for Parcel Projects:	A. Applies MRS to parcel based projects. Confirm the application of BMP T5.13 to all projects.	CLARIFICATION Parcel-based projects with 2,000 sf or more of new plus replaced hard surface or 7,000 sf or more of land disturbing activity are required to meet the minimum requirements for On-site Stormwater Management contained in 22.805.070.  Note, soil quality and depth (Soil Amendment) requirement now located in each project type and not in On-site requirement; Soil Amendment required for all project types regardless of size of land-disturbing or new/replaced hard surface.		Acceptable. Note Seattle has reduced the new+replaced hard surface threshold to 1,500 sf.	Noted.			

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60	6	22	805	050	22.805.050 Threshold Summary for Parcel Projects:	B.1 Applies MR8 (wetlands) thresholds. Error at 22.805.050.B.1.c: Ecology does not delete the word "native" from the 2.5 acre conversion threshold.	RESOLVED - Added "native" back to threshold in what is now 22.805.050.C.1.c.		Addressed.	Noted.			
61	6	22	805	050	22.805.050 Threshold Summary for Parcel Projects:	B.2 Applies MR7 in Listed Creek Basins (forested flow control standard); B.2.a New Development (forested flow control standard); B.2.a Effective impervious surface threshold of 10,000 sf not used; City uses 10,000 new plus replaced impervious surface threshold. Unclear whether "effective" is intentionally left out. See below.	NOTED Now C.2. Seattle intentionally chooses to not use "effective" impervious surface. This policy choice is more protective.		Acceptable.	Noted.			
62	6	22	805	050	22.805.050 Threshold Summary for Parcel Projects:	B.2 Applies MR7 in Listed Creek Basins (forested flow control standard); B.2.a New Development (forested flow control standard); Error at 22.805.050.B.2.a.3: Ecology does not delete the word "native" from the 2.5 acre conversion threshold.	RESOLVED - Added "native" back to threshold in what is now 22.805.050.C.2.a.3.		Addressed.	Noted.			
63	6	22	805	050	22.805.050 Threshold Summary for Parcel Projects:	B.2 Applies MR7 in Listed Creek Basins (forested flow control standard); B.2.a New Development (forested flow control standard); Update 22.805.050.B.2.a.4 per Appendix 1 of the Permit (or explain why different requirement is needed). Include 15 minute timestep details and other specificity provided in Appendix 1 of the Permit. It is also inconsistent to see use of effective impervious surface here but not elsewhere. Clarify City's intent regarding use of "effective" surfaces.	CLARIFICATION - Now C.2. "Effective" only used for 0.1 cfs criteria as 0.1 cfs calculation requires modeling which allows for accurate reflection of "effective". For simplicity of review while being more protective, Seattle chooses not to use "effective" as a threshold elsewhere.  15 minute timestep detail and other specificity included in Volume 3 of Stormwater Manual and Appendix regarding continuous modeling approved by the Director.		It is important to clarify that the 0.1 cfs threshold is specific to a one-hour timestep and the 0.15 cfs threshold is specific to a 15-minute timestep. This is an explicit update in the 2013 MS4 permit Appendix 1. Ecology suggests reflecting this change in code. Otherwise/also need to confirm in revised Director's Rule.	IN PROGRESS - will be addressed in final version of manual	Confirmed in Director's Rule. Acceptable.		
64	6	22	805	050	22.805.050 Threshold Summary for Parcel Projects:	B.2 Applies MR7 in Listed Creek Basins (forested flow control standard); B.2.b Redevelopment (pasture flow control standard) at 2,000 sf new + replaced (no additional thresholds). Ecology has previously approved this provision based on the following rationale: Seattle is requiring a flow control standard based on pasture conditions, rather than existing conditions, for all areas that would, under the Permit's requirements, only have to meet a standard based on existing conditions. Additionally, Seattle's MS4 area is predominantly in non-listed creek basins, or those areas that were at least 40% impervious in 1985. Therefore, flow controls in total are expected to be equivalent.	NOTED and CLARIFICATION Now C.2. Seattle agrees that Seattle's area discharging to the MS4 is pre-dominantly in non-listed creek basins and could require matching existing condition flow control based upon 40% TIA in 1985, but instead requires matching pasture condition flow control. Where the criteria of listed-creek forested conditions are met for discharges to the MS4, matching forested standard flow control is required. Therefore, for areas governed by the MS4 permit, flow control requirements are considered as protective or better than Ecology's requirements in Seattle's assessment.		No action necessary. Acceptable.	Noted.			
65	7	22	805	050	22.805.050 Threshold Summary for Parcel Projects:	B.3 Applies MR7 in NonListed Creek Basins (pasture flow control standard): B.3.a if the existing land cover is forest, use forested flow control standard: Effective impervious surface threshold of 10,000 sf not used; City uses 10,000 new plus replaced impervious surface threshold. Unclear whether "effective" is intentionally left out. See below.	NOTED Now C.3. Seattle intentionally chooses to not use "effective" impervious surface. This policy choice is more protective.		Acceptable.	Noted.			
66	7	22	805	050	22.805.050 Threshold Summary for Parcel Projects:	B.3 Applies MR7 in NonListed Creek Basins (pasture flow control standard): B.3.a if the existing land cover is forest, use forested flow control standard: Ecology does not delete the word "native" from the 2.5 acre conversion threshold.	Now C.3. Native added back.		Addressed.	Noted.			
67	7	22	805	050	22.805.050 Threshold Summary for Parcel Projects:	B.3 Applies MR7 in NonListed Creek Basins (pasture flow control standard): B.3.a if the existing land cover is forest, use forested flow control standard: Update 22.805.050.B.3.a.4 per Appendix 1 of the Permit (or explain why different requirement is needed). Include 15 minute timestep details and other specificity provided in Appendix 1 of the Permit. It is also inconsistent to see use of effective impervious surface here but not elsewhere. Clarify City's intent regarding use of "effective" surfaces.	Now C.3. "Effective" only used for 0.1 cfs criteria as 0.1 cfs calculation requires modeling which allows for accurate reflection of "effective". For simplicity of review while being more protective, Seattle chooses not to use "effective" as a threshold elsewhere.  15 minute timestep detail and other specificity included in Volume 3 of Stormwater Manual and Appendix regarding continuous modeling approved by the Director.		It is important to clarify that the 0.1 cfs threshold is specific to a one-hour timestep and the 0.15 cfs threshold is specific to a 15-minute timestep. This is an explicit update in the 2013 MS4 permit Appendix 1. Ecology suggests reflecting this change in code. Otherwise/also need to confirm in revised Director's Rule.	IN PROGRESS - will be addressed in final version of manual	Confirmed in Director's Rule. Acceptable.		
68	7	22	805	050	22.805.050 Threshold Summary for Parcel Projects:	B.3 Applies MR7 in NonListed Creek Basins (pasture flow control standard): B.3.b use pasture flow control standard at 2,000 sf new + replaced (no additional thresholds). Note that use of a pasture-based standard in this requirement is a necessary component of Seattle's program equivalency.	CLARIFICATION - Now C.3. Seattle understands that the "necessary component for Seattle's program equivalency" is limited to the decision that for areas discharging to the City's MS4 where the MS4 permit could otherwise require matching existing condition flow control (40% TIA in 1985), Seattle will instead require matching pasture condition flow control.		No action necessary. Acceptable.	Noted.			
69	7	22	805	060	22.805.060 Threshold Summary for Roadway Projects:	A. Applies MR5 to roadway projects. Confirm the application of BMP TS.13 to all projects.	CLARIFICATION - Roadway projects with 2,000 sf or more of new plus replaced hard surface or 7,000 sf or more of land disturbing activity are required to meet the minimum requirements for On-site Stormwater Management contained in 22.805.070. On-site Stormwater Management requires Soil Amendment per 22.805.070.B.2. Soil Amendment meets the requirements of BMP TS.13 - refer to Seattle Stormwater Manual Volume 3, Chapter 5, Section 5.1.		Seattle response outdated. Soil Amendment requirements now contained in each project type, not in OnSite Stormwater Management in 22.805.070. Acceptable.	Noted.			
70	7	22	805	060	22.805.060 Threshold Summary for Roadway Projects:	B.1 Applies MR8 (wetlands) thresholds. Error at 22.805.060.B.1.c: Ecology does not delete the word "native" from the 2.5 acre conversion threshold.	RESOLVED - Added "native" back to threshold in what is now 22.805.060.C.1.c.		Addressed.	Noted.			
71	7	22	805	060	22.805.060 Threshold Summary for Roadway Projects:	B.2 Applies MR7 in Listed Creek Basins (forested flow control standard); B.2.a New Development (forested flow control standard); Effective impervious surface threshold of 10,000 sf not used; City uses 10,000 new plus replaced impervious surface threshold. Unclear why desire to be different here.	NOTED Now C.2. Seattle intentionally chooses to not use "effective" impervious surface. This policy choice is more protective.		Acceptable.	Noted.			
72	7	22	805	060	22.805.060 Threshold Summary for Roadway Projects:	B.2 Applies MR7 in Listed Creek Basins (forested flow control standard); B.2.a New Development (forested flow control standard); Ecology does not delete the word "native" from the 2.5 acre conversion threshold.	Now C.2. Native added back.		Addressed.	Noted.			

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73		7 22	805	060	22.805.060 Threshold Summary for Roadway Projects:	B.2 Applies MR7 in Listed Creek Basins (forested flow control standard); B.2.a New Development (forested flow control standard); Update 22.805.060.B.2.a.4 per Appendix 1 of the Permit (or explain why different requirement is needed). Include 15 minute timestep details and other specificity provided in Appendix 1 of the Permit. It is also inconsistent to see use of <i>effective</i> impervious surface here but not elsewhere. Clarify City's intent regarding use of "effective" surfaces.	Now C.2. "Effective" only used for 0.1 cfs criteria as 0.1 cfs calculation requires modeling which allows for accurate reflection of "effective". For simplicity of review while being more protective, Seattle chooses not to use "effective" as a threshold elsewhere.  15 minute timestep detail and other specificity included in Volume 3 of Stormwater Manual and Appendix regarding continuous modeling approved by the Director".		It is important to clarify that the 0.1 cfs threshold is specific to a one-hour timestep and the 0.15 cfs threshold is specific to a 15-minute timestep. This is an explicit update in the 2013 MS4 permit Appendix 1. Ecology suggests reflecting this change in code. Otherwise/also need to confirm in revised Director's Rule.	IN PROGRESS - will be addressed in final version of manual	Confirmed in Director's Rule. Acceptable.		
74		7 22	805	060	22.805.060 Threshold Summary for Roadway Projects:	B.2 Applies MR7 in Listed Creek Basins (forested flow control standard); B.2.b Redevelopment (pasture flow control standard) at 10,000 sf new + replaced impervious surfaces (not using effective impervious surfaces): Seattle is requiring a flow control standard based on pasture conditions, rather than existing conditions, for all areas that would, under the Permit's requirements, only have to meet a standard based on existing conditions. Additionally, Seattle's MS4 area is predominantly in non-listed creek basins, or those areas that were at least 40% impervious in 1985. Therefore, flow controls in total are expected to be equivalent.	NOTED and CLARIFICATION Now C.2. Seattle agrees that Seattle's area discharging to the MS4 is pre-dominantly in non-listed creek basins and could require matching existing condition flow control based upon 40% TIA in 1985, but instead requires matching pasture condition flow control. Where the criteria of listed-creek forested conditions are met for discharges to the MS4, matching forested standard flow control is required. Therefore, for areas governed by the MS4 permit, flow control requirements are considered as protective or better than Ecology's requirements in Seattle's assessment.		No action necessary. Acceptable.	Noted.			
75		8 22	805	060	22.805.060 Threshold Summary for Roadway Projects:	B.3 Applies MR7 in NonListed Creek Basins (pasture flow control standard) B.3.a if the existing land cover is forest, use forested flow control standard: <i>Effective</i> impervious surface threshold of 10,000 sf not used; City uses 10,000 new plus replaced impervious surface threshold. Unclear why desire to be different here.	NOTED - Now C.3. Seattle intentionally chooses to not use "effective" impervious surface. This policy choice is more protective.		Acceptable.	Noted.			
76		8 22	805	060	22.805.060 Threshold Summary for Roadway Projects:	B.3 Applies MR7 in NonListed Creek Basins (pasture flow control standard) B.3.a if the existing land cover is forest, use forested flow control standard: Ecology does not delete the word "native" from the 2.5 acre conversion threshold.	Now C.3. Native added back.		Addressed.	Noted.			
77		8 22	805	060	22.805.060 Threshold Summary for Roadway Projects:	B.3 Applies MR7 in NonListed Creek Basins (pasture flow control standard) B.3.a if the existing land cover is forest, use forested flow control standard: Update 22.805.060.B.3.a.4 per Appendix 1 of the Permit (or explain why different requirement is needed). Include 15 minute timestep details and other specificity provided in Appendix 1 of the Permit. It is also inconsistent to see use of <i>effective</i> impervious surface here but not elsewhere. Clarify City's intent regarding use of "effective" surfaces.	Now C.3. "Effective" only used for 0.1 cfs criteria as 0.1 cfs calculation requires modeling which allows for accurate reflection of "effective". For simplicity of review while being more protective, Seattle chooses not to use "effective" as a threshold elsewhere.  15 minute timestep detail and other specificity included in Volume 3 of Stormwater Manual and Appendix regarding continuous modeling approved by the Director".		It is important to clarify that the 0.1 cfs threshold is specific to a one-hour timestep and the 0.15 cfs threshold is specific to a 15-minute timestep. This is an explicit update in the 2013 MS4 permit Appendix 1. Ecology suggests reflecting this change in code. Otherwise/also need to confirm in revised Director's Rule.	IN PROGRESS - will be addressed in final version of manual	Confirmed in Director's Rule. Acceptable.		
78		8 22	805	060	22.805.060 Threshold Summary for Roadway Projects:	B.3 Applies MR7 in NonListed Creek Basins (pasture flow control standard): B.3.b use pasture flow control standard at 10,000 sf new + replaced (no additional thresholds). Note that use of a pasture-based standard in this requirement is a necessary component of Seattle's program equivalency. This results in flow control to a higher standard based on a simple threshold evaluation (with no additional 0.1 cfs calculation or initial roadway project cost and size threshold considerations).	Now C.3. Seattle understands that the "necessary component for Seattle's program equivalency" is limited to the decision that for areas discharging to the City's MS4 where the MS4 permit could otherwise require matching existing condition flow control (40% TIA in 1985), Seattle will instead require matching pasture condition flow control.		No action necessary. Acceptable.	Noted.			
79		8 22	805	060	22.805.060 Threshold Summary for Roadway Projects:	C Applies MR6 as follows: C.1 New Development at 5,000 sf new + replaced PGIS, or	RESOLVED - Revised to be equivalent to Appendix 1 language; now 22.805.060.D.1.		Acceptable.	Noted.			
80		8 22	805	060	22.805.060 Threshold Summary for Roadway Projects:	C Applies MR6 as follows: C.2 new PGIS at 5,000 and result is 50% or more expansion within project site, or	RESOLVED - Revised to be equivalent to Appendix 1 language; now 22.805.060.D.2.		Acceptable. This threshold at 5,000 sf new PGIS is specific to triggering treatment/MR6 and is consistent with the threshold for constructing a treatment facility.	Noted.			
81		8 22	805	060	22.805.060 Threshold Summary for Roadway Projects:	C Applies MR6 as follows: C.3 new + replaced PGPS at ¼ acre or more	RESOLVED - Revised to be equivalent to Appendix 1 language; now 22.805.060.D.3.		Acceptable.	Noted.			
82		8 22	805	060	22.805.060 Threshold Summary for Roadway Projects:	C Applies MR6 as follows: Note that the HRM contains language about project credits for existing surfaces that receive treatment to standards because runoff is commingled with the new and/or replaced surfaces in the project site that are required to be treated.	NOTED - Now D.		No action necessary. Seattle not proposing a jurisdiction-wide HRM treatment credit approach.	Noted.			
83		8 22	805	070	22.805.070 On-Site Stormwater Management Requirements	B. A statement is included ("...installed...to receive flows from that portion of the site being developed...") that implies facility sizing only looks at the new/replaced project area, not any existing surfaces that may run onto the new/replaced project area. Like for treatment, an on-site BMP must be sized to accommodate all surface area draining to the BMP (including existing if it cannot be separated from the flows from the new or replaced surfaces.)	In the SWMMWW Volume 5, BMP T5.14A & B it is stated that "if lawn/landscape area will also be draining to the rain garden/bioretenion facility, Ecology recommends that the rain garden/bioretenion facility's horizontally projected surface area below the overflow be increased by 2% of the lawn/landscape area. Seattle chose not to incorporate this recommendation because the on-site stormwater management requirement also requires that all disturbed pervious areas be composted amended. Seattle felt that the amount of additional runoff generated from pervious areas would be hard to quantify, would not be significant enough to warrant upsizing the on-site BMP, and would be difficult to capture runoff from pervious areas and direct to on-site BMPs.		Acceptable.	Noted.			

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84		8 22	805	070	22.805.070 On-Site Stormwater Management Requirements	B.1 requires tree retention (4" diameter) to the MEF. The 2014 SWMMWW indicates a 6" minimum diameter in order to receive modeling credit.	RESOLVED - Deleted section on Retaining Trees. Refer to Stormwater Manual Volume 3 for criteria for using trees to receive modeling credit.		Acceptable.	Noted.			
85		8 22	805	070	22.805.070 On-Site Stormwater Management Requirements	B.2 requires soil quality and depth BMP.	RESOLVED - Added requirement to retain and protect. Added reference to Stormwater Manual Volume 3 for Soil Amendment (equivalent to BMP T5.13 soil quality and depth) for criteria.  Note, soil quality and depth (Soil Amendment) requirement now located in each project type and not in On-site requirement; Soil Amendment required for all project types regardless of size of land-disturbing or new/replaced hard surface.		Acceptable.	Noted.			
86		8 22	805	070	22.805.070 On-Site Stormwater Management Requirements	C provides for use of the LID Performance standard in lieu of the on-site lists as an option for projects. Because all of Seattle is within a UGA, the Permit does not require use of the LID Performance Standard; it is acceptable as an option.	NOTED - Seattle gives applicants the option to use either the List Approach or the LID Performance Standard.		No action necessary.	Noted.			
87		8 22	805	070	22.805.070 On-Site Stormwater Management Requirements	C.1.a New development in Listed Creek Basins (forested flow control standard).	NOTED		No action necessary.	Noted.			
88		9 22	805	070	22.805.070 On-Site Stormwater Management Requirements	C.2.a For all other projects, the LID Performance Standard is expressed as a pasture-based standard, consistent with the approvable application of flow control standards under MR#7. This ("pre-developed pasture condition for the range of pre-developed discharge rates between the 1 percent and 10 percent exceedance values") is a technically appropriate standard to express as the LID performance standard for basins where it is allowable to match existing conditions.	NOTED		No action necessary.	Noted.			
89		9 22	805	070	22.805.070 On-Site Stormwater Management Requirements	D.1.a includes a phrase: "A BMP is considered infeasible...if the minimum design criteria for the BMP cannot be met for the project in the space remaining on the project site." This is generally not acceptable. The only explicit allowance in the SWMMWW for "insufficient space" is for bioretention on redevelopment sites (see infeasibility criteria for BMP T7.30). There is also some relevance for dispersion. This proposed "space remaining" criterion, as well as the Director's Rule allowance for as much as 50% reduction in size of pre-sized bioretention facilities if area isn't available (page 5-87), is allowable only for redevelopment projects.	RESOLVED - Removed "space remaining" terminology.  50% reduction language in Directors' Rule reworded to meet intent based on maintenance. See Section 5.4.4 of Volume 3 of Stormwater Manual for revised language.		Acceptable code. Confirm in Director's Rule.	Refer to Volume 3, page 5-57 for revised language re 50%.  "Space remaining" language not included in Manual.	Original comment re: "as much as 50% reduction in size of pre-sized bioretention facilities if area isn't available" refers to draft Vol 3 from April 2014, page 5-87: "The bioretention bottom area required as presented in Table 5.19 may be reduced as much as 50 percent if it is demonstrated that a larger area cannot be achieved given site constraints." This draft provision is no longer found in the Director's Rule. Original comment resolved. No further action.		
90		9 22	805	070.D	22.805.070 On-Site Stormwater Management Requirements	D.1.b refers to competing needs. Subsection 2 includes a reference to the Permit's response to comments document. Rather than this reference, specify how Seattle will implement this reference with references instead to Seattle-specific special zoning district criteria. At Subsection 5, clarify the SMP reference.	RESOLVED - Removed reference to response to comments and added Seattle-specific special zoning district criteria. Added a reference for SMP.		Acceptable.	Noted.			
91		9 22	805	070.D	Onsite BMP Lists	Ecology is reviewing Seattle's proposed on-site list structure under the jurisdiction-wide exception provision in the Permit's Appendix 1, Section 6. Pending resolution of all related comments, Ecology is considering the following lines of evidence and/or conditions in our review:  1. Whether or not modeling using Seattle's design criteria and project types shows equivalent performance within each on-site list category. For BMPs in Category 2, Seattle needs to show equivalent performance, which can be done by showing how each GSI BMP meets the LID Performance Standard.	NOTED - Table 2 of Enclosure 1 shows equivalent performance (i.e. LID Forested Standard) for all Category 2 BMPs		Review comments provided separately on 6/5/15.	Ecology to confirm acceptable language in Manual (DR).	Acceptable.		
92		9 22	805	070.D	Onsite BMP Lists	Ecology is reviewing Seattle's proposed on-site list structure under the jurisdiction-wide exception provision in the Permit's Appendix 1, Section 6. Pending resolution of all related comments, Ecology is considering the following lines of evidence and/or conditions in our review:  1a. For parcel and road projects, conduct permeable pavement 2-5% slope modeling according to SWMMWW guidance. The standard detail needs a check dam, or other underground flow impediment, to slow flows on a slope. Using 50% impervious/50% lawn is not the current modeling approach.	RESOLVED - Revised modeling to reflect current modeling approach. See Enclosure 1 dated 5-11-2015.		Review comments provided separately on 6/5/15.	Ecology to confirm acceptability of approach based on revised memo.	Acceptable.		

Comment	Original Page #	Code	Section	Subsection	Topic	Ecology responses (2/6/2015):	Seattle response to Ecology (5/11/2015):	Links (as applicable)	Ecology Response/Backcheck notes (6/12/15)	Seattle's Response to Ecology's 6/12/15 Comments (9/23/15)	Ecology Response / Backcheck (11/20/15)	Seattle Redline Changes based on Ecology 11/20/15 Comments (11/24/15)	Final Ecology Response (12/2/15)																																																										
93	9	22	805	070.D	Onsite BMP Lists	Ecology is reviewing Seattle's proposed on-site list structure under the jurisdiction-wide exception provision in the Permit's Appendix 1, Section 6. Pending resolution of all related comments, Ecology is considering the following lines of evidence and/or conditions in our review: 2. All BMPs required for evaluation in any given category must be evaluated (and selected where feasible) before moving on to the next category. This must be clearly described. The single sentence in D.1 ("Consider all GSI BMPs in a category for feasibility before moving on to each successive category as necessary.") should be emphasized in the Director's Rule and list footnotes.	RESOLVED - Added reference to 22.805.070.D.1 to each Project Table for On-Site Stormwater Management (i.e., Single-family residential, Trail and Sidewalk, Parcel-based, Roadway).		Acceptable. Confirm emphasis in Director's Rule.	Ecology to confirm acceptable language in Manual (DR).	Acceptable.																																																												
94	9	22	805	070.D	Onsite BMP Lists	Ecology is reviewing Seattle's proposed on-site list structure under the jurisdiction-wide exception provision in the Permit's Appendix 1, Section 6. Pending resolution of all related comments, Ecology is considering the following lines of evidence and/or conditions in our review: 3. Sizing criteria, including the pre-sized BMPs, should take into account both impervious and pervious surfaces which drain to it. This	See response to comment #83.		Acceptable.	Noted.																																																													
95	9	22	805	070.D	Onsite BMP Lists	Ecology is reviewing Seattle's proposed on-site list structure under the jurisdiction-wide exception provision in the Permit's Appendix 1, Section 6. Pending resolution of all related comments, Ecology is considering the following lines of evidence and/or conditions in our review: 4. Broad conditional note: Application of Seattle's modified on-site lists are generally for redevelopment projects only, such as is typical of Seattle lot sizes and density; not new development projects.	It is true that this will be more often used for redevelopment in Seattle, Seattle has provided evidence that BMPs in Category 2 meet the LID Forested Performance Standard and will be applied to both redevelopment and new development projects.		No action necessary.	Noted.																																																													
96	10	22	805	070.D	GSI BMPs Category 1	Infiltration trenches and dry wells – The SWMMWW allows infiltration trenches for roof runoff and not other surfaces. To qualify for Category 1, their evaluation is required for R (roof runoff) only. Change the right hand column to R only and remove the S.	Seattle prefers to require evaluation for both roofs and other hard surfaces. Due to Seattle's urban environment, evaluation for both roofs and surfaces is more protective because more BMPs are available and BMP feasibility criteria (e.g. soil suitability criteria) are met.		Even if treatment/MR6 is not triggered on a project, any PGHS or PGPS going to an infiltration trench or dry well will need treatment prior to discharging to groundwater. Ecology will confirm in revised Director's Rule that the soil suitability criteria are clearly identified as applying to PGHS and PGPS of any size draining to an infiltration trench or dry well.	TO DO - Will be addressed in final manual (DR).	Per Seattle's 11/5/15 revision, the "applicability" sections of infiltration trenches and drywells in Vol 3 have an added footnote: "If runoff from PGHS is directed to [facility type] soil suitability criteria for subgrade soils (Section 4.5.2) apply." Ecology has 2 comments: 1) PGPS must also receive treatment. 2) Use of "apply" seems inappropriate because soil suitability is not something a project proponent can create or apply; soil suitability criteria are either met or they are not met. "Runoff from any amount of PGHS and/or PGPS may be directed to a [facility type] only if the soil suitability criteria for subgrade soils (Section 4.5.2) are met."	5.4.2.3. <b>Applicability</b> An infiltration trench can be designed to provide on-site stormwater management, flow control and/or water quality treatment. This BMP can be applied to meet the requirements listed below. <table border="1"> <thead> <tr> <th rowspan="2">BMP</th> <th colspan="2">On-site</th> <th colspan="3">Flow Control</th> <th colspan="3">Water Quality</th> <th rowspan="2">Conveyance</th> </tr> <tr> <th>List</th> <th>Standard</th> <th>Forest</th> <th>Pasture</th> <th>Peak</th> <th>Basic</th> <th>Enhanced</th> <th>Oil Control</th> <th>Phosphorus</th> </tr> </thead> <tbody> <tr> <td>Infiltration Trenches</td> <td>✓<sup>a</sup></td> <td>✓<sup>a</sup></td> <td>✓<sup>a</sup></td> <td>✓<sup>a</sup></td> <td>✓<sup>a</sup></td> <td>✓<sup>a,b</sup></td> <td>✓<sup>a,b</sup></td> <td>✓<sup>a,c</sup></td> <td>✓<sup>a,c</sup></td> </tr> </tbody> </table> <small><sup>a</sup> Infiltration trenches can only be considered for compliance with the On-site List requirement when the site measured infiltration rate is at least 5 inches per hour. PGHS or PGPS may only be directed to infiltration trenches if the soil suitability criteria for the subgrade soils is met (Section 4.5.2). <sup>b</sup> Soil suitability criteria for subgrade soils (Section 4.5.2) and applicable drawdown requirements (Section 4.5.1) also apply. <sup>c</sup> Refer to treatment train options for infiltration BMPs included in Section 4.4.3.2.</small> 5.4.3.3. <b>Applicability</b> A drywell can be designed to provide on-site stormwater management and/or flow control. This BMP can be applied to meet the requirements listed below. <table border="1"> <thead> <tr> <th rowspan="2">BMP</th> <th colspan="2">On-site</th> <th colspan="3">Flow Control</th> <th colspan="3">Water Quality</th> <th rowspan="2">Conveyance</th> </tr> <tr> <th>List</th> <th>Standard</th> <th>Forest</th> <th>Pasture</th> <th>Peak</th> <th>Basic</th> <th>Enhanced</th> <th>Oil Control</th> <th>Phosphorus</th> </tr> </thead> <tbody> <tr> <td>Drywell</td> <td>✓<sup>a</sup></td> <td>✓<sup>a</sup></td> <td>✓<sup>a</sup></td> <td>✓<sup>a</sup></td> <td>✓<sup>a</sup></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <small><sup>a</sup> Drywells can only be considered for compliance with the On-site List requirement when the site measured infiltration rate is at least 5 inches per hour. PGHS or PGPS may only be directed to drywells if the soil suitability criteria for the subgrade soils is met (Section 4.5.2).</small>	BMP	On-site		Flow Control			Water Quality			Conveyance	List	Standard	Forest	Pasture	Peak	Basic	Enhanced	Oil Control	Phosphorus	Infiltration Trenches	✓ <sup>a</sup>	✓ <sup>a,b</sup>	✓ <sup>a,b</sup>	✓ <sup>a,c</sup>	✓ <sup>a,c</sup>	BMP	On-site		Flow Control			Water Quality			Conveyance	List	Standard	Forest	Pasture	Peak	Basic	Enhanced	Oil Control	Phosphorus	Drywell	✓ <sup>a</sup>					Acceptable								
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97	10	22	805	070.D	GSI BMPs Category 2	Rainwater Harvesting – Ecology evaluated SPU's claims that the design criteria for rainwater harvesting ensures that this BMP can meet the LID performance standard. Ecology does not believe that it is representative to use 10-years of rainfall as if there is no overflow from the cistern during this time. Uses for the water in the cistern are "irrigation, outdoor cleaning, and indoor plumbing". The amounts for irrigation and outdoor washing are not limited in any way. In order to retain this GSI BMP in Category 2, wet season (Oct to May) uses must be limited to indoor plumbing, and dry-season irrigation, should water be available, should be rate limited by gallons per acre per day.	Refer to edits in the Stormwater Manual to reflect Ecology's comment. Seattle is also providing modeling guidance language to reflect the methodology approved by Ecology for use in Ecology's LID training. This new modeling guidance will be reflected in a memo for Ecology's confirmation and approval.		Confirm design criteria in Director's Rule.	RESOLVED - factor of safety and other modeling requirements added per Ecology's memo. Refer to Volume 3, Section 5.5.1, page 5-109.	Acceptable.																																																												
98	10	22	805	070.D	GSI BMPs Category 2	Rain Gardens – Ecology does not approve Seattle's proposal to restrict the use of rain gardens at .6 minimum infiltration rate. Rain gardens, if between .3 and .6 infiltration rate, could be designed similar to the standard section for infiltrating bioretention with an underdrain, but without the engineered soil.	RESOLVED - Revised so that Rain Garden evaluation is required from 0.3 to 0.6 in/hr - refer to Seattle Stormwater Manual Volume 3.		Confirm in Director's Rule.	RESOLVED - Refer to Volume 3, Section 5.4.5, page 5-79.	Acceptable.																																																												
99	10	22	805	070.D	GSI BMPs Category 2	Infiltrating bioretention – Ecology does not generally agree that bioretention and permeable pavement perform equally well, thus Appendix 1 of the Phase I Permit lists permeable pavement before bioretention in On-site List #2. Permeable pavement surfaces should perform better than bioretention. Even 15% better is sufficient to warrant priority consideration. Provide updated modeling for evaluation. Specify minimum sizing criteria for bioretention facilities so that the facility (if used for the list approach) meets the LID performance criteria.	See response to Comment #91		Review comments provided separately on 6/5/15.	Refer to Seattle's revised memo and BMP sizing in Volume 3, Section 5.4.4.6, page 5-67.	Acceptable.																																																												

Comment	Original Page #	Code	Secti on	Subsec tion	Topic	Ecology responses (2/6/2015):	Seattle response to Ecology (5/11/2015):	Links (as applicable)	Ecology Response/Backcheck notes (6/12/15)	Seattle's Response to Ecology's 6/12/15 Comments (9/23/15)	Ecology Response / Backcheck (11/20/15)	Seattle Redline Changes based on Ecology 11/20/15 Comments (11/24/15)	Final Ecology Response (12/2/15)
100		10 22	805	070.D	GSI BMPs Category 2	Permeable Pavement Facilities – The SWMMWW allows for a 2:1 ratio of drainage area to permeable pavement surface. Seattle's proposal accepts up to 5:1 for NPGIS and 3:1 for PGIS. Provide updated modeling for evaluation showing how the increased drainage area will still meet the LID performance standard.	See reponse to Comment #91		Review comments provided separately on 6/5/15.	Refer to Seattle's revised memo and BMP sizing in Volume 3, Section 5.4.6.6, page 5-94.	Acceptable.		
101		10 22	805	070.D	GSI BMPs Category 3	Noninfiltrating Bioretention and Vegetated Roofs – Ecology would prefer these in category 4, but will approve them in category 3 as they are generally similar to dispersion.	NOTED Seattle prefers to include in Category 3.		Acceptable.	Noted.			
102		10 22	805	070.D	GSI BMPs Category 3	Single Family Residential Cisterns – Given limited hydrologic performance, single family residential cisterns should be in category 4.	RESOLVED - Moved single-family residential cisterns to Category 4.		Acceptable.	Noted.			
103		10 22	805	070.D	Table 805.1 SFR list	Application is the same in all basins. This results in greater application of on-site BMPs since flow control exempt projects (discharging to designated receiving water) are not excluded. This is a necessary component of Seattle's program equivalency.	CLARIFICATION - Now Table A for 22.805.070. Seattle understands that the "necessary component for Seattle's program equivalency" is limited to Seattle requiring that projects governed by the MS4 permit that discharge to the MS4 to designated receiving waters (flow control exempt projects) must meet on-site stormwater management requirements, using the same thresholds as for flow control required projects.		No action necessary. Acceptable.	Noted.			
104		10 22	805	070.D	Table 805.1 SFR list	Footnote 'a' re: 5,000 sf infiltrating on site is acceptable for SFR project rain gardens.	NOTED - Now Table A for 22.805.070.		No action necessary. Acceptable.	Noted.			
105		11 22	805	070.D	Table 805.2 Trail list	List distinguishes between projects that discharge to flow control exempt/designated receiving water bodies, which is allowed under the Permit's Appendix 1.	NOTED - Now Table B for 22.805.070.		Acceptable.	Noted.			
106		11 22	805	070.D	Table 805.2 Trail list	Footnote 'c' sets a minimum permeable pavement size in the ROW at 2,000 sf contiguous. Ecology is concerned that this limits the application of permeable pavement for sidewalks.	RESOLVED - 2,000 sf only applies to Combined, Capacity Constrained, and Designated Receiving Waters, not MS4s regulated by Ecology Permit		Clarification: 2,000 sf limitation does not apply to areas that would require flow control, which are subject to MRS in full. Acceptable.	Noted.			
107		11 22	805	070.D	Table 805.2 Trail list	Footnote 'b' restricts the use of bioretention if the contributing area is smaller than what would result in a 500 sf cell top area. Ecology does not approve this limitation on the use of bioretention. Instead, Ecology suggests setting a minimum size for a bioretention facility, resulting in the installation of BMPs that are potentially oversized for the area draining to it. Additionally, since Seattle is using pre-sized BMPs based solely on impervious surfaces, Ecology believes it is appropriate to potentially oversize a facility in part to accommodate the runoff from pervious surfaces as well.	RESOLVED - 500 sf only applies to Combined, Capacity Constrained, and Designated Receiving Waters, not MS4s regulated by Ecology Permit  Now Table B for 22.805.070.		Clarification: 500 sf limitation does not apply to areas that would require flow control, which are subject to MRS in full. Acceptable.	Noted.			
108		11 22	805	070.D	Table 805.3 Parcel list	Footnotes a and b do not appear to be used in the table.	RESOLVED - Now Table C for 22.805.070. Removed errant footnotes.		Addressed.	Noted.			
109		11 22	805	070.D	Table 805.3 Parcel list	The term "non-flow control basin" is not in the definitions. Suggest fixing the terms and definitions in that section, not footnotes in a table. Also looks like should be relevant to table 805.2. Isn't a "non-flow control basin" the same as a basin discharging to a designated receiving water?	RESOLVED - Now Table C for 22.805.070. Removed term.		Addressed.	Noted.			
110		11 22	805	070.D	Table 805.4 Roadway list	Footnote a should refer to infiltrating on the "project site."	RESOLVED - Now Table D for 22.805.070. Changed to "project site."		Acceptable.	Noted.			
111		11 22	805	070.D	Table 805.4 Roadway list	Footnote 'b' restricts the use of bioretention if the contributing area is smaller than what would result in a 500 sf cell top area. Ecology does not approve this limitation on the use of bioretention. Instead, Ecology suggests setting a minimum size for a bioretention facility, resulting in the installation of BMPs that are potentially oversized for the area draining to it. Additionally, since Seattle is using pre-sized BMPs based solely on impervious surfaces, Ecology believes it is appropriate to potentially oversize a facility in part to accommodate the runoff from pervious surfaces as well.	RESOLVED - 500 sf only applies to Combined, Capacity Constrained, and Designated Receiving Waters, not MS4s regulated by Ecology Permit  Now Table D for 22.805.070.		Clarification: 500 sf limitation does not apply to areas that would require flow control, which are subject to MRS in full. Acceptable.	Noted.			
112		11 22	805	070.E	Historic/Archaeology	Historic Preservation and Archaeology laws – This list may be better located in the Director's Rule. The "g" and "h" appear to be incomplete citations.	NOTED Seattle prefers to include in Stormwater Code.  RESOLVED - Revised citations.		Acceptable.	Noted.			
113		11 22	805	080	22.805.080 Flow Control	B. includes the old GSI to the MEF language. The last sentence may also no longer be appropriate, as GSI is used to meet MRS, not MR7. GSI BMPs may be designed to provide credit to flow control facility sizing, but it is no longer acceptable to rely solely on GSI BMPs to meet flow control requirements.	NOTED - On-site BMPs can be upsized to meet the flow control standard in addition to the Minimum Requirement for On-site Stormwater Management. This is a policy choice by Seattle and should not be considered as a condition of equivalency.		Acceptable.	Noted.			
114		11 22	805	080	22.805.080 Flow Control	B.2 & B.3 – The forested and pasture standards written description has changed. Is it appropriate to still refer to the "recurrence interval flow" instead of "peak flow" (now that it uses "discharge durations" instead of "peak flow rates and flow durations")? Ecology text is "2-year peak flow up to the full 50 year peak flow."	For continuous models, "recurrence interval flow" is synonymous with "peak flow".		Ecology does not concur that these terms are the same and we do not understand why the City wants to use a different term. If Seattle explicitly defines them to be synonymous, then Ecology can accept the term. Otherwise, use the MS4 Permit Appendix 1 language.	RESOLVED - Code updated, see pages 75-78 of 104.	Acceptable.		
115		12 22	805	090	22.805.090 Treatment	B. Is it still appropriate to require all projects to use GSI to the MEF to meet treatment requirements? There are no additional thresholds in this section, as there were in 080.B.	See response to comment #113.		Acceptable.	Noted.			
116		12 22	805	090	22.805.090 Treatment	B.1.b.2 – Is "2-year recurrence interval" the same as "full 2-year release rate"?	For continuous models, "2-year recurrence interval" is synonymous with "full 2-year release rate".		Ecology does not concur that these terms are the same and we do not understand why the City wants to use a different term. If Seattle explicitly defines them to be synonymous, then Ecology can accept the term. Otherwise, use the MS4 Permit Appendix 1 language.	RESOLVED - Code updated, see pages 75-78 of 104.	Acceptable.		

Comment	Original Page #	Code	Secti on	Subsec tion	Topic	Ecology responses (2/6/2015):	Seattle response to Ecology (5/11/2015):	Links (as applicable)	Ecology Response/Backcheck notes (6/12/15)	Seattle's Response to Ecology's 6/12/15 Comments (9/23/15)	Ecology Response / Backcheck (11/20/15)	Seattle Redline Changes based on Ecology 11/20/15 Comments (11/24/15)	Final Ecology Response (12/2/15)
117	12	22	805	090	22.805.090 Treatment	B.5 (lines 27-28) This "or" clause has an odd sentence structure. Should it say "for projects...which use infiltration..."? Also line 30 "or have" is odd; perhaps should be "or with"?	RESOLVED - Revised sentence structure.		Acceptable.	Noted.			
118	12	22	807	020.A	22.807 Drainage review and application requirements	<ul style="list-style-type: none"> <li>Page 70, Line 39; page 72, line 33 – retain "native" here for consistency with Appendix 1 and previous comments. Note too that use of ¼ acre conversion threshold here (line 31) is inconsistent with the definition of Large Project.</li> </ul>	RESOLVED - Retained "Native" Revised definition of "large project" to be consistent with 22.807.020.A & B		Acceptable.	Noted.			

September 2015 Draft, Seattle response to Ecology (9/23/15):	Ecology Response / Backcheck (11/20/15)	Seattle Redline Changes based on Ecology 11/20/15 Comments (11/24/15)	Final Ecology Response (12/2/15)
RESOLVED - This reference has been updated	No Comment		
NOTED - The project types listed in Chapter 2 are a comprehensive list of different project types that could be encountered in Seattle. Chapter 4 lists the SW Code requirements and exemptions.	No Comment		
NOTED - Chapter 3 contains Minimum Requirements that are applicable to all project types. These were included at the end of Volume 3, Chapter 2 in the 2009 Manual and have been shifted forward for emphasis. The phrasing "other minimum requirements" does appear at the end of Chapter 2 (Step 7), but it is followed by "applicable to all projects". The flowcharts in Chapter 4 are intended specifically to outline the requirements for each project type. If the Steps in Chapter 2 are followed, then the Minimum Requirements that are applicable to all project types (listed in Chapter 3) should also be followed.	No Comment		
RESOLVED - For Seattle, Soil Quality and Depth requirements is required for all discrete project types (i.e. Single-family, Trail/Sidewalk, Parcel-Based, Roadway) regardless of thresholds (refer to Code language SMC 22.805.030 - .060). Soil amendment BMP is now contained in Chapter 5.1, p. 5-2 of Volume 3 and no longer specifically tied to On-site Stormwater Management. This is more protective than ECY's requirements.	Acceptable		

September 2015 Draft, Seattle response to Ecology (9/23/15):	Ecology Response / Backcheck (11/20/15)	Seattle Redline Changes based on Ecology 11/20/15 Comments (11/24/15)	Final Ecology Response (12/2/15)
NOTED - The flow chart (Figure 4.1B, page 4-6) and code language that appears later in this section provides the thresholds that would allow selection between pre-developed pasture and pre-developed forest for listed and non-listed creeks. This table is only intended to provide a simple overview that lists the potentially applicable standards and lets the user know that there is more than one standard that could apply for listed and non-listed creeks.	Per Seattle's 11/5/15 revision, this table has been deleted to avoid confusion. Acceptable.		
RESOLVED - These shorthand terms removed from text. Shorthand language still included in flow charts for brevity but noted in the legend.	Acceptable		
RESOLVED - It is our understanding that the flow charts match the Seattle code language (SMC 22.805.040 Parcel-Based, SMC 22.805.060 Roadway) approved by Ecology 6/12/15. Please advise us if we have erred in accurately capturing the applicable code language. See pages 4-5 - 4-7.	Seattle's 11/5/15 revision of Figures 4.1 and 4.2 is acceptable.		
RESOLVED - This text has been updated, see page 4-22.	Acceptable		
RESOLVED - Text Added (Section 5.3, p. 5-9): Flow control BMPs are not required if the site fully infiltrates all flows, as determined by a licensed civil engineer using an approved continuous runoff model for the 158-year simulation period (refer to Appendix F).	Acceptable		
NOTED - Cultural resource approvals do not pertain specifically to drainage plan review and therefore are not referenced specifically in the Stormwater Manual.	Acceptable		

September 2015 Draft, Seattle response to Ecology (9/23/15):	Ecology Response / Backcheck (11/20/15)	Seattle Redline Changes based on Ecology 11/20/15 Comments (11/24/15)	Final Ecology Response (12/2/15)
RESOLVED - High Visibility Fencing added in both Checklists (pages 3-2 & 3-9) as BMP E1.50 and as section 4.1.2.5 (page 4-25).	Acceptable		
RESOLVED - Changed all references from DOE to Ecology.	Acceptable		
RESOLVED - Corrected (pages 3-4 & 3-11).	Acceptable		
RESOLVED - Added name of BMP (page 3-9).	Acceptable		
NO ACTION - This BMP is included elsewhere. See BMP E3.60 Construction Stormwater Filtration (refer to Section 4.3.8, page 4-70).	Acceptable		
NO ACTION - Requirement is noted in Volume 2 (section 4.1.2., page 4-13) and is included in Volume 1 and Volume 3.	Acceptable		
NO ACTION - Language in manual (Section 4.2.1.2, page 4-32) matches code language referenced in ECY Comment #55 for Stormwater Code (See ECY Code Comment tab and Stormwater Code Section 22.805.020.D.11.f).	Acceptable		
TO DO (oversight in Sep 2015 version) "and/or treatment" will be added in final.	Confirmed in 11/5/15 version. Acceptable.		
NO ACTION - This is addressed per 22.805.080.B MR for Flow Control: "Post-development discharge determination must include flows from dewatering activities".	Acceptable		
NO ACTION - Percent slope is understood by users.	Acceptable		
RESOLVED - Deleted BMP - Ecology does not have equivalent BMP in SWMMWW. (Could not find one in KC SWDM or WSDOT HRM either)	Acceptable		

September 2015 Draft, Seattle response to Ecology (9/23/15):	Ecology Response / Backcheck (11/20/15)	Seattle Redline Changes based on Ecology 11/20/15 Comments (11/24/15)	Final Ecology Response (12/2/15)
RESOLVED - Revised (page 4-48) per Ecology BMP C234 table 4.2.4 which specifies maximum slope 4H:1V. Now Table 8.	Acceptable		
RESOLVED - Added pertinent language (page 4-70, BMP E3.60) to obtaining approval prior to use from regional Ecology office and reference to Ecology BMP C250 for additional information.	Ecology understands that Seattle intends to refer to Ecology BMP C250 and Appendix B for information on chemical treatment (examples page 4-70 and 5-14). Note however an error in BMP C-120. Ecology approves pH adjustment when it is done as part of a CESF or other batch treatment process. If the site operator wants to apply pH adjustment to an onsite stormwater pond, Ecology's chemical treatment approval would not apply. Refer to Ecology BMPs C252 and C253 for additional information.	<ul style="list-style-type: none"> <li>Chemicals used for temporary pH adjustment at project sites (other than CO<sub>2</sub> or dry ice) in batch treatment or flow-through treatment must be approved in writing by Ecology prior to use. Formal approval from the City is based on Ecology's protocols. For a list of treatment chemicals that have been evaluated and are currently approved</li> </ul>	Acceptable
RESOLVED - Deleted this language (page 2-3)."High" referenced old criteria for Site Sediment Damage potential which has been removed from Permit.	Acceptable		
RESOLVED - Added abbreviation "ECA" to Environmentally Critical Area definition in Stormwater Code. Initially defined on page 4-15 in Section 4.1.2.1.	Acceptable		
Please clarify this comment. The language included in the manual are consistent with the SWMMWW.	No action necessary. Seattle's text is acceptable.		
RESOLVED - Revised, page 5-30.	Acceptable		

September 2015 Draft, Seattle response to Ecology (9/23/15):	Ecology Response / Backcheck (11/20/15)	Seattle Redline Changes based on Ecology 11/20/15 Comments (11/24/15)	Final Ecology Response (12/2/15)
RESOLVED - Added "pretreatment" to this text (page 2-7): "Upon completion of a monitoring program, the monitoring data is evaluated by Ecology and the technology may be approved for use for <u>pretreatment</u> , basic treatment, enhanced treatment, oil treatment, and/or phosphorus treatment."	Acceptable		
RESOLVED - Edit incorporated, Section 3.4, page 3-7.	Acceptable		
RESOLVED - Edit incorporated, Section 3.5, page 3-20, Figure 3.2.	Acceptable		
RESOLVED - This figure has been revised, and associated text has been updated to include pretreatment. Figure 3.1 is now Figure 3.2, page 3-10.	Acceptable		
RESOLVED - This figure has been revised since the Ecology submittal and includes "Yes", "No" or "And" options after each step. Figure 3.1 is now Figure 3.2, page 3-10.	Per Seattle's 11/5/15 revision, acceptable.		
RESOLVED - Made this change (GLOBAL), unless text was referring to flow control, then deleted reference. A figure for flow control was formerly included, but it was deemed unnecessary. Figure 3.1 is now Figure 3.2, page 3-10.	Acceptable		
RESOLVED - Media Filter Drain has been added to figure. Figure 3.1 is now Figure 3.2, page 3-10.	Acceptable		
RESOLVED - This text is consistent with text from the Ecology manual; however, it has been updated (Section 3.5.2.3, page 3-25) to list specific BMPs under Infiltration BMPs in the "BMP Selection for WQ" section. Figure 3.1 is now Figure 3.2, page 3-10.  Pretreatment information has been shifted to Section 4.4 as pretreatment applies to more than infiltrating BMPs.	Acceptable		

September 2015 Draft, Seattle response to Ecology (9/23/15):	Ecology Response / Backcheck (11/20/15)	Seattle Redline Changes based on Ecology 11/20/15 Comments (11/24/15)	Final Ecology Response (12/2/15)
RESOLVED - This section has been rewritten and note is now more fitting with rest of text (page 3-25).	Acceptable		
NO ACTION - The presized approach can only be used for projects with less than 10,000 sf of new or replaced hard surfaces. Additionally the pervious areas shall be amended. For these smaller projects, the runoff from the amended surfaces negligible compared to the runoff from hard surfaces and therefore the BMPs are sized appropriately. This approach is consistent with Seattle's 2009 approach deemed equivalent by ECY.	Acceptable		
IN PROGRESS - We are working on updating the modeling and the pre-sized values will be provided to ECY by October 5, 2015.	Errata for Volume 3 and Appendix F were submitted to Ecology on 10/16/15. Per the 10/21/15 meeting between Ecology and Seattle, Seattle provided Ecology (on 10/30/15) with a detailed memo as backup to the sizing factors & equations tables in the Director's Rule. Seattle provided responses to Ecology comments on the memo on 11/5/15. The memo was revised and resubmitted on 11/11/15. Pre-sized BMP calculations are acceptable.		

September 2015 Draft, Seattle response to Ecology (9/23/15):	Ecology Response / Backcheck (11/20/15)	Seattle Redline Changes based on Ecology 11/20/15 Comments (11/24/15)	Final Ecology Response (12/2/15)
<p>NO ACTION - The BMP Sizing Factors for the pre-sized approach are intended for water quality and flow control (consistent with MR #6 and #7), and a facility sized using these sizing factors typically meet requirements for MR #5. Applicants must demonstrate that the project meets MR#5 as well as #6 &amp; #7.</p>	<p>Acceptable</p>		
<p>CLARIFICATION - For projects with less than 10,000 sf of new and replaced hard surface, pre-sized factors can be used to size flow control facilities, however, because projects, particularly in the right of way, may not be able to control flow from outside of their project area, we allow additional flow up to twice the area for which it is sized. By allowing this exception, we get more flow control benefit for smaller events and the overflow must be designed for the total flow event.</p>	<p>Acceptable</p>		
<p>RESOLVED - Added text in section 4.2.1, page 4-7.</p>	<p>Acceptable</p>		
<p>NO ACTION - The criteria is the same. Volume 1, Section 5.4.1.2 (page 5-12) states" For facilities located downstream of detention, the design flow rate is the release rate from the detention facility that has a 50 percent annual probability of occurring in any given year (2 year recurrence interval), as determined using an approved continuous runoff model." Refer to SMC 22.805.00.B.1.b.</p>	<p>Acceptable</p>		

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<p>CLARIFICATION - Seattle reduced this minimum from 6" to 4" based on discussions with our City Arborist, who made the point that many trees with diameters between 4 and 6 inches have made it through an establishment phase. The more incentive given to retain trees helps ensure that their stormwater function (which is greater than newly planted trees) and ancillary values are also retained in an urban environment with many competing needs. In addition, many trees that are between 4" to 6" in diameter during review will be 6" in diameter by the time the project is constructed.</p>	<p>Acceptable.</p>		
<p>CLARIFICATION - The planter sizes presented in Table 5.1, page 5-10 are based on Seattle's Green Factor. The planter standards presented were developed by professional landscape architects based on what a tree requires to grow into a healthy, mature tree and provide the same stormwater value as if it were planted in the ground. Given Seattle's unique urban environment, utilizing planters for trees allows for planting of trees on top of buildings and parking garages where trees would not otherwise be utilized. The use of trees leads to volume reduction as opposed to just attenuation. Allowing trees in planters to count towards flow control credit removes barriers and makes LID/trees a preferred and commonly used LID BMP. Additionally, the planter sizing standards often affords much more root area for a tree than what can typically be found in ROW cores with multiple utilities running parallel to a street planting strip.</p>	<p>Acceptable due to the Seattle ultra-urban environment.</p>		

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RESOLVED - Added requirement for infiltration testing if meeting a performance standard (e.g. pasture standard) or if project proponent is claiming permeable pavement infeasibility in meeting MR#5.	Ecology understands the City's intent is to distinguish between a permeable pavement facility and a permeable pavement surface. Seattle defines a permeable pavement facility as an infiltration facility; a permeable pavement surface is not defined by the City as an infiltration facility, even though it infiltrates. Per Seattle's 11/5/15 revision, the wording in Section 5.4.6.4 Setbacks & Restrictions bullet is acceptable.		
RESOLVED - Addressed - Refer to Table 3.3, page 3-12. See Figure 5.12, page 5-55 and Figure 5.13, page 5-63 for elevated underdrain.	Acceptable		
RESOLVED - Updated to match SWMMWW, See Appendix D, pages D-4 & D-5.	Acceptable		
RESOLVED - SWMMWW SSC-7 Seepage Analysis and Control. was incorporated into Appendix D, page D-7 Groundwater Mounding and Seepage Analysis.	Acceptable		
RESOLVED - Removed qualifier and text simplified. See Appendix D, Section D-4, page D-11.	Acceptable		
RESOLVED - Changed to measured infiltration rate to a minimum of 5 inches per hour to match SWMMWW of coarse sand (V. III, Section 3.1.1, Page 3-5). See Section 5.4.2.3, page 5-38.	Acceptable		

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RESOLVED - Sizing is now based upon design infiltration rate. Specified that the trench must be between 24 and 48 inches. See page 5-42.	Acceptable		
RESOLVED - Sizing factors were calculated to be equivalent to those provided by Ecology. A similar approach was taken for infiltration trenches. Table now based on design infiltration rate, Section 5.4.3.6, page 5-49.	Acceptable		
FIXED Edit incorporated, page 5-58. Now Tables 5.16 & 5.17.	Acceptable		
INFO - Yes, refer to Appendix E, page E-23.	Acceptable		
RESOLVED - Table complete, see Table 5-18, page 5-68.	Acceptable		
SEE ABOVE - See response to Comment #158.	Acceptable		
NOTED - Now Table 5.19, Page 5-70.	Acceptable		
RESOLVED - Figure now added, Refer to Figure 5.14, page 5-76.	Acceptable		
RESOLVED - Provided clarification - Low = up to 2%; High = greater than 5%. See Table 5.23, page 5-83.	Acceptable		
RESOLVED - Paragraph deleted, but changed so consistently using "water quality treatment course". See footnote 'a' in Section 5.4.6.3.	Acceptable		

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RESOLVED - For PGIS, we reduced the ratio down to 2:1 to be consistent with Ecology. For non-PGIS or stabilized pervious surfaces we wanted to allow a higher ratio because in our urbanized city it can often be difficult to prevent runoff from surfaces outside the project area. We set a higher allowable ratio based on review of what researchers, the ASCE permeable pavement working group, and other cities have determined as acceptable limits for stabilized surfaces. These ratios are only allowed for Seattle's permeable pavement facilities, which must be designed for the full area draining to them. Refer to page 5-87.	Acceptable		
RESOLVED - Figure now added, refer to Figure 5.16, page 5-87.	Acceptable		
RESOLVED - Reference changed to Section 5.8.5 (Sand Filters). See Section 5.4.6.5, page 5-93.	Acceptable		
RESOLVED - Maximum constructed subgrade slope is 0.5% for pre-sized. See page 5-95, 2nd bullet.	Clarification on comment at left: max constructed subgrade slope is 0.5% for pre-sized <b>without check dams</b> . The subsurface check dam section refers to 1%. Thus, change to 1% in the BMP sizing section too.	<ul style="list-style-type: none"> <li>The selected subsurface ponding depth (i.e., 6 or 12 inches) shall be provided in the storage reservoir. For intermediate ponding depths (between 6 and 12 inches), the sizing factor may be linearly interpolated. For subgrade slopes of <u>1.0</u> <del>1.5</del> percent or greater, check dams are required to provide this subsurface ponding depth, on average, across the facility.</li> </ul>	Acceptable
<p>CLARIFICATION - Table 5.26, page 5-97, includes two options for modeling. Option 1 is intended to include the use of both WWHM and MGSFlood permeable pavement elements.</p> <p>Option 1: The selected model may have a routine specifically developed for permeable pavement that simulates run-on from other contributing drainage areas, precipitation falling on the pavement, infiltration through the pavement section, storage in the aggregate beneath the pavement, and infiltration into the underlying soil.</p>	Acceptable		

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RESOLVED - Updated reference "BMP T7.10" to "Volume III of SWMMWW - Infiltration Basins".	Acceptable		
<p>CLARIFICATION - Sizing of SFR cisterns for the On-site List is based on meeting Seattle's Peak Flow Control Standard. This standard requires that the 2 year recurrence flow does not exceed 0.15 cubic feet per second per acre and the 25 year recurrence flows does not exceed 0.4 cubic feet per second per acre.</p> <p>Additionally, SFR cisterns were moved down to Category 4 BMPs based on Ecology's code comment. SFR cisterns are now at the lowest level category along with perforated stubouts and trees.</p>	Acceptable		
IN PROGRESS - For the Pre-sized Table 5.32, page 5-125, the modeling assumptions can be found in Table 5.33. Final values for Table 5.32 will be provided to Ecology by October 5, 2015.	Errata for Volume 3 and Appendix F were submitted to Ecology on 10/16/15. Per the 10/21/15 meeting between Ecology and Seattle, Seattle provided Ecology (on 10/30/15) with a detailed memo as backup to the sizing factors & equations tables in the Director's Rule. Seattle provided responses to Ecology comments on the memo on 11/5/15. The memo was revised and resubmitted on 11/11/15. Pre-sized BMP calculations are acceptable.		

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<p>CLARIFICATION - Infiltration testing is required if meeting a performance standard or if claiming infeasibility.</p> <p>Permeable pavement surfaces are designed to function as a permeable land surface and are not intended to receive runoff from other surfaces, and therefore infiltration facility setbacks do not apply and thus increases the permeable pavement surface feasibility for a project. At times it is difficult to prevent any run-on from occurring (e.g. utility bases required to be impermeable) onto a permeable pavement surface. Therefore, up to 10% run-on is allowed as it is typically infeasible to capture this runoff and send to another type of BMP, especially in an urban environment. It is assumed that permeable pavement surfaces will infiltrate in the same manner as other permeable surfaces such as lawn areas.</p>	Acceptable		
<p>NO CHANGE - WWHM and MGS Flood automatically develop a stage-storage discharge relationship based on the pipe diameter, orifice size and riser structure. See Table 5.40, page 5-145 for modeling specifics.</p>	Acceptable		
<p>RESOLVED - Removed question from Section 2.1 on page 1-6; leaving in Section 3.1 and beyond.</p>	Acceptable		
<p>RESOLVED - Section 2.1.5.2 applies to spill plans only and is an operational BMP. Berming would be an activity-based BMP and is appropriate to be in Section 3. Added language to intro on page 2-6: "Additional spill control requirements may be required based on the specific activity occurring onsite. "</p>	Acceptable		
<p>RESOLVED - Formatting corrected on page 3-10.</p>	Acceptable		

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RESOLVED - Changed in Volume 4 wherever there was a reference that includes Biblio, update with new link.	Confirm all links work properly in the final publication.		
RESOLVED - Added text about revision on page 3-59.	Acceptable		

Seattle Comment #	Code	Section	Subsection	Topic	Change from April 2014 submission of draft documents to Ecology	Explanation of Change	Ecology Response/Backcheck notes (6/12/15)
1	22	800	070	City projects and infeasibility	Added that review and approval is required when applying roadway project infeasibility whether or not a permit is required.	As allowed in 22.800.070, some city agency projects are not required to obtain permits and approvals. The provision added to 22.800.070 requires that review and approval is required for any city agency project if applying for infeasibility due to hydraulic or infrastructure limitations as provided in subsection 22.805.060.E.	Acceptable.
2	22	800	070.A.2	City projects	Council Bill (CB) number missing .	CB number will be added once created by City Clerk, before adoption of ordinance.	No comment.
3	22	800	080.I	Authority	Changed "property" to "site."	Changed for administrative purposes.	No comment.
4	22	801	D	Definitions	"Drainage basin": Removed reference to combined sewer area under definition of "drainage basin" and instead created a new definition: "combined sewer basin."	New definitions clarify that a drainage basin is specific to drainage water and different from a combined sewer basin.	Acceptable.
5	22	801	I	Definitions	"Illicit connection": Added "not" to all qualifiers.	Added to be more explicit as to what is considered an illicit connection.	Acceptable.
6	22	801	T	Definitions	"Trail": removed qualifier "that is not classified as a highway, road, or street."	Trails can be located within the right-of-way, but was confusing to have qualifier, so removed from definition.  Revised definition to be parallel with Sidewalk Project definition changes.  Note "trail" is only used for term "trail project", which excludes PGHS, so qualifier in "trail" definition is not needed.	Acceptable.
7	22	803	020.C	MR for all discharges/real property	Removed "consistent with design and permitting" from April 2014 code version	Additional clause confusing/not needed.	No comment.
8	22	803	030.B	MR for all discharges/real property	Removed "consistent with design and permitting" from April 2014 code version	Additional clause confusing/not needed.	No comment.
9	22	803	030.F	MR for Source Controls for all Real Property	Clarified that training applies to businesses and public entities.	For clarity, consistent with Ecology requirements.	Acceptable.
10	22	803	030.G	MR for Source Controls for all Real Property	Clarified that training applies to businesses and public entities.	For clarity, consistent with Ecology requirements.	Acceptable.
11	22	805	030.B	MR for Single-family Residential Projects	Changed threshold for On-site requirements for single-family residential projects from "2,000 sf" to "1,500 sf".	During review of development-related code per Permit S5.C5.b requirement, determined that 1,500 sf threshold for On-site requirement would result in a larger reduction in impervious surfaces and stormwater runoff based upon the development patterns in Seattle.	No comment.

Seattle Comment #	Code	Section	Subsection	Topic	Change from April 2014 submission of draft documents to Ecology	Explanation of Change	Ecology Response/Backcheck notes (6/12/15)
12	22	805	050.B	MR for Parcel-based Projects	Changed threshold for On-site requirements for parcel-based projects from "2,000 sf" to "1,500 sf".	During review of development-related code per Permit S5.C5.b requirement, determined that 1,500 sf threshold for On-site requirement would result in a larger reduction in impervious surfaces and stormwater runoff based upon the development patterns in Seattle.	No comment.
13	22	805	050.C	MR for Parcel-based Projects	Flow control: Clarified that requirements apply to discharges that are direct to, or to the "drainage basin" of, a given receiving water or system.	Same change for Discharges to Wetlands, Creeks, Small Lakes, Public Combined Sewer, and Capacity-constrained system.	Acceptable.
14	22	805	050.D	MR for Parcel-based Projects	Treatment: Clarified that projects meeting the threshold for treatment, shall provide treatment for both the new plus replaced PGHS and PGPS.	Thresholds for treatment are based on PGHS and PGPS, not converted surfaces, so using PGHS and PGPS (instead of converted surfaces) is consistent with App. 1, MR#6.	Acceptable.
15	22	805	060.C	MR for Roadway Projects	Flow control: Clarified that requirements apply to discharges that are direct to, or to the "drainage basin" of, a given receiving water or system.	Same change for Discharges to Wetlands, Creeks, Small Lakes, Public Combined Sewer, and Capacity-constrained system.	Acceptable.
16	22	805	060.E	MR for Roadway Projects	Roadway project infeasibility: Added for roadway projects with less than 50 percent existing hard surface and site with greater than 35 percent existing hard surface coverage - infeasibility criteria associated with hydraulic and existing infrastructure infeasibility.	Seattle in most cases could allow matching existing, but chooses to regulate otherwise. Hydraulic and existing infrastructure constraints exist due to Seattle's ultra-urban environment and the associated existing infrastructure and there are hydraulic constraints associated with a confined and built-out environment.  Seattle has added very specific criteria related to infeasibility for when a roadway project can reduce compliance only to the degree to avoid the infeasibility.	See other comment tracking spreadsheet.
17	22	805	070.B	MR for On-site Stormwater Management	Removed requirement to "retain trees to maximum extent feasible."	Retention of trees is regulated under Seattle's Land Use Code.	No comment.
18	22	805	070.B	MR for On-site Stormwater Management	Removed requirement to amend soils from the On-site Stormwater Management and instead made soil amendment a requirement for all single-family residential, parcel-based, trail/sidewalk, and roadway projects regardless of new/replaced hard surface or land-disturbing activity.	Moving to project type instead of having soil amendment triggered by a certain threshold is more protective than Ecology's requirements and consistent with Seattle's practice since 2009.	Acceptable.
19	22	805	070.D	On-site Lists	Revised language.	Changed for consistency with Ecology language and clarity.	Acceptable.
20	22	805	070.D	On-site Lists	Removed language regarding "minimum design criteria" and "space remaining".	Changed for consistency with Ecology requirements.	Acceptable.
21	22	805	070.D.1.b.1	On-site Lists	Competing Needs: Added language to clarify that laws, rules, and standards "may be amended or superceded".	Applies to: Historic preservation and Archaeologic Laws, Superfund, MTCA, FAA, and ADA related rules and standards.	Acceptable.

Seattle Comment #	Code	Section	Subsection	Topic	Change from April 2014 submission of draft documents to Ecology	Explanation of Change	Ecology Response/Backcheck notes (6/12/15)
22	22	805	070.D.3	On-site Lists: Trail/Sidewalk	Removed "infiltrating bioretention" from list	Since Trail and Sidewalk Projects are not subject to Flow Control and Treatment, use of rain gardens (rather than bioretention) is appropriate.	Acceptable.
23	22	805	070.D.4	On-site Lists: Parcel-based Projects	Created two columns in Parcel-based list to distinguish between Designated Receiving Waters and basins that are non-designated receiving waters.	Created additional column instead of using footnotes that rainwater harvesting and vegetated roofs are required to be evaluated in basins that are non-designated receiving waters.	Acceptable.
24	22	805	070.E	Historic Preservation & Archaeology Laws	Various formatting and reference changes.	Changes not intended to change original intent, only to correct/clarify references.	No comment.
25	22	807	020.A.1.i	Drainage Control Review and Application of Requirements	Clarified that review and approval is required whenever roadway project infeasibility is applied pursuant to 22.805.060.E.	To ensure that drainage review and approval occurs for all projects that apply roadway project infeasibility that may not otherwise require review and approval (e.g. some city agency projects).	Acceptable.
26	22	807	020.B.2	Information for Large Project Drainage Review	Removed thresholds for this section.	Thresholds unnecessary as thresholds are contained in definition of "large project".	No comment.
27	22	808	010.A.1.d	Civil violations	Added that it is a violation to obstruct both watercourses and public drainage systems.	Added for clarity.	No comment.
28	22	808	010.A.1.g	Civil violations	Changed piecemeal of projects reference - from "large projects" to "larger projects."	Piecemealing is a violation, regardless of project size (i.e. does not need to be a "large project" (e.g. >5,000 sf new plus replaced hard surface)).	No comment.
29	22	808	030.E	Enforcement Action	Referral to City Attorney: Removed clause added in April 2014 version.	After further analysis, determined clause was unnecessary.	No comment.
30	22	808	070.C	Public Nuisance	Clarified that it is a "Public Nuisance" to obstruct a "Public Drainage System"	Added for clarity.	No comment.
31	22	801	C	Definitions	"Capacity-constrained system": Removed reference regarding "a public drainage system or public combined sewer to which groundwater is permanently discharged". Instead created minimum requirement regarding permanently discharging groundwater in Parcel-based and Roadway Projects section of code.	More appropriate to have minimum requirements related to groundwater in project requirements.	Acceptable.