Fact Sheet for the

Eastern Washington Phase II Municipal Stormwater General Permit

National Pollutant Discharge Elimination System and
State Waste Discharge General Permit
For discharges from
Small Municipal Separate Storm Sewer Systems
In Eastern Washington

November 4, 2011

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
OLYMPIA, WASHINGTON 98504-7600

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1.0 Introduction

This Fact Sheet accompanies the final draft *National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge Permit for Discharges from Small Municipal Separate Storm Sewers in Eastern Washington* (the Eastern Washington Phase II Permit). The Fact Sheet serves as the documentation of the legal, technical, and administrative decisions Ecology has made in the process of reissuing the permits.

The Washington Department of Ecology (Ecology) issued the Eastern Washington Phase II permit on January 17, 2007, and modified it on June 17, 2009. The Eastern Washington Phase II permit authorizes the discharge of stormwater to waters of the State of Washington from municipal separate storm sewers that are owned and operated by the permittees.

As required by RCW 90.48.260 through 2011 legislation, Ecology is working to issue two Eastern Washington Phase II permits by July 31, 2012. RCW 90.48.260 directs:

> *By July 31, 2012, the department shall:*
>
> *(a) Reissue without modification and for a term of one year any national pollutant discharge elimination system municipal storm water general permit first issued on January 17. 2007; and*
> *(b) Issue an updated national pollutant discharge elimination system municipal storm water general permit for any permit first issued on January 17, 2007. An updated permit issued under this subsection shall become effective beginning August 1, 2013."*

While not required to do so, Ecology is proposing a similar two permit process for the Phase I permit. Ecology is proposing to re-issue the current Phase I permit with minimal changes for a period of one year. At the same time, Ecology is proposing to issue the revised/updated Eastern and Western Washington Phase II permits which would be effective starting August 1, 2013 through August 1, 2018.

This Fact Sheet addresses the revised/updated Eastern Washington Phase II permit.

As required by paragraph 402(p)(3) of the Clean Water Act, discharges covered under this permit must effectively prohibit non-stormwater discharges into municipal separate storm sewers that discharge to surface waters and must apply controls to reduce the discharge of pollutants to the Maximum Extent Practicable (MEP). As authorized by RCW 90.48.030 and RCW 90.48.162, Ecology also takes action through this permit to control impacts of stormwater discharges to all waters of Washington State, including ground waters, unless the discharges are authorized by another regulatory program.

Discharges from agricultural runoff, irrigation return flows, process and non-process wastewaters from industrial activities, and stormwater runoff from areas served by combined sewer systems are not regulated directly by this permit. These types of discharges may be regulated by local or other state requirements if they discharge to municipal separate storm sewers. This permit authorizes the municipal separate storm sewer to discharge stormwater that comes from construction sites or industrial activities under certain conditions.

You may download copies of the draft permit documents at:
http://www.ecy.wa.gov/programs/wq/stormwater/municipal/2012draftMUNIcom.html

2.0 Public Involvement Opportunities

2.1 Public Comment Period

Ecology invites public comment on the proposed draft permit and fact sheet until Thursday, February 3, 2012 at 5pm. Ecology welcomes all comments that address the permit requirements in these formal draft documents.

Ecology will issue the final permit after it considers all public comments and makes final changes to the draft permit. Ecology will publish a *Response to Comments* document with the final permit to address comments submitted during the public comment period.

2.2 Information to Include with Each Comment

In order for Ecology to adequately address comments, please include the following information with each comment:

- The permit(s) subject to your comment.
- The specific permit language used in the requirement subject to your comment. Include the page number(s) line number, and, where indicated, section reference (i.e., S8.D.2.b).
- A brief, concise comment including the basis for the comment, and in particular the legal, technical, administrative, or other basis for the concern.
- Suggested permit language or a conceptual alternative to address your concern.

2.3 How to Submit a Comment

Written Comments

Send written comments to Ecology by one of the methods below:

- Send permit comments by e-mail to: SWPermitComments@ecy.wa.gov
- Send permit comments in hard copy by mail to:

  Harriet Beale
  WA Department of Ecology
  Water Quality Program
  PO Box 47696
  Olympia, WA 98504-7696

Oral Comments

Submit oral comments by attending and testifying at the public hearings.

2.4 Public Hearing and Workshop Schedule

The public hearings will provide an opportunity for the public to give formal comments on the draft permit. Each hearing will immediately follow a short workshop with a question and answer session.

Before each eastern Washington public hearing listed below and on one other date (also listed below), Ecology will host a general public workshop on the proposed changes in the draft permit during the public comment period. The workshops provide Ecology an opportunity to explain the proposed changes to the permit, and to answer questions. Ecology will not accept formal oral testimony or comments on the draft permit or fact sheet during the public workshops, but will during the public hearings. Each workshop will address all the proposed permit changes.

December 5, 2011 9am	Ellensburg workshop and public hearing Hal Holmes Center 209 North Ruby Street Ellensburg, WA 98926 www.halholmes.org
December 6, 2011 9am	Spokane Valley workshop and public hearing CenterPlace Regional Event Center 2426 Discovery Place Spokane Valley, WA 99216

Ecology will hold an informational public workshop without a public hearing on the final draft permit at the following date, time and location in eastern Washington:

December 12, 2011 9am	Walla Walla workshop Port of Walla Walla 45 Terminal Loop Road Walla Walla, WA 99362

Please direct questions about the public hearings/workshops and requests for printed copies of the Draft Permit, Fact Sheet, and Notice of Intent to Jocelyn Jones, jocelyn.jones@ecy.wa.gov or 360-407-7529.

Please direct questions about the Notice of Intent, the Phase II Draft Permits, or Fact Sheet for the Phase II permits to Harriet Beale, harriet.beale@ecy.wa.gov or 360-407-6457.

Please direct questions about the Phase I Draft Permits, or Fact Sheet for the Phase I Draft Permit to Carrie Graul, carrie.graul@ecy.wa.gov or 360-407-7221.

2.5 Issuance of the Final Permit

In accordance with recent state legislation, by July 31, 2012, Ecology is required to reissue the existing Phase II permits unchanged for a period of one year (effective August 1, 2012 through July 31, 2013). At the same time, Ecology is required to issue the revised/updated Phase II permits which would be effective starting August 1, 2013 through August 1, 2018.

Ecology will issue the final permits after reviewing and considering all public comments. Ecology expects to issue the final permits in June of 2012. Ecology will send a copy of the Notice of Issuance to all persons who submitted written comment or gave public testimony at the public hearings.

Ecology will append the final fact sheets for the permits with a summary of response to comments. Parties submitting comments will receive a notice on how to obtain copies of the final permit and Ecology's response to comments.

2.6 Public Involvement Opportunities Prior to October 19, 2011

Ecology conducted a number of public involvement processes in preparation for reissuance of the municipal stormwater general permits.

Puget Sound Monitoring Consortium

In October, 2007 the Puget Sound Monitoring Consortium began a stakeholder process funded by the Washington State Legislature to develop monitoring recommendations for the next permit cycle. This group became the Stormwater Work Group (SWG) in October 2008, with Ecology providing staff support. Permittees, representatives of federal, state, and local governments, environmental groups, and businesses participated. Additional seats were designated for tribes, ports, and agriculture. The SWG met over several years, and in 2010 delivered to Ecology recommendations for monitoring requirements for Puget Sound. The SWG continues to advise Ecology and will contribute members to an oversight committee for the monitoring program. (See SWG materials on Ecology's website at http://www.ecy.wa.gov/programs/wq/psmonitoring/swworkgroup.html)

Low Impact Development (LID) Advisory Process

A Pollution Control Hearings Board ruling in August 2008 mandated that Ecology modify the Phase I permit to require permittees to require low impact development (LID) where feasible in new development and re-development. A February 2009 ruling on the Western Washington Phase II permit appeal directed Ecology to bring the Western Washington Phase II permittees to a similar level of implementation on a timeline to be determined by Ecology. In May 2009, Ecology received funding from the Environmental Protection Agency (EPA) to conduct a stakeholder advisory process from a broad range of interested parties to discuss LID requirements for the Phase I and Western Washington Phase II permits.

Ecology formed two advisory committees comprised of representatives from local government permittees, state government, ports, environmental groups, scientists, consultants, and the

development industry in western Washington. The advisory groups met eleven times between October 2009 and August 2010. The committees provided input to Ecology on the definition of LID and associated requirements for western Washington permittees. Meeting materials, summaries, references, and comments on an Ecology proposal are available on Ecology's website. The committees met jointly again in May 2011 to provide input on Ecology's preliminary draft LID proposed language. (See LID advisory process materials at: http://www.ecy.wa.gov/programs/wq/stormwater/municipal/LIDstandards.html).

During 2011 Ecology met with eastern Washington permittees and other interested parties on several occasions to discuss options for the Eastern Washington Phase II permit. Ecology has incorporated that input into the requirements proposed in this draft permit.

Listening Sessions

In August and September 2010, Ecology hosted listening sessions statewide to announce the reissuance schedule and gather input for preparing to reissue the 2012 permits. More than 200 people attended the listening sessions statewide. The agency provided information regarding Ecology's proposed priorities for revisions to the permits. Nine listening sessions were held as follows:

- Tacoma, August 4, 2010
- Ellensburg, August 10, 2010
- Spokane, August 11, 2010
- Kennewick, August 13, 2010
- Lacey, August 19, 2010
- Vancouver, August 24, 2010
- Mount Vernon, August 27, 2010
- Renton, September 8, 2010
- Poulsbo, September 27, 2010

During the listening sessions, Ecology accepted email and online comments from August 2010 to October 2010. Ecology posted the listening session notes and online comments on its website and considered these comments as it developed the permit revisions. (See listening session materials at http://www.ecy.wa.gov/programs/wq/forms/listeningsessionscomments.html)

Spring 2011 Informal Public Comment Period

Ecology provided an additional public review opportunity for the permit reissuance process in the spring of 2011. From May 16, 2011 to June 17, 2011 Ecology invited informal public comment on preliminary draft permit language on LID and monitoring. Eastern Washington documents outlined the LID and monitoring approach based on a series of meetings in eastern Washington with permittees and other interested parties.

The preliminary draft documents generated a broad response. Ecology received comments statewide from over 85 individuals or entities via email, letters, and an online comment form. This extra step in the public process provided valuable input from a wide range of interested parties. Ecology held several additional meetings in eastern Washington in spring and summer of 2011 to further explore the options for LID and monitoring. It then considered all those comments as it developed these proposed draft permit requirements for LID and monitoring. The preliminary draft, explanatory notes, associated documents, and all the comments are available on Ecology's website at:
http://www.ecy.wa.gov/programs/wq/stormwater/municipal/LIDmonitorCOMMENTS/informalcomments.html

3.0 Background

3.1 The Stormwater Problem

Stormwater runoff is the leading pollution threat to lakes, rivers, streams and marine water bodies in urbanized areas of Washington State. The large impervious surfaces in urban areas increase the quantity and peak flows of runoff, which in turn cause hydrologic impacts such as scoured streambed channels, in-stream sedimentation and loss of habitat. Impacts from stormwater are highly site-specific and vary geographically due to differences in local land use conditions, hydrologic conditions, and the type of receiving water.

The following is a list of typical impacts caused by stormwater discharges:

- **Human Health:** In general, untreated stormwater is unsafe. It contains toxic metals, organic compounds, and bacteria. Untreated stormwater is not safe for people to drink, and is not recommended for swimming.
- **Drinking Water:** In some areas of Washington, notably Spokane County and parts of Pierce and Clark counties, gravelly soils allow rapid infiltration of stormwater. Untreated stormwater discharging to the ground could contaminate aquifers that are used for drinking water.
- **Salmon Habitat:** Urban stormwater degrades salmon habitat in streams through effects on hydrologic flows and toxicity. Paved surfaces cause greater winter stormwater flows that erode stream channels, destroying spawning beds. Also, since stormwater does not infiltrate during the wet season, streams can lose summertime base flows, drying out habitat needed for salmon rearing. Toxic chemicals in stormwater harm the immature fish and the adults returning to spawn. Two studies have identified concerns:
    - Ecology and Pierce County recently conducted *in situ* trout toxicity testing studies. Pierce County found no significant toxicity in four urban streams in

2008.[1] However, Ecology identified the following chemical stressors that were capable of causing adverse effects that were detected on the native trout embryos and pre-swim-up fry: copper, lead, nickel, zinc, polycyclic aromatic hydrocarbons, and the agricultural fungicide Captan.[2]

- During the past decade, surveys of spawning adult Coho salmon in Seattle found that very high percentages of adult females (up to 90 percent) were dying before they could spawn. Although the precise causes of these acute die-offs are not yet known, stormwater pollution is likely involved. The problem appears to be widespread throughout urban streams in Puget Sound and is under active scientific investigation.[3]

- **Shellfish Industry:** Washington State's multimillion dollar shellfish industry is increasingly threatened by closures due to stormwater contamination.
- **Degraded Water Bodies:** In urban and urbanizing areas across Washington State, residential, commercial, and industrial land development has changed land cover and drastically altered stream channels. The impacts of urban land development have severely degraded, and will in many cases permanently destroy, fish resources and other beneficial uses of Washington's waters.

Stormwater Pollution Sources

Many pollution sources may contaminate stormwater, including land use activities, illicit discharges and spills, atmospheric deposition, and vehicular traffic. Many of these sources are not under the direct control of the Permittees that own or operate the municipal separate storm sewer systems.

An evaluation of stormwater monitoring data from the National Stormwater Quality Database (NSQD)[4] compares the results for a range of pollutants in urban runoff from areas of different land uses. The NSQD contains data from a representative number of municipal stormwater permit holders. To date, it is the largest urban stormwater database developed. Much of the data may be used to characterize stormwater produced from specific land uses, such as industrial, commercial, low density residential, high density residential, and undeveloped open space. Preliminary statistical analysis of the NSQD found significant differences among land use categories for all pollutants, as shown in Table 1, below.

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[1] Nautilus Environmental, 2009. Pierce County Public Works and Utilities – Countywide Water Quality Monitoring Plan. *Pilot Test: Rainbow Trout Early Life Stages In-situ Bioassay*, Final Report submitted to Brown and Caldwell.

[2] Randall Marshall and Brandee Era-Miller. 2011, in preparation. *Integrated Ambient Monitoring Pilot Report, Potential Causes for the Impairment of Rainbow Trout Early Lifestages Exposed in Indian Creek for 34 Days and Loss of Diversity in the Instream Benthic Communities*, Washington State Department of Ecology.

[3] McCarthy, Sarah G, John P. Incardona, and Nathaniel L. Scholz. 2008, *Coastal Storms, Toxic Runoff, and the Sustainable Conservation of Fish and Fisheries*, American Fisheries Society Symposium 64:000-000.

[4] Pitt, Robert, Alex Maestre, and Renee Morquecho. 2004, *The National Stormwater Quality Database (NSQD, version 1.1)*, http://rpitt.eng.ua.edu/Research/ms4/Paper/Mainms4paper.html

Table 1: Event Mean Concentrations of Pollutants Discharged via Stormwater Complied from the National Stormwater Quality Database, Version 1.0

Pollutant	Units	Land Use					Overall
		Residential	Commercial	Industrial	Freeways	Open Space	
Ammonia	mg/L	0.31	0.5	0.5	1.07	0.3	0.44
Biochemical Oxygen Demand	mg/L	9	11.9	9	8	4.2	8.6
Cadmium, Total	ug/L	0.5	0.9	2	1	0.5	1
Cadmium, Filtered	ug/L	ND	0.3	0.6	0.68	ND	0.5
Chemical Oxygen Demand	mg/L	55.	63.	60	100	21.	53.
Copper, Total	ug/L	12.	17.	22.	35.	5.3	16.
Copper, Filtered	ug/L	7	7.6	8	10.9	ND	8
Fecal Coliform	MPN/100 mL	7,750	4,500	2,500	1,700	3,100	5,081
Lead, Total	ug/L	12.	18.	25.	25.	5	16.
Lead, Filtered	ug/L	3	5	5	1.8	ND	3
Nickel, Total	ug/L	5.4	7	16.	9	ND	8
Nickel, Filtered	ug/L	2	3	5	4	ND	4
Nitrogen, NO_2+NO_3	mg/L	0.6	0.6	0.7	0.3	0.6	0.6
Nitrogen , Total Kjeldahl	mg/L	1.4	1.6	1.4	2	0.6	1.4
Phosphorus, Total	mg/L	0.3	0.22	0.26	0.25	0.25	0.27
Phosphorus, Filtered	mg/L	0.17	0.11	0.11	0.2	0.08	0.12
Suspended Solids, Total	mg/L	48.	43.	77.	99.	51.	58.
Zinc, Total	ug/L	73.	150	210	200	39.	116.
Zinc, Filtered	ug/L	33.	59.	112.	51.	ND	52.

ND = Not detected, or insufficient data to determine a value.
mg/L = Milligrams per liter.
ug/L = Micrograms per liter.
MPN = Most probable number.

3.2 Recent Regional Efforts

Over time, Ecology intends to inform and improve the stormwater management programs required in the permits by evaluating regional data to better understand the sources and pathways of pollutants and target effective management approaches. In recent years, four major regional efforts briefly discussed in this section have contributed to an understanding of stormwater impacts on the beneficial uses of Washington waters:

- A Stormwater Monitoring Work Group worked for several years to develop recommendations for a comprehensive stormwater monitoring program in Puget Sound. Information on the work group is at: http://www.ecy.wa.gov/programs/wq/psmonitoring/swworkgroup.html
- Ecology and others issued a 2010 report, *Toxics in Surface Runoff to Puget Sound*[5], Phase 3 of a study to estimate toxic chemical loadings from surface runoff in the Puget Sound Basin. The studies began in 2006 and included a multi-partner steering committee of

[5] Herrera Environmental Consultants, Inc. 2011. *Toxics in Surface Runoff to Puget Sound, Phase 3 Data and Load Estimates*, Washington State Department of Ecology, Olympia, WA.

federal, state, and local government agencies, consultants, and reviewers. The report and additional information are at: http://www.ecy.wa.gov/programs/wq/pstoxics/index.html

- Phase I cities and counties and the ports of Tacoma and Seattle conducted stormwater outfall monitoring as required by the Phase I Municipal Stormwater General Permit and submitted the preliminary data to Ecology. Information on the monitoring program is at: http://www.ecy.wa.gov/programs/wq/stormwater/municipal/strmH2Omonitoring.html
- A Sediment Phthalates Work Group evaluated information to better understand how phthalates are reaching Puget Sound. The work group identified data gaps and made recommendations in a 2007 report, *Sediment Phthalates Work Group: Summary of Findings and Recommendations*, prepared by the City of Tacoma, the City of Seattle, King County, EPA, and Ecology. More information is at: http://www.ecy.wa.gov/programs/tcp/smu/phthalates/phthalates_hp.htm

Stormwater Monitoring Work Group

The Stormwater Monitoring Work Group brought together many of the region's stormwater experts to review previous work and evaluate the direct and indirect effects of stormwater on the Puget Sound ecosystem, and the various pathways by which those effects are transmitted. The primary task of the Stormwater Monitoring Work Group was to develop the monitoring approach proposed in the Phase I and Western Washington Phase II draft permits for the Puget Sound region. However, in the process of coming to a consensus on monitoring from a broad range of expertise and technical backgrounds, the work group members formulated a conceptual model of the factors driving the stormwater-related impairment of water quality and habitat in our region. Figure 1, below, shows the types of stressors that should be considered, the pathways by which those stressors are transmitted, and how the outcomes of our management efforts should be assessed, using a Driver-Pressure-State Impact-Response (DPSIR) conceptual model approach.[6]

[6] Puget Sound Stormwater Work Group. 2010. *Stormwater Monitoring and Assessment Strategy for the Puget Sound Region, Volume 1: Scientific Framework*, Washington State Department of Ecology, Olympia, WA.

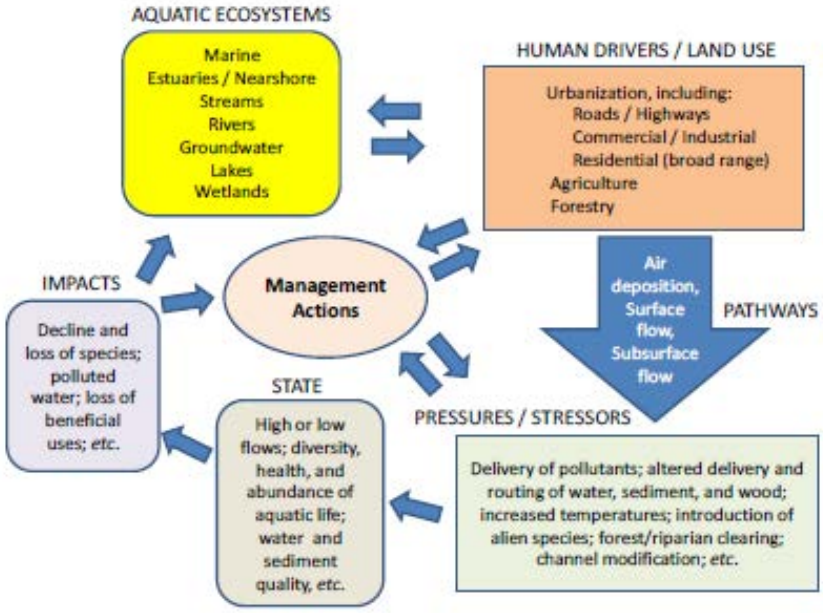

Figure 1: Stormwater Stressors and Pathways

The conceptual model identifies land use as the driver for impacts to aquatic ecosystems. Ecology is applying the DPSIR approach illustrated in this conceptual model to organize ecosystem recovery efforts and use monitoring information for adaptive management.

Toxic Loading Study for Puget Sound

As part of Phase 3 of its toxics loading study, Ecology collected water quality samples of surface runoff during eight storm or baseflow events from 16 distinct sub-basins, each representative of one of four land covers (Commercial/Industrial, Residential, Agricultural, and undeveloped Forest/Field/Other). Analyses of the samples employed much lower detection limits than typically used to produce pollutant concentration and loading data. No other study in Washington has quantified pollutant loads for so many constituents at this scale. Although this data represents surface runoff in the sampled sub-basins and is not directly representative of regulated stormwater discharges, some of the findings are generally in agreement with those from the 2005 analysis of the National Stormwater Quality Database. The pollutant loading estimates were based on data collected from small streams, where pollutant concentrations had likely been reduced by attenuation, degradation, deposition, and/or dilution. Therefore, the loading estimates might have been greater if they had been based on outfalls from stormwater conveyance systems. The study found the following:

- Surface water runoff, particularly from commercial and industrial areas, did not meet water quality or human health criteria for the following parameters: dissolved copper, lead, and zinc; total mercury; total polychlorinated biphenyls (PCBs); several carcinogenic polycyclic aromatic hydrocarbons (PAHs); and DDT-related compounds.

- Organic pollutants and metals were generally detected more frequently and at greater concentrations in surface runoff from commercial and industrial areas than from other land uses. Runoff from residential and agricultural land had higher frequency of detection for most parameters than runoff from undeveloped/forested land, but generally less than runoff from commercial land. Greater detection frequencies occurred during storm events than during baseflow across all land cover types.
- During storm events, surface runoff from areas of forested and commercial land covers were chemically distinct from each other and from the other land cover types. Forested lands produced runoff with smaller concentrations of nitrate+nitrite nitrogen, total phosphorus, and total arsenic, copper, mercury, and suspended solids. Commercial land areas produced runoff with relatively greater concentrations of total lead, zinc, PBDEs, and PCBs.
- At the local scale, pollutant loading rates via small streams were substantially greater during storm events than during baseflow. The rain-induced surface runoff during storm events caused higher streamflow rates. These higher flow rates coupled with increased pollutant concentrations to produce substantially greater loading rates for storm events than for baseflow. This result suggested that the greatest opportunity for transport of toxic chemicals occurs during storm events.

Phase I Stormwater Outfall Monitoring Data

Phase I Municipal Stormwater permittees, including Clark, King, Pierce, and Snohomish Counties, the Cities of Seattle and Tacoma, and the Ports of Seattle and Tacoma, collected chemical monitoring data representing municipal stormwater discharge quality during the past several years. The 2007 Phase I permit required each city and county permittee to select three (one for each of the two Ports) municipal stormwater basins representing different land uses and conduct stormwater characterization monitoring. This monitoring includes the collection of flow-weighted composite samples of 11 storm events each water year, annual sediment sampling, and one-time toxicity testing of seasonal first-flush discharges. No other stormwater monitoring effort in Washington has generated comparable water quality data on municipal stormwater discharges for such a large parameter suite from different land uses across Western Washington.

Attachment A to this Fact Sheet includes a Table of Event Mean Concentrations in Stormwater from Various Land Uses. The data is from Phase I permittees and was collected during water years 2009 and 2010. The table presents only average concentration data where analytes were detected. This preliminary data needs further statistical evaluation when more data has been submitted. Ecology staff who compiled the data made the following preliminary observations as general statements that should be verified in the future, when more data are available:

- Fecal coliform averages appear to be higher in industrial land use compared to the other land uses.
- For nutrients, there does not appear to be any significant difference between land uses.

- Metals concentrations appear to be higher in industrial and commercial land uses than in residential areas.
- Based on a sample set of 60 or more samples, pyrene, fluoranthene, phenanthrene, Benzo(g,h,i)perylene, Naphthalene and Benzo(a)pyrene appear to be the more abundant PAHs detected.
- Based on a sample set of 60 or more samples, Bis(2-ethylhexyl) phthalate, Di-N-Butyl Phthalate, Diethylphthalatem, and Butyl benzyl phthalate appear to be the more abundant phthalates detected.
- Based on a sample set of 20 or more samples, dichlobenil and 2,4-D were the more commonly detected herbicides.
- For the conventional parameters, total suspended solids appears to be higher in commercial basins while turbidity tends to be higher in industrial basins
- Diesel and motor oil concentrations appear to be higher in residential basins

As the Phase I permittees complete the monitoring programs required by the 2007 Phase I permit, Ecology will seek funding to analyze the data and evaluate how to apply the results to managing stormwater in both regulatory and non-regulatory programs.

Sediment Phthalates Work Group

The Sediment Phthalates Work Group was convened in 2006 to address the re-contamination of cleaned up sites in urban bays of Puget Sound. The Duwamish and Foss Waterways are Superfund sites in which sediment samples showed contamination by phthalates after costly sediment cleanups. Phthalates were not among the original contaminants of concern that led to the cleanup, and are pollutants of more contemporary origin than those addressed by the cleanup. The work group was charged with identifying the sources and pathways for the phthalates and making recommendations regarding the newly contaminated sediments. The work group's 2007 comprehensive problem statement included the following findings:

- Billions of pounds of plasticized polyvinyl chloride (PVC) products are currently in use in urban environments, and these materials off-gas phthalates into the surrounding atmosphere for many years.
- Volatilized phthalates adhere to fine particulates in the air and eventually settle onto impervious surfaces and soil.
- Stormwater washes the phthalate-contaminated particulates into storm drains and subsequently into natural water bodies and sediments, where the concentrations and loadings of phthalates can build up over time.
- Although phthalates do not readily bioaccumulate, large amounts loaded into sediments are toxic to benthic organisms.

Phthalates are an example of a pollutant that exists throughout the urban environment. The work group report acknowledged that it may not be feasible to remove some pollutants such as

phthalates from stormwater once they are in the environment. Source control solutions to reducing these pollutants may include finding alternatives to use in manufacturing the products that contain them. Their widespread uses make them somewhat ubiquitous in the contemporary urban setting. Phthalates and some other pollutants will require broader societal efforts to address the contaminants resulting from the manufacturing processes for many products widely used in contemporary society.

3.3 Laws and Regulations

Federal Clean Water Act

This permit implements sections of the Federal Clean Water Act (CWA), the U.S. Environmental Protection Agency rules, and the Washington State Water Pollution Control Act (RCW 90.48).

The federal Clean Water Act (CWA, 1972, and later modifications in 1977, 1981, and 1987) established water quality goals for the surface waters of the United States. One of the mechanisms for achieving goals of the CWA is the National Pollutant Discharge Elimination System (NPDES) permitting program. In Washington State, Ecology has been delegated authority to administer the NPDES program for most dischargers, including most municipal stormwater dischargers. Chapter 90.48 RCW defines Ecology's authority and obligations in administering the NPDES permit program.

As part of the 1987 CWA amendments, Congress added section 402(p) to cover stormwater discharges to waters of the United States. Under the Federal Clean Water Act (33.U.S.C. Section 1342 (p)(3)(b)) permit requirements for discharges from municipal separate storm sewer systems include:

> Municipal Discharge. – Permits for discharges from municipal storm sewers –
>
> (i) May be issued on a system-or jurisdiction-wide basis;
>
> (ii) Shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and
>
> (iii) Shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques, and system design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. (33 U.S.C. Section 1342 (p)(3)(B))

Congress phased in NPDES requirements for municipal stormwater discharges in two phases. Phase I includes medium and large municipalities. Populations of over 250,000 are defined as "large," while those with populations between 100,000 and 250,000 are defined as "medium" municipalities.

In the 1987 CWA amendments, Congress directed EPA to study remaining sources of stormwater discharges and, based on the study, to propose regulations to designate and control other stormwater sources. These regulations, which are commonly known as the Phase II rules, were adopted by the EPA in December, 1999. The Phase II rules extend coverage of the (NPDES) program to certain "small" municipal separate storm sewer systems.

EPA Rules

U.S. EPA implementing regulations define the term "municipality" to mean incorporated cities and unincorporated counties that have sufficient population in a Census Bureau designated urbanized area to meet the population thresholds. In addition, the EPA rule requires permit coverage for other public entities (excluding incorporated cities) regardless of their size, which own and operate storm sewer systems located within the municipalities that meet the population thresholds. Examples of other publicly-owned storm sewer systems include state highways, ports, drainage districts, school districts, colleges and universities, and flood control districts located within permitted municipalities. Ecology uses the term "Secondary Permittees" for these permittees in the Phase I and Phase II municipal stormwater permits.

Recognizing the complexity of controlling stormwater, Congress and EPA established a regulatory framework for municipal stormwater discharges that is different from traditional NPDES permit programs. Some of the key provisions of the stormwater rules that reflect these differences are:

- Permits require the implementation of stormwater management programs rather than establishing numeric effluent standards for stormwater discharges (40 CFR 122.26(d)(2)(iv)).
- Permits cover a large geographic area rather than individual "facilities." Within a permit coverage area there may be hundreds or thousands of individual outfalls discharging surface water (40 CFR 122.26(a)(3)).
- Flexibility that allows permittees to first focus their resources on the highest priority problems (40 CFR 122.26(d)(2)(iv)).
- Pollution prevention is emphasized with some provisions requiring eliminating or controlling pollutants at their source and by requiring permittees to assess potential future impacts due to population growth and other factors (40 CFR 122.26(d)(2)(iv)(B) & (d)(1) (iii)).

EPA rules for discharges from large and medium MS4s did not establish actual permit requirements. EPA allowed the permitting authority flexibility to establish permit requirements that are appropriate for the local area under Phase I regulation.

The Phase II rules require the development, implementation, and enforcement of stormwater management programs designed to reduce the discharge of pollutants from MS4s to the

maximum extent practicable (MEP), protect water quality, and satisfy the appropriate water quality requirements of the Clean Water Act.

The Phase II rules outline the minimum elements of a Stormwater Management Program (SWMP) which must include:

1. Public education and outreach on stormwater impacts
2. Public involvement and participation
3. Illicit discharge detection and elimination
4. Construction site stormwater runoff control
5. Post-construction stormwater management in new development and re-development
6. Pollution prevention and good housekeeping for municipal operations.

In addition to the above six minimum measures, the Phase II rules also require:

1. Compliance with approved total maximum daily load (TMDL, or water cleanup plan) or equivalent analysis, where appropriate, and
2. Evaluation and assessment of program compliance.

The Phase II rules require Ecology to "make available a menu of BMPs to assist regulated small MS4s in the design and implementation of the municipal storm water management programs to implement the minimum measures specified in (40 CFR) 122.34(b) of this chapter." The *Stormwater Management Manual for Eastern Washington* (2004) meets this requirement in regard to construction site stormwater control and post-construction stormwater management in new development and re-development. The *Model Municipal Stormwater Program for Eastern Washington* (2003) also addresses this requirement for pollution prevention and good housekeeping for municipal operations.

EPA is currently conducting a process to update the federal stormwater rules. On December 29, 2009, EPA issued a notice in the Federal Register opening a public input period and announcing listening sessions to inform a rulemaking "…to strengthen national stormwater regulations and to establish a comprehensive program to reduce stormwater discharges from new development and redevelopment." EPA also conducted a comprehensive survey of delegated state authorities and permittees to solicit input on the range of stormwater management requirements and practices across the nation. The proposed national rulemaking is considering the following key rulemaking actions:

- Develop performance standards from newly developed and redeveloped sites to better address stormwater management as projects are built.
- Explore options for expanding the protections of the municipal separate storm sewer systems (MS4) program.
- Evaluate options for establishing and implementing a municipal program to reduce discharges from existing development.

- Evaluate establishing a single set of minimum measures requirements for regulated MS4s. However, industrial requirements may only apply to regulated MS4s serving populations of 100,000 or more.
- Explore options for establishing specific requirements for transportation facilities.
- Evaluating additional provisions specific to the Chesapeake Bay watershed.

EPA announced its intent to propose a rule in December 2011 and to take final action by November 2012. More information on EPA's rulemaking is available at: http://cfpub.epa.gov/npdes/stormwater/rulemaking.cfm.

The State Water Pollution Control Act and Implementing Regulations

In addition to requirements in federal law, there are state law requirements for the control of pollution in Chapter 90.48 RCW, known as the Water Pollution Control Act. RCW 90.48.010 establishes:

> the public policy of the state of Washington (is) to maintain the highest possible standards to insure the purity of all waters of the state consistent with public health and public enjoyment thereof, the propagation and protection of wild life, birds, game, fish and other aquatic life, and the industrial development of the state, and to that end require the use of all known available and reasonable methods by industries and others to prevent and control the pollution of the waters of the state of Washington.

The terms "pollution" and "waters of the state" are defined in RCW 90.48.020. Waters of the state "….shall be construed to include lakes, rivers, ponds, streams, inland waters, underground waters, salt waters and all other surface waters and watercourses within the jurisdiction of the state of Washington." This definition differs from the federal definition of "waters of the United States" which is limited to surface waters. State law requires a permit to regulate discharge of pollutants or waste materials to waters of the state (RCW 90.48.162). In 1987 the State Legislature passed into law RCW 90.48.520. When issuing or renewing state and federal wastewater discharge permits, Ecology must review the applicant's operations and incorporate permit conditions which require all known, available, and reasonable methods to control toxicants in the applicant's wastewater. The law prohibits the discharge of toxicants which would violate any water quality standard, including toxicant standards, sediment criteria, and dilution zone criteria (RCW 90.48.520).

RCW 90.48.035 grants Ecology authority to adopt standards for the quality of waters of the state. Ecology has adopted the following standards:

- Chapter 173-200 WAC Ground Water Quality Standards;
- Chapter 173-201A WAC Water Quality Standards for Surface Waters; and
- Chapter 173-204 WAC Sediment Management Standards.

These standards generally require that permits that Ecology issues ensure that discharges will not violate standards, or that a compliance schedule be in place to bring discharges into compliance.

The Waste Discharge General Permit Program regulation, Chapter 173-226 WAC, establishes a general permit program for the discharge of pollutants, wastes, and other materials to waters of the state. One of the requirements (WAC 173-226-110) for issuing a general permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet.

4.0 Relationship to Other Stormwater Permits

EPA stormwater regulations establish NPDES permit requirements for stormwater discharges from industrial facilities, construction sites, large and medium municipal storm sewer systems (Phase I), and the Washington State Department of Transportation.

4.1 Industrial Stormwater General Permit

The federal stormwater regulations envision a cooperative relationship between industrial stormwater permittees that discharge to municipal separate storm sewer systems (MS4s) and those municipal permittees. A wide range of industrial facilities listed at 40 CFR 122.26(b)(14) must obtain NPDES permits from Ecology to authorize discharges to surface waters or to MS4s that discharge to surface waters. In Washington State, Ecology has also issued several industry-specific permits that authorize stormwater discharges from those facilities, including the Sand and Gravel General Permit and the General Permit for Boat Building and Repair Facilities.

4.2 Construction Stormwater General Permit

Under this permit, Permittees must adopt and implement measures to control discharges into the MS4 system from construction sites, including sites regulated by Ecology's Construction Stormwater General Permit. The construction stormwater permit is issued by Ecology to individual construction site operators for projects of one acre or more or for projects of less than one acre that are part of a larger, common plan of development or sale. Construction site operators that are covered under and operating in compliance with the construction stormwater general permit issued by Ecology will be in compliance with the construction site runoff control requirements of the municipal stormwater permit. Local jurisdictions may add additional requirements for construction site operators to address local conditions or concerns. Local jurisdictions also coordinate with and complement Ecology's regulation of construction sites to prevent pollutants from those sites from entering the MS4.

4.3 Large and Medium (Phase I) Municipal Stormwater Permits

Ecology issued the first Phase I Municipal Stormwater Permits in 1995 and reissued a general permit in 2007 to cover the cities of Seattle and Tacoma, and Snohomish, King, Pierce, and Clark counties. The Phase I federal rule established the list of Phase I jurisdictions, and no new jurisdictions will be added to this list.

In eastern Washington there are no Phase I permittees, and thus no interconnected stormwater systems of Phase I and Phase II permittees. A number of eastern and southwestern Washington permittees, both Phase I and Phase II, discharge into the Columbia River. Permittees that discharge to tributaries of the Columbia coordinate within those smaller basins. Eastern Washington permittees coordinate informally with permittees in western Washington, and during the current (2007) permit term, Ecology funded several partnerships of eastern and western Washington permittees to complete grant projects that benefit permittees statewide.

Wherever possible, Ecology coordinated the requirements of the Phase II permits with the requirements of the Phase I permits. All permits include similar approaches to compliance with standards, TMDL implementation, and the use of a regional stormwater manual. Programs for illicit discharge detection and elimination and controlling stormwater from construction sites are also similar. In areas where conveyance systems are interconnected or discharges go to the same water body, successful implementation of stormwater management programs requires coordination between local jurisdictions. Ecology has established expectations in this permit for regional coordination in monitoring efforts and in proposed requirements for watershed-based stormwater planning for western Washington permittees.

4.4 Washington Department of Transportation Municipal Stormwater General Permit

The Washington Department of Transportation (WSDOT) is a statewide agency that owns and operates municipal separate stormwater systems that carry discharges from highways, maintenance and storage facilities, ferry docks, and other WSDOT facilities. Discharges from WSDOT MS4s are authorized under a single statewide permit for MS4s in Phase I and Phase II coverage areas, and in areas with applicable TMDLs. The WSDOT MS4 permit was issued in 2009.

The WSDOT municipal stormwater permit includes requirements similar to the municipal stormwater general permit to conduct public education and involvement, prevent and address polluting illicit discharges, and for operations and maintenance. Requirements for WSDOT construction sites and for managing stormwater discharges from new and re-development projects are consistent with the requirements in the Phase I permit, except they are tailored to highway construction. WSDOT's permit also includes a monitoring program to evaluate the effectiveness of its stormwater management program.

WSDOT stormwater conveyances frequently interconnect with municipal MS4s covered under this permit. This requires WSDOT and municipal permittees to work together to control illicit discharges, respond to spills and dumping, and, where they discharge to shared water bodies, to implement TMDLs.

5.0 Antidegradation

5.1 Background

Federal regulations (40 CFR 131.12) and the Water Quality Standards for Surface Waters of the State of Washington (WAC 173-201A-300, 310, 320, 330) establish a water quality antidegradation program. The purpose of the antidegradation program is to:

- Restore and maintain the highest possible quality of the surface waters of Washington.
- Describe situations under which water quality may be lowered from its current condition.
- Apply to human activities that are likely to have an impact on the water quality of surface water.
- Ensure that all human activities likely to contribute to a lowering of water quality, at a minimum, apply all known, available, and reasonable methods of prevention, control, and treatment (AKART).
- Apply three Tiers of protection (described below) for surface waters of the state.

The federally mandated program establishes three tiers of protection for water quality. Tier I ensures the maintenance and protection of existing and designated uses. Tier I applies to all waters and all sources of pollution. Tier II prevents the degradation of waters that are of a higher quality than the criteria assigned, except where such lowering of water quality is shown to be necessary and in the overriding public interest. Tier II applies only to a specific list of polluting activities. Tier III prevents the degradation of waters formally listed as "outstanding resource waters," and applies to all sources of pollution.

This permit addresses antidegradation of Tier I and Tier II waters. Ecology has determined that there are no discharges under this permit to Tier III waters.

5.2 Formal Adaptive Process to Comply with WAC 173-201A-320(6)

Washington's Tier II requirements for general permits are outlined in WAC 173-201a-320(6):

a) Individual activities covered under these general permits or programs will not require a Tier II analysis.

b) The department will describe in writing how the general permit or control program meets the antidegradation requirements of this section.

c) The department recognizes that many water quality protection programs and their associated control technologies are in a continual state of improvement and development. As a result, information regarding the existence, effectiveness, or costs of control practices for reducing pollution and meeting the water quality standards may be incomplete. In these instances, the antidegradation requirements of this section can be considered met for general permits and programs that have a formal process to select, develop, adopt, and refine control practices for protecting water quality and meeting the intent of this section. This adaptive process must:

(i) Ensure that information is developed and used expeditiously to revise permit or program requirements;

(ii) Review and refine management and control programs in cycles not to exceed five years or the period of permit reissuance; and

(iii) Include a plan that describes how the information will be obtained and used to ensure full compliance with this chapter. The plan must be developed and documented in advance of the permit or program approved under this section.

d) All authorizations under this section must still comply with the provisions of Tier I (WAC 173-210A-310).

5.3 How the Municipal Stormwater Permits Meet the Antidegradation Requirement

Ecology's process for reissuance of the municipal stormwater general permits includes a formal process to select, develop, adopt, and refine control practices for protecting water quality and meeting the intent of WAC 173-201A-310. All permits are issued for fixed terms of five years. Each time Ecology reissues the municipal stormwater general permits, staff evaluates the permit conditions to determine if additional or more stringent requirements should be incorporated.

Ecology's evaluation of the municipal stormwater permits includes an ongoing review of information on new pollution prevention and treatment practices for storm water discharges. Sources of such information include:

1. Comments on draft permits. Ecology's public process for developing the 2012 proposed permit includes the following:
    - During the 2009 permit modification to incorporate the results of permit appeals, Ecology asked for input on opportunities to improve and streamline requirements without compromising environmental protection. Staff used comments from that process to revise and improve the permits.
    - Committees on LID and monitoring including scientists, practitioners, and resource managers advised Ecology on permit requirements.
    - In 2010, Ecology staff held nine listening sessions statewide and used the feedback to inform permit revisions for all sections of the permit.
    - A May-June 2011 informal comment period for preliminary draft language on LID and monitoring generated comments from over 85 entities or individuals.
    - Ecology will review and use public comment and testimony from public hearings during the public comment period on the draft permit (2011-2012) to develop the final permits.
2. Ecology's Stormwater Management Manuals. Ecology periodically updates the stormwater management manuals based on new information and science. The update process includes a public involvement element. Since the municipal stormwater permits require permittees to select BMPs from the most recent edition of the stormwater

manuals (or a program approved as functionally equivalent) the BMPs contained in updated stormwater manuals are adopted by permittees. This improves the effectiveness of stormwater controls for protecting water quality and meeting the intent of the antidegradation provisions of the water quality standards.

3. Technology Assessment Protocol – Ecology (TAPE) process. This formal process reviews and tests emerging treatment technologies for eventual adoption in Ecology's stormwater management manuals. The TAPE review process stimulates the development and use of innovative stormwater technologies used at construction sites and in new and redevelopment projects. Ecology recently funded the Washington Stormwater Center to revise the protocols and the TAPE guidance manual and re-opened the revised program in 2010 after a two-year suspension.

4. Washington Stormwater Center research. Ecology helped establish and fund the Stormwater Center and affiliated Low Impact Development research program to conduct stormwater technical research. The Center works in partnership with state academic institutions partners including Washington State University Puyallup Campus and the University of Washington Urban Waters Program in Tacoma. The Center also disseminates information on current research and training opportunities to municipalities and businesses, and is compiling an interactive stormwater BMP toolbox.

5. Permittee compliance reports. Each permittee submits to Ecology an annual report, monitoring results, and special submittals by permittees for alternative approaches to maintenance or detection of illicit discharges. Ecology staff review and act on annual reports to address compliance issues and provide technical assistance. A statewide Ecology municipal stormwater permit team produces written guidance and permittee training opportunities to disseminate information on improved BMPs.

The low impact development requirements proposed in the draft municipal stormwater permit are part of the adaptive process to improve stormwater management and protect surface waters from degradation. Low impact development stormwater management for new and redevelopment projects is a nationally-recognized innovative land use and stormwater management approach. Ecology's draft permits introduce the LID requirements at levels appropriate to the experience and physical conditions of permittees in each region. In eastern Washington, where permittees have relatively limited experience with LID, Ecology proposes incremental steps toward eventual broad implementation of LID as appropriate to the climate, soils, and geology of that region. The statewide LID requirements will support a fundamental shift to LID stormwater design and management in new and redevelopment that help meet the antidegradation requirements of WAC 172-203A-320(6).

The monitoring proposal in the draft permit also helps satisfy the anti-degradation requirements for adaptive management. The draft permit would require effectiveness monitoring programs to evaluate individual BMPs and/or elements of stormwater programs. A repository of information

for Source Identification and Diagnostic Monitoring proposed for western Washington would benefit permittees statewide in improving programs to eliminate pollution sources.

6.0 Explanation of Eastern Washington Phase II Permit Revisions

6.1 S1 – Permit Coverage and Permittees

This section of the draft permit defines the areas covered under this permit, defines entities that are to be covered under the permit, and explains how to obtain permit coverage.

The permit authorizes discharges from small Municipal Separate Storm Sewer Systems (MS4s), which are MS4s that are not "large" or "medium" MS4s as defined by EPA at 40 CFR 122.26(b)(4) and (7).

To be regulated by this permit, small MS4s must:

- Be located within, or partially within, a census-defined Urbanized Area or otherwise designated by Ecology;
- Discharge stormwater to a surface water of Washington State; and
- Not be eligible for a waiver or exemption.

Urbanized Areas are population centers with greater than 50,000 people and densities of at least 1,000 people per square mile, with surrounding areas having densities of at least 500 people per square mile. The urbanized areas in this permit are based on the 2000 population census. When EPA issues the revised urbanized areas based on the 2010 U.S. Census, Ecology will determine whether additional areas or permittees should be covered.

Small MS4s may also be public stormwater systems similar to those in municipalities, such as systems at colleges and universities, state institutions, and special purpose districts. Ecology uses the term Secondary Permittees to refer to these entities. Special purposes districts may include ports, diking and drainage districts, school districts, park districts, irrigation districts, and state institutions. The MS4s of Secondary Permittees are publicly owned or operated and serve more than 1,000 people on an average day. For ports, schools, colleges and universities the population figures include commuters as well as residents.

S1.A Geographic Area of Permit Coverage

The areas covered by the permit include the entire incorporated area of a city, as described in S1.A.1. For Phase II counties, the permit covers the urbanized area, or census urban area, that extends outside the city. In 2007 Ecology also included the county unincorporated Urban Growth Areas (UGAs) around Phase II cities where they extend outside of the census urban areas, as described in the first part of S1.A.2. Ecology determined that this is appropriate in Washington State because the permits are designed to address the urban impacts of stormwater, and

Washington State has defined Urban Growth Areas in 36.70A RCW, the Growth Management Act (GMA), as areas where jurisdictions must direct and concentrate urban growth.

Ecology may designate additional areas for coverage, and is evaluating two additional jurisdictions for coverage under the permits to be effective August 1, 2013. Ecology has listed those jurisdictions in the draft permit for public review and comment pending completion of the evaluation for coverage. Those jurisdictions and areas include Kittitas County for the unincorporated Ellensburg UGA and the City of Grandview. The geographic area of coverage is clarified for cities in S1.A.1 as the entire incorporated area of the city. Ecology has completed its evaluation for Yakima County for the unincorporated UGA around the City of Sunnyside and determined that this area meets the criteria for coverage. The second part of S1.A.2 lists those county areas because they are not associated with census urban areas.

Ecology is evaluating the City of Grandview under the federal requirement to evaluate all cities of over 10,000 in population served by the MS4, known as "bubble cities." Ecology is evaluating the unincorporated Kittitas County UGA around the City of Ellensburg as an area of potential urbanization that is physically interconnected with a regulated MS4. In the 2007 permit, Ecology included the entire UGAs around cities in census-defined urban areas in permit coverage areas. Ecology determined it is appropriate to evaluate the UGAs of the 2007 "bubble cities" for coverage, as well, including the UGA of the City of Ellensburg. More information on Ecology's New Permittee Evaluation process is available at http://www.ecy.wa.gov/programs/wq/stormwater/municipal/2012NewPermitteeEval.html

As indicated in the footnotes to this draft language, the proposed City of Grandview and Kittitas County coverage areas will be listed in the final permit only if the evaluations demonstrate that they meet the criteria for coverage.

S1.B. Regulated Small MS4s

This section defines the entities that must obtain coverage under the Phase II permit. Ecology proposes only minor changes to this section to clarify or simplify language. The definition of "regulated MS4" in S1.B.1 is consistent with the federal criteria for coverage of discharges to a surface water of Washington State. S1.B.2 lists the types of permittees that Ecology defines as "Secondary Permittees" in S1.D.

Special Condition S1.B.3 clarifies how Ecology may designate additional permittees that are not within a U.S. census-defined urban area. S.B.5 describes the process for petitioning Ecology for coverage of an entity. Ecology has received no petitions for coverage under this permit to this date.

S1.C. Exemptions and Waivers

This section describes the entities that do not need to obtain coverage under the permit if the conditions in this section are met. EPA administers the municipal stormwater permit program for federal facilities and most federally-recognized Indian Tribes.

All MS4s of any size that are owned or operated by Washington State Department of Transportation (WSDOT) are not covered under this permit because they are covered under a separate stormwater permit. A copy of the WSDOT permit is available at http://www.ecy.wa.gov/programs/wq/stormwater/municipal/wsdot.html

S1.D Obtaining Coverage and Entities Covered by the Permit

Ecology introduces two new terms to refer to permittees that will be covered for the first time under the final permit effective on August 1, 2013: "New Permittee" for cities, towns and counties and "New Secondary Permittee" for Secondary Permittees.

The permittees listed in (S1.D.2.a) are continuing permittees from the current permit term. In accordance with general condition G18 of the current (2007) municipal stormwater permits, all permittees named in (S1.D.2.a) reapplied for permit coverage by submitting a timely permit reapplication (*Duty to Reapply – Notice of Intent (NOI))* prior to August 19, 2011 and therefore have continuing coverage under this permit.

Ecology includes a placeholder in (S1.D.2.b) for possible New Permittees that are brought under the final permit if the evaluations Ecology is conducting demonstrate that a jurisdiction or area meets the criteria for coverage. The City of Grandview and the Kittitas County area under evaluation for permit coverage are listed in (S1.D.2.c) along with a footnote to clarify that coverage is proposed pending completion of the evaluations. If the evaluation determines that a jurisdiction meets the criteria for coverage, they may choose to submit a *Notice of Intent for Coverage under National Pollutant Discharge Elimination System Municipal Stormwater General Permit* (NOI) in advance of final permit issuance. In this case, the jurisdiction would be listed in (S1.D.2.b) in the final permit. If a jurisdiction chooses to wait, the draft language in (S1.D.2.c) requires the jurisdiction to submit a NOI to Ecology no later than 30 days after the permit effective date of August 1, 2013.

Special condition S1.D.3 establishes an application process for New Secondary Permittees, or for New Permittees that are cities, towns and counties. Cities, towns, and counties that receive coverage after the permit issuance date may be brought under the permit by petition, by expansion of federal census urban areas, or other designation under an administrative order.

In special condition (S1.D.3.a), the draft permit clarifies the application process in language consistent with the Phase I permit.

The Notice of Intent (NOI) is the official permit application to request coverage under these general permits and is provided in Appendix 5 of the permit. In (S1.D.3.a) Ecology removes language that is already included in Appendix 5.

Ecology clarifies the language describing the application process for applying as a Co-Permittee. Each Co-Permittees must submit an individual NOI in which there is a section to document the Co-Permittee relationship (S1.D.3.b). In addition, the NOI provided in Appendix 5 has been

revised to note that only if the permittee is relying on another entity for *all* of the permit obligations must they provide a summary of the agreement with that other entity accompany the NOI. This is consistent with the requirements of the federal rule and is intended to reduce unnecessary paperwork.

6.2 S2- Authorized Discharges

This section of the permit authorizes the discharge of stormwater from MS4s owned or operated by the permittees to waters of the State, subject to certain limitations. The permit does not authorize discharges that are authorized under other permits or programs, such as the Underground Injection Control program.

Throughout the permit Ecology proposes to change the terms "authorized" and "covered" where needed for consistency. Ecology intends to use "authorized" when referring to discharges, and "covered" when referring to permittees or geographic areas, consistent with federal use of the terms. Permittees are not obligated to accept discharges into their MS4, and may choose to refuse them. This is relevant to permit requirements such as a list of allowable discharges in (S5.B.3.b.i) of the Illicit Discharge Detection and Elimination (IDDE) program.

Ecology proposes changes in S2.B.1 to make the language and references to the National Pollutant Discharge Eliminations System and State Waste Discharge permits consistent with the language in the Western Washington Phase II Municipal Stormwater Permit.

Ecology also proposes language in this section to clarify that S2.B.2 applies to discharges to the MS4 that occur only while the emergency fire fighting activities are underway. Discharges that may occur from cleanup activities after the emergency phase of the fire is finished are not authorized. Ecology included a similar edit in special condition (S5.C.3.b.i) and S6 language for Secondary Permittees under the IDDE-related codes and policies, for consistency.

6.3 S3 – Responsibilities of Permittees

Because not all parts of the permit apply to all permittees, S3 identifies the sections of the permit that apply to each permittee, and explains the responsibilities of each type of permittee.

6.4 S4 – Compliance with Standards

Ecology proposes a clarification to special condition S4.F.2. A violation of water quality standards in the receiving water may have multiple contributors, and the proposed edit clarifies that it is the MS4's contribution to the violation that is subject to this section.

6.5 S5 – Stormwater Management Program for City and County Permittees

S5.A Requirements Applying to All S5 Components

This section of the permit establishes the requirements for the cities and counties named in (S1.D.2.a and b), as well as New Permittees as named in the final permit, to implement the core components of a stormwater management program (SWMP).

The stormwater management components in S5 form the core requirements of the SWMP. The minimum requirements for each component are established in S5. This section of the permit provides a complete written record of the local programs, planning documents, and ordinances or other regulatory documents that the permittees will implement to meet these requirements.

New Permittee Requirements

Ecology proposes language in this section for New Permittees as defined in (S1.D.1.b) to identify the requirements and implementation schedules they must meet during the permit term. They must fully meet all the applicable requirements of S5, but for the requirements with footnotes, they must meet the requirements in accordance with the modified activity or implementation schedule. This will result in full implementation of the S5 requirements over the permit term.

Ecology proposes to require an implementation schedule for New Permittees similar to the schedule met by continuing permittees as they built their programs during the current (2007) permit term. After it issues the final permit, Ecology will provide New Permittees with a guidance document that integrates the footnoted requirements into permit language in order to facilitate planning and implementation.

The proposed language in this section referring to alternate schedules established as a condition of permit coverage is intended to apply to New Permittees that may begin coverage after the issuance date of the permit. This could occur, for example, as a result of petition or if the federally-designated Urbanized Areas expand to include new jurisdictions or coverage areas after the date Ecology issues the final permit.

S5.A.1. Ongoing Implementation of the Stormwater Management Program

This section refers to the Stormwater Management Program (SWMP) for cities and counties. The SWMP is a set of actions and activities designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP) and to protect water quality. Ecology defines the SWMP for cities and counties to include the components listed in S5, actions under S7 Total Maximum Daily Load requirements and Appendix 2, activities required by Special Condition S8 Monitoring, activities to meet S4.F obligations, and any additional actions necessary to meet the requirements of the permit. This section is consistent with state and federal law and special condition S4. Ecology removes language redundant with conditions in S5.A.4.

Permit language in this section calls for continued implementation of existing programs as permittees phase in the requirements in this permit until proposed revisions are put into effect. Ecology retains requirements to continue implementing regulatory mechanisms in local codes, including the illicit discharge prohibitions that cities and counties adopted under the current permit requirements. This language also requires New Permittees to retain existing programs and standards as they phase in the permit requirements.

S5.A.2 Written Documentation of the SWMP

Each permittee must submit written documentation of their SWMP. In this section Ecology proposes to refer to this written documentation of the SWMP as a SWMP Report (SWMPR) to reduce confusion between the suite of stormwater management program actions and activities and the written document that informs the public about planned SWMP activities. The purpose of the SWMPR is revised to include a description of the activities and actions that the permittee plans for the upcoming calendar year. Ecology requires permittees to update their SWMPR annually and to submit it with each annual report.

S5.A.3 Program Tracking

The requirement in (S5.A.3.a.i) to track inspections, official enforcement actions and public education activities is based on EPA regulations at 40 CFR 122.42(c). Ecology proposes to retain language in this section to remind permittees of this obligation, but removes it elsewhere in S5 where it is redundant.

Each permittee is required to track the cost of development and implementation of the SWMP in (S5.A.3.a.ii). The anticipated cost and resources available to implement the SWMP do not serve as the basis for deciding whether individual SWMPs meet the MEP standard for this permit.

S5.A.4 Coordination

This permit requirement calls for establishment of coordination mechanisms both externally and internally to aid in the implementation of the SWMP. Ecology proposes a reporting requirement for information about intra-governmental coordination that describes roles, responsibilities and organizational relationships. Permittees implementing the current (2007) permit found that problems occurred when internal communication and coordination did not happen. This reporting requirement is consistent across all municipal stormwater permits and should assist permittees with determining communication and coordination mechanisms.

In the requirement for external coordination, Ecology recognizes that other entities may not choose to cooperate. It also recognizes the difficulty of defining shared water bodies and understands that such coordination may occur at a variety of scales appropriate to the activities being coordinated. Permittees in most parts of eastern Washington worked together in a variety of formal and informal coordination groups during the first permit term.

S5.B Program Components

This section of the permit defines the core components of the stormwater management program for cities and counties for the term of this permit. Each component includes a description of requirements and minimum performance measures. Each component also includes administrative and legal elements that must be in place to ensure program implementation, as well as requirements which should directly affect pollutant reductions and reduction of impacts.

Ecology has removed language in S5.B that was redundant with section S.3.B. A number of proposed revisions throughout this section remove the implementation schedule from the current

(2007) permit term for continuing permittees and require ongoing implementation. Other edits meet Ecology's objective of simplifying language or improving consistency with other permits. Substantive changes and new requirements are discussed in more detail below.

S5.B.1 Public Education and Outreach

Ecology proposes a change to the public education and outreach program for continuing permittees that builds on activities from the previous permit term. Changes to (S5.B.1.a) include the goal of achieving measurable improvement, and addition of several topics of public education recommended by permittees during the previous permit term. Education topics for low impact development (LID) in are included (S5.B.1.a.iii). In (S5.B.1.b) the draft permit adds the requirement to create stewardship opportunities as a public education element in response to comments received during listening sessions, and for consistency with the Phase I permit. Some permittees and others have indicated that activities such as stream teams, storm drain stenciling, and volunteer monitoring are public education rather than public involvement activities.

Ecology proposes requirements that permittees continue education activities for target audiences as appropriate. Ecology also proposes a requirement to implement a more developed educational effort to at least one new subject audience in at least one new subject area during this permit term. This new educational effort would target a priority audience and subject and measure the changes in understanding and behavior beginning by August 1, 2016, and begin to use the information gathered to improve the program as described in (S5.B.1.c).

Permittees may have questions regarding the extent to which they must measure education activities. The annual report requires a summary of activities, and the more developed and measurable effort in (S5.B.1.c) should include documentation of measurable objectives and changes. However, Ecology does not expect permittees to measure every general educational activity, and recognizes that a variety of types of measurements may be effective. As outlined in the guidance prepared for permittees on Ecology's website, the education program should be scaled to the size of the jurisdiction. (See http://www.ecy.wa.gov/biblio/0710092.html)

Ecology encourages permittees to cooperate in regional public education efforts. During the last permit term Ecology funded grants to groups of permittees for regional or statewide public education activities. Some permittees requested that Ecology clarify that they may meet permit requirements through a regional effort, and Ecology added such language to this section of the draft permit. Jurisdictions using a regional approach should contribute a meaningful level of effort, ensure that the education approach is implemented in their jurisdiction, and ensure that the regional education activities are applicable to audiences and issues in those communities. Cooperative regional efforts are often more effective in disseminating a coordinated message across a region, and are generally more cost effective for permittees.

S5.B.2 Public Involvement and Participation

For consistency across the municipal stormwater permits, Ecology moves the requirement to create stewardship opportunities to the public education and outreach component (S5.B.1.b). In doing so, Ecology clarifies that the public involvement requirements are primarily associated with the jurisdiction's decision-making processes for the SWMP. The intent is to create an environment where the public can have an active role in shaping the local stormwater program. Because Washington State has strong requirements for public participation in local government decision-making processes, a number of SWMP activities such as code revisions already require public involvement under other state and local laws.

This section also requires each permittee to make the permittee's SWMPR and annual report available electronically either on the local webpage or through Ecology's webpage by May 31 each year to ensure timely posting after the March 31 deadline for submittal to Ecology. Ecology believes this is a reasonable requirement given the common use of the internet for public information. Ecology also clarifies that permittees should also make other submittals related to the Municipal Stormwater General Permits available to the public upon request.

S5.B.3 Illicit Connections and Illicit Discharges Detection and Elimination

Permittees used the illicit discharge detection and elimination (IDDE) programs permittees during the current permit cycle to eliminate many pollution problems (see Ecology's focus sheet describing some of the successes at http://www.ecy.wa.gov/pubs/1110022.pdf). As they built their programs, permittees provided valuable feedback that Ecology incorporated into the proposed permit requirements for the 2013-2018 permit term.

Ecology proposes to reorganize the IDDE section to clarify the purposes of requirements and how they are related. These proposed changes are consistent with permit reissuance themes of simplifying language where possible, and improving consistency across the municipal stormwater permits. The proposed changes also respond to questions and comments by permittees. Most of the requirements remain unchanged, but have been reorganized. The requirements for system mapping, prohibiting, identifying, investigating, responding to, and addressing/eliminating illicit discharges and connections are now in separate subsections.

(S5.B.3.a) System Mapping

Ecology intends for continuing permittees to maintain and update the map of the MS4 completed during the first permit term on a regular basis to keep them current for the intended uses. Those uses include, at a minimum, operations and maintenance and IDDE program activities such as source identification as well as tracking and preventing harm from spills or other illicit discharges. Draft requirements for new permittees to map their systems reflect the same expectations and deadlines that applied to continuing permittees in the current (2007) permit term.

In (S5.B.3.a) the proposed requirement to maintain a map with all connections to the MS4 after February 16, 2007 refers to permittees continuing to update the maps they began during the first permit term. For New Permittees, this requirement begins with the effective date of the permit.

Although the requirements are not explicit, Ecology expects permittees to map the MS4 in greater detail in areas with land uses that involve storage, transfer, or use of materials where the risk of harm is greater because of factors such as the frequency of transfer or use, the potentially severe or irreversible environmental impacts associated with the illicit discharge or release of such materials, or the nature of the downstream resources at risk. Ecology intends for permittees to apply local knowledge of land uses to map the MS4 more completely in these areas to meet the intent of the illicit discharge program.

In (S5.B.3.a.i) Ecology clarifies that permittees must provide mapping information to other municipalities and federally-recognized Indian Tribes upon request, as well as to Ecology and other permittees. In this section Ecology also proposes language to recognize that permittees may charge those making the request a reasonable fee for providing the mapping information. Ecology also adds language to address concerns expressed by several permittees regarding requests for copies of maps that might compromise policies associated with homeland security.

(S5.B.3.b) Prohibiting illicit discharges

This subsection provides for local government legal authority to prohibit non-stormwater discharges into the MS4. The draft permit proposes some clarifications to conditionally allowed discharges. Ecology also proposes adding language to require permittees to implement a "compliance strategy" that includes various steps in addition to enforcement that permittees may use to achieve compliance with the local IDDE code (S5.B.3.b.vii). The draft language adds public education and informal technical assistance in addition to requirements for formal enforcement. Consistent with Ecology guidance during the previous permit term, the draft language recognizes that it is appropriate to address many prohibited discharges such as residential car washing or individual yard care practices through public education, and to assist local businesses in implementing technical solutions.

Proposed edits in (S5.B.3.b.ii) to provisions to establish legal authority to prohibit non-stormwater discharges include:

- Moving to the allowable discharges section those authorized by another NPDES or state waste discharge permit and change of "covered" to "authorized" for consistency with S2.B.
- Moving the emergency fire fighting activities to allowable discharges and a revision for consistency with S2.B.

Ecology proposes to add dechlorinated spa and hot tub discharges to swimming pool discharges as conditionally allowable discharges, for completeness, in (S5.B.3.b.iii). Conditions include

dechlorination to the required levels and thermal controls to prevent elevate temperatures in receiving waters as required by WAC 173-201A-200, the designated uses and criteria for state water quality standards. Ecology expects that local governments will advise citizens to turn off the heater and let the water sit to achieve thermal control. Ecology also removes "stormwater" from the section for "Other non-stormwater discharges" to prevent confusion with the construction SWPPP required under Core Element #2 in Appendix 1 and to acknowledge that the pollution prevention plan may address non-stormwater discharges. The pollution prevention plan in this section should review and provide conditions related to the specific discharge under consideration.

Special condition (S5.B.3.b.vii) also proposes that the compliance strategy "should" include informal technical assistance-related actions, such as the use of operational and/or structural source control BMPs, and the ability to require maintenance of existing private stormwater facilities that discharge into the MS4. Permittees may use these steps before or as part of formal enforcement. Ecology intends that this clarification will provide additional tools to local governments when the IDDE program identifies illicit discharges that are caused by lack of operational or structural BMPs, or the lack of stormwater system maintenance. Ecology does not intend this as a requirement for pro-active business inspections, but as an opportunity to establish the local authority, if necessary, to effectively minimize illicit discharges to the MS4. In a broader context, this enhancement of the permit-required SWMP provides an additional tool to local governments to address specific pollution problems identified in receiving waters, such as in many types of S4.F notification situations.

Ecology intends the requirements (S5.B.3.b.vii) to provide an opportunity for permittees, to evaluate how well their IDDE-related codes are working and make changes, if necessary, to improve their programs. Ecology sets a deadline of February 2, 2018 for this evaluation.

(S5.B.3.c) Identifying illicit discharges

The focus of this subsection is now on the three primary means of learning about an illicit discharge: pro-active MS4 screening, complaints from an informed public, and referrals from trained municipal field staff. In response to input at Listening Sessions and lessons from the current (2007) permit term (as summarized by Ecology's August 6, 2010 IDDE Project Report[7]), Ecology proposes to broaden the field screening requirement to include other methods in addition to dry weather outfall reconnaissance.

Some permittees have suggested, and Ecology agrees, that IDDE investigations should move up into the system's MS4 and not rely entirely on screening at the outfall itself. Ecology provides more flexibility in the procedures for conducting field screening, and for each permittee to develop the method or methods that are most effective and efficient for their MS4. A jurisdiction

[7] Opalka, Alice. 2010, *IDDE Project Report*, Ecology internal report to the Northwest Regional Office Water Quality Program, submitted in completion of internship, August 16, 2010.

may employ a method that works best in one part of the system and another method in other parts of the system. The Center for Watershed Protection guidance is still available for those permittees who find it appropriate, and for new permittees to use as a reference when establishing a program.

Ecology also proposes to change the requirement for the area to be screened from a given number of priority water bodies to a percentage of the MS4 coverage area. This change is proposed as a response to a number of permittees who provided feedback that a "priority water body" was difficult to define in terms of scale, and found the requirement to be confusing to implement. Although the "priority water body" approach is removed, the proposed language includes "prioritize conveyances and outfalls" to retain a context of screening areas in a prioritized order.

The draft permit would require permittees to field screen approximately 20% of the MS4 per year for illicit discharges. Ecology proposes a schedule of completing at least 40% by February 2, 2016. This timeline allows for two full dry seasons after the permit effective date on August 1, 2013. New Permittees are allowed additional time to develop and implement mapping procedures.

The general municipal field staff training requirements are in this section because this training is an important method for learning about illicit discharges. It is different from the training for employees responsible for implementing the IDDE program (S5.B.3.c.v). The training requirement is limited to ensuring that municipal field staff know how to identify a possible illicit discharge and how to report it internally for response. Municipal field staff include permanent and temporary employees whose work includes frequent field activities during which they might observe an illicit discharge or illicit connection. Examples include local government employees such as maintenance staff, law enforcement officers, building inspectors, fire fighters, health department staff, sewer and water utility staff, animal control officers, and planners. Permittee feedback on the IDDE program identified this training as one of the most effective methods for the local government to learn about illicit discharges.

The requirement in (S5.B.3.c.vi) to inform public employees, businesses and the general public about the hazards of illicit discharges is an important part of the program to find illicit discharges. Ecology does not propose to move this requirement to the public education and outreach program. By retaining it in the IDDE section, the requirement applies to all permittees, rather than being one of several possible topics of public education. Disseminating public information on this topic, combined with a publicized hotline number, will continue to raise public awareness and lead to more public hotline reports of potential illicit discharges

(S5.B.3.d) Investigating and responding to illicit discharges

The draft permit better organizes this subsection to establish procedures and requirements for responding to illicit discharges, including characterizing the environmental threat, source tracing, and eliminating or otherwise addressing the discharge. Ecology clarifies the time frames for investigation, response, and elimination and improves the consistency with General Condition G3 for situations requiring immediate action.

In permit condition (S5.B.3.d.iii) Ecology uses the term "eliminating" illicit discharges, although (S5.B.3.d) refers more broadly to an ongoing program to "address" illicit discharges. Although the program goal is to eliminate illicit discharges, Ecology recognizes that there are situations for which the term "eliminate" does not apply. Examples include situations such as when the illicit discharge has ended but requires action to identify the source and prevent recurrence, or the local government addresses it through education or technical assistance. The proposed permit also clarifies that all illicit connections must be eliminated (S5.B.3.d.iv).

(S5.B.3.e) Training IDDE program staff

Ecology proposes language to clarify and simplify the training requirement for staff responsible for implementing the IDDE program.

(S5.B.3.f) Recordkeeping

The proposed language is a simplified recordkeeping requirement that removes several undefined phrases that may or may not be relevant to a permittee's IDDE procedures or enforcement authority.

S5.B.4 Construction Site Stormwater Runoff Control

Ecology does not propose significant changes to this section of the permit. All the changes are either to simplify language and clarify the requirements for continuing permittees and New Permittees.

S5.B.5 Post-construction Stormwater Management for New Development and Redevelopment

In this section Ecology proposes an approach to begin implementing low impact development (LID) requirements in eastern Washington. Ecology recognizes that LID in eastern Washington is relatively new compared to the number of projects, training programs, and guidance in western Washington. On the other hand, the drier rainfall patterns, soils, geology, and landscape in eastern Washington are generally more favorable for LID practices that infiltrate stormwater at the development site.

A number of eastern Washington permittees require that new development and redevelopment projects retain a portion of the stormwater runoff volume on-site. In March 2011, Ecology researched the flow control requirements to determine the extent to which permittees currently

require retention of stormwater onsite. Table 2, below provides the results of Ecology's research for the jurisdictions with online information:

Table 2: Eastern Washington Jurisdiction Flow Control Requirements
Based on Online Sources of Local Stormwater Regulations

Phase II Jurisdiction	Flow Control Requirements*
Asotin County	Retain a 10-yr, 24-hr storm event on site or approved detention.
City of Asotin	Retain a 10-yr, 24-hr storm event on site or approved detention.
City of Clarkston	Retain a 10-yr, 24-hr storm event on site or approved detention.
City of Moses Lake	Retain a 25-yr, 24-hr storm event on site.
City of Pasco	Retain a 25-yr, 24-hr storm event on site.
City of Spokane	No specific design storm found.
City of Spokane Valley	Discharge at less than 25-yr, 24-hr storm; to MEP retain all runoff on-site.
City of Walla Walla	No specific design storm found.
Spokane County	Discharge at less than 25-yr, 24-hr storm; to MEP retain all runoff on-site.
Walla Walla County	Maintain pre-development 25-yr runoff rate.
Yakima County	Specific watersheds: design to 25-yr, 24-hr storm or 10-yr, 24-hr storm.
City of Richland	Design to 25-yr, 24-hr storm; commercial projects retain all runoff on-site.
City of West Richland	No specific design storm found.
City of Selah	Retain and dispose of all runoff on-site to the maximum extent practicable.
City of Wenatchee	No specific design storm found.
City of East Wenatchee	Not described.
City of Yakima	Design to 25-yr, 24-hr storm; basins one-half acre or less use larger of 25-yr, 3-hr storm or 25-yr, 24-hr storm.
City of Kennewick	Commercial retain 10-yr, 24-hr storm on-site; residential design to 25-yr, 24-hr storm.
City of Sunnyside	Design to 10-yr, 24-hr storm.
City of Union Gap	Design to 25-yr, 24-hr storm.
Chelan County	Design to 25-yr, 24-hr storm with variations for sub-regions.
Douglas County	Full retention of the SCS 100-yr, 24-hr storm.

*Table 2 includes paraphrased descriptions of the requirements regarding the current flow control requirements (specifically if the retention of the 10-yr, 24-hr storm or the 25-year, 24-hour storm is required). At the time of the research, the City of Pullman had not yet adopted its flow control requirements.

The EPA recommends a national LID (or green infrastructure) hydrologic performance standard of retention of the 95th percentile rainfall event on-site. The EPA document *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of*

the Energy Independence and Security Act (2009) can be found at http://www.epa.gov/owow/NPS/lid/section438/

For eastern Washington permitted areas, the 10-yr, 24-hr storm event and the 25-yr, 24-hr storm event in permitted areas, and the 95th percentile rainfall event are shown in Table 3 below:

Table 3: Estimated 95th Percentile Rainfall Events, 10-year and 25-year Storms

Location	95% 24-hour rainfall (inches)	10-year, 24-hour rainfall (inches)	25-year, 24-hour rainfall (inches)
Ellensburg	0.68	1.3	1.6
Yakima	1.03	1.5	1.8
Kennewick	0.72	1.4	1.6
Moses Lake	0.68	1.2	1.4
Wenatchee	0.73	1.7	2.0
Spokane	0.88	1.9	2.4
Walla Walla	0.90*	1.8	2.2
Pullman	0.82	2.1	2.5
Asotin	0.80	1.8	2.1

*The data used to calculate the 95% 24-hour rainfall for Walla Walla is missing data from 2002-2003 and other years. The data was also taken from two sources:

- Walla Walla Airport from 1951-2001.
- Walla Walla City from 2002-2009.

Table 3 illustrates that in permitted areas of eastern Washington, the 10-year, 24-hour storm, which many permittees currently require to be retained on-site, is larger than the EPA-recommended standards of the 95th percentile rainfall event. These results reflect the relatively dry climate in eastern Washington. Ecology recognizes the importance of building on this retention standard that most permittees now use.

Eastern Washington jurisdictions used Ecology grant funding during the current (2007) permit term to design and build a number of LID stormwater facilities, and Yakima County used grant funds to develop a preliminary draft of guidance on LID practices. Ecology proposes to build on this experience and information, as well as on the flow control standard and BMPs already in use in many jurisdictions. Ecology also hopes to fund LID research on the performance of LID BMPs in various eastern Washington settings, and to support further development of a guidance manual. These activities are necessary to better understand how LID practices will function in eastern Washington conditions.

The draft permit proposal takes the next steps in implementing LID. Ecology proposes to require permittees to allow LID approaches for new development and redevelopment projects by December 31, 2016. The description of LID in (S5.B.5.a.ii) emphasizes measures to minimize

impervious surfaces and to minimize the disturbance of native soils and vegetation, as allowed by site conditions. Under this proposal, permittees would allow developers to build LID projects and use LID BMPs. However, the language provides flexibility for local governments to gradually adopt practices at a pace that suits their experience with LID and that of the local development community.

In addition, the draft permit proposes that permittees require projects to retain runoff from the 10-year, 24-hour storm on-site. As shown in Table 2, many local governments already require this in development projects of one acre or more, which is the minimum threshold for the requirements under this permit. Ecology met with permittees and other interested parties during 2011 to discuss this option.

Several permittees that currently do not apply that standard are located in jurisdictions with physical constraints such as poorly infiltrating soils, high groundwater, steep slopes, or other conditions. Many parts of eastern Washington lack significant native vegetation and must consider conditions related to winter freeze and snow cover. To address the concern of areas with poor soils and other conditions less favorable to LID, Ecology proposes to require that each permittee develop and implement feasibility criteria specific to the jurisdiction's conditions. Permittees would provide these to Ecology to consider as it develops the next permit. Ecology plans to work with the local governments to gradually establish LID using practices and standards appropriate to the conditions in their communities.

Implementation Schedule

Ecology proposes a schedule for local governments to amend codes and ordinances to "allow" LID and to meet the proposed 10-year, 24-hour storm event onsite retention standard by December 31, 2016. The feasibility criteria should be in place by the same date, and would be submitted to Ecology in the Fourth Year Annual Report, by March 31, 2017. This will allow for Ecology review when developing the permit requirements for the permit term that would begin in August 2018.

Additional language in (S5.B.5.a) addresses the timing of implementation of all post-construction stormwater requirements adopted to meet the requirements of this permit. In the proposed permit, Ecology clarifies both when the LID stormwater related code/ordinance amendments must be adopted and when they must become effective. Ecology clarifies how the codes/ordinances would apply to development projects that have previously been approved but not yet built. Ecology proposes to apply this to projects that local governments reviewed after February 16, 2011, the effective date for requirements in the current (2007) permit. In addition, Ecology clarifies how the newly amended codes/ordinances for LID would apply to development projects that are in the application/approval process at the time the new codes become effective.

Ecology proposes the effective date for new stormwater codes/ordinances be the same as the adoption date for local codes. If local governments need a period of time between the adoption date and the effective date, the adoption date would need to be moved up accordingly.
The new stormwater requirements would apply to all projects where the application is submitted after the effective date of the newly amended codes. In this context, Ecology defines the application to include, at a minimum a complete project description, site plan, and, if applicable, SEPA checklist. If permittees choose, the elements of a complete application may be expanded.

The new stormwater requirements would apply to previously approved projects that have not started construction within five years of the effective date of the new stormwater requirements. Ecology defines "started construction" as the site work associated with, and directly related to the approved project has begun. For example: grading the project site to final grade and/or utility installation. Simply clearing the project site would not constitute the start of construction.

Ecology proposes that New Permittees would adopt codes/ordinances for post-construction stormwater runoff control by August 1, 2016, to be effective by August 1, 2017, similar to the timing for permittees during the current (2007) permit term. Requirements for the timing of implementation would apply for projects not starting construction by August 1, 2021, five years after adoption. New Permittees would not be required to adopt LID requirements during this permit term, but are encouraged to do so.

S5.B.6 Municipal Operations and Maintenance

Ecology proposes to retain the requirements of this program from the current (2007) permit cycle, with a few proposed changes. Permittees used much of the first permit term to build and begin implementing their Operations and Maintenance (O & M) programs. In listening sessions they indicated to Ecology that they need to continue implementing the program to learn and apply lessons for improvement.

In addition, Ecology proposes to add Appendix 6 Street Waste Disposal for disposal of decant water and other waste from system maintenance. Appendix 6 is included in the current western Washington municipal stormwater permits, and permittees in eastern Washington also found it useful during the current (2007) permit term. Other edits are limited to the addition of a few topics for maintenance that permittees also suggested. In (S5.B.6.a.ii) the draft permit proposes an ongoing frequency for inspecting and maintaining stormwater treatment and flow control facilities of every two years.

6.6 S6 Stormwater Management Program for Secondary Permittees

Secondary Permittees are public entities such as ports, park districts, school districts, colleges and universities, state institution campuses, state military campuses, irrigation districts, and

diking and drainage districts that are located in a Phase II coverage area and own or operate a regulated MS4. This section of the permit describes the requirements that apply to Secondary Permittees and make up the core elements of their Stormwater Management Program.

The SWMP for Secondary Permittees is intended to apply to a wide variety of Secondary Permittees. The requirements of Special Condition S6 will apply differently depending on the type and function of the public entity, the size and nature of the coverage area, and the specifics of the entity's MS4. For example, ports covered by the permit may lease property to other entities that manage stormwater on the leased property, and in some cases that property may be covered by the *General NPDES Permit for Stormwater Discharges Associated with Industrial Activities* or another NPDES stormwater permit. Alternatively, many colleges and universities have resident and commuter student populations. Diking and drainage districts may serve more than 1,000 residents because their service areas are now partially in urbanized areas, but they have little or no authority over activities on those properties. Some permittees may rely on the local jurisdiction to regulate discharges into their MS4, others may rely on another NPDES permit for such regulations, while others such as school districts may rely on internal policies that control operations on all the lands served by their MS4.

Ecology's general approach to changes for Secondary Permittee requirements is to simplify where appropriate, and to clarify and improve consistency across permits. Several proposed revisions also clarify requirements that the Secondary Permittee may be unable to meet on leased property. Ecology proposes additions such as "…under the functional control of…," to refer to situations in which Secondary Permittees must have legal access and authority to perform the activity. Other draft revisions use the phrase "…owned and operated by the Secondary Permittee…" to refer to activities where the Secondary Permittee not only owns the property, but also operates the stormwater system. The alternative phrase, "…owned or operated by the Permittee…" may refer to situations in which a permittee owns the property but a tenant operates the stormwater system.

S6.A New Secondary Permittees

Ecology drafted the revisions to requirements in S6 to apply to continuing Secondary Permittees. The term "New Secondary Permittees" from S1.D.1 refers to Secondary Permittees with coverage dates after August 1, 2013, the permit effective date. Section S6.A includes a statement that New Secondary Permittees must meet all the requirements as modified by the footnotes. New Secondary Permittees must follow all the applicable S6 requirements, and where requirements are modified by footnotes, they must follow the modified requirements and timelines.

The implementation schedule for New Secondary Permittees presented in footnotes phases in the program requirements on the same timelines as those in the current (2007) permit term. The permit also refers to a schedule established as a condition of coverage by Ecology, which will be

developed when the permittee applies for permit coverage. Ecology will tailor the implementation schedule to the specific entity, depending on the type of entity and the nature of the MS4.

Secondary Permittees may begin permit coverage at any time during the permit term, and the implementation schedule may extend from one permit term to the next. Secondary Permittee implementation schedules are calculated based on the date of permit coverage. For this reason, Ecology also revises Secondary Permittee deadlines to refer to the "initial" permit coverage date. This may be a date in a previous permit term. As New Secondary Permittees begin permit coverage and fully implement their requirements, they will be subject in future permit terms to deadlines for the "initial" date of permit coverage. Ecology uses this approach to direct continuing Secondary Permittees to continue implementing their programs according to their individual schedules, and to direct New Secondary Permittees to phase in their programs according to individual schedules over a four and one-half year period. Once the SWMP is fully implemented, Ecology expects all Secondary Permittees to continue full program implementation.

S6.A.4 Stormwater Management Program Report

Consistent with Ecology's objective to simplify permit language, Ecology proposes to remove language in S6.A.4 that outlines the SWMP documentation requirements. Instead Ecology proposes to refer to written documentation of the SWMP as a SWMP Report (SWMPR) to reduce confusion between the suite of stormwater management program actions and activities, and the written document to inform the public about planned SWMP activities. The purpose of the SMWPR is revised to include descriptions of the planned program activities for the upcoming year. This could be relatively short, and could include a brief description of planned activities for public education and outreach, field screening, or stormwater system maintenance. Ecology removes the requirements to submit the updated SWMPR with each annual report.

S6.B. Coordination

The draft permit proposes to change "shall" to "should" for coordination within a watershed and with interconnected MS4s because it is not relevant to each type of Secondary Permittee. The requirement for internal coordination is still a requirement where the entity is large enough to have various departments.

Other revisions in S6.A and B are intended to reduce duplicative language and improve consistency across the three municipal stormwater general permits.

S.6.D. Stormwater Management Program for Secondary Permittees

S6.D.1 Public Education and Outreach

Ecology proposes edits in (S6.D.1.a) to the types of messages required for storm drain inlet labels, in order to recognize the variety of messages being used. The requirement for New

Secondary Permittees combines into one four-year deadline the previous requirement that divided the deadlines for half the inlets to be labeled in three years, and the other half in four years. Feedback from some Secondary Permittees indicated that in many cases there are very few inlets, and this simplifies the requirement and reporting obligation.

In condition (S6.D.1.b) the revised language clarifies that the requirement to distribute educational information by ports, colleges and universities may be done electronically, and provides more flexibility in the topics covered. Ecology believes that public education for college and university students and for port tenants and their employees helps prevent polluting discharges and complements the city or county public education program to help strengthen awareness and change behaviors in the broader community.

Ecology removed the language that the requirement can be met by participating in the local jurisdiction's public education and outreach program only because it duplicates language in S6.A.4. Ecology continues to encourage this type of collaboration and efficiency, for cost savings as well as consistency of messaging.

S6.D.2 Public Involvement and Participation

The draft permit proposes to require Secondary Permittees to post the annual report and SWMPR on the entity's website each year by May 31. This provides information for the interested public on program implementation, as well as advance notice regarding opportunities for public involvement.

S6.D.3 Illicit Discharge Detection and Elimination

For Secondary Permittees that rely on internal policies to govern non-stormwater discharges rather than the local city or county code, changes proposed in allowable and conditional discharges clarify language and improve consistency with the local government requirements. The proposed language for (S6.D.3.b.ii) notes that the conditional discharges are allowable only if the conditions are met and if such discharges are allowed by the local code for the jurisdiction. Ecology intends this language to clarify that in cases where a city or county has more restrictive conditional discharge requirements than those in the permit, the Secondary Permittee must comply with the local code.

In the requirement for field inspections (S6.D.3.d) Ecology clarifies that the visual inspection is intended to include MS4 discharge points as well as outfalls. Many Secondary Permittee MS4s are interconnected with those of the city or county, and where possible, the screening for illicit discharges should include these discharge points as well, to improve detection of illicit discharges.

The requirement (S6.D.3.e) includes the term "qualified spill responder." A qualified spill responder should meet the training and experience requirements of a Hazardous Team member at the Hazardous Materials Specialist level, as outlined in Labor and Industry regulations (Chapters

296-824 WAC and 296-843 WAC). Ecology's website includes lists of qualified contractors for hazardous materials (Ecology does not verify or endorse the list) and approved primary spill response contractors (as per Chapter 173-182 WAC) at http://www.ecy.wa.gov/programs/spills/spills_happen/main.html

The staff training requirement (S6.D.3.f) proposes that Secondary Permittees must offer training opportunities to the appropriate employees of tenants. This would apply primarily to ports, and is intended to promote improved coordination and response to illicit discharges. It may also help reduce costs for training. However, compliance with this requirement is limited to offering the training opportunity and does not carry an obligation to ensure attendance at the training by tenant staff.

S6.D.4 Construction Site Stormwater Runoff Control

The draft permit proposes no substantive changes to this section, but clarifies in this section that certain requirements apply to activities that are under the *functional control* of the Secondary Permittee. Feedback from ports, in particular, informed Ecology that some Secondary Permittees may not have the authority under already executed leases to manage stormwater on leased property. Where the tenant is responsible for stormwater management on a leased property, Ecology recognizes that the Secondary Permittee responsibilities for construction site requirements apply to properties under the Secondary Permittee's functional control, whether by its own staff or through a contractor.

S6.D.5 Post-construction Stormwater Management in New Development and Redevelopment

Secondary Permittees do not have land use authority under state law, and the requirements of this and the previous section refer to the obligation to comply with local ordinances governing these activities. Where the MS4 is interconnected with the local jurisdiction MS4, Secondary Permittees must coordinate to assist the local jurisdiction in achieving compliance with local codes. This might occur if the local jurisdiction needed assistance in addressing a discharge from a Secondary Permittee's MS4 that originated from a tenant's discharge into the MS4 of the Secondary Permittee.

S6.D.6 Pollution Prevention and Good Housekeeping for Municipal Operations

The draft permit requires that operation and maintenance of the Secondary Permittee's MS4 include standards consistent with or more protective than those in Ecology's 2004 *Stormwater Management Manual for Eastern Washington.* Ecology proposes language to require Secondary Permittees to review maintenance standards to ensure they are consistent with any updates in local or Ecology standards.

The draft permit requirement for (S6.C.6.a.i) clarifies that the Secondary Permittee is responsible for maintenance of the MS4 that it owns *and* operates, and may not be responsible for those operated by tenants. Requirements for spot checks after major storms are no longer tied to a specific size of storm, but can be conducted according to the priorities of the Secondary Permittee.

Other additions to the requirements for the Operations and Maintenance (O&M) plan include maintenance of dumpsters, management of pet waste, and clarification of the terms for facilities requiring Stormwater Pollution Prevention Plans, for consistency with terms in the Definitions section of the permit. Input from Permittees during the current (2007) permit term led to these improvements and clarifications.

6.7 S7 Compliance with Total Maximum Daily Load Requirements

Under some circumstances, when the water quality of a water body is impaired, the federal Clean Water Act requires States to set limits on the amount of pollutants that the water body receives from all sources. States may also set limits on pollutant loads when water bodies are threatened. These limits are known as Total Maximum Daily Loads (TMDLs). A TMDL is developed through a defined process to identify the maximum amount of a pollutant that may be discharged from all sources to a water body without causing violations of water quality standards. Pollutant control strategies are developed in a TMDL to keep the pollutant loading below that level. TMDLs include an assignment of Waste Load Allocations (WLAs) to NPDES permitted dischargers and Load Allocations to control the load from non-point pollution sources.

Stormwater dischargers authorized by this permit are required to implement actions necessary to achieve the reduction in pollution called for in applicable TMDL. Ecology clarifies that applicable TMDLs are those TMDLs which EPA has approved prior to the date the final permit is issued, or prior to the date that Ecology issues permit coverage, whichever is later. Information on Ecology's TMDL program is available on Ecology's website at http://www.ecy.wa.gov/programs/wq/tmdl/

Ecology incorporates these TMDL actions through special condition 7. In some cases, actions are included in Appendix 2 as requirements for individual permittees. Appendix 2 lists the actions by TMDL and by permittee. The proposed Appendix 2 includes both updated actions from the current (2007) permit term and new actions for EPA-approved TMDLs.

The stormwater management program required by this permit can help make progress in preventing pollution and cleaning up water bodies impaired in part by stormwater discharges. These two related Clean Water Act programs are integrated through Appendix 2 actions. Ecology expects the addition of TMDL actions to focus resources where Ecology and local communities identified the most severe problems and the actions needed to correct them in the TMDL process. Ecology encourages permittees to participate in the TMDLs that are currently being developed within their jurisdiction, and to begin implementation where appropriate.

In 2010, Ecology began reviewing TMDLs to identify those that EPA has approved since the 2007 permits were issued and to identify the ones that assign a Waste Load Allocation to one or more municipal stormwater permittees. Ecology then identified the actions for permittees and

compared them to existing permit requirements. There are three types of TMDL actions for MS4s:

1. Actions already addressed by regular stormwater program implementation, such as a public education program or ongoing maintenance of the MS4. Ecology does not include these actions in Appendix 2. Special Condition S7 states that for TMDLs not listed in Appendix 2, compliance with the permit constitutes compliance with those TMDLs.

2. Actions that require a permittee to target a SWMP requirement to a specific area or activity, such as focusing the illicit discharge screening program in the area draining to the impaired water or conducting a public education program that includes pet waste education. Appendix 2 lists these actions with a reference to the related program, and identifies the specific area, BMP, or timeline.

3. Actions in addition to the current SWMP that are not necessarily reflected in the existing program requirements, but that are relevant to the MS4 and its contribution of pollutants to the impaired water body. This could include special monitoring requirements or a specific stormwater facility retrofit.

Where monitoring is required, Appendix 2 requires that it be conducted according to an Ecology-approved Quality Assurance Project Plan (QAPP).

The proposed Appendix 2 actions link to and address the potential MS4 contribution to the impairment. If the list for one permittee is long, Ecology proposes priorities and schedules. In some cases, the draft actions for one permit term may include requirements to collect and evaluate monitoring data, then use the analysis to develop an action plan, and finally to begin implementing the action plan. This supports an adaptive management approach, to avoid requiring permittees to monitor a site for the entire permit term before acting on the information. The focus is on achieving the TMDL objective, which is to meet the WLA for the MS4 contribution, and ultimately improve or restore water quality in the receiving water.

The proposed permit also includes updated actions for TMDLs that are listed in the current (2007) permit's Appendix 2. Updates may include removing actions now completed, moving to the next logical action, or incorporating new actions based on lessons from the current permit term.

Before releasing the draft permits, Ecology informed affected permittees of the range and scope of actions it expected to propose in the draft Appendix 2. In some cases, Ecology staff met with affected permittees to review proposed language and ask for feedback. This "no surprises" approach reflects Ecology's recognition of permittees' local knowledge in ground-level efforts to clean up impaired waters.

In several cases Ecology lists TMDLs that are not yet approved by EPA, but are anticipated to be approved before the expected June 2012 final permit issuance. In other cases, actions are proposed for jurisdictions that Ecology is evaluating for possible permit coverage. Ecology includes this information in the draft Appendix 2 in order to afford an opportunity for input during the public review and comment period. Ecology will update Appendix 2 in the final permit to include only the TMDLs approved by EPA and actions only for jurisdictions that are covered by the final permit.

6.8 S8 Monitoring

In Special Condition S8 Ecology proposes new Phase II formal draft language on monitoring requirements. The formal draft permit language is substantially different from the May 2011 preliminary draft language that proposed a default monitoring approach based on recommendations developed in a two-year stakeholder process in Puget Sound. This revision is based on comments Ecology received from local governments and others in eastern Washington on the May 2011 preliminary draft proposal. The new language provides permittees with two options to choose from in meeting permit monitoring requirements:

- Work collaboratively with other permittees to choose, design, and conduct sub-regional effectiveness studies, or
- Conduct individual stormwater discharge monitoring.

Ecology expects eastern Washington permittees choosing the first option to make an effort to involve stakeholders in the effectiveness study topic prioritization and selection process. The goal is to propose and conduct studies to address different priorities and questions based on regional issues and conditions in eastern Washington. An important benefit is that it would result in:

- Regionally consistent methods to collect comparable and valid data, and
- Transferable studies of the effectiveness of specific stormwater program activities.

Ecology supports a long-term collaborative effort to develop a regional approach to stormwater monitoring as a shared responsibility of Permittees, the State, and the federal government. Ecology, permittees, and the public need feedback on stormwater management practices and on improvements in water quality in receiving waters throughout eastern Washington.

Background

Ecology has held several discussions with stakeholders and Phase II municipal stormwater permittees in eastern Washington to explore stormwater monitoring requirements for this and future permit terms. Defining the appropriate monitoring program is a significant task, and Ecology's draft permit language recognizes that the timeframe for a stakeholder process to develop recommendations for some aspects of a comprehensive monitoring program will extend into the 20130-2018 permit term.

The current (2007) permit requires that some individual permittees in eastern Washington identify sites where outfall characterization and Best Management Practice (BMP) effectiveness studies might be conducted, and that all permittees submit ideas for program effectiveness studies to answer questions of importance to each individual jurisdiction. These activities were intended to inform and prepare permittees for monitoring in the upcoming permit cycle. Ecology's thinking in 2006-2007 was that individual permittees would implement a monitoring program in eastern Washington designed as a scaled-down version the current Phase I permit-required monitoring in western Washington.

In the Pollution Control Hearing Board (PCHB, or Board) ruling on appeal of the Phase II permit, *Findings of Fact, Conclusions of Law, and Order (Phase II Municipal Stormwater Permit)*; February 2, 2009; Puget Soundkeeper Alliance, People for Puget Sound, Coalition of Governmental Entities v. State of Washington, Department of Ecology, Issue #15 addressed monitoring directly, asking: "Does the permit unlawfully or unreasonably fail to require monitoring of stormwater discharges, effectiveness of control techniques, and/or receiving water quality?" Section 54 in the *Findings of Fact* (available at http://www.ecy.wa.gov/programs/wq/stormwater/municipal/appeals.html) states:

> *The Board finds that Ecology properly limited the monitoring requirements contained in the first version of the Phase II permit. This is especially true since all parties recognize that some type of monitoring consortium would be the preferable entity to conduct monitoring on behalf of the permittees, but that it will take some time to develop the monitoring program.*

The current (2007) Phase II permit monitoring requirements were challenged, but they were ultimately upheld by the Board. The PCHB concluded that Ecology should require monitoring in future Phase II permits. The PCHB endorsed the Puget Sound Monitoring Consortium process for framing a collaborative regional monitoring program, but that process was initiated by permittees in Puget Sound and resulted in recommendations that were specific to western Washington. Neither the eastern Washington jurisdictions nor Ecology has initiated a similar, formal process for eastern Washington.

As a result of the PCHB ruling, Phase I permittees' experiences monitoring outfalls, consensus stakeholder recommendations made by a stakeholder effort in Puget Sound, feedback on preliminary draft monitoring language proposed in May 2011, and further discussions with Permittees and stakeholders, Ecology is proposing an alternative to the monitoring program envisioned in the 2007 permit.

Ecology prefers a cooperative, regional approach to monitoring. The reasons for this preference include recognition that:

- More useful, transferable information can be collected collaboratively than by individual jurisdictions.
- The overall cost per jurisdiction will be lower.

- Jurisdictions (particularly smaller ones) can avoid hiring consultants and specialized staff.
- There will be less duplication of efforts.

Based on the number of municipal stormwater permittees statewide, it is not practical for Ecology to support individual monitoring programs, or even separate monitoring programs for each of the ten distinct geographic areas covered in the eastern Washington phase II permit. Ecology therefore prefers monitoring approaches appropriate to the broadest possible geographic sub-regions of eastern Washington.

Ultimately the goal for monitoring is to collect information that is useful for local governments, Ecology, and others. Where possible, the monitoring program should take advantage of opportunities to leverage other monitoring efforts.

Effectiveness studies

This is the first of two options for monitoring requirements from which each city and county covered by the current (2007) permit must select. The permit language defines three subregions for which sub-regional studies will be developed. The sub-regions may be amended by a permittee's written request. Permittees selecting this option will decide among themselves which are the most appropriate forms of interagency agreements and/or other tools for collaboration and shared effort to successfully meet the requirements set forth in S8.C.1.

Monitoring and other studies conducted to meet other local needs or permit requirements, as for TMDLs, can be counted as contributing to compliance with S8.C.2 as long as other permittees in the sub-region agree that the topic is a priority and that the study should and can be expanded to provide more robust information or otherwise be applicable and useful to other permittees. Ecology hopes that permittees who choose to conduct stormwater outfall monitoring are able to leverage other monitoring efforts, such as for TMDLs, to comply with S8.C.1.

Stormwater discharge monitoring

This is the second of two options for monitoring requirements from which each city and county covered by the current permit must select. Appendix 8 is included to ensure that permittees who choose this option know what is required in order to successfully conduct this type of monitoring and provide meaningful feedback for improving stormwater management practices.

Monitoring conducted to meet other local needs or permit requirements, such as for TMDLs, can be counted as contributing to compliance with S8.C.2 as long as the requirements of Appendix 8 are also met. Ecology hopes that permittees who choose to conduct stormwater outfall monitoring are able to leverage other monitoring efforts, such as for TMDLs, to comply with S8.C.2.

New permittees

Because new permittees are just starting their programs, Ecology is not requiring them to conduct monitoring during the current (2007) permit term. New permittees should plan to either participate in regional monitoring or conduct individual monitoring in future permits.

Other monitoring

As in the current (2007) permit, the draft language states that permittees are still required to use monitoring to identify illicit discharges and comply with Total Maximum Daily Load requirements. Regional monitoring is not designed to address locally-specific monitoring driven by these other needs and priorities. Ecology recognizes that many individual jurisdictions invest a significant level of resources in these other types of monitoring to protect local water bodies. Ecology intends that the proposed collective approach to regional monitoring in the permit will minimize the diversion of resources away from local monitoring efforts and provide a benefit to all permittees.

6.9 S9 Reporting Requirements

The draft permit proposes two general changes for S9 Reporting requirements. One is the placeholder for an upcoming change to direct online reporting by permittees. The other is to simplify the reporting language and rely on the Annual Report appendices to define what Ecology proposes to require in annual reporting submittals.

Ecology proposes to retain the same timing for annual reports for the 2013-2018 permit term, which is a report for the previous calendar year to be submitted by March 31. The first year annual report due by March 31, 2014 will cover the period from August 1, 2013, the effective date of the permit, through December 31, 2013. Ecology also added language to address the fact that some submittals report on activities that are not tied to the previous calendar year only, such as annual monitoring reports which are based on the water year rather.

Special condition S9.B provides a placeholder for final permit language that will require online annual reporting on a form to be provided by Ecology. The shift to these procedures at Ecology has not yet been completed for the municipal stormwater general permits, but is anticipated to be completed in time to include the information in the final permit. The online annual report will allow for submittal of attachments and will include instructions and the certification and signature as required by General Condition G19. Permittees may request an alternative form provided by Ecology if online reporting is not possible.

A footnote to S9.B directs reviewers to draft appendices for review and comment on the annual report questions and information on submittals to be included for each type of permittee:

- Appendix 3 – Annual Report for Cities, Towns and Counties
- Appendix 4 – Annual Report for Secondary Permittees
- Appendix 7 – Annual Report for New Permittees

The draft requirements in S9.E listing the components of the annual report for cities, towns and counties are simplified compared to the list in the existing permit. The three components are the Stormwater Management Program Report (SWMPR), the annual report form to answer the questions presented in the draft appendices listed above, and any attachments required as

submittals in the annual report form. Ecology intends the draft S9.E.3 requirement to be broad enough to include all the required or applicable submittals, such as documentation and summaries of S5 activities, monitoring data and reports, summaries of activities conducted under Appendix 2 TMDL requirements, reports to comply with S4 compliance with standards requirements, and any other submittals required under permit conditions for that reporting period.

Ecology retained the requirements to notify Ecology of changes to jurisdictional or coverage area boundaries and the requirement for certification and signature under G19 in order to clarify that these are required annually.

Requirements proposed for Secondary Permittees in S9.F follow a format similar to that for cities, towns and counties.

Annual Report Appendices

The draft Annual Report appendices listed above address several objectives Ecology identified in developing the draft permit, including:

1. Track the compliance status of permittees;
2. Gather information to improve permits;
3. Identify needs for technical assistance;
4. Identify successful outcomes of program for the public;
5. Help permittees coordinate internally; and
6. Gather meaningful quantitative information statewide.

Because of the variation in requirements and implementation schedules, Ecology provides separate annual reports for cities, towns and counties that are continuing permittees (Appendix 3) and those that are New Permittees (Appendix 7). The Annual Report for Secondary Permittees (Appendix 4) is intended both for continuing Secondary Permittees and for New Secondary Permittees, as the deadlines are tied to the initial permit coverage date.

The draft appendices include questions that address the six objectives listed above. The number of questions with numerical answers is reduced, although some remain as indicators of compliance and for reporting statewide outcomes. There are a few more questions requesting summaries of activities intended to provide information on meaningful successes and outcomes, needs for technical assistance, and opportunities to improve the permits.

Reporting on the Assessment of BMPs

The draft permit removes language in S8.B.2, (S9.E.2.c and e) and (S9.F.2.c) in the current (2007) permit requiring permittees to report on an assessment of the BMPs selected to implement the SWMP. Ecology proposes to remove this requirement in the permit because it reflects language in the federal rule that does not align with Ecology's permits. Many states implement the federal rule by requiring permittees to develop and submit individual stormwater

management programs for review and approval. Over time, the permittees evaluate and improve on the BMPs using this requirement. In Washington State, Ecology issued permits with specific BMPs and minimum performance measures outlined in permit requirements that comprise the SWMP.

Ecology was able to do this because of the earlier development of stormwater practices, guidance, manuals, and programs for different regions of the state. Prior to issuing the 2007 permits, Ecology worked with permittees to update the *Stormwater Management Manual for Western Washington* in 2001 and 2005, which was originally issued in 1992. Ecology also worked with eastern Washington jurisdictions to develop the *Stormwater Management Manual for Eastern Washington* in 2004, as well as the *Model Municipal Stormwater Program for Eastern Washington* (2003).

Ecology proposes to satisfy the federal requirement to assess and improve BMPs using methods more applicable to the structure of the Washington State permits. Ecology will use information from sources such as:

- National/regional technical and scientific forums;
- Studies and technology reviews of the Washington Stormwater Center;
- Effectiveness monitoring studies proposed for eastern and western Washington;
- Individual permittee requests to use alternatives;
- Suggestions from permittee coordination groups;
- Ecology compliance reviews and technical assistance; and
- Public processes to update manuals and reissue permits.

Ecology proposes alternatives to BMPs in this draft permit that originate from those sources, rather than from the annual reporting to meet S8.B.2. For these reasons, Ecology proposes to remove the requirement, recognizing the benefits of a broader approach to improving BMPs.

6.10 General Conditions

Ecology proposes changes to three General Conditions in the draft permit:

- G3 Notification of Discharge, Including Spills,
- G10 Removed Substances, and
- G19 Certification and Signature.

Ecology proposes to change the terminology in G3.C from “hazardous materials” to “hazardous substances.” *Hazardous substances* are defined in WAC 173-303-040, and Ecology prefers to use the term with a specific meaning under state law that is appropriate to this section of G3. This term is also added to the Definitions section of the permit.

Previously G10, Removed Substances, only referred to liquid street waste. Ecology recognizes that permittees also collect solid street waste and proposes language in G10 to address solid street waste. Permittees should refer to their local health departments/districts and laws/regulations that govern the disposal and reuse of solid street waste.

The changes proposed for G19, Certification and Signature, clarify when the requirement for a signature by a principal executive officer or ranking elected official is required on submittals to Ecology. The current permit indicates that all reports and information submitted must have such as signature. Ecology has administered this requirement to require the G19 signature on all formal submittals, such as annual reports. Ecology staff communicates frequently with permittees and receives information on a variety of topics. This proposed change clarifies that only formal submittals require the signature of a principal executive officer or ranking elected official.

6.11 Definitions and Acronyms

Ecology's revisions to the Definitions section of the permit reflect objectives of improving consistency across the municipal stormwater general permits, simplifying and clarifying language, and improving the accuracy of definitions of the terms as used in the permit. Specific edits proposed to Definitions include the following types of changes:

1. Addition of terms and definitions new to the permit.
2. Correction of a previous definition to match the use of the term in the permit.
3. Deletion of terms that are not used in the permit or that do not add helpful information.
4. Edits for consistency with other NPDES stormwater general permits.

Ecology lists the proposed revised terms below according to the type of change.

1. Addition of terms and definitions new to the permit:
    - *Low Impact Development* – Definition added to clarify proposed requirements to allow low impact development in new development and redevelopment (S5.B.5.a.ii). This definition is consistent with other municipal stormwater general permits.
    - *New Permittee* and *New Secondary Permittee* are added to implement Ecology's approach to defining requirements for permittees that were not covered in the previous permit term.
    - *Hazardous substance* has been added to the permit to clarify requirements associated with General Condition G3.

2. Correction of a previous definition to match the use of the term in the permit:
    - *SWMPR* – The Stormwater Management Program Report requirements are revised as outlined in S5.A.2. Ecology removed additional text that no longer applies.

- *Qualified Personnel* – Ecology clarified that this term may refer to volunteers, recognizing that in some jurisdictions volunteers are trained and qualified to conduct some activities such as stream monitoring.
- *Physically interconnected* – The proposed edit recognizes that the other system to which the MS4 is connected need not be another MS4, but may belong to an unpermitted entity.
- *Co-Permittee* – Proposed edits reflect Ecology's procedure for individual application for permit coverage by Co-Permittees.
- *Applicable TMDL* The proposed revision clarifies that an applicable TMDL may be one that is approved by EPA prior to the date of permit coverage.

3. Deletion of terms not used in the permit or that do not add helpful information:
    - *Process wastewater, Industrial or Construction Activity, TMDL Waste Load Allocation, Urban/higher density rural subbasin, Medium and Large Municipal Separate Storm Sewer System, Major Municipal Separate Storm Sewer Outfall,* and *Detailed Implementation Plan* are not used in the permit.
    - *Discharge i*s a common word with multiple uses. Different uses may have descriptors (such as "non-stormwater" or "illicit") where appropriate.

4. Edits for consistency with other NPDES stormwater general permits;
    - *Waters of the State* is added for consistency with the Western Washington Phase II permit. This term helps to clarify that the permit regulates discharges to these waters under State law, which include ground water as well as surface water (see discussion of Municipal Separate Storm Sewer System below).
    - *Shared Waterbodies* is added for consistency with the Western Washington Phase II permit since this term is used in permit coordination requirements (S5.A.4.a.ii).
    - *Common plan of development or sale* – Ecology revised the definition for consistency with the definition in the Construction Stormwater General Permit.
    - *Heavy equipment maintenance or storage yard* includes an edit to clarify that these sites are not limited to areas that provide storage on a long-term basis. This edit makes the definition consistent across the municipal stormwater permits.

5. Clarifications and simplifications to improve the understanding of terms
    - *Stormwater Management Program* – Ecology clarifies that the SWMP includes all activities to meet the requirements in the permit. This meaning is also reflected in edits to the term *Component.*
    - *Permittee* – The draft permit removes duplicative language already in the Special Condition S1 of the permit.
    - *Illicit connection* and *illicit discharge* – Ecology received questions from permittees during the last permit term that led to improved definitions of these

terms. The proposed definition of *illicit connection* is more complete. The *illicit discharge* definition clarifies that this may be a discharge into or from the MS4. The revised definition improves consistency with permit requirements, and clarifies that spills and illicit connections are a type of illicit discharge. Experience by permittees during the current permit term indicates that illicit discharges may occur through infiltration/exfiltration of non-stormwater in pipe bedding, so Ecology also adds this clarification.

- *Outfall* - Ecology's draft definition clarifies that an outfall can be a point of discharge to both surface and ground water, consistent with Ecology's obligation under state law to regulate discharges to waters of the State. The draft definition also clarifies that *outfall* does not apply to connections between segments of primarily surface water streams but may include open conveyances connecting two MS4s. Ecology makes this change based on the experience of permittees in the illicit discharge detection and elimination (IDDE) program and for consistency with the proposed addition of "discharge points" to the IDDE field screening requirements for Secondary Permittees in (S6.D.3.d).

Ecology also proposes the following changes to address the implementation of permit conditions:

Municipal Separate Storm Sewer System

Ecology clarifies the definition of a municipal separate storm sewer system (or MS4) as it is regulated under this permit as discharging to "….waters of Washington State." This is consistent with Special Condition S.2.A which states that the permit authorizes discharges under state law (Chapter 90.48 RCW) to surface waters and to ground waters. Ecology uses this definition in the Definitions section of the permit for this term, for *Best Management Practices,* and in the clarified definition of *outfall,* because the permit regulates discharges to waters of the State.

A different definition of MS4 in Appendix 5, the *Notice of Intent for Coverage under a NPDES Municipal Stormwater General Permit* (NOI), includes in the definition "waters of the United States" instead of waters of the State. The NOI definition is the federal definition of an MS4 which applies to the determination of eligibility for permit coverage under the Clean Water Act. *Waters of the United States* as defined in 40 CFR 122.2 applies to surface waters, and Ecology adds this term to the Definitions section. The federal definition is also used in Special Condition (S.1.B.1.c), the section of the permit that identifies the conditions for coverage under the permit. In that section, the definition of a regulated small MS4 refers to "Discharges from the MS4 to a surface water of Washington State…." because it is specific to the federal criteria for permit coverage that Ecology applies to determining eligibility when it evaluates potential new permittees. Once a permittee is covered by the permit, however, Ecology applies its authority as required under state law to regulate discharges from the MS4 to both surface and ground water.

6.12 Appendices

Appendix 1 – Minimum Technical Requirements

The only proposed revision to Appendix 1 is a clarification of how Ecology intends for local government to apply Core Element #2. This responds to questions from permittees in the current (2007) permit term regarding whether the local government has any regulatory obligations for projects that have an Ecology *Construction Stormwater General Permit.* Ecology's intent in this introduction to Core Element #2 is that local governments may accept a Stormwater Pollution Prevention Plan (SWPPP) prepared for an Ecology construction stormwater permit in lieu of preparing another one to satisfy the local requirement. This does not remove the obligation for local governments to adopt and implement the local code requirements in this permit. The local government must still inspect and enforce, if necessary, the SWPPP and the requirements of Appendix 1, Core Element #2, and should clarify that they will do so in their enforceable regulatory documents. Ecology does not intend to imply that the local government is obligated to administer the state permit. Ecology construction stormwater inspectors and local government staff often coordinate in these efforts.

Appendix 2 – Total Maximum Daily Load Requirements

See discussion of Special Condition S7 for Total Maximum Daily Load Requirements.

Appendix 3 – Annual Report Form for County, Town and City Permittees

See discussion of Special Condition S9 Reporting Requirements.

Appendix 4 – Annual Report Questions for Secondary Permittees

See discussion of Special Condition S9 Reporting Requirements.

Appendix 5 – Notice of Intent (NOI) for Coverage under a National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater General Permit

This appendix serves as the application for permit coverage by cities, towns, and counties as well as Secondary Permittees. Proposed revisions simplify language and make it consistent with the terms as used in the permit, add a request for a staff contact address, and clarify the application of requirements consistent with the federal rule as follows:

- Commuter traffic is included in calculating the population served by the MS4 only for Secondary Permittees.
- Permittees relying on another entity submit the summary of that agreement as part of the NOI only if the other entity is taking on all the permit obligations.
- A regulated MS4 that qualifies for coverage discharges stormwater to a surface water of Washington State, consistent with federal law. As discussed in Special Condition S2, once an entity is covered by the permit, Ecology applies state law (RCW 90.48) to protect all receiving waters, including ground waters, from such discharges.

Appendix 6 – Street Waste Disposal

Ecology adds this Appendix to the Eastern Washington Phase II permit, as discussed in the section for Municipal Operations and Maintenance (S5.B.6). Consistent with General Condition G10, Removed Substances, Appendix 6 previously referred only to liquid street waste. Ecology recognizes that permittees also collect solid street waste and proposes language in Appendix 6 (and G10) to address solid street waste. Permittees should refer to their local health departments/districts and laws/regulations that govern the disposal and reuse of solid street waste.

Appendix 7 – Annual Report for New Permittees

See discussion of Special Condition S9 Reporting Requirements.

Appendix 8 – Stormwater Discharge Monitoring

See discussion of S8 Monitoring Requirements.

7.0 Attachment A

Average Event Mean Concentrations Stormwater Data from Various Land Uses

*The table below contains data from multiple Phase I permittees collected during water years 2009 and 2010. Data from the Ports of Seattle and Tacoma has not yet been included. As time allows and additional data is reported, this information will be revised. This information is currently under evaluation with the future intention of further statistical evaluation. The data table below only presents average concentration data where analytes were detected. This table does not include non-detect data. The number of sample points in the table indicates the number of single event mean concentrations used to determine the average event mean concentration.

The purpose of Special Condition S8.D Stormwater Monitoring in the Phase I Municipal Stormwater Permit (effective February 2007) is to characterize stormwater runoff quantity and quality at a limited number of locations in a manner that allows analysis of loadings and changes in conditions over time and generalization across permittee jurisdictions. Supporting information regarding how this data was collected, storm event criteria, parameter lists etc. is provided in the 2007 Phase I permit or in permittee's quality assurance project plans (QAPPs). QAPPs are available on Ecology's website at http://www.ecy.wa.gov/programs/wq/stormwater/municipal/s8dswmonitoring.html. A complete parameters list can be found in the Phase I Municipal Stormwater Permit effective 2007 in Special Condition S8.D.

Attachment A

Average Event Mean Concentration Data from Various Land Uses Provided by Multiple Phase I Municipal Stormwater Permittees (Water Year 2009-2010)

	Industrial		High Density Residential		Commercial		Low Density Residential	
Parameter and Units	Average Concentration	Number of Sample Points	Average Concentration	Number of Sample Points	Average Concentration	Number of Sample Points	Average Concentration	Number of Sample Points
Nutrients (mg/L)								
Total Phosphorus	0.23	22	0.15	48	0.19	51	0.10	29
Total Kjedahl Nitrogen	1.15	22	1.38	45	2.10	44	2.90	26
Nitrate/Nitrite	0.33	22	0.56	48	0.45	52	0.81	29
Ortho-phosphorus	0.04	22	0.03	41	0.04	40	0.04	28
Convential Parameters								
Total Suspended Solids (mg/L)	64.86	22	50.99	48	75.40	60	18.98	29
Turbidity (NTU)	64.04	11	23.78	36	42.90	40	11.06	29
BOD (mg/L)	7.76	17	6.48	37	11.26	46	3.73	12
Surfactants (mg/L)	0.11	13	0.09	24	0.17	38	0.76	6
Chloride (mg/L)	21.67	19	26.05	48	6.85	50	5.72	29
Hardness (mg/L)	58.13	22	18.47	48	31.30	60	26.34	29
Bacteria (CFU)								
Fecal Coliform	9087	21	6866	47	4989	46	1534	15
Metals (ug/L)								
Total Copper	19.02	22	10.06	49	28.42	58	3.08	29
Dissolved Copper	4.83	22	4.10	48	11.06	59	2.26	29
Total Zinc	136.74	22	61.49	48	124.45	60	23.10	29
Dissolved Zinc	53.86	22	32.21	48	57.04	60	18.83	29
Total Cadmium	0.29	18	0.19	22	0.24	42	0.09	9
Dissolved Cadmium	0.10	9	0.04	20	0.06	33	0.03	13
Total Lead	9.29	22	9.01	48	32.37	60	0.99	29
Dissolved Lead	1.12	16	0.72	43	4.82	58	0.15	24
Total Mercury	0.05	4	0.17	5	0.06	12		0
Dissolved Mercury		0	0.08	1	0.06	6		0

	Industrial		High Density Residential		Commercial		Low Density Residential	
TPH (mg/L)								
Diesel (Dx)	0.82	11	363.75	28	68.87	35	246.00	15
Motor Oil	0.56	4	497.72	17	164.91	34	414.43	14
Gasoline (Gx)	17.82	9	17.25	8	21.00	9		0
PAHs (ug/L)								
1-Methylnaphthalene	0.17	1		0		0		0
2-Methylnaphthalene	0.02	16	0.01	18	0.02	20		0
Acenaphthene	0.01	15	0.00	4	0.01	10		0
Acenaphthylene	0.01	10	0.01	7	0.03	9		0
Anthracene	0.01	6	0.01	4	0.03	9		0
Benzo(a)anthracene	0.03	12	0.02	12	0.11	27	0.07	8
Benzo(a)pyrene	0.05	13	0.02	18	0.06	26	0.10	8
Benzo(b)fluoranthene		0	0.07	3	0.25	16	0.13	8
Benzo(b,k)fluoranthenes	0.02	14	0.04	19	0.05	20		0
Benzo(g,h,i)perylene	0.07	13	0.03	18	0.11	41	0.07	6
Benzo(k)fluoranthene		0	0.03	2	0.13	5	0.10	8
Chrysene	0.05	19	0.04	21	0.12	48	0.12	8
Dibenzo(a,h)anthracene	0.01	2	0.02	2	0.01	1	0.02	4
Fluoranthene	0.08	22	0.06	36	0.19	58	0.20	9
Fluorene	0.01	14	0.01	10	0.01	17		0
Indeno(1,2,3-Cd)Pyrene	0.06	8	0.03	16	0.08	21	0.06	6
Naphthalene	0.03	15	0.04	20	0.04	21	0.05	10
Phenanthrene	0.06	22	0.03	31	0.08	48	0.06	8
Pyrene	0.09	22	0.04	34	0.18	60	0.21	9
Phthalates (ug/L)								
Bis(2-ethylhexyl) phthalate	1.95	10	2.38	35	4.00	44	1.28	19
Butyl benzyl phthalate	0.35	16	0.25	20	0.68	33		0
Di-N-Butyl Phthalate	0.35	17	0.23	27	0.57	34	0.47	10
Diethylphthalate	0.74	21	0.29	27	0.18	20	0.08	7
Dimethyl phthalate	0.06	6	0.07	8	0.43	35	0.07	11
Di-n-octyl phthalate	0.90	7	0.17	12	0.54	10		0
Pesticides/Herbicides (ug/L)								
2,4-D		0	1.47	12	1.25	10	1.28	3
MCPP		0	7.50	2	24.90	1	20.50	1

	Industrial		High Density Residential		Commercial		Low Density Residential	
Triclopyr		0	0.21	4		0		0
Pentachlorophenol		0	0.07	1	0.23	11	0.07	1
Diazinon		0	0.14	1	0.21	1		0
Malathion		0	0.25	1	0.59	2	1.38	1
Dichlobenil	0.02	1	0.17	16	0.25	18		0
Prometon		0	0.13	3	0.05	1	0.09	1

mg/L = milligrams per liter
ug/L= micrograms per liter
CFU = colony forming units
PAHs = polycyclic aromatic hydrocarbons
TPH = total petroleum hydrocarbons

Industrial land use data provided by:

- Cities of Tacoma and Seattle

High density residential land use data provided by:

- Counties of Clark, Pierce, Snohomish and King
- Cities of Tacoma and Seattle

Low density residential land use data provided by

- Counties of Clark, Pierce, Snohomish and King

Commercial land use data provided by

- Cities of Tacoma and Seattle
- Counties of Clark, Pierce, Snohomish and King