From:	Kim McDonald
To:	SW Permit Comments; Susewind, Kelly (ECY)
Cc:	Liz Tennant
Subject:	Draft Municipal Stormwater Permit Comments
Date:	Friday, February 03, 2012 8:58:28 AM

Thank you for this opportunity to provide comments on Washington Department of Ecology's draft Municipal Stormwater Permits for cities, counties and other entities regulated under the NPDES municipal permit system.

We are submitting comments on behalf of the Ballard Stormwater Consortium (BSC). We are a committee of Ballard residents who are concerned about the impacts of stormwater and combined stormwater/sewer systems upon Salmon Bay and Puget Sound. The Ballard Stormwater Consortium formed in the wake of Seattle Public Utilities (SPU) unsuccessful attempt to use roadside raingardens to infiltrate stormwater to reduce combined stormwater and sewage overflows in the Ballard neighborhood of Seattle, Washington. As residents we became concerned that the methods attempted by SPU were not sufficiently addressing the problems of stormwater surges causing raw sewage to be released into both Shilshole and Salmon Bays which are part of the Puget Sound ecosystem.

We have reviewed Ecology's Draft NPDES Phase I and Phase II Permits. We evaluated these documents based on our experiences with Seattle Public Utilities and the "Ballard Raingardens," an infiltration-based system, and our concerns that an aggressive reliance upon low impact development (LID) technologies may not be sufficient to minimize stormwater impacts upon the watersheds that flow into Puget Sound.

Our comments are general in nature rather than technical or chapter – by – chapter.

Low Impact Development

The Ballard Stormwater Consortium (BSC) applauds the Department of Ecology's efforts to encourage Low Impact Development (LID) techniques in addressing stormwater NPDES permits throughout Western Washington. We support the use of LID techniques where they are feasible; recognizing that they can work in some places but will not work everywhere. Members of BSC have had recent experiences with curbside rain gardens, one of the LID technologies encouraged DOE. This infiltration-based technology did not work in our neighborhood. Based upon this experience, BSC believes LID techniques and technologies should be recognized and used only where they can be demonstrated to be feasible, and that the tests done to determine whether a site or sites are appropriate should always be done with Best Management Practices (BMPs). Ecology should require these steps to be taken to determine whether a site or sites may *or may not* be appropriate for LID technologies. The BMPs should include ongoing monitoring during periods of soil saturation for *both* ground water and perched water *in situ.*

The use of LID technologies and techniques are quite affordable in relation to other

options such as pipes, underground cisterns, and possible stormwater treatment facilities. Because of this relative affordability, both government agencies and the development community may seek to rely on LID "solutions" to meet stormwater requirements. However, these LID techniques are *neither replicable nor* able to be "modeled" throughout the Puget Sound region because of the highly variable soils, groundwater, precipitation events, vegetation coverage, saturation levels, and drought events.

Ecology should require increased scrutiny of all site testing including testing for infiltration rates, which provide for multiple tests over temporal and spacial areas of the potential LID sites. DOE should insist that all Phase I and Phase II cities require appropriate geotechnical testing and verifiable (as well as redundant) infiltration rates *prior* to installation of infiltration based LID technologies. Also, DOE should require all Phase I and Phase II cities to monitor the LID installation as well as post installation effectiveness monitoring to ensure the project is providing stormwater mitigation as reported to DOE as part of the permit.

Even for individual projects, such as rain gardens, post construction inspection of should be considered. Subsequent to construction, periodic inspections should also be conducted to ensure the LIDs are performing as asserted by the permittee.

BSC encourages Ecology to promote the use of other techniques to reduce stormwater runoff such as cluster developments, rainwater harvesting (as long as groundwater re-charge is occurring), water dispersion, and other solutions such as "re-plumbing" to create cisterns and treatment facilities. BSC believes that any and all solutions which reduce the incidents of contaminated stormwater and/or untreated sewage from flowing into Puget Sound should be considered "green" solutions.

BSC suggests that two of the most effective tools for mitigating the impacts of stormwater in watersheds are 1) reducing the actual toxics in the stormwater and 2) habitat conservation. We encourage Ecology to use these tools as part of the stormwater permitting program. Conservation of the fragmented and vulnerable "pre-disturbed" habitat will add greater value than trying to mitigate stormwater flows through relatively small projects that try to mimic pre-disturbance functions of infiltration, water detention and flow regulation. Requiring permittees to also maintain clean streets and to reduce and eliminate the inputs of toxics into the watershed will greatly improve the water quality of Puget Sound.

One problem with promoting LID technologies as "a solution" to stormwater flows is the difficulty of retro-fitting already built spaces (Ballard Raingardens). Built areas are themselves complex and complicated ecosystems, often radically changed over time from their "pre-disturbance" states. BSC believes that the relative cost-effectiveness of LID technologies will lead to increased development of undisturbed land.

Coordinating Jurisdictions

Since the Ballard Stormwater Consortium (BSC) is located in the City of Seattle, we

are aware that multiple jurisdictions and agencies, address stormwater issues. BSC encourages Ecology to insist that overlapping agencies and jurisdictions to coordinate any and all efforts in the reduction of stormwater into Puget Sound. For example, Seattle Public Utilities, Seattle Department of Transportation, Seattle Parks Department, Seattle Department of Planning and Development, King County Department of Natural Resources and the Port of Seattle (to name a few of the agencies and jurisdictions) all have programs, policies, and regulations should be coordinated and focused on effectively reducing stormwater flows into Puget Sound. The proposed LID regulations for permittees are a start but do not go far enough in protecting the remaining intact habitat from development by permittees.

Stormwater Modeling

Finally, the Ballard Stormwater Consortium (BSC) is concerned that stormwater modeling done by governmental agencies may not include adequate margins for changing storm events due to global climate change. Preliminary understanding of climate change impacts include increased velocity of precipitation events in the Pacific Northwest. The frequency of the events may decrease but the volume and velocity will increase, which will directly impact stormwater management. It is not good enough to bethinking about infiltration or reliance upon LID techniques which may "mimic" nature. Rather, if there are increased volumes and velocity events, storage of stormwater may also be a critical element in the long term solutions. Ecology should encourage NPDES permittees to constantly update and upgrade their modeling to ensure swiftly changing conditions in the climate are taken into account.

Thank you for considering our comments.

Sincerely,

Kim McDonald, PhD

Technical Specialist, Ballard Stormwater Consortium

7716 – 32nd Ave NW

Seattle, Washington 98117

shelterwood55@comcast.net

Liz Tennant, Chair

Ballard Stormwater Consortium

7557 28th Avenue NW

Seattle, WA 98117

LizTennant@aol.com