



City of Tacoma
Public Works Department

June 17, 2011

Municipal Stormwater Permit Comments
WA Department of Ecology
Water Quality Program
P.O. Box 47696
Olympia, WA 98504-7696
SWPermitComments@ecy.wa.gov

Dear Permit Writer:

Thank you for the opportunity to comment on the preliminary draft sections of the Phase I Municipal Stormwater NPDES Permit. We are impressed with the amount of effort and consideration that has already gone into these two pioneering sections of the permit and look forward to reviewing the full draft permit.

The City of Tacoma has provided specific comments to the draft permit sections with suggested approaches, language changes and questions in the following attachments:

Attachment 1: Comments on Low Impact Development Preliminary Draft Language

Attachment 2: Comments on Monitoring Preliminary Draft Language.

Please feel free to contact Mieke Hoppin at 253-502-2105 with any questions regarding the City's comments on the LID sections or Dana DeLeon at 253-502-2109 with questions regarding Comments on Monitoring sections of the draft permit.

Thank you for your consideration of our comments.

Sincerely,

Geoffrey M. Smyth, P.E.
Division Manager, Environmental Services

Cc: Lorna Mauren

ATTACHMENT 1: COMMENTS ON LOW IMPACT DEVELOPMENT PRELIMINARY DRAFT LANGUAGE

The City of Tacoma would like to thank the Department of Ecology for the opportunity to comment on the preliminary draft LID language for the Phase I Municipal Stormwater Permit. The attached comments mainly include requests for further clarification or specificity in the Appendix I definitions; the Minimum Requirement Thresholds; and the list of feasibility criteria in Appendix I Section 8 of the permit. Generally, we are in favor of the way Ecology proposes to incorporate LID into Appendix I because of the specific criteria included in Minimum Requirement #5 and the Feasibility Criteria in Appendix I Section 8 that can be used by permitting staff to provide consistent LID requirements for development projects. We also agree that site planning for every project must include the LID development principles of retaining native vegetation and minimizing impervious surfaces in order to make LID effective. We suggest the following specific changes to make the Permit language more clear, consistent and easier to implement. We look forward to working with you to finalize and implement the LID requirements in the Phase I permit.

General Comments

1. When the Stormwater Management Manual for Western Washington is referenced, please specify that this reference applies to all equivalent manuals as well.
2. Please revise the draft update of Appendix 1 to include all definitions from the 2007 permit Appendix 1 that will not be changed or deleted. Currently, the draft update document appears to be missing some of the definitions which are not marked for change or deletion.
3. By the definition included in the permit, LID is intended to “mimic pre-disturbance hydrologic processes,” therefore since underdrains in LID facilities including rain gardens and permeable pavement would essentially eliminate the hydrologic benefit of the facility, we recommend not allowing a facility with an underdrain to be considered LID (as proposed in the Feasibility Criteria.)
4. We suggest providing stronger language with more specific LID site planning requirements in Appendix I in order to require site design that would make the list of mandatory LID BMPs more likely to be feasible on a site. If development projects are allowed to continue using standard site development principles without planning for LID features in the first place, it will be more likely that one or more of the infeasibility criteria listed in Appendix I Section 8 would apply. More specific LID site planning requirements would also aid permit reviewers in all permitted jurisdictions to provide more consistent evaluations of whether or not projects are meeting the intent of Minimum Requirement #1.

Appendix I Section 2. Definitions Related to Minimum Requirements

Page 2 of 36

5. **Converted Pervious Surfaces:** The City suggests adding lawn to lawn or lawn to landscaping as a converted pervious surface for compliance with the minimum requirements (for example when a Parks Department proposes to update a park to make it more usable or when underdrains are installed to improve saturated areas.)

Page 3 of 36

6. **Effective Impervious surface:** It is unclear why the collection and distribution below pavement (infiltration below pavement) is specifically called out. Hard surfaces infiltrated outside of the pavement footprint may still be ineffective (such as infiltration trenches). The definition should be revised to remove the terms “below pavement.”
7. **Erodible or leachable materials:** Please revise the definition to include measurable criteria with which to evaluate if a waste or chemical “measurably alters the physical or chemical characteristics of runoff.” Otherwise, please verify that the list of examples is inclusive of all materials that should be considered erodible or leachable.
8. **Impervious surface:** The use of the term non-vegetated could be easily misunderstood. For example, would grass-pavers be pervious or impervious? Would grown-over gravel be pervious or impervious? Suggest using the term “hard” rather than “non-vegetated” in the definition.
9. **Infiltration Below Pavement:** Suggest eliminating this term from the list of definitions, to avoid confusion. If a definition for “infiltration” without specifying the location of “below pavement” is desired, we suggest using the technical definition from current engineering practice.
10. **LID Best Management Practices:** This definition includes roof downspout controls. However, the current Manual defines roof downspout controls to include standard infiltration trenches, dispersion such as splash blocks, and even a piped connection to the MS4. Please specify which roof downspout controls meet the definition of LID. Because BMPs with underdrains will not significantly reduce stormwater runoff flows, they should not generally be considered LID.

Page 4 of 6

11. The term “maximum extent feasible” is used extensively. Consider referencing the feasibility criteria in Appendix I Section 8 wherever this term is used. Also, please clarify how the definitions of Maximum Extent Feasible will be distinguished from the definition of Maximum Extent Practicable in the permit. Given the independent legal significance of the phrase “Maximum Extent Practicable” under 33 U.S.C. § 1342(p)(3)(iii), and in

common law, it is important to draw a clear distinction between the terms. Also, the term “maximum extent feasible” needs to be defined under the Permit.

- 12. Permeable Pavement:** Revise to state “through the pavement section” to include pavers where the stormwater is not going through the pavement but through the crack in between the pavers. Permeable pavement should assume infiltration; the City does not believe that permeable pavement designed with an underdrain should be considered LID.

Page 5 of 36

- 13. Pollution-Generating impervious surface:** We suggest considering roofs with vents as pollution-generating based on documented sources of pollutants from vents and other off-gassing additionally pollutant sources from roofing materials and roof maintenance chemicals.
- 14. Pollution-generating pervious surfaces (PGPS):** “Typical PGPS include permeable paved roads, driveways and parking lots...” This definition could be misconstrued when identifying the project thresholds, that a project would need $\frac{3}{4}$ acre of permeable pavement in order to require treatment. Suggest clarifying by stating that the thresholds for hard surfaces apply to permeable pavements. Additionally, consider generalizing the definition to “Typical PGPS include permeable pavement “subject to vehicular use” rather than including a list which may not be inclusive of all possible examples.
- 15. Rain Garden:** The definition describes a rain garden as “non-engineered” while also being “designed.” Designed implies a soils evaluation to size the facility. It is our opinion that a soils evaluation by a professional should be required for the design of any rain garden if the project triggers any of the minimum requirements and would require a permit for construction.

Page 6 of 36

- 16. Receiving Water:** Does adding groundwater as a receiving water now require that discharges to groundwater meet the same minimum requirements as discharges to the MS4? If so, consider adding it to Appendix I-C as a “Basic Treatment Receiving Water.” Also update Minimum Requirement #6, to identify whether discharges to the ground are only required to receive basic treatment or if a higher level of treatment is required for discharges to the ground on projects where phosphorus treatment, enhanced treatment or oil control are triggered.

Page 7 of 36

- 17. Vehicular Use:** The determination of frequently/regularly used sites needs to be clarified. For example, should car show fields be added to the list of regularly used sites? Please identify quantitative criteria to help define whether a maintenance access road is used frequently or infrequently.

Appendix 1 Section 3 - Thresholds

Page 8 of 36

18. Include the definition for common plan of development. The new section under thresholds said it should be located in the definitions and acronyms section.
19. "For projects without development plans involving only land disturbing activities (e.g. clearing or grading)..." For clarity, consider revising this statement to, "For projects without development plans that only involve land disturbing..."
20. Figure 3.1 states projects that do not discharge directly or indirectly into an MS4 owned or operated by the Permittee should not be regulated by the Permittee. However, it has been Ecology's request that Tacoma regulate all stormwater discharges within their jurisdiction, even those that discharge directly to Waters of the State without passing through the City's MS4. Please provide formal policy direction on this point and identify how a development project on property which does not discharge to the MS4 (either because of LID features or because of a direct discharge to a receiving water) will be regulated, if not by the Permittee.
21. Figure 3.1 appears to show that LID projects that fully infiltrate would not be regulated because they do not discharge directly or indirectly into an MS4. Please include the definitions for what is considered to be a "direct discharge" and an "indirect discharge" to clarify that "zero discharge" sites will still be required to meet the minimum requirements.

Page 9 of 36

22. For Figure 3.2, saying that all minimum requirements apply to a project can be misleading since actually the project applicant must merely evaluate whether or not minimum requirements #6-#8 apply. Consider revising to say, "Comply with all applicable requirements."

Page 11 of 36

23. Clarify what is required of permittees in order to show that all new development complies with Minimum Requirement #2? Do you expect all new construction projects to submit a SWPPP for review if they trigger a building permit through the local government building codes whether or not they meet the minimum thresholds?
24. "The following new development shall comply with MR #1 through #9 for the..." Consider revising to say, "Comply with all applicable requirements" to be consistent with flowchart (Comment #22).

Page 12 of 36

25. "If runoff from the new hard surfaces and converted pervious surfaces is not separated from runoff from other surfaces on the project site, the stormwater facilities must be sized for the entire flow that is directed to them." Consider adding "replaced hard

surfaces” to the definition. If on a large project there was no way to isolate those portions of the site from the proposed stormwater facility, please clarify if those surfaces could be modeled for the existing condition?

Page 13 of 36

26. In order to maintain consistency for all jurisdictions, it is requested that Ecology provide minimum requirements and framework for site assessment steps. Based upon the information provided by Ecology, there will be some guidance in the 2012 Ecology Stormwater Management Manual for Western Washington; however, Tacoma feels this framework should be provided in the permit Appendix 1 in order to be consistent with the level of detail provided in Appendix 1 for the other minimum requirements.
27. Consider renaming “development principles” to “LID principles” for consistency with the Appendix I definitions.
28. Section 4.1 includes the directive to “use site-appropriate development principles to retain vegetation and minimize impervious surfaces to the extent feasible.” The phrase “site appropriate development principles” needs to be defined, along with the phrase “to the extent feasible.”

Page 19 of 36

29. The new SWPPP Element #12 should be amended to include all stormwater management BMPs. It is not consistent if these practices only apply to the listed LID BMPs of bioretention, rain gardens and permeable pavements.

Page 20 of 36, Section 4.5

30. Suggest adding LID to the section name of the “Onsite Stormwater Management” minimum requirement.
31. It is not possible to require everything on the Mandatory List of LID BMPs. For example, a site that has permeable pavement would not also be able to disperse from the permeable pavement. We suggest reorganizing the list of BMPs to require three types of LID BMPs: 1. BMPs for roof runoff (roof downspout controls, rain gardens, bioretention, vegetated roofs, dispersion); 2. BMPs for runoff from all other hard surfaces (permeable pavement, infiltration, bioretention, rain gardens); and 3. Soil Quality BMPs. Then Ecology should prioritize the LID features within each category. For example, under BMPs for roof runoff, the preference for feasibility evaluation could be: 1. Rain gardens 2. Infiltration trenches 3. Dispersion trenches 4. Splash blocks 5. When nothing else works collect and convey to the MS4. For BMPs for other hard surfaces, the preference could be: 1. Permeable pavement 2. Dispersion, etc.

32. Tacoma suggests that roof downspout controls and dispersion BMPs should be options for mandatory BMPs for managing roof runoff from commercial and industrial sites as well as “at single family residential projects.”
33. The change from “Soil Quality BMPs” to “A Soil Quality BMP” seems to discourage a project from using more than one method to maintain soil quality. Suggest leaving the language the way it was to refer to multiple “soil quality BMPs.”
34. We suggest not listing out hard surfaces that may require permeable pavement, since there may be other surfaces that are unintentionally excluded from this list.
35. For smaller projects that are only required to comply with Minimum Requirement #5, we suggest requiring a professional soils analysis in addition to following the design guidelines in the Rain Garden Handbook for Western Washington Homeowners. Without a professional soils analysis for the rain garden design, there will be too much variability in rain garden sizing, and it is more likely that they may be incorrectly sized and fail.

Page 21 of 36

36. First Comment Box: “Should permeable pavements be included in the list above?” It should not be required at this time. There are concerns about making permeable pavement required for small projects since it is more expensive than other on-site BMPs which can be just as effective. It is our understanding that there is a higher cost for using permeable pavement at smaller sites because the asphalt or concrete plants have to be retooled to manufacture the mix. Additionally, the City is concerned that the list makes assumptions that permeable pavement with an underdrain is required.
37. “If projects result in less than 10,000 square feet if new and replaced...” We suggest adding the threshold of a 0.1 cfs increase in the 100-year, 24-hour storm event.
38. Second Comment Box: “Should Ecology allow local governments to accept LID performance standard compliance as an option to...” Yes.
39. See Comment 31 concerning the Mandatory List.

Page 22 of 36

40. Clearly indicate the Project Thresholds which trigger the Low Impact Development Performance Standard.
41. Clarify if a project cannot feasibly provide Low Impact Development per the mandatory list and they trigger the flow control minimum requirement #7, what standard must be followed, the flow control standard (1/2 2-year to the full 50-year) or the LID standard (8% of 2-year to the full 50-year).

42. See Comment 31 concerning the Mandatory List.

Page 23 of 36

43. Revise to refer to infiltration rather than infiltration below pavement. The location of the infiltration facility should not make a difference.

44. "Bioretention BMPs (See Volume V, Chapter 7) through which all runoff and overflow from permeable pavement storage basin must pass at all projects. Bioretention BMPs should compromise at least 7.5% of the area for residential developments and 4% of the area for commercial developments (total horizontally projected surface area below the overflow). The requirement is confusing. Revise the first sentence to better articulate the requirement. Consider providing a clarifying diagram to further describe the required areas. Specify whether 4% or 7.5% refers to the total project area including offsite and onsite improvements. Provide a discussion of why the area for a residential project is higher than the area for a commercial project. If a treatment layer is provided below the permeable pavement section, suggest not requiring the overflow to pass through a bioretention facility.

45. The cost analysis for feasibility of vegetated roofs should be removed since there are no criteria provided to measure against. Alternatively, provide appropriate criteria.

Page 28 of 36

46. Provide a definition of effective pervious surfaces.

Page 30 of 36

47. Minimum Requirement #9 should apply to all sites that propose any type of stormwater facility including those sites that are only required to comply with Minimum Requirements #1-5.

Appendix 1 Section 8 – Feasibility Criteria for Selected Low Impact Development Best Management Practices

Page 33 of 36

48. We suggest including a brief discussion in the beginning of Section 8 restating that the mandatory list of BMPs are considered feasible and shall be designed and constructed per the requirements listed in the technical manual(s) (LID guidance manual and/or Stormwater Management Manual) except in the following cases.

49. Provide a list of feasibility criteria for each of the mandatory BMPs in the list including roof downspout controls, dispersion and soil quality BMPs. If there is no case in which the BMP will be considered infeasible, state that.

50. Consider adding infeasibility criteria related to ongoing maintenance, if maintenance of the facility will not be practical in certain locations or site conditions.

A. Bioretention BMP's and Rain Gardens

51. Is it true that a developer may choose to use the mandatory list of LID without doing any site suitability evaluation prior to design and installation of the BMPs? The site and soil characteristics are not only criteria for infeasibility, but they are necessary when locating and sizing the mandatory BMPs. Suggest adding language to Min. Requirement #5 that states, "The mandatory BMP design documentation shall include an evaluation of all the infeasibility criteria listed under Section 8 to verify proper location and sizing for the BMPs."

52. "Site cannot be reasonably designed..." This determination should be based on whether or not the design adequately incorporates LID principles per minimum requirement #1. Provide criteria for judging whether or not adequate site planning was performed.

53. "Geotechnical evaluation...area due to reasonable concerns..." List what information is necessary to validate reasonable concerns.

54. "Within local setbacks from structures." Define structures.

55. "The drainage area is more than any of the above amounts..." For clarity, restate the thresholds rather than referring to the "above amounts".

56. For rain gardens we will allow a vertical separation of 3 feet to seasonal high water table but the infiltration BMP requires 5 feet of separation. Make the two requirements consistent or provide an explanation why one is more conservative than the other.

57. "The field testing....underdrain." Please specify whether the applicant can use the equations in Volume III to estimate the hydraulic saturated conductivity or whether field tests are required. Consider reducing minimum required setbacks when there is an underdrain, since there is presumably less risk of flooding.

58. Separation from seasonal high groundwater, bedrock, impervious layers. Please specify if it is acceptable to add fill to increase the amount of separation from these layers. If yes, identify the design parameters.

59. Box question: If hydraulic conductivity is less than 0.15 inches, we recommend not requiring bioretention with underdrains. See General Comment #3.

60. "They are not compatible..," For clarity, replace "they", with bioretention facilities.
61. "The only area available for siting would threaten the safety or reliability of pre-existing underground utilities or pre-existing underground storage tanks." Specify how this would be determined.
62. "There is a lack of usable space for rain gardens/bioretention facilities at redevelopment sites." Specify how this would be determined. Specify whether or not a new development will be required to reduce their impervious surface to accommodate the rain garden. Specify whether or not a bioretention facility must be sized for the available space and include an overflow to the MS4.
63. Include criteria for infeasibility if there is no safe emergency overflow pathway to the MS4.
64. Include criteria for infeasibility if located on a site where storage of hazardous chemicals or other business activities cause a higher risk of spill to pollute groundwater.

B. Permeable Pavement

65. "Permeable Pavements are considered infeasible where:" The section title should be changed to include infiltration from hard surfaces since it applies to both.
66. Box question: "Road Type..." Feasibility criteria should be created based on the known durability issues with permeable pavements in high traffic loading conditions. These criteria could be based on the conclusions in the WSDOT literature review on the subject.
67. "Geotechnical evaluation recommends..." The geotechnical evaluation should evaluate all geotechnical issues including subgrade saturation and failure. As written, the scope of the geotechnical evaluation is limited to erosion and slopes.
68. "Within 100 feet of a known contaminated site or abandoned landfill." Describe contaminated site. The Asarco Smelter Plume covers a large portion of Puget Sound, so is this statement intended to preclude those areas from using permeable pavement? Additionally, will complying with this statement require soils testing to identify "known contaminants", and if so the list of contaminants should be identified. Additionally, there should be an exception included to allow infiltration if EPA reviews and approves the "brownfield" site for stormwater infiltration.

69. "Portions of pavement that must be laid at greater than 5% slope must prevent..." This statement appears to contradict the previous statement requiring 5% to be the maximum slope. Suggest providing only one maximum slope with no alternatives. Provide guidance on when check dams will be required.
70. Further define what level of treatment a permeable pavement shall meet. It is our understanding that permeable pavement with native soils that meet the site suitability criteria may provide basic and enhanced treatment. While sites that require oil treatment are not viable sites for permeable pavement. If a site is required to provide enhanced and phosphorus treatment, identify if permeable pavement with appropriate underlying soils will be allowed to meet both needs.
71. "Site design cannot avoid putting pavement in areas likely to have long-term excessive sediment deposition..." Define long-term excessive sediment deposition.
72. "Fill soils are used that can become unstable..." Recommend that a soils professional must provide suggestions for how fill soils must be placed when using permeable pavement.
73. "Infiltrating and ponded water below new permeable pavement area would compromise adjacent impervious pavements." Specify how this would be determined.
74. "Infiltrating water below new permeable pavement area would threaten existing below grade basements." Specify how this would be determined.
75. "Installation of permeable pavement would threaten the safety or reliability..." Specify how this would be determined.
76. Include criteria for infeasibility if located on a site where storage of hazardous chemicals or other business activities cause a higher risk of spill to pollute groundwater.
77. Box question – We suggest a minimum saturated hydraulic conductivity rate in native soils of 0.1 inches per hour.

Page 36 of 36

78. "Roof design has a slope greater than 20%." This seems like a design choice that would be very easy to use to avoid the green roof requirement. Consider adding language requiring the designer to provide reasoning why a slope greater than 20% would be necessary for the roof to function properly. Otherwise the slope must be less than 20% and a green roof is feasible.

79. "Building cannot technically be designed to accommodate structural load of a green roof." Specify how this would be determined and provide examples of when this condition might occur.
80. It is unclear why incompatibility with mandated local codes is an infeasibility criterion that only applies to substantially developed areas (75% or more of developed lots). Provide additional reasoning, or generalize it to apply to all projects.
81. Box question: Types of competing needs that Tacoma deals with include groundwater/aquifer protection district and wellhead protection requirements, ADA design requirements for pavement, and critical areas regulations requiring development to maintain pre-developed wetland and stream hydrology.

Phase I Preliminary Draft Language Comments

Page 3

82. "Permittees shall review and revise their local development-related codes, rules..." However Section 8 of Appendix I describes local codes as being one reason that an LID BMP is infeasible. Suggest revising the infeasibility criteria to specify local codes that remain barriers to LID after the required code revision process has been completed.
83. "Permittees shall submit a summary of the results..." Because of the flexibility of this process, one jurisdiction may update their code completely to allow LID to be used easily, while a neighboring jurisdiction may not. This creates an inequality between development and permitting requirements that may put the LID compliant jurisdiction at an economic disadvantage. Consider including a list of specific minimum code revisions which all jurisdictions would be required to adopt.
84. Please clarify whether or not the complete list of "local development-related codes, rules, standards, or other enforceable documents to incorporate and require LID..." listed under Section iii.1) is the same as the list of documents requiring Ecology review and approval ("local manual and ordinances") listed under iv. If so, specify the same list under each section.
85. Box question-Note to Reviewers: Maintenance standards and recommended frequencies listed in Bellevue's 2010 Storm Maintenance Standards are clear and reasonable and something similar should be incorporated into Ecology's Manual and equivalent manuals.
86. Section 5.iii – The end of the second sentence should include the words " , where feasible" to track with the PCHB's August 7, 2008 Phase I LID ruling at page 42 (line 16), and page 58 (line 8). This helps to clarify that it is not the intent of the Phase 1 Permit to require permittees to impose LID requirements in every instance, and at every location. The addition also helps to implement Appendix 1, Section 8.

Page 7

87. The language in Section c.1 is confusing. Ecology should consider amending the sentence to say: "Permittees shall conduct an analysis (described in S5.C.5.c(2) below) of the impacts to hydrology and water quality ~~for the following actions~~, prior to taking any of these following actions:"
88. Will there be a threshold below which the S5.C.5.c(1) won't be required?

ATTACHMENT 2: MONITORING PRELIMINARY DRAFT LANGUAGE

City of Tacoma's Comments on the May 16, 2011 Phase I Municipal Stormwater General Permit, Preliminary Draft Language

Tacoma fully supports the regional stormwater monitoring program (RSMP) and all its components. In fact, Tacoma has dedicated staff and fully participated in developing the RSMP as an active member of the Stormwater Work Group from its inception. As part of the RSMP, Tacoma believes program effectiveness monitoring is a valuable element as it provides information on the effectiveness of an aspect of the permittee's SWMP that allows for direct adaptive management of the SWMP. Tacoma supports the need for a shared resources approach to program effectiveness monitoring, especially for Phase II jurisdictions and for studies that are best conducted by multiple jurisdictions. However, Tacoma also supports a "local needs" option whereby permittees are allowed to meet their NPDES permit obligations for program effectiveness monitoring by conducting Ecology-approved effectiveness studies outside of the RSMP. Jurisdictions approved for conducting these programs would be receiving a "credit" for the effort and contribution of their program.

The local needs option is in everyone's best interest because it allows permittees to address priority local issues and to focus effectiveness monitoring on projects that will lead to implementable changes within their jurisdiction. The local needs options can be used to leverage the success of the effectiveness monitoring programs that some permittees have developed over the past permit cycles and are implementing to meet local needs and provide feedback on SWMP effectiveness. Although locally focused, these efforts provide information to the larger stormwater community. For example, King County's effectiveness study for S8.E in the 2007 NPDES Phase I permit, *Roadside Ditch Flow Control Study* was featured in the June 2011 (Vol. 18, No. 4) issue of the Journal Erosion Control, and the City of Tacoma received a 2011 National Environmental Achievement Award from the National Association of Clean Water Agencies (NACWA) for our stormwater management program effectiveness monitoring. Leveraging existing programs/studies from Phase I jurisdictions or others, who have experience developing and implementing effectiveness monitoring studies will support and increase the initial success of the RSMP effectiveness monitoring.

Tacoma endorses the City of Seattle's proposal for process and administration of the local needs option for effectiveness monitoring is presented below. Under Seattle's proposal, Permittees would be provided the opportunity to indicate to Ecology that they will propose a local needs study within 30 days of the publishing of the prioritized list of effectiveness studies recommended by the SWG for the RSMP (expected to coincide with July 2012 Phase I permit issuance). This timing will allow each permittee to evaluate whether the selected proposals meet the jurisdiction's needs or there is a more pressing local need that must be addressed. Once a permittee has decided to use the local needs option, the permittee would be required to develop a monitoring proposal and Quality Assurance Project Plans (QAPP) for Ecology approval. This approach is similar to the current NPDES Phase I permit requirement S8.G.2.a. Ecology would approve the effectiveness monitoring proposal for a local needs study if it met the following criteria:

- The Permittee has identified a specific local stormwater management issue.
- The monitoring provides direct feedback on the effectiveness of the Permittee's SWMP element(s) directed toward management of the specific local stormwater management issue.

- The Permittee would be required to expend at least as much in resources to conduct the local needs study as its non-base contribution would be under the RSMP.
- Permittee demonstrates how results of monitoring study will be shared with the other Permittees in the region.

Tacoma believes that a local needs option will not compromise the success of the RSMP effectiveness monitoring because it is anticipated that few permittees will select the local needs option and that there will be sufficient funding for a meaningful RSMP effectiveness monitoring component. Our recommended changes to preliminary permit language are as follows.

S8.C Monitoring Preliminary Draft Language

Notations:

- Reprinted from City of Seattle, Seattle Public Works, June 17, 2011 comment letter.
- City of Tacoma specific comment

S8.C Monitoring

C. The cities of Seattle and Tacoma, and Snohomish, King, Pierce, and Clark counties, and the Ports of Seattle and Tacoma shall pay into a collective fund and enter into an agreement with the Department to implement regarding a regional stormwater monitoring program (RSMP). Each agreement shall be in substantially the form of Appendix XX to this Permit. The Department will shall administer the collective fund and implement the monitoring program within available resources in accordance with the arrangements agreements between the Department and each Permittee. The agreements will specify the tasks and deliverables of the RSMP, which shall be subject to available resources. The status of RSMP implementation and completion shall have no effect on any Permittee's compliance with this Permit.

The cities of Seattle and Tacoma, and Snohomish, King, Pierce, and Clark counties, and the Ports of Seattle and Tacoma shall each notify the Department within 30 days of the effective date of the permit issued in 2012 and effective in 2012 of its intention to conduct an independent effectiveness monitoring study under the local needs option.

For Permittees selecting to fully participate in the RSMP, the Permittee will pay according to the schedule detailed in S8.C.1 below. For Permittees selecting to conduct an independent effectiveness monitoring study, the Permittee will pay according to the schedule detailed in S8.C.2 below. Each Permittee shall pay the amounts prescribed in this section, according to the following schedule:

1. Pay the amounts prescribed in this section according to the following schedule: The first payment is due October 15, 20122013, and subsequent payments are due on annually beginning August 15, 20132014 (second payment), August 15, 2015 (third payment), August 14, 2016 (fourth payment), and August 15, 2017 (fifth payment).

The payment amounts are:

[NOTE TO ECOLOGY: Dates indicated in S8.C.1 and S8.C.2 reflect a permit issuance date of July 1, 2013 that would result from a two permit approach for the reissuance of the Phase I permit.]

Note to reviewers:

- The proposed payment dates above correspond roughly with SWG recommendations. How much time do local governments need to incorporate these requirements into their budgets? What month of the year works best for payment due dates for local governments?

2. The payment amounts are (REPLACE WITH UPDATED TABLE) :

Permittee	First payment	Second and Third Payments (option 1)	Second and Third Payments (option 2)	Second and Third Payments (option 3)	Fourth and Subsequent Payments (option 1)	Fourth and Subsequent Payments (option 2)	Fourth and Subsequent Payments (option 3)
Clark County	\$ 15,000	\$ 80,195	\$ 75,802	\$ 23,845	\$119,449	\$ 88,742	\$ 63,099
King County	\$ 15,000	\$116,411	\$107,788	\$ 28,112	\$290,544	\$216,854	\$202,245
Pierce County	\$ 15,000	\$144,928	\$133,654	\$ 30,764	\$361,716	\$265,374	\$247,552
Port of Seattle	\$ 5,000	\$ 47,667	\$ 45,434	\$ 21,722	\$118,970	\$ 99,888	\$ 93,024
Port of Tacoma	\$ 5,000	\$ 28,600	\$ 28,140	\$ 19,949	\$ 71,382	\$ 67,447	\$ 62,731
City of Seattle	\$ 15,000	\$233,379	\$213,884	\$ 38,987	\$582,477	\$415,871	\$388,085
Snohomish County	\$ 15,000	\$114,712	\$106,247	\$ 27,955	\$286,304	\$213,963	\$199,546
City of Tacoma	\$ 15,000	\$ 77,869	\$ 72,829	\$ 24,529	\$194,349	\$151,276	\$141,009

2. Permittees who choose to conduct an independent effectiveness study will meet the following schedule:

a. Pay the amounts prescribed in this section, according to the following schedule:

The first payment is due October 15, 2013, and subsequent payments are due on an annual basis beginning August 15, 2014 (second payment), August 15, 2015

(third payment), August 14, 2016 (fourth payment), and August 15, 2017 (fifth payment). The payment amounts are:

INSERT UPDATED TABLE HERE

- b. Provide the Department with a detailed monitoring proposal that includes a description of the independent effectiveness study and how the study meets the RSMP criteria to the Department within 30 days after the effective date of this permit. The proposal will be submitted in both electronic and paper form.
- c. Upon approval of the monitoring proposal, Permittees shall prepare and submit a Quality Assurance Project Plan (QAPP) to the Department no later than 90 days after the effective date of this permit. The QAPP shall be submitted in both electronic and paper form.
- d. Approval or final QAPP shall be completed no later than 6 months after the effective date of this permit, provided that this deadline shall be extended by the number of days by which Ecology exceeds 90 days for QAPP review.
- e. Full implementation of independent monitoring program shall begin no later than (insert agreed deadline) after QAPP approval.
- f. A report on the status of the independent effectiveness monitoring conducted under the local needs option shall be submitted with the annual report each year beginning in the second year of the permit effective in 2013. Reports shall be submitted both paper and electronic form and shall include:
 - i. A summary of the purpose, design, and methods of the monitoring program, and
 - ii. The status of implementing the monitoring program.
- g. Final Reports on independent effectiveness monitoring program(s) shall be submitted to Ecology with the annual report in the year the program is complete. Reports shall be submitted both paper and electronic form and shall include:
 - i. A comprehensive data and QA/QC report for each part of the monitoring program, with an explanation and discussion of the results of each monitoring project,
 - ii. An analysis of the results of each part of the monitoring program,
 - iii. Recommended future actions based on the findings, and
 - iv. A description of how the finding are being shared with the stormwater community.