

**Snohomish County NPDES Municipal Stormwater Permit
Annual Report for CY 2009
Supplemental and Attached Information**

A) Annual update of Stormwater Management Program

The updated Stormwater Management Program (SWMP) is attached to this annual report.

B) Program evaluation and other activities narrative

1. Changes of authorization

None

2. Summary of actions pursuant to S4F

Snohomish County sent one letter to Ecology pursuant to permit condition S4F.

The letter dated January 23, 2009 pertained to a discharge of petroleum hydrocarbons (ERTS - 610390) from the County's MS4 to a wetland hydrologically connected to the Pilchuck River. After further investigation (Case #2009-0003) by Snohomish County and Ecology, the source of the petroleum hydrocarbon discharge was traced to leaking supply lines for the convenience store (Tom Thumb) gas pumps. Ecology subsequently ordered that the tanks be drained and replaced, which occurred (spring/summer – 2009). Ecology (Howard Zorzi) advised on 12-29-09 that Ecology had received the final report from ASPECT consulting (Tom Thumb's consultant) and had closed its case on the site.

3. Assessment of appropriateness of program design and BMP selection

The staff training requirement set forth in permit section S5C8.b.iv was assessed, and it is our conclusion that a municipality of any size will find it nearly impossible to comply with this condition, due to three issues:

- the sheer number of people who must be trained;
- uncertainty in identifying these people; and
- the rigor of the training documentation required.

Further, our assessment showed that the training performed as described by this requirement produces no discernable change in behavior. All of this was discussed with Snohomish County's NPDES permit manager. In 2010, Snohomish County will implement an alternative set of actions that will be implementable, documentable, and that we believe will produce more intended behavior change. This issue and the proposed Snohomish County alternative are described below, and are also described in a letter to Ecology accompanying this report written pursuant to permit condition G20.

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Permit section S5C8.b.iv requires "all municipal field staff which, as part of their normal job responsibilities might come in contact with or otherwise observe illicit connections or discharges [must be] trained to identify illicit connections and discharges and the proper procedures for reporting and response." When the permit was being developed, this sounded like a simple idea: make sure every municipal field staff person, regardless of his or her job, knows how to identify the most obvious and egregious stormwater problems, and knows who to call if such a thing is identified.

As noted above, however, there are three problems with this requirement that combine to make noncompliance virtually certain: the sheer number of people who must be trained, uncertainty in identifying these people, and the rigor of the training documentation required.

The scope of the requirement - all municipal field staff - is a very large number of people for a municipality of any size, and certainly all Phase 1 municipalities. The permit contains various training requirements, such as S5C9.b.viii, that apply to staff whose jobs could generate stormwater pollution or whose job is to identify stormwater pollution. Performance and documentation of this training is certainly feasible, since a municipality should know who has such jobs, and should train them to perform their jobs. The key issue with requirement S5C8.b.iv is that it not only applies to all of these field staff, but all of the field staff whose jobs are explicitly unrelated to pollution. In essence, the requirement is that any municipal field staff member whose job is completely unrelated to stormwater must receive the training. For Snohomish County, this number of staff is far greater than those whose jobs are related to stormwater.

Further, unlike determining who has been assigned a task, it is very difficult for a permittee to determine who has **not** been assigned a task without simply including everyone - in this case, anyone who ever goes outside for any job-related reason.

The problems of population size and uncertainty of the population would not, by themselves, mean that compliance with the permit condition is not feasible, because a permittee could simply implement a training program that is broad enough to remove any credible doubt that some "municipal field staff" member was not included. However, the training documentation requirement is the same as for job-related training: "Permittees shall document and maintain records of the training provided and the staff trained." As noted above, this is reasonable for staff whose jobs involve potential stormwater pollution generation or identification and mitigation of such pollution. However, documentation for the training requirement in question is written so that a permittee is out of compliance for failing to properly identify even **one** municipal field staff person who **might** come in contact with or otherwise observe a problem, or failing to document training of any such person. Snohomish County employs a broad scope of people who qualify as municipal field staff that have nothing to do with stormwater pollution - real estate appraisers, animal control officers, low-income housing weatherization specialists, etc. Further, we employ a large number of seasonal and temporary workers. Given all of this, noncompliance with the permit requirement as written seems very likely, and, in addition, it is

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almost impossible to be 100% certain of compliance based on records, because the records only show who was trained, not who might not have been trained.

Finally, and perhaps most importantly, our assessment of behavior change due to the training program we implemented showed that it is very ineffective. County records show that in 2009, 256 staff took the on-line training module developed for this requirement. We estimate that approximately 230 hours were spent developing and taking the training. Of the more than 120 water quality complaint / investigation request records of Snohomish County Surface Water Management (SWM) in 2009, only five were received from County staff, and only two from staff who do not work for SWM. Even assuming that all five calls were a direct result of the training, i.e., these calls would not have been made except for the training, these calls were only 4% of the total calls received. Snohomish County contends that this percentage does not constitute a discernable behavior change, even with 256 staff trained.

In 2010, Snohomish County will implement a different approach that can be clearly documented and that we believe will achieve greater behavior change. SWM will prepare a set of short e-mail messages containing pictures of easily identifiable problems, and the proper phone numbers to call. Twice a year, SWM will distribute one of these messages to department or division directors, with instructions that those directors should e-mail it to all of their staff members with a message line directing staff to read the e-mail, with a copy of the message sent back to SWM. The "training" will consist of staff opening the message, and the recordkeeping will consist of SWM verifying that the message by means of having received a copy. We believe this approach will reach a larger audience, more often, with less cost, and with messages that can be tailored to time of year, different audiences, etc.

4. Updated information about the Structural Control Program

The updated Structural Stormwater Controls Program document is posted on the internet at:

[http://www1.co.snohomish.wa.us/Departments/Public_Works/Services/
NPDES/default.htm](http://www1.co.snohomish.wa.us/Departments/Public_Works/Services/ NPDES/default.htm)

5. Summary of actions taken to comply with applicable TMDL requirements (in response to specific information requirements posed in line 84 of annual report form)

The SWMP accompanying this report contains a detailed description of actions taken in pursuant to TMDL-related permit requirements. The following specific information requirements for this attachment are taken from line 84 of the annual report form.

Specific deadlines or milestones reached in the reporting term and associated dates: See table below.

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TMDL-related activities incorporated into the SWMP or other permit requirements, such as monitoring: See table below.

Lists or inventories required: The inventory of businesses for the source control inspection program contains, as required, commercial composting facilities and commercial animal handling facilities within the TMDL areas.

Description of inspections, including total number of sites targeted and number of inspections conducted: The inspections required by the TMDLs are inspections of commercial composting facilities and commercial animal handling facilities within the TMDL areas, under the business inspection program. A list of these businesses was compiled in 2009 and inspections are in progress.

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NPDES permit TMDL Requirements for 2009 - TMDLs for Snohomish Tributaries, North Creek, and Swamp Creek

Notes: (1) The Swamp Creek TMDL did not contain deadlines. Deadlines for similar elements in the Snohomish Tributaries & North Creek TMDLS apply.
(2) Action descriptions may vary slightly from permit, due to differences in language among the TMDL requirements in the permit.

Action (deadline)	Comment	SWMP section
Prepare and submit to Ecology a Quality Assurance Project Plan for receiving water and stormwater quality sampling to assess compliance with state water quality standards (7/17/09)	Completed by deadline	S11
Compile a list of commercial composting facilities and commercial animal handling facilities (8/16/09)	Completed by deadline	S7
Begin inspection of commercial composting facilities and commercial animal handling facilities on list to ensure implementation of stormwater pollution source control BMPs (8/16/09)	Inspections are in progress	S7

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Selected monitoring and implementation approaches, where options are described in Appendix 2: Snohomish County is implementing Strategy B, Early Action Approach, under the TMDLs for Snohomish River Tributaries and North Creek. As agreed to with Ecology, the County will follow the deadlines specified in this approach for the Swamp Creek TMDL. To implement monitoring under the Swamp Creek TMDL, the County will implement Option 2, Indirect Measurement of Pollution Sources.

Other information necessary to provide a summary of the TMDL implementation status and any associated monitoring: The following sites in the TMDL watersheds were sampled monthly during 2009 for fecal coliform bacteria as part of Snohomish County's long-term ambient monitoring program.

Site	Location	Reason for Selection
<i>Snohomish Watershed</i>		
QCLD	Quilceda Creek at 88th St NE	Evaluates cumulative runoff from agricultural and developing residential areas to storm sewers
ACLU	Allen Creek at 67th Ave NE	Rural basin with agricultural runoff
ACLD	Allen Creek at 3rd St	Evaluates runoff from rapidly developing residential areas to storm sewers
WCFA	Woods Creek Main Fork at Florence Acres Road	Major tributary to the Skykomish River with runoff from rural and hobby farm areas to storm sewers
WCWF	Woods Creek west fork on Yaeger Rd	Evaluates runoff to storm sewers from rural areas with moderate development
CATH	Catherine Creek	Evaluate contribution of Lake Stevens watershed to the Pilchuck River
LPIL	Little Pilchuck Creek -12th St NE	Evaluate contribution of Little Pilchuck to Pilchuck R.
DUBQ	Dubuque Creek on OK Mill Road	Evaluate contribution of Dubuque and Panther Creeks to Pilchuck River
PILR	Pilchuck River at 6th St	Downstream site on the Pilchuck River mainstem
FCLU	French Creek on 167th Ave	Evaluates rural and hobby farms runoff
FCLD	French Creek on Old Snohomish-Monroe Hwy	Evaluates commercial agriculture runoff
<i>Cedar/Green Watershed and Tributaries to Puget Sound</i>		
NCLU	North Creek at McCollum Park	Evaluates runoff to storm sewers from residential areas and hobby farms
NCLD	North Creek at Snohomish/King County line	Evaluates commercial, industrial, and high-density residential runoff
SCLU	Swamp Creek at 148 th	Evaluates commercial and residential runoff
SCLD	Swamp Creek at Snohomish/King County line	Evaluates commercial, industrial, and high-density residential runoff

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As indicated in the SWMP and the table on page 3, Snohomish County submitted a Quality Assurance Project Plan (QAPP) to Ecology as required by Appendix 2 and option 2 under the Early Action Approach. The updated QAPP resulted in an expanded ambient water quality monitoring effort to address TMDL requirements listed above, plus monitoring within the Stillaguamish basin and Little Bear Creek as a result of EPA approval for these TMDLs. A total of 40 long term TMDL monitoring stations are proposed for representative monthly sampling of fresh water for bacteria, total suspended solids and insitu measurements.

A copy of the QAPP may be accessed at
[ftp://ftp.snoco.org/Public Works/Surface Water Management/NPDESMonitoring/](ftp://ftp.snoco.org/Public%20Works/Surface%20Water%20Management/NPDESMonitoring/)

6. Description of any stormwater monitoring studies not included with Annual Stormwater Monitoring Report

None.

7. Operation and maintenance records, if applicable

No changes to these programs, such as modifications to inspection frequencies, are proposed at this time.

Modification of a drainage system receiving roof runoff at a County facility cost approximately \$75,000.

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8. Annexations, incorporations, or jurisdictional boundary changes in the geographic area of coverage during the reporting period, and implications for Snohomish County's Stormwater Management Program.

The table below shows the 2009 municipal annexations of area in unincorporated Snohomish County. All of the areas shown were previously inside the area of coverage of Snohomish County's Phase 1 permit.

Annexation Name	City	BRB #	Authority	Effective Date	Acres
Island Crossing	Arlington	20-2003	ORD 1465	4/11/2009	209.52
Manning/Dickinson	Stanwood	34-2007	ORD1244	3/3/2009	31.47
Einig	Snohomish	07-2008	ORD 2169	6/1/2009	1.76
87th Avenue	Snohomish	08-2008	ORD 2170	6/1/2009	53.67
Maple Precinct	Lynnwood	2-2009	ORD 2790	7/23/2009	33.48
Chain Lake Central	Monroe	09-2006	ORD 020/2009	10/18/2009	57.94
Central Marysville	Marysville	05-2009	ORD 2792	12/30/2009	2845.36
Southwest	Lake Stevens	03-2009	ORD 801	12/31/2009	2385.53
				Total Acres	5618.74

Snohomish County's responsibilities under its NPDES municipal stormwater permit ended in each of the areas listed above on the effective date of the annexation. However, all of the cities that annexed unincorporated area are Phase 2 NPDES municipal stormwater permittees, and thus the annexed areas came under the requirements of that general permit.

9. Information reported pursuant to permit requirements S9.E.10 and S9.E.11

a) Summary of barriers to implementation of Low Impact Development, and any actions taken to remove the barriers (S9.E.10).

The NPDES Phase 1 municipal stormwater permit defines Low Impact Development (LID) as "a stormwater management and land development strategy applied at the parcel and subdivision scale that emphasizes conservation and use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely mimic pre-development hydrologic functions."

This definition ranges from construction of physical objects to land use planning and regulation. There are many barriers to implementation of LID in our society. Some of the primary barriers at the societal level the lack of broad agreement about the proper scope of LID, even as bounded by the definition above, and the lack of broad agreement about the proper scope of LID requirements to manifest in an NPDES municipal stormwater permit. While Snohomish County is taking part in discussions in many venues about these issues, Snohomish County is not going

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to unilaterally solve them. There are however, some specific barriers that Snohomish County can address, and has addressed:

- Specific delineation of LID best management practices (BMPs);
- Codes that set forth clear requirements for site planning processes that support the desired outcomes of LID; and
- Technical information in County codes, engineering standards, and the County Drainage Manual that facilitate LID implementation.

In June 2010, Snohomish County will adopt revisions to County codes, engineering standards, and the County Drainage Manual that will address these three issues. The site planning processes set forth in Volume I of the 2005 Ecology Stormwater Management Manual will be adopted into code, with supporting information in the revised Drainage Manual. The revised code will also require implementation of the "on-site stormwater management BMPs" related to Minimum Requirement 5 of Appendix 1 of the NPDES permit; these BMPs fall squarely in the definition of LID set forth in the permit. The revised Drainage Manual will contain technical information needed to implement these code requirements. Finally, Appendix 1-F of the County Drainage Manual will designate a set of BMPs as LID BMPS, which will facilitate use of the County's LID code (Chapter 30.63C SCC).

b) Summary of the extent to which basin or watershed planning is being conducted in the Permittee's jurisdiction, either voluntarily, or pursuant to the Growth Management Act or any other requirement (S9.E.11).

No planning as described above is currently being performed by the County. However, Snohomish County has performed extensive water resource planning in past years, including:

- numerous Watershed Management Plans prepared in accordance with Chapter 400-12 WAC;
- drainage reconnaissance mapping performed in the mid-1990s;
- Snohomish County State of the Waters reports (2000);
- Snohomish County State of the Lakes report (2003) and individual lake update reports (2008);
- Drainage Needs Report (2002); and
- State of the Stilly report (2007), related to the Stillaguamish River basin.

In addition to these documents, Snohomish County updated its Comprehensive Plan pursuant to the state Growth Management Act in 2005.