

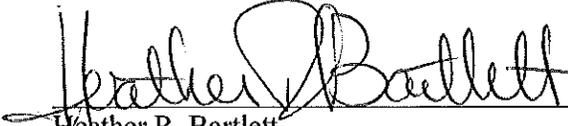
Permit Number: WAR043000A  
Issuance Date: March 6, 2014  
Effective Date: April 5, 2014  
Expiration Date: April 5, 2019

**WASHINGTON STATE DEPARTMENT OF TRANSPORTATION  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AND STATE  
WASTE DISCHARGE MUNICIPAL STORMWATER GENERAL PERMIT**

**State of Washington  
Department of Ecology  
Olympia, Washington 98504-7600**

In compliance with the provisions of  
The State of Washington Water Pollution Control Law  
Chapter 90.48 Revised Code of Washington  
and  
The Federal Water Pollution Control Act  
(The Clean Water Act)  
Title 33 United States Code, Section 1251 et seq.

Until this permit expires, is modified, or revoked, Permittee is authorized to discharge to waters of the state in accordance with the special and general conditions which follow.

  
Heather R. Bartlett,  
Water Quality Program Manager  
Washington State Department of Ecology

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## **SPECIAL CONDITIONS**

### **S1. PERMITEE AND PERMIT COVERAGE**

#### **A. PERMITEE**

This permit regulates stormwater discharges from state highways and related facilities contributing to discharges from separate storm sewers owned or operated by the Washington State Department of Transportation (WSDOT).

#### **B. PERMIT COVERAGE AREA**

1. This permit covers stormwater discharges from municipal separate storm sewer systems (MS4s) owned or operated by WSDOT in areas covered by the Phase I Municipal Stormwater Permit, the Eastern Washington Phase II Municipal Stormwater Permit, and the Western Washington Phase II Municipal Stormwater permit, in effect as of August 1, 2013. Discharges covered include those from WSDOT's highways, ferry terminals, rest areas, park and ride lots, maintenance facilities, vector decant and street sweepings facilities, and winter chemical storage facilities when the discharges are conveyed through a municipal separate storm sewer system (MS4) owned or operated by WSDOT. Coverage excludes areas of federal and tribal lands.
2. This permit covers stormwater discharges from MS4s owned or operated by WSDOT to any water body in Washington State for which there is a U.S. Environmental Protection Agency (EPA) approved Total Maximum Daily Load (TMDL) with wasteload allocations and associated implementation documents specifying actions for WSDOT stormwater discharges. For TMDL areas that are not within the areas described in S1.B.1 above WSDOT shall, at a minimum, be responsible for the TMDL implementation actions found in Appendix 3.

### **S2. AUTHORIZED DISCHARGES**

- A. This permit authorizes the discharge of stormwater to surface waters and to ground waters of the state from MS4s owned or operated by WSDOT in the geographic area covered by this permit pursuant to S1.B. subject to the following limitations:
  1. Discharges to ground waters of the state through facilities regulated under the Underground Injection Control (UIC) program, chapter 173-218 Washington Administrative Code (WAC), are not authorized under this permit.
  2. Discharges to ground waters not subject to regulation under the federal Clean Water Act are authorized in this permit only under state authorities, chapter 90.48 Revised Code of Washington (RCW), Washington's Water Pollution Control Act.
- B. This permit authorizes discharges of non-stormwater flows to surface waters and ground waters of the state from MS4s owned or operated by WSDOT in the geographic area covered pursuant to S1.B. only under one or more of the following conditions:

1. The discharge is authorized by a separate NPDES permit or State Waste Discharge permit.
2. The discharge is from emergency firefighting activities.
3. The discharge is from another illicit or non-stormwater discharge that is managed by WSDOT as provided in Section 3 of WSDOT's Stormwater Management Program Plan (SWMPP, Appendix 5).

These discharges are also subject to the limitations in S2.A.1 and 2 above.

- C. This permit does not relieve WSDOT from responsibilities and liabilities under state and federal laws and regulations pertaining to illicit discharges, including spills of oil or hazardous substances.
- D. Discharges from MS4s constructed after the effective date of this permit shall receive all applicable state and local permits and use authorizations, including compliance with chapter 43.21C RCW (the State Environmental Policy Act).
- E. This permit does not authorize discharges of stormwater to waters within Indian Country or to waters subject to water quality standards of Indian Tribes, including portions of the Puyallup River and other waters on trust or restricted lands within the 1873 Survey Area of the Puyallup Tribe of Indians Reservation, except where authority has been specifically delegated to the Washington State Department of Ecology (Ecology) by the EPA. The exclusion of such discharges from this permit does not waive any rights the State may have with respect to the regulation of the discharges.

### **S3. RESPONSIBILITIES OF PERMITTEE**

- A. WSDOT shall comply with all of the conditions of this permit for the regulated MS4s it owns or operates within the geographic area covered pursuant to S1.B.
- B. WSDOT may rely on another entity to satisfy one or more of the requirements of this permit, if the other entity implements the permit conditions and agrees to implement the permit conditions on WSDOT's behalf. If WSDOT relies on another entity to satisfy one or more of its permit obligations, WSDOT remains responsible for permit compliance if the other entity fails to implement the permit conditions.

Where permit responsibilities are shared:

1. WSDOT shall submit, upon the Ecology's request, shared responsibilities statement(s) to Ecology that describes the permit requirements that will be implemented by other entities. All participating entities shall sign the statement.
  2. WSDOT may amend its shared responsibilities statement(s) during the term of the permit to establish, terminate, or amend shared responsibilities. Upon request, WSDOT shall submit the amended statement(s) to Ecology.
- C. Unless otherwise noted, all appendices to this permit are incorporated by this reference as if set forth fully within this permit.

## **S4. COMPLIANCE WITH STANDARDS**

- A. In accordance with chapter 90.48.520 RCW, the discharge of toxicants to waters of the state of Washington which would violate any water quality standard, including toxicant standards, sediment criteria, and dilution zone criteria is prohibited. The required response to such discharges is defined below in Section S4.F.
- B. This permit does not authorize a discharge which would be a violation of Washington State surface water quality standards (chapter 173-201A WAC), ground water quality standards (chapter 173-200 WAC), sediment management standards (chapter 173-204 WAC), or human health-based criteria in the national Toxics Rule (Federal Register, Vol. 57, No. 246, Dec. 22, 1992, pages 60848-60923). The required response to such discharges is defined in Section S4.F below.
- C. WSDOT shall reduce the discharge of pollutants to the maximum extent practicable (MEP).
- D. WSDOT shall use all known, available, and reasonable methods of prevention, control and treatment (AKART) to prevent and control pollution of waters of the State of Washington.
- E. WSDOT shall comply with all of the applicable requirements of this permit as defined in Section S3, Responsibilities of Permittee in order to meet the goals of the Clean Water Act, and comply with S4.A through S4.D.
- F. WSDOT remains in compliance with S4 despite any discharges prohibited by S4.A or S4.B when WSDOT undertakes the following response toward long-term water quality improvements.
  - 1. WSDOT shall notify Ecology in writing within 30 days of becoming aware, based on credible site-specific information that a discharge from the MS4 owned or operated by WSDOT is causing or contributing to a known or likely violation of Water Quality Standards in the receiving water. Written notification provided under this subsection shall, at a minimum, identify the source of the site-specific information, describe the nature and extent of the known or likely violation in the receiving water and explain the reasons why the MS4 discharge is believed to be causing or contributing to the problem. For ongoing or continuing violations, a single written notification to Ecology will fulfill this requirement.
  - 2. In the event that Ecology determines, based on a notification provided under S4.F.1 or through any other means, that a discharge from an MS4 owned or operated by WSDOT is causing or contributing to a violation of water quality standards in a receiving water, Ecology will notify WSDOT in writing that an adaptive management response outlined in S4.F.3 below is required, unless:
    - a. Ecology also determines that the violation of Water Quality Standards is already being addressed by a TMDL or other enforceable water quality cleanup plan; or
    - b. Ecology concludes the MS4 contribution to the violation will be eliminated through implementation of other permit requirements.
  - 3. Adaptive Management Response.

- a. WSDOT shall review its Stormwater Management Program and submit a report to Ecology within 60 days of receiving the notification under S4.F.2, or by an alternative date established by Ecology. The report shall include:
  - i. A description of the operational and/or structural Best Management Practices (BMPs) that are currently being implemented to prevent or reduce any pollutants that are causing or contributing to the violation of Water Quality Standards and a qualitative assessment of the effectiveness of each BMP.
  - ii. A description of potential additional operational and/or structural BMPs that will or may be implemented in order to apply AKART on a site-specific basis to prevent or reduce any pollutants that are causing or contributing to the violation of Water Quality Standards.
  - iii. A description of the potential monitoring or other assessment and evaluation efforts that will or may be implemented to monitor, assess, or evaluate the effectiveness of the additional BMPs.
  - iv. A schedule for implementing the additional BMPs including, as appropriate: funding, training, purchasing, construction, monitoring, and other assessment and evaluation components of implementation.
- b. Ecology will, in writing, acknowledge receipt of the report within a reasonable time and notify WSDOT when it expects to complete its review of the report. Ecology will either approve the additional BMPs and implementation schedule or require WSDOT to modify the report as needed to meet AKART on a site-specific basis. If modifications are required, Ecology will specify a reasonable time frame in which WSDOT shall submit and Ecology will review the revised report.
- c. WSDOT shall implement the additional BMPs, pursuant to the schedule approved by Ecology, beginning immediately upon receipt of written notification of approval.
- d. WSDOT shall include with each subsequent annual report a summary of the status of implementation, and the results of any monitoring, assessment or evaluation efforts conducted during the reporting period. If, based on the information provided under this subsection, Ecology determines that modification of the BMPs or implementation schedule is necessary to meet AKART on a site-specific basis, WSDOT shall make such modifications as Ecology directs. In the event there are on-going violations of water quality standards despite the implementation of the BMP approach of this section, WSDOT may be subject to compliance schedules to eliminate the violation under chapter 173-201A-510(4) WAC and chapter 173-226-180 WAC or other enforcement orders as Ecology deems appropriate during the term of this permit.
- e. A TMDL or other enforceable water quality cleanup plan that has been approved and is being implemented to address WSDOT MS4's contribution to the Water Quality Standards violation supersedes and terminates the S4.F.3 implementation plan.

- f. Provided WSDOT is implementing the approved adaptive management response under this section, WSDOT remains in compliance with Condition S4, despite any on-going violations of Water Quality Standards identified under S4.A or B above.
  - g. Whether the process in Section S4.F provides WSDOT a shield from liability under 42 U.S.C. 9601 et seq. or chapter 70.105D RCW is a matter of state and federal law which Ecology does not intend to alter. The adaptive management process provided under section S4.F is not intended to create a shield for WSDOT from any liability it may face under 42 U.S.C. 9601 et seq. or chapter 70.105D RCW.
- G. Ecology may modify or revoke and reissue this General Permit in accordance with G14 *General Permit Modification and Revocation*, if Ecology becomes aware of additional control measures, management practices or other actions beyond that required in this permit, that are necessary to:
1. Reduce the discharge of pollutants to the MEP.
  2. Comply with Washington State AKART requirements.
  3. Control the discharge of toxicants to waters of Washington State.

## **S5. STORMWATER MANAGEMENT PROGRAM**

### A. General Requirements

1. WSDOT shall implement and enforce its Ecology approved Stormwater Management Program Plan (SWMPP). The SWMPP is incorporated as Appendix 5 of this permit.
2. WSDOT designed the SWMPP to:
  - a. Reduce the discharge of pollutants from all municipal MS4s and other conveyances owned or operated by WSDOT covered under this permit to the MEP.
  - b. Protect water quality and beneficial uses of waters of the State from impacts which cause or contribute to loss or impairment.
  - c. Satisfy appropriate requirements of the Clean Water Act (CWA).
3. WSDOT shall implement all components and requirements of its SWMPP including all performance indicators and milestones as enforceable conditions of this permit. See Appendix 2 for a list of the performance indicators.
  - a. WSDOT shall apply the technical standards in the Washington State Highway Runoff Manual (HRM) for the planning, design, and operation and maintenance of stormwater facilities in Phase I, Phase II, and as applicable for TMDL areas covered under this permit. One year from the effective date of this permit (i.e., April 5, 2014), projects going to advertisement (AD) shall comply with the 2014 HRM except **as follows**:

- i. Projects requiring an individual Section 401 Water Quality Certification may be subject to additional stormwater requirements if, based on site specific information, the use of the 2014 HRM will not result in compliance with State Water Quality Standards.
  - ii. Projects receiving Design Approval before July 1, 2014 may use the 2011 HRM on the condition that the projects go to AD by June 30, 2017.
- 4. Watershed-scale stormwater planning
  - a. When WSDOT has all or part of its coverage area under this Permit in a watershed selected by a Phase I county for watershed-scale stormwater planning under condition S5.C.4.c of the *Phase I Municipal Stormwater General Permit* WSDOT shall participate with the watershed-scale stormwater planning process led by the Phase I county.<sup>1</sup> As needed and as appropriate, WSDOT shall:
    - i. Provide existing water quality and flow records.
    - ii. Provide monitoring locations.
- 5. WSDOT shall request adequate resources to maintain compliance with this permit in its proposed budget submittals to the Governor’s Office. WSDOT shall track the estimated cost of permit implementation and include the cost estimate in the annual report as stipulated in S8.F.2 and S8.F.3.

**B. Program Assessment and Evaluation**

- 1. WSDOT shall meet the performance indicators provided in Appendix 2 to implement actions and construct, operate, and maintain facilities in accordance with this permit and the SWMPP.
- 2. WSDOT shall track the status of SWMPP implementation activities by documenting the implementation status of performance indicators listed in Appendix 2 to fulfill the annual reporting requirement stipulated in S8.F.14.

**S6. TOTAL MAXIMUM DAILY LOAD ALLOCATIONS**

- A. This permit requires compliance with implementation actions assigned to WSDOT in applicable TMDLs. Applicable TMDLs are those which have been approved by EPA on or before the issuance date of this permit or subsequent permit modifications. Appendix 3 lists applicable TMDLs and the implementation actions assigned to WSDOT.
  - 1. WSDOT shall comply with implementation actions listed in Appendix 3.
  - 2. If a specific TMDL listed in Appendix 3 requires WSDOT to conduct water quality monitoring, WSDOT shall develop and implement a TMDL monitoring Quality Assurance Project Plan (QAPP) approved by Ecology. WSDOT may use the most recent versions of *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies* (Ecology Publication #04-03-030) or the most recent version of EPA’s *Guidance for Quality Assurance Project Plans*, as additional guidance.

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<sup>1</sup> For a description of the watershed-scale stormwater planning details, see Special Condition S5.C.5.c of the 2013 *Phase I Municipal Stormwater Permit*.

WSDOT shall meet the timeframes identified in either the TMDL or associated implementation documents.

## **S7. MONITORING**

### **A. Monitoring Objectives**

WSDOT shall continue the monitoring program to establish baseline stormwater discharge information from its highway conveyances for water year 2014, ending September 30, 2014. WSDOT shall implement a monitoring program to evaluate best management practice (BMP) effectiveness at facility monitoring sites, and continue a monitoring program to evaluate BMP effectiveness at highway monitoring sites. WSDOT shall design and implement the monitoring program to:

1. Produce scientifically credible and representative data;
2. Provide information that WSDOT can use for designing and implementing effective stormwater management strategies for WSDOT's highways and facilities; and
3. Provide information WSDOT can use to refine requirements, guidelines, and procedures contained in Stormwater Pollution Prevention Plans (SWPPPs) and the Highway Runoff Manual (HRM).

### **B. Baseline Monitoring of WSDOT Highways**

1. WSDOT shall continue collecting stormwater discharge quality and quantity data from the edge of pavement at the existing highway sites until September 30, 2014. WSDOT shall collect data to allow analysis of pollutant loads and prioritize parameters of concern. WSDOT shall collect samples at each site, at the frequencies and durations, and for the parameters specified in this section.

#### **2. Baseline Monitoring Site Selection**

WSDOT shall continue baseline highway runoff monitoring for water year 2014 (ending September 30, 2014) at its existing sites under the 2009 issued permit with the following annual average daily traffic (AADT):

- a. Two highly urbanized Western Washington sites ( $\geq 100,000$  AADT)
- b. One urbanized Western Washington site ( $\leq 100,000$  and  $\geq 30,000$  AADT)
- c. One rural Western Washington site ( $\leq 30,000$  AADT)
- d. One urbanized Eastern Washington site ( $\leq 100,000$  and  $\geq 30,000$  AADT)

#### **3. Parameters to be Sampled and Analyzed**

- a. WSDOT shall sample, analyze, and report the following parameters as indicated in order of priority if insufficient volume exists. Chemicals below method detection limits after two years of data analysis may be dropped from the list of parameters. Appendix 4 includes parameter details, analytical methods and reporting limits.
  - i. Total and dissolved metals: copper, zinc, cadmium and lead

- ii. Hardness
  - iii. Polycyclic Aromatic Hydrocarbons (PAHs)
  - iv. Total suspended solids (TSS)
  - v. Chlorides
  - vi. Phthalates
  - vii. Herbicides: Triclopyr (Ester formula only), 2, 4-D, Clopyralid, Diuron, Dichlobenil, Picloram, and Glyphosate (only if NON-aquatic formula is used). Herbicides shall be sampled and analyzed only if applied near the monitoring site vicinity.
  - viii. Nutrients: Total phosphorus, orthophosphate
- b. Grab samples shall be collected as early in the runoff event as practical. If grab samples are not collected during qualifying storm events, non-qualifying sized storm events may be sampled. Grab samples shall be collected, analyzed and reported for the parameters listed below. The total number of grab samples collected shall be equal to the total number of storm events collected to meet the conditions in S7.B.5.a. Appendix 4 includes parameter details, analytical methods and reporting limits.
- i. Total Petroleum Hydrocarbons (TPH): NWTPH-Dx and NWTPH-Gx
  - ii. Fecal coliform
  - iii. Temperature (collected from runoff in-situ or as a grab sample)
  - iv. Visible sheen observation

#### 4. Sampling method

WSDOT shall use flow-weighted composite samplers to sample qualifying storm events, except where this permit specifies grab samples or other sampling methods. The automated sampler shall be programmed to begin sampling as early in the runoff event as practical. Each composite sample must consist of at least 10 aliquots. Composite samples with 7 to 9 aliquots are acceptable if they meet the other sampling criteria and help achieve a representative balance of storm events and storm sizes. WSDOT shall obtain samples from the edge of the pavement or from a location within a pipe conveyance system as long as in the latter case, the stormwater has not passed through a treatment BMP, a vegetated area, or the soil column.

#### 5. Sample timing and frequency

WSDOT shall sample storm events as early in the storm event as practical and continue sampling past the longest estimated time of concentration for the contributing drainage area. For storm events lasting less than 24 hours, samples shall be collected for at least seventy-five percent of the storm event hydrograph. For storm events lasting longer than 24 hours, samples shall be collected for at least seventy-five percent of the hydrograph of the first 24 hours of the storm.

- a. WSDOT shall sample each stormwater monitoring site at the following frequency:

- i. Sixty-seven percent of the forecasted qualifying storms, which result in actual qualifying storm events up to a maximum of 14 storm events per water year. Eleven storm events are the required minimum.
- ii. WSDOT may collect and report data from up to 20% of storm events that were forecasted qualifying storms but which did not meet the qualifying storm event criteria for rainfall depth (0.15-inch minimum) as defined in Section S7.B.5.b. These non-qualifying storm events may be collected and counted as part of the required storm events.
- iii. WSDOT shall ensure that storm samples are distributed throughout the year and approximately reflecting the distribution of rainfall between the wet and dry seasons. The goal for western Washington sites is to collect 60-80% of the samples during the wet season (October 1 through April 30) and 20-40% during the dry season (May 1 through September 30). For eastern Washington, the goal is to collect 80-90% of the samples in the wet season (October 1 through June 30) and 10-20% of the samples in the dry season (July 1 through September 30).

b. Storm Event Criteria

A qualifying storm event shall meet the following conditions:

- i. Rainfall depth: 0.15-inch minimum, no fixed maximum.
- ii. Rainfall duration: Shortest acceptable duration one hour.
- iii. Storm start (antecedent dry period): 6 hours minimum with less than 0.04-inch of rain.
- iv. Storm end (post storm period): 6 hours minimum with less than 0.04-inch of rain.

6. Baseline Sediment Testing

WSDOT shall trap and analyze sediments during a single sampling event in spring or summer 2014 at each highway-sampling site.

- a. WSDOT shall sample, analyze, and report the following parameters in sediments, as indicated in order of priority if sufficient volume exists. Chemicals below method detection limits after two years of data analysis may be dropped from the list of parameters. Appendix 4 lists the parameter details, analytical methods and reporting limits.
  - i. Particle size (grain size)
  - ii. Total organic carbon
  - iii. Total metals: copper, zinc, cadmium, lead, and arsenic
  - iv. PAHs
  - v. TPH – NWTPH-Dx
  - vi. Phenolics
  - vii. Herbicides: Dichlobenil, Triclopyr, Picloram, and Clopyralid. Herbicides

shall be sampled and analyzed only if applied in the monitoring site drainage area.

- viii. Phthalates
- ix. Total solids
- x. PCBs

7. Reporting for Baseline Monitoring of Highways

WSDOT shall prepare and submit a baseline monitoring of highway runoff report with each Annual Stormwater Report by October 31, as follows:

Report Year	Data and Information Required
2014	<ul style="list-style-type: none"> <li>a. Data collected from October 1, 2012 through September 30, 2013 for highway runoff monitoring sites in S7.B.2.</li> <li>b. The following information for each sampling event from each site:               <ul style="list-style-type: none"> <li>i. Sample event identification (date, time, location);</li> <li>ii. Tabular water quality data and summary results for each monitored parameter including sediments;</li> <li>iii. Antecedent dry period, inter-event period and total precipitation depth;</li> <li>iv. A graphical representation of the storm's hyetograph and hydrograph, with aliquot collection points spatially located throughout the hydrograph; the sampled time period (% of hydrograph sampled), total runoff time period and total runoff volume.</li> </ul> </li> <li>c. Information establishing the rainfall/runoff relationship using continuous flow records and precipitation data for each site.</li> <li>d. The following information for each parameter:               <ul style="list-style-type: none"> <li>i. Mean and median Event Mean Concentrations (EMCs) only from sampled storm events; and</li> <li>ii. Total annual pollutant load and seasonal pollutant load for the wet and dry seasons only from sampled storm events.</li> </ul> </li> <li>e. Proposed changes to the monitoring program that could affect future data results.</li> </ul>
2015	<ul style="list-style-type: none"> <li>a. Cumulative data collected from October 1, 2012 through September 30, 2014 for highway runoff monitoring sites in S7.B.2.</li> <li>b. The following information for each sampled storm event:               <ul style="list-style-type: none"> <li>i. Sample event identification (date, time, location);</li> <li>ii. Tabular water quality data and summary results for each monitored parameter including sediments;</li> <li>iii. Antecedent dry period, inter-event period and total precipitation depth;</li> <li>iv. A graphical representation of the storm's hyetograph and hydrograph, with aliquot collection points spatially located throughout the hydrograph; the sampled time period (% of hydrograph sampled), total runoff time period and total runoff volume.</li> </ul> </li> <li>c. The following for each parameter:</li> </ul>

	<ul style="list-style-type: none"> <li>i. Rainfall/runoff relationship established using continuous flow records and precipitation data;</li> <li>ii. Mean and median EMCs only from sampled storm events;</li> <li>iii. Total annual pollutant load and the seasonal pollutant load for the wet and dry seasons for both sampled and estimated unsampled storm events;</li> <li>iv. The method used to estimate loads for unsampled events shall be applied to previously submitted data.</li> <li>v. WSDOT shall express loadings as total pounds and as pounds per acre.</li> </ul> <ul style="list-style-type: none"> <li>d. An evaluation of each monitoring site.</li> <li>e. Stormwater management actions taken or planned to reduce pollutants.</li> <li>f. An estimated cost for the highway runoff monitoring.</li> </ul>
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Data in the highway runoff monitoring reports shall be submitted in the following formats:

- a. Excel format
- b. Reports shall be submitted in both paper and electronic format.

C. Monitoring the Effectiveness of Stormwater Treatment and Hydrologic Management BMPs at Rest Areas, Maintenance Facilities, or Ferry Terminals

1. WSDOT shall develop and implement a monitoring program to evaluate the effectiveness of stormwater treatment and hydrologic management BMPs at rest areas, maintenance facilities, or ferry terminals.
2. Stormwater BMPs (operational or structural) selected for monitoring shall address concerns identified from water year 2012 (WY12) and WY13 rest area, maintenance facility, or ferry terminal monitoring data. WSDOT shall evaluate BMPs at three facilities:
  - a. two facilities in western Washington, and
  - b. one facility in eastern Washington.
3. For BMPs with short detention times, WSDOT shall use appropriate sections of Ecology’s 2011 or the most recent version of the *Technical Guidance Manual for Evaluating Emerging Stormwater Treatment Technologies: Technology Assessment Protocol – Ecology (2011 TAPE)* to prepare, implement, and report results.

<http://www.ecy.wa.gov/programs/wq/stormwater/newtech/index.html>

For operational BMPs and BMPs with long detention times, WSDOT shall work with Ecology to identify the portions of TAPE that would apply and/or define alternate monitoring methods.

WSDOT shall use EPA’s 2009 or most recent version of the *Urban Stormwater BMP Performance Monitoring* as additional guidance for preparing the BMP evaluation.

4. Site selections and QAPP approvals shall be completed by March 6, 2016. Full implementation of the effectiveness monitoring programs shall begin no later than October 1, 2016.
5. Monitoring shall continue at the selected rest area, maintenance facility, or ferry terminal sites until statistical goals in Ecology’s 2011 or most recent version of TAPE are met. At a minimum, 12 sampling events are needed for statistically significant performance data. Regardless of statistical significance, 35 sample events is the maximum sampling effort required as defined in the QAPP.
6. Reporting requirements for BMP effectiveness monitoring at rest areas, maintenance facilities, or ferry terminals

WSDOT shall prepare and submit BMP effectiveness monitoring reports with each Annual Stormwater Report by October 31, as follows:

<b>Report Year</b>	<b>Data and Information Required</b>
2014 - 2017	Status on preparations for new monitoring sites in S7.C.2.
2018	<ol style="list-style-type: none"> <li>a. Data collected from October 1, 2016 through September 30, 2017 for BMP effectiveness monitoring sites in S7.C.2.</li> <li>b. The following information for each sampling event from each site:               <ol style="list-style-type: none"> <li>i. Sample event identification (date, time, location);</li> <li>ii. Tabular water quality data and summary results for each monitored parameter;</li> <li>iii. Antecedent dry period, inter-event period and total precipitation depth;</li> <li>iv. A graphical representation of storm hyetograph and hydrograph for both the influent and effluent, with each aliquot collection point spatially located throughout the hydrograph; the sampling time period (percent of hydrograph sampled), total runoff period and total runoff volume, as appropriate.</li> </ol> </li> <li>c. The following information for each site:               <ol style="list-style-type: none"> <li>i. Status of monitoring implementation and a description of the BMP monitoring programs still in progress at the end of the reporting year;</li> <li>ii. For treatment BMPs, cumulative (including previous years) performance data for each test site consistent with guidelines in appropriate sections of Ecology’s 2011 TAPE and EPA’s 2009 <i>Urban Stormwater BMP Performance Monitoring</i> or the most recent version of these guidelines;</li> <li>iii. Status of cumulative (including previous years) performance data in terms of statistical goals for each test site;</li> <li>iv. If applicable, status of performance data concerning flow reduction performance for any hydrologic reduction BMP; and</li> <li>v. Proposed changes to the monitoring that could affect future data results.</li> </ol> </li> <li>d. Specific recommendations regarding BMP design or operations.</li> <li>e. Stormwater management actions taken or planned to reduce pollutants.</li> </ol>

<p>Annually thereafter as long as the permit is in effect</p>	<ul style="list-style-type: none"> <li>a. Data collected from October 1 through September 30 for BMP effectiveness monitoring sites (S7.B.1-4, as appropriate) including a status report on preparations for new monitoring sites in S7.C.2.</li> <li>b. Stormwater management actions taken or planned to reduce pollutants.</li> <li>c. The following information for each sampling event from each site: <ul style="list-style-type: none"> <li>i. Sample event identification (date, time, location);</li> <li>ii. Tabular water quality data and summary results for each monitored parameter;</li> <li>iii. Antecedent dry period, inter-event period and total precipitation depth;</li> <li>iv. A graphical representation of storm hyetograph and hydrograph for both the influent and effluent, with each aliquot collection point spatially located throughout the hydrograph; the sampling time period (percent of hydrograph sampled), total runoff period and total runoff volume, as appropriate.</li> </ul> </li> <li>d. The following information for each site: <ul style="list-style-type: none"> <li>i. Status of implementing the program and a description of the BMP monitoring programs still in progress at the end of the reporting year;</li> <li>ii. For treatment BMPs, cumulative (including previous years) performance data for each test site consistent with guidelines in appropriate sections of Ecology’s 2011 TAPE and EPA’s 2009 <i>Urban Stormwater BMP Performance Monitoring</i> or the most recent version of these guidelines;</li> <li>iii. Status of cumulative (including previous years) performance data in terms of statistical goals for each test site;</li> <li>iv. If applicable, status of performance data concerning flow reduction performance for any hydrologic reduction BMP; and</li> <li>v. Any proposed changes to the monitoring program that could affect future data results.</li> </ul> </li> </ul>
<p>Final report for each BMP</p>	<ul style="list-style-type: none"> <li>a. Submit within 12 months once the monitoring statistical goals are met or the maximum 35 sample events have been achieved.</li> <li>b. Include an analysis of the performance data collected on the BMPs as described in the appropriate sections of Ecology’s 2011 TAPE or the most recent version of TAPE.</li> <li>c. Include an estimated cost of the BMP effectiveness monitoring.</li> </ul>

Data in stormwater monitoring reports shall be submitted in the following formats:

- a. Excel format
- b. Reports shall be submitted in both paper and electronic format.

**D. Monitoring the Effectiveness of Stormwater Treatment and Hydrologic Management BMPs at Highway Monitoring Sites**

- 1. WSDOT shall continue to evaluate the effectiveness of its vegetated filter strip (VFS) and modified-VFS stormwater treatment and hydrologic management BMPs for highway applications. BMP monitoring shall continue until statistical goals in Ecology’s 2011 *Technical Guidance Manual for Evaluating Emerging Stormwater Treatment Technologies: Technology Assessment Protocol – Ecology* (2011 TAPE)

or the most recent version of TAPE are met. At a minimum, 12 sampling events are needed for statistically significant performance data. Regardless of statistical significance, 35 sample events is the maximum sampling effort required as defined in the QAPP.

2. Reporting requirements for VFS effectiveness monitoring

WSDOT shall prepare and submit BMP effectiveness monitoring reports with each Annual Stormwater Report by October 31, as follows:

Report Year	Data and Information Required
2014	<ul style="list-style-type: none"> <li>a. Data collected from October 1, 2012 through September 30, 2013 for VFS BMP effectiveness monitoring sites in S7.D.1.</li> <li>b. The following information for each sampling event from each site.               <ul style="list-style-type: none"> <li>i. Sample event identification (date, time, location);</li> <li>ii. Tabular water quality data and summary results for each monitored parameter;</li> <li>iii. Antecedent dry period, inter-event period and total precipitation depth;</li> <li>iv. A graphical representation of storm hyetograph and hydrograph for both the influent and effluent, with each aliquot collection point spatially located throughout the hydrograph; the sampling time period (percent of hydrograph sampled), total runoff period and total runoff volume, as appropriate.</li> </ul> </li> <li>c. The following information for each site:               <ul style="list-style-type: none"> <li>i. Status of implementing the program and a description of the VFS BMP monitoring programs still in progress at the end of the reporting year;</li> <li>ii. Cumulative (including previous years) performance data for each treatment VFS BMP test site consistent with guidelines in appropriate sections of Ecology’s 2011 TAPE and EPA’s 2011 Urban Stormwater BMP Performance Monitoring or the most recent version of these guidelines;</li> <li>iii. Status of cumulative (including previous years) performance data in terms of statistical goals for each test site;</li> <li>iv. Status of performance data concerning flow reduction performance for any hydrologic reduction VFS BMP; and</li> <li>v. Proposed changes to the monitoring program that could affect future data results.</li> <li>vi. Stormwater management actions taken or planned to reduce pollutants.</li> <li>vii. Specific recommendations regarding VFS BMP design.</li> </ul> </li> </ul>

<p>Annually thereafter as long as the permit is in effect or until studies are completed</p>	<ul style="list-style-type: none"> <li>a. Data collected from October 1 through September 30 for VFS BMP effectiveness monitoring sites S7.D.1 including a status report.</li> <li>b. The following information for each sampling event from each site. <ul style="list-style-type: none"> <li>i. Sample event identification (date, time, location);</li> <li>ii. Tabular water quality data and summary results for each monitored parameter;</li> <li>iii. Antecedent dry period, inter-event period and total precipitation depth;</li> <li>iv. A graphical representation of storm hyetograph and hydrograph for both the influent and effluent, with each aliquot collection point spatially located throughout the hydrograph; the sampling time period (percent of hydrograph sampled), total runoff period and total runoff volume, as appropriate.</li> </ul> </li> <li>c. The following information for each site: <ul style="list-style-type: none"> <li>i. Status of implementing the program and a description of the VFS BMP monitoring programs still in progress at the end of the reporting year;</li> <li>ii. Cumulative (including previous years) performance data for each treatment VFS BMP test site consistent with guidelines in appropriate sections of Ecology’s 2011TAPE and EPA’s <i>Urban Stormwater BMP Performance Monitoring</i> or the most recent version of these guidelines;</li> <li>iii. Status of cumulative (including previous years) performance data in terms of statistical goals for each test site;</li> <li>iv. Status of performance data concerning flow reduction performance for any hydrologic reduction VFS BMP; and</li> <li>v. Proposed changes to the monitoring program that could affect future data results.</li> <li>vi. Stormwater management actions taken or planned to reduce pollutants.</li> <li>vii. Specific recommendations regarding VFS BMP design, operations, and maintenance.</li> </ul> </li> </ul>
<p>Final report for each BMP</p>	<ul style="list-style-type: none"> <li>a. Submit within 12 months once the monitoring statistical goals are met or the maximum 35 sample events have been achieved.</li> <li>b. Include an analysis of the performance data collected on the VFS BMPs as described in the appropriate sections of Ecology’s 2011 TAPE or the most recent version of TAPE.</li> <li>c. Include an estimated cost of the BMP effectiveness monitoring.</li> </ul>

Data in stormwater monitoring reports shall be submitted in the following formats:

- a. Excel format
  - b. Reports shall be submitted in both paper and electronic format.
3. Within one year following submittal of the VFS studies final monitoring report or no later than October 1, 2017, WSDOT in consultation with Ecology shall: 1) prepare and submit an Ecology-approved QAPP; and 2) begin implementing the next highway BMP effectiveness evaluation(s). The selection of highway BMP effectiveness studies shall be based on WSDOT’s stormwater management research priorities, stormwater treatment needs of the agencies, and shall be the approximate same level of monitoring effort and cost as the previous VFS BMP effectiveness studies.

4. For BMPs with short detention times, WSDOT shall use appropriate sections of Ecology’s 2011 TAPE (link below) or most recent version of TAPE to prepare, implement, and report results.

<http://www.ecy.wa.gov/programs/wq/stormwater/newtech/index.html>

For operational BMPs and BMPs with long detention times, WSDOT shall work with Ecology to identify the portions of TAPE that would apply and/or define alternative monitoring protocols.

WSDOT shall use EPA’s 2009 *Urban Stormwater BMP Performance Monitoring* as additional guidance for preparing the BMP evaluation.

5. Monitoring at highway BMP effectiveness sites shall continue until statistical goals in 2011 TAPE or most recent version of TAPE are met. At a minimum, 12 sampling events are needed for statistically significant performance data. Regardless of statistical significance, 35 sample events is the maximum sampling effort required as defined in the QAPP.
6. Reporting requirements for BMP effectiveness monitoring

WSDOT shall prepare and submit BMP effectiveness monitoring reports with each Annual Stormwater Report by October 31, as follows:

Report Year	Data and Information Required
2014 - 2017	Status on preparations for new monitoring sites in S7.D.3.
2018	<ol style="list-style-type: none"> <li>a. As agreed in the Ecology-approved QAPP, provide either the status on preparations for new monitoring sites or details on data collected from October 1, 2016 through September 30, 2017 for BMP effectiveness monitoring sites in S7.D.3.</li> <li>b. The following information for each sampling event from each site.               <ol style="list-style-type: none"> <li>i. Sample event identification (date, time, location);</li> <li>ii. Tabular water quality data and summary results for each monitored parameter;</li> <li>iii. Antecedent dry period, inter-event period and total precipitation depth;</li> <li>iv. A graphical representation of storm hyetograph and hydrograph for both the influent and effluent, with each aliquot collection point spatially located throughout the hydrograph; the sampling time period (percent of hydrograph sampled), total runoff period and total runoff volume, as appropriate.</li> </ol> </li> <li>c. The following information for each site:               <ol style="list-style-type: none"> <li>i. Status of implementing the program and a description of the BMP monitoring programs still in progress at the end of the reporting year;</li> <li>ii. Cumulative (including previous years) performance data for each treatment BMP test site consistent with guidelines in appropriate sections of Ecology’s 2011 TAPE and EPA’s 2009 <i>Urban Stormwater BMP Performance Monitoring</i> or the most recent versions of these guidelines;</li> <li>iii. Status of cumulative (including previous years) performance data in terms of statistical goals for each test site;</li> <li>iv. Status of performance data concerning flow reduction performance for any hydrologic reduction BMP; and</li> </ol> </li> </ol>

	<ul style="list-style-type: none"> <li>v. Proposed changes to the monitoring program that could affect future data results.</li> <li>vi. Stormwater management actions taken or planned to reduce pollutants.</li> <li>vii. Specific recommendations regarding BMP design.</li> </ul>
Final report for each BMP	<ul style="list-style-type: none"> <li>a. Submit within 12 months once the monitoring statistical goals are met or the maximum 35 sample events have been achieved.</li> <li>b. Include an analysis of the performance data collected on the BMPs as described in the appropriate sections of Ecology's 2011 TAPE or the most recent version of TAPE.</li> <li>c. Include an estimated cost for the BMP effectiveness monitoring.</li> </ul>

Data in stormwater monitoring reports shall be submitted in the following formats:

- a. Excel format
- b. Reports shall be submitted in both paper and electronic format.

E. Status and Trends Monitoring

WSDOT shall participate in the Puget Sound status and trends monitoring component of the Regional Stormwater Monitoring Program (RSMP) by one of the three options listed below. WSDOT shall notify Ecology as to which option it elects to follow, no later than July 15, 2014. WSDOT shall choose a single option for the duration of the permit.

1. WSDOT shall pay into a collective fund to implement RSMP status and trends monitoring in Puget Sound. WSDOT's annual payment amount shall be \$27,000. WSDOT shall submit the first payment to Ecology on or before October 15, 2014. Subsequent payments shall be submitted on or before August 15 of each year for the duration of the permit. Payment shall be by ACH, check, or money order and shall be mailed to:

Department of Ecology  
Cashiering Section  
Regional Stormwater  
Monitoring Program  
PO Box 47611  
Olympia, WA 98504-7611

- OR -

2. WSDOT shall coordinate with RSMP sampling plans to arrange for collection and analysis of the following additional parameters at each of the Puget Sound Lowland small stream RSMP sites:
  - a. Dissolved organic carbon (DOC) in monthly water samples in 2015, and
  - b. Pesticides 2,4-D, Dichlobenil, Diuron, and Triclopyr in sediment samples in summer 2015.

If WSDOT chooses this option, the Ecology-approved RSMP QAPP will be amended to include these parameters. Sampling and data analysis shall be conducted and reported in accordance with the amended RSMP QAPP

- OR -

3. WSDOT shall, in coordination with RSMP implementation and following the Ecology-approved opt-out status and trends monitoring QAPP, monitor caged mussels at one site located within 300 feet of each of eight ferry terminals in Puget Sound in winter 2015-2016 and again in winter 2017-2018 as specified in the Ecology-approved, opt-out status and trends monitoring QAPP.
  - a. WSDOT shall submit to Ecology a list of confirmed sampling locations on or before June 30, 2015.
  - b. Data and analyses shall be reported in accordance with the Ecology-approved, amended opt-out QAPP found at:  
<http://www.ecy.wa.gov/programs/wq/stormwater/municipal/status.html>

#### F. Quality Assurance Project Plans

1. WSDOT shall prepare Quality Assurance Project Plans (QAPP) in accordance with Ecology's *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies* (Ecology Publication #04-03-030 or the most recent version of EPA's *Guidance for Quality Assurance Project Plans* as guidance). WSDOT shall prepare QAPPs, or use updated QAPPs previously approved by Ecology, for all components of its monitoring program.
2. WSDOT may combine any required QAPPs if a single site is used to meet one or more permit monitoring requirements. The QAPPs and monitoring programs shall be developed by qualified staff or contractors with experience in writing QAPPs in accordance with Ecology or EPA QAPP Guidelines.
3. WSDOT shall obtain Ecology approval letters for each QAPP prior to implementation.

#### G. Collaborative and Independent Programs

WSDOT may independently develop any or all of the components of the monitoring program, conduct the monitoring, and report results; or WSDOT may choose to develop any or all of the components of the monitoring program, conduct the monitoring, and report results through an integrated, long-term, water quality monitoring program in collaboration with other entities. Collaborative monitoring programs may be developed by a third party (or parties) provided that WSDOT complies with the provisions of Special Condition S3.B and S7 (relying on another entity to meet permit requirements). WSDOT shall meet the schedule for the development of monitoring programs whether the programs are independent or collaborative. Applicable deadlines get extended by the number of days by which Ecology exceeds 90 days for QAPP review.

1. If WSDOT intends to meet all or part of the monitoring requirements outlined in Section S7 through a collaborative process with other entities, WSDOT shall submit a statement to Ecology explaining their commitment to the collaborative process.
2. For both independent and collaborative monitoring, WSDOT shall submit all required QAPPs to Ecology. WSDOT shall submit monitoring QAPPs in both paper and electronic form.

3. Approved or final QAPPs shall be completed for:
  - a. BMP effectiveness monitoring at rest areas, maintenance facilities, or the ferry terminal no later than March 6, 2016.
  - b. BMP effectiveness monitoring at highways within the one year following submittal of the VFS study final monitoring report or not later than October 1, 2017.
4. WSDOT shall begin full implementation of:
  - a. Facilities BMP effectiveness monitoring no later than October 1, 2016.
  - b. Highway BMP effectiveness monitoring no later than October 1, 2017.

H. Stormwater Monitoring Reporting

1. A Stormwater Monitoring Report shall be prepared and submitted with each Annual Report by October 31 per S7.B.7, S7.C.6, S7.D.2, and S7.D.6.
2. WSDOT shall enter into Ecology’s Environmental Information Management Database (EIM) and the International Stormwater BMP Database (<http://www.bmpdatabase.org/>) all relevant data collected pursuant to S7. Data entry into EIM and the International Stormwater BMP Database shall be completed in accordance with the Ecology-approved QAPPs.

**S8. REPORTING REQUIREMENTS**

- A. WSDOT shall submit an annual report no later than October 31 of each year beginning in 2014. The reporting period shall cover the previous fiscal year (July 1 to June 30).
- B. The annual report serves as a compliance report to Ecology as well as a wider audience including policy makers (i.e., legislators and WSDOT management), public advocacy groups, and the general public.
  1. WSDOT shall submit two printed copies and an electronic (PDF) copy of the annual report to Ecology.
  2. All submittals shall be delivered to:
 

Department of Ecology  
Water Quality Program  
Municipal Stormwater Permits  
PO Box 47696  
Olympia, WA 98504-7696
- C. WSDOT shall keep all records related to this permit until three years after the permit is no longer in effect.
- D. WSDOT shall make all records related to this permit and the SWMPP available to the public according to Washington State public disclosure requirements. WSDOT shall provide a copy of the most recent annual report to any individual or entity, upon request.
  1. WSDOT may charge a reasonable amount for making photocopies of records.

2. WSDOT may require reasonable advance notice of intent to review records related to this permit.
- E. WSDOT shall make an electronic copy of the most recent annual report available for downloading from their website.
- F. The annual report shall include the following for the reporting period:
1. Certifications and signatures as described in G19.C and notification of any changes to authorization as described in G19.B.
  2. WSDOT's proposed budget submittal to the Governor's Office related to resources needed to comply with this permit.
  3. An estimate of how much WSDOT spent implementing the permit's requirements.
  4. A summary of the status of compliance with each action item required by applicable TMDLs and listed in Appendix 3.
  5. A summary of any actions taken pursuant to S4.F, including the status of implementation and the results of monitoring, assessment, or evaluation efforts conducted as part of an adaptive management response.
  6. A summary of G3 notifications to Ecology regarding spills into an MS4 that WSDOT owns or operates which could have constituted a threat to human health, welfare, or the environment.
  7. A summary of G20 notifications to Ecology regarding noncompliance with permit terms and conditions.
  8. A summary of G21 notifications to Ecology regarding upsets.
  9. A summary of the status of inventorying and mapping the MS4 owned or operated by WSDOT, including any GIS layer updates related to its MS4 inventory. Summaries covering the period from March 6, 2016 and beyond should also report whether WSDOT met the pace defined for completing conveyance mapping of the MS4 WSDOT owns or operates.
  10. For retrofitting carried out pursuant to SWMPP Section 6.2 in which retrofitting all existing impervious areas was deemed either infeasible or not cost-effective, report the cost information developed in order to ensure compliance with the requirement, and describe where and how much retrofitting took place. In the event that the project met this obligation by transferring funds to finance high priority stand-alone retrofit projects, report the amount of funds transferred.
  11. If WSDOT increased the length of time between inspections for any catch basins or permanent stormwater BMPs, based on inspection and maintenance experience and records, WSDOT shall provide a written statement in the annual report that the maintenance standards can be met with the less frequent inspection schedule. WSDOT shall make the maintenance records available to Ecology upon request.
  12. Descriptions of the implementation status for the performance indicators listed in Appendix 2 of this permit.

## **GENERAL CONDITIONS**

### **G1. DISCHARGE VIOLATIONS**

All discharges and activities authorized by this permit shall be consistent with the terms and conditions of this permit.

### **G2. PROPER OPERATION AND MAINTENANCE**

WSDOT shall at all times properly operate and maintain all facilities and systems of collection, treatment, and control (and related appurtenances) which are installed or used by WSDOT for pollution control to achieve compliance with the terms and conditions of this permit.

### **G3. NOTIFICATION OF SPILL**

If WSDOT has knowledge of a spill into a municipal storm sewer which could constitute a threat to human health, welfare, or the environment, WSDOT shall:

- Take appropriate action to correct or minimize the threat to human health, welfare and/or the environment, and
- Notify the Ecology regional office and other appropriate spill response authorities immediately but in no case later than within 24 hours of obtaining that knowledge. For spills which might cause bacterial contamination of shellfish, such as might result from broken sewer lines, WSDOT shall report immediately to Ecology and the Department of Health's Shellfish Program.

Ecology's Regional Office 24-hour number is:

- Northwest Regional Office (425) 649-7000
- Southwest Regional Office (360) 407-6300
- Central Regional Office (509) 575-2490
- Eastern Regional Office (509) 329-3400

Department of Health's Shellfish 24-hour number is:

- Department of Health, Shellfish Program (360) 236-3330 during normal business hours and (360) 786-4183 outside of normal business hours.

Additional details on WSDOT's traffic-related spills notification and response procedures appear in Section 3 of the *Stormwater Management Program Plan* (i.e., Appendix 5). The procedures were developed with involvement from WSP, Ecology Spills Program and local governments.<sup>2</sup>

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<sup>2</sup> WSDOT staff takes the emergency actions required to protect human life and property until the WSP gains control of the situation. WSDOT staff, who received training to do so, will take control actions when

#### **G4. BYPASS PROHIBITED**

The intentional *bypass* of stormwater from all or any portion of a stormwater treatment BMP whenever the design capacity of the treatment BMP is not exceeded, is prohibited unless the following conditions are met:

- A. Bypass is: (1) unavoidable to prevent loss of life, personal injury, or severe property damage; or (2) necessary to perform construction or maintenance-related activities essential to meet the requirements of the Clean Water Act (CWA); and
- B. There are no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated stormwater, or maintenance during normal dry periods. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss.

#### **G5. RIGHT OF ENTRY**

WSDOT shall allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law at reasonable times:

- A. To enter upon WSDOT's premises where a discharge is located or where any records must be kept under the terms and conditions of this permit;
- B. To have access to, and copy at reasonable cost and at reasonable times, any records that must be kept under the terms of the permit;
- C. To inspect at reasonable times any monitoring equipment or method of monitoring required in the permit;
- D. To inspect at reasonable times any collection, treatment, pollution management, or discharge facilities; and
- E. To sample at reasonable times any discharge of pollutants.

#### **G6. DUTY TO MITIGATE**

WSDOT shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

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necessary and feasible to prevent the release of small quantities of petroleum products into surface waters. The WSP has the responsibility for carrying out safety measures and coordinating the clean-up of spilled substances. WSDOT personnel assist in managing traffic at the scene in support of the overall incident management effort. WSDOT personnel shall also provide technical information (e.g., information on drainage system characteristics) in support of the incident.

## **G7. PROPERTY RIGHTS**

This permit does not convey any property rights of any sort, or any exclusive privilege.

## **G8. COMPLIANCE WITH OTHER LAWS AND STATUTES**

Nothing in the permit shall be construed as excusing WSDOT from compliance with any other applicable federal, state, or local statutes, ordinances, or regulations.

## **G9. MONITORING**

- A. Representative Sampling: Samples and measurements taken to meet the requirements of this permit shall be representative of the volume and nature of the monitored discharge, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions affecting effluent quality.
- B. Records Retention: WSDOT shall retain records of all monitoring information, including all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for the life of this permit plus three years. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by WSDOT or when requested by Ecology. On request, WSDOT shall provide monitoring data to Ecology.
- C. Recording of Results: For each measurement or sample taken, WSDOT shall record the following information:
  - The date, exact place and time of sampling;
  - The individual who performed the sampling or measurement;
  - The dates the analyses were performed;
  - Who performed the analyses;
  - The analytical techniques or methods used; and
  - The results of all analyses.
- D. Test Procedures: All sampling and analytical methods used to meet the monitoring requirements specified in the approved stormwater management program shall conform to the Guidelines Establishing Test Procedures for the Analysis of Pollutants contained in 40 CFR Part 136, unless otherwise specified in this permit or approved in writing by Ecology.
- E. Lab Accreditation: Where data collection is required by other conditions of this permit, WSDOT shall ensure that all monitoring data, except for flow, temperature, conductivity, pH, total residual chlorine, and other exceptions approved by Ecology, shall be prepared by a laboratory registered or accredited under the provisions of, Accreditation of Environmental Laboratories, Chapter 173-50 WAC.

- F. Flow Measurement: Where flow measurements are required by other conditions of this permit, WSDOT shall select and use appropriate flow measurement devices and methods consistent with accepted scientific practices to ensure the accuracy and reliability of measurements of the volume of monitored discharges. WSDOT shall install, calibrate, and maintain the devices to ensure that the accuracy of the measurements is consistent with the accepted industry standard for that type of device. WSDOT shall conform to the manufacturer's recommendations for calibration frequencies, or at a minimum frequency of at least one calibration per year. WSDOT shall retain calibration records for the life of this permit plus three years.
- G. Additional Monitoring: Ecology may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

## **G10. REMOVED SUBSTANCES**

With the exception of decant from street waste vehicles, WSDOT must not allow collected screenings, grit, solids, sludge, filter backwash, or other pollutants removed in the course of treatment or control of stormwater to be resuspended or reintroduced to the storm sewer system or to waters of the state. When other practical means are not available, decant from street waste vehicles resulting from cleaning stormwater facilities may be reintroduced consistent with the management of street waste guidelines contained in the Ecology's 2012 "*Stormwater Management Manual for Western Washington*", Volume IV, Appendix IV-G. Solids generated from maintenance of the MS4 may be reclaimed, recycled, or reused when allowed by local codes and ordinances. Soils that are identified as contaminated pursuant to chapter 173-350 WAC shall be disposed at a qualified solid waste disposal facility.

## **G11. SEVERABILITY**

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

## **G12. REVOCATION OF COVERAGE**

The Director of the Department of Ecology (Director) may terminate coverage under this *General Permit* in accordance with Chapter 43.21B RCW and Chapter 173-226 WAC. Cases where coverage may be terminated include, but are not limited to the following:

- A. Violation of any term or condition of this general permit;
- B. Obtaining coverage under this general permit by misrepresentation or failure to disclose fully all relevant facts;
- C. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

- D. A determination that the permitted activity endangers human health or the environment, or contributes significantly to water quality standards violations;
- E. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090;
- F. Nonpayment of permit fees assessed pursuant to RCW 90.48.465;

Revocation of coverage under this general permit may be initiated by Ecology or requested by any interested person.

### **G13. TRANSFER OF COVERAGE**

The director may require any discharger authorized by this general permit to apply for and obtain an individual permit in accordance with Chapter 43.21B RCW and Chapter 173-226 WAC.

### **G14. GENERAL PERMIT MODIFICATION AND REVOCATION**

This general permit may be modified, revoked and reissued, or terminated in accordance with the provisions of WAC 173-226-230. Grounds for modification, revocation and reissuance, or termination include, but are not limited to the following:

- A. A change occurs in the technology or practices for control or abatement of pollutants applicable to the category of dischargers covered under this general permit;
- B. Effluent limitation guidelines or standards are promulgated pursuant to the CWA or chapter 90.48RCW, for the category of dischargers covered under this general permit;
- C. A water quality management plan containing requirements applicable to the category of dischargers covered under this general permit is approved;
- D. Information is obtained which indicates that cumulative effects on the environment from dischargers covered under this general permit are unacceptable; or
- E. Changes made to State law reference this permit.

### **G15. REPORTING A CAUSE FOR MODIFICATION OR REVOCATION**

If WSDOT knows or has reason to believe that any activity has occurred or will occur which would constitute cause for modification or revocation and reissuance under Condition G12, G14, or 40 CFR 122.62 WSDOT shall report such plans, or such information, to Ecology so Ecology can decide to modify, revoke, or reissue this permit. Ecology may then require submission of a new or amended application. Submission of such application does not relieve WSDOT of the duty to comply with this permit until it is modified or reissued.

## **G16. APPEALS**

- A. The terms and conditions of this general permit are subject to appeal within 30 days of issuance of this general permit, in accordance with Chapter 43.21B RCW, and Chapter 173-226 WAC.
- B. The terms and conditions of this general permit, as they apply to an individual discharger are subject to appeals, in accordance with Chapter 43.21B RCW, within thirty days of the effective date of coverage of that discharger. Consideration of an appeal of general permit coverage of an individual discharger is limited to the general permit's applicability or non-applicability to that individual discharger.
- C. The appeal of general permit coverage of an individual discharger does not affect any other dischargers covered under this general permit. If the terms and conditions of this general permit are found to be inapplicable to any individual discharger(s), the matter shall be remanded to Ecology for consideration of issuance of an individual permit or permits.
- D. Modifications of this permit are subject to appeals in accordance with Chapter 43.21B RCW and Chapter 173-226 WAC.

## **G17. PENALTIES**

40 CFR 122.41(a)(2) and (3), 40 CFR 122.41(j)(5), and 40 CFR 122.41(k)(2) are hereby incorporated into this permit by reference.

## **G18. DUTY TO REAPPLY**

WSDOT shall apply for permit renewal at least 180 days prior to the specified expiration date of this permit.

## **G19. CERTIFICATION AND SIGNATURE**

WSDOT shall sign and certify all applications, reports, or information submitted to Ecology.

- A. All reports required by this permit and other information requested by Ecology shall be signed by the Secretary of Transportation or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - 1. The authorization is made in writing by a person described above and submitted to Ecology, and
  - 2. The authorization specifies either an individual or a position having responsibility for the overall development and implementation of the stormwater management program. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
- B. Changes to authorization. If an authorization under General Condition G19.A.2 is no longer accurate because a different individual or position has responsibility for the overall

development and implementation of the stormwater management program, a new authorization satisfying the requirements of General Condition G19.A.2 must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

- C. Certification. Any person signing a document under this permit must make the following certification:

"I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for willful violations."

## **G20. NON-COMPLIANCE NOTIFICATION**

In the event that WSDOT is unable to comply with any of the terms and conditions of this permit, WSDOT must notify Ecology of the failure to comply with the permit terms and conditions within 30 days of becoming aware of the non-compliance and take appropriate action to stop or correct the condition of noncompliance. The notification must include a description of the noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

## **G21. UPSETS**

WSDOT shall meet the conditions of 40 CFR 122.41(n) regarding "Upsets," as described below:

- A. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of WSDOT. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- B. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph (C) of this condition are met. Any determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, will not constitute final administrative action subject to judicial review.
- C. Conditions necessary for demonstration of upset. If WSDOT wishes to establish the affirmative defense of upset, WSDOT shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and that WSDOT can identify the cause(s) of the upset;
  2. The permitted facility was at the time being properly operated; and
  3. WSDOT submitted notice of the upset as required in 40 CFR 122.41(l)(6)(ii)(B) (24-hour notice of noncompliance).
  4. WSDOT complied with any remedial measures required under 40 CFR 122.41(d) (Duty to Mitigate).
- D. Burden of proof. In any enforcement proceeding, WSDOT has the burden of proof to establish the occurrence of an upset.

## DEFINITIONS AND ACRONYMS

“40 CFR” means Title 40 of the Code of Federal Regulations, which is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.

“AADT” means “annual average daily traffic.”

“AD” means advertisement date.

“AKART” means All Known, Available and Reasonable methods of prevention, control and Treatment. See also State Water Pollution Control Act, Chapter 90.48.010 and 90.48.520 RCW.

“All Known, Available and Reasonable methods of prevention, control and Treatment” refers to the State Water Pollution Control Act, Chapter 90.48.010 and 90.48.520 RCW.

“Applicable TMDL” means a TMDL which has been approved by EPA on or before the issuance date of this Permit, or prior to the date that Ecology issues coverage under this Permit, whichever is later.

“Beneficial Uses” means uses of waters of the state, which include but are not limited to: use for domestic, stock watering, industrial, commercial, agriculture, irrigation, mining, fish and wildlife maintenance and enhancement, recreation, generation of electric power and preservation of environmental and aesthetic values, and all other uses compatible with the enjoyment of the public waters of the state.

“Best Management Practices” are the schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices approved by Ecology that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State.

“BMP” means Best Management Practice.

“Bypass” means the diversion of stormwater from any portion of a stormwater treatment facility.

“Circuit” means a portion of a MS4 discharging to a single point or serving a discrete area determined by traffic volumes, land use, topography, or the configuration of the MS4.

“Component” or “Program Component” means the elements described in the WSDOT Stormwater Management Program Plan appearing in Appendix 5 of this permit.

“CWA” means the federal Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. (6-483 and Pub. L. 97-117, 33 U.S.C. 1251 et.seq).

“Director” means the Director of the Washington State Department of Ecology, or an authorized representative.

“Discharge” for the purpose of this permit, unless indicated otherwise, refers to discharges from municipal separate storm sewers. See also 40 CFR 122.2.

“Discharge point” means the location where a discharge leaves the permittee’s MS4 to another permittee’s MS4 or a private or public stormwater conveyance. “Discharge point” also includes the location where a discharge leaves the permittee’s MS4 and discharges to ground, except where such discharge occurs via an outfall.

“EIM” means Ecology’s Environmental Information Management Database

“Entity” means a governmental body or a public or private organization.

“EPA” means the U.S. Environmental Protection Agency.

“General Permit” means a permit which covers multiple dischargers of a point source category within a designated geographical area, in lieu of individual permits being issued to each discharger.

“Ground water” means water in a saturated zone or stratum beneath the surface of the land or below a surface water body. Refer to chapter 173-200 WAC.

“HRM” means the *Highway Runoff Manual*.

“Heavy equipment maintenance or storage yard” means an uncovered area where any heavy equipment, such as mowing equipment, excavators, dump trucks, backhoes, or bulldozers are washed or maintained, or where at least five pieces of heavy equipment are stored on a long-term basis.

“Illicit connection” means any man-made conveyance to the MS4 that is not intended, permitted, or used for collecting and conveying stormwater or non-stormwater discharges allowed as specified in this Permit (Appendix 5, SWMPP Section 3.2). Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets, or outlets that are connected directly to the MS4.

“Illicit discharge” means any discharge to a MS4 that is not composed entirely of storm water or non-stormwater discharges allowed as specified in this Permit (Appendix 5, SWMPP Section 3.2).

“Integrated vegetation management (IVM)” means a coordinated decision-making and action process that uses the most appropriate long-term vegetation management strategy on a site-specific basis. Vegetation management involves caring for and/or controlling foliage within the highway right-of-way. If managed properly, roadside vegetation can become naturally self-sustaining over time and require less intervention from maintenance crews as it grows and matures.

“Impervious surface” means a non-vegetated surface area that either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development. A nonvegetated surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to, rooftops, walkways, patios, driveways, parking lots or stormwater areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater.

“Low Impact Development (LID)” means a stormwater and land use management strategy that strives to mimic pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation, and transpiration by emphasizing conservation, use of on-site natural features, site planning, and distributed stormwater management practices that are integrated into a project design.

“Low Impact Development Best Management Practices (LID BMPs)” means distributed stormwater management practices, integrated into a project design, that emphasize pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation, and transpiration. LID BMPs include, but are not limited to, bioretention/rain gardens, permeable pavements, roof downspout controls, dispersion, soil quality and depth, vegetated roofs, minimum excavation foundations, and water re-use.

“Method Detection Limit (MDL)” is the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, and is determined from analysis of a sample in a given matrix containing the analyte. Appendix A contains the necessary equations for calculating method detection limits. (40 CFR part 136, Appendix B).

“Maximum Extent Practicable” refers to paragraph 402(p)(3)(B)(iii) of the federal Clean Water Act which reads as follows: Permits for discharges from municipal storm sewers 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 other such provisions as the Administrator or the State determines appropriate for the control of such pollutants.

“MEP” means Maximum Extent Practicable.

“MS4” means Municipal Separate Storm Sewer System.

“Municipal Separate Storm Sewer System” means a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

- owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State Law) having jurisdiction over disposal of wastes, storm water, or other wastes, including special districts under State Law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the States;
- designed or used for collecting or conveying stormwater;
- which is not a combined sewer; and
- which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.
- which is defined as large” or “medium” or “small” or otherwise designated by Ecology pursuant to 40 CFR 122.26.

“National Pollutant Discharge Elimination System” means the national program for issuing, modifying, revoking, and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of pollutants to surface waters of the state from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington State Department of Ecology.

“Notice of Intent” means the application for, or a request for coverage under a General NPDES Permit pursuant to WAC 173-226-200.

“NOI” means Notice of Intent.

“NPDES” means National Pollutant Discharge Elimination System.

“Outfall” means point source as defined by 40 CFR 122.2 at the point where a discharge leaves the permittee’s MS4 and enters a receiving waterbody or receiving waters. Outfall also includes the permittee’s MS4 facilities/BMPs designed to infiltrate stormwater.

“PAH” means polycyclic aromatic hydrocarbons.

“Permittee” means the Washington State Department of Transportation (WSDOT) unless otherwise specifically stated otherwise for a particular section of this permit.

“QAPP” means Quality Assurance Project Plan.

“Qualified Personnel” means someone who has had professional training in the aspects of stormwater management for which they are responsible and are under the functional control of the Permittee. Qualified Personnel may be staff members, contractors, or volunteers.

“Quality Assurance Project Plan” means a document that describes the objectives of an environmental study and the procedures to be followed to achieve those objectives.

“RCW” means the Revised Code of Washington State.

“Receiving waterbody” or “receiving waters” means naturally and/or reconstructed naturally occurring surface water bodies, such as creeks, streams, rivers, lakes, wetlands, estuaries, and marine waters, to which a discharge occurs via an outfall or via sheet/dispersed flow. Receiving waters may also include ground water to which a discharge occurs via facilities/BMPs designed to infiltrate stormwater.

“Regional Stormwater Monitoring Program” means for all of western Washington, a stormwater-focused monitoring and assessment program consisting of these components: status and trends monitoring in small streams and marine nearshore areas, stormwater management program effectiveness studies, and a source identification information repository (SIDIR). The priorities and scope for the RSMP are set by a formal stakeholder group. For this permit term, RSMP status and trends monitoring will be conducted in the Puget Sound basin only.

“RSMP” means Regional Stormwater Monitoring Program.

“Reporting Limit” means minimum concentration at which detection of an analyte is reported usually chosen by the laboratory and usually above an analyte’s method detection limit.

“Runoff” is water that travels across the land surface and discharges to water bodies either directly or through a collection and conveyance system. See also “Stormwater.”

“Significant contributor” means a discharge contributes a loading of pollutants considered to be sufficient to cause or exacerbate the deterioration of receiving water quality or instream habitat conditions.

“Stormwater” means runoff during and following precipitation and snowmelt events, including surface runoff, drainage, and interflow.

“Stormwater Management Manual for Western Washington” means the 5-volume technical manual (Publication No 12-10-030) published by Ecology in August 2012.

“Stormwater Management Manual for Eastern Washington” means the 5-volume technical manual (Publication Number 04-10-076) published by Ecology in September 2004.

“Stormwater Management Program (SWMP)” means a set of actions and activities designed to reduce the discharge of pollutants from the MS4 to the MEP and to protect water quality, and comprising the components listed in the WSDOT Stormwater Management Program Plan appearing in Appendix 5 of this permit and any additional actions necessary to meet the requirements of applicable TMDLs.

“SWMP” means Stormwater Management Program

“SWPPP” means stormwater pollution prevention plan.

“TAPE” means the *Technical Guidance Manual for Evaluating Emerging Stormwater Treatment Technologies: Technology Assessment Protocol – Ecology*.

“TMDL” means Total Maximum Daily Load.

“Total Maximum Daily Load” means a water cleanup plan. A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant’s sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation must include a margin of safety to ensure that the water body can be used for the purposes the state has designated. The calculation must also account for seasonable variation in water quality. Water quality standards are set by states, territories, and tribes. They identify the uses for each water body, for example, drinking water supply, contact recreation (swimming), and aquatic life support (fishing), and the scientific criteria to support that use. The Clean Water Act, section 303, establishes the water quality standards and TMDL programs.

“TOC” means total organic carbon.

“TP” means total phosphorus.

“TPH” means total petroleum hydrocarbons.

“TSS” means total suspended solids.

“Urban Growth Area” means those areas designated by a county pursuant to RCW 36.70A.110.

“VFS” means the vegetative filter strip.

“WAC” means Washington Administrative Code.

“Water Quality Standards” means Surface Water Quality Standards, Chapter 173-201A WAC, Ground Water Quality Standards, Chapter 173-200 WAC, and Sediment Management Standards, Chapter 173-204 WAC.

“Waters of the state” includes those waters as defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington State and "waters of the state" as defined in Chapter 90.48 RCW which includes lakes, rivers, ponds, streams, inland waters, underground waters, salt waters and all other surface waters and water courses within the jurisdiction of the State of Washington.

“Waters of the United States” refers to the definition in 40 CFR 122.2.

“WY” means water year.

“WSDOT” means Washington State Department of Transportation.

## **APPENDIX 1: HIGHWAY RUNOFF MANUAL (HRM)**

The Washington State Department of Ecology completed its review of the 2014 *Highway Runoff Manual* and found that it meets minimum design requirements and best management practices equivalent to those in Ecology's current Stormwater Management Manuals. The 2014 HRM can be found at:

<http://www.wsdot.wa.gov/publications/manuals/fulltext/M31-16/HighwayRunoff.pdf>

**APPENDIX 2: REPORTABLE PERFORMANCE INDICATORS FROM  
WSDOT’S STORMWATER MANAGEMENT PROGRAM PLAN**

SWMPP Reference	Reportable Performance Indicators
Table 2-1	No later than two years from the effective date of the permit (i.e., April 5, 2016), establish an approach and pace for complete conveyance mapping of WSDOT’s MS4.
	By the end of the permit term (i.e., April 5, 2019), develop a process for mapping drainage areas associated with WSDOT owned or operated stormwater outfalls and discharge points.
	Participate in watershed planning and TMDL development where WSDOT identifies itself as a key stakeholder.
	Annually document changes proposed to elements contained or referenced in the SWMPP.
	Map and document all newly constructed stormwater outfalls, discharge points, and stormwater treatment/control facilities as part of the project closeout into the <i>Stormwater Features Inventory Database</i> .
	Starting year three of the permit (i.e., April 5, 2017), meet pace defined by the first two years for MS4 conveyance and connection mapping.
Table 3-1	Annually document the number of training courses (for first responder personnel on spill identification and notification procedures) held and the number of staff trained.
	Annually document <i>major</i> traffic collision-related spill response/remediation activities.
	Annually document the number of courses (for applicable staff and contractors on ID/IC identification and notification procedures) held and the number of staff trained.
	Annually document remediation activities for ID/IC.
Table 4-1	Annually document the number of training courses (for WSDOT personnel involved in design or inspection of TESC plans on erosion control) held and the number of staff who received the training.
	Annually summarize findings from Fall Assessments.
Table 5-1	Annually document the number of training courses (for staff, consultants, and contractors involved in stormwater facility design on the <i>Highway Runoff Manual</i> ) held and the number of staff, consultants, and contractors who received the training.
	Document the number and types of stormwater treatment and flow control facilities built annually.

Table 6-2	Annually document the number of stand-alone retrofits completed.
	Annually document the number of acres of existing impervious surface retrofitted or reverted to pervious surface through stand-alone, cleanup plan-triggered, project-triggered, and opportunity-based retrofits.
	Annually document the acreage of offsite project-driven retrofit obligations incurred and the acreage of alternative retrofit accomplished (this is a subset of the acreage documented in the preceding performance indicator).
Table 7-1	Conduct 95% of planned inspections (of catch basins) within the Phase I and II designated areas and schedule noted deficiencies for correction. Document corrections fully achieved at six months and at one year from the date the deficiency was identified.
	Conduct 95% of planned inspections (for SWPPP implementation at maintenance facilities) within the Phase I and II designated areas.
	Annually document the number of training courses (for maintenance staff on stormwater-related maintenance activities) held and the number of staff who received the training.
	Conduct 95% of planned inspections (of all known permanent stormwater BMPs) within Phase I and II designated areas and schedule noted deficiencies for correction. Document corrections fully achieved within: 1) One year from the date the deficiency was identified for typical facility maintenance (except catch basins); and 2) two years for BMPs requiring non-typical maintenance amounting to less than \$25,000. If applicable, provide a prioritized list of permanent stormwater BMP deficiencies that require non-typical repairs over \$25,000 as well as a list of these deficiencies that WSDOT repaired.
Table 7-2	Annually document the number of training courses (for WSF staff on SWPPP, procedures, and applicable regulations) held and the number of staff who received the training.
	Annually document the number of training courses (for WSF Terminal Supervisors on applicable stormwater topics) held and the number of Terminal Supervisors who received the training.
	Conduct 95% of planned inspections within the Phase I and II designated areas.
	Annually summarize WSF's regular stormwater management-related maintenance activities including sweeping terminals and inspecting and cleaning storm drain systems.
Table 8-1	Provide support for public involvement programs such as <i>Adopt-a-Highway</i> , <i>Commute Trip Reduction</i> , and roadside anti-litter campaigns.
	Training-related indicators included in SWMPP Sections 3, 4, 5, and 7.
	Post most recent version of WSDOT's municipal NPDES annual progress report on WSDOT's internet site
	Make newly published stormwater-related research reports available for downloading for a 2-year period on WSDOT's internet site.

## APPENDIX 3: APPLICABLE TMDL REQUIREMENTS

This appendix identifies the action items for WSDOT associated with the applicable TMDLs. Where TMDLs have determined Waste Load Allocations (WLAs) for WSDOT stormwater discharges, compliance with the action items listed below constitutes compliance with the WLAs. This appendix lists the applicable TMDLs in two parts. Part 1 includes TMDLs that require action items above and beyond those required in the permit. Part 2 lists TMDLs that require WSDOT to implement the permit obligations that address the TMDL-listed pollutant in the TMDL areas.

**Part 1** – For TMDLs listed in this part, in addition to applying the Highway Runoff Manual (HRM), compliance with the action items identified below shall constitute compliance with the TMDL WLAs.

1. Hangman Creek Fecal Coliform, Temperature and TSS/Turbidity TMDL (Ecology publication #11-10-012 and #09-10-030):
  - Prepare addendum to the initial inventory findings report. Include updates on potential TMDL concerns, and follow-up actions taken and/or notification to others where a concern has been identified but occurred outside WSDOT's right-of-way and control.

(Submit 6 months after initial inventory findings report)

- If stormwater discharges that transport bacteria over natural background levels to listed receiving waters are found from sources within WSDOT's right-of-way and control, WSDOT will apply BMPs from their SWMPP or perform remediation to correct bacteria discharges. For run-on sources of bacteria identified by WSDOT that are from outside of WSDOT's right-of-way, WSDOT will notify Ecology and work cooperatively with Ecology, the local jurisdiction, and other parties involved for their resolution.

(As needed)

- To address TSS/turbidity, WSDOT will work to prevent sediment from entering area waterways along SR 27 (in upper watershed) and SR 195 right-of-ways. WSDOT will prioritize problem areas and work with individual property owners to prevent sediment from entering area waterways via WSDOT's MS4.

(On-going)

2. Henderson Inlet Watershed Fecal Coliform TMDL (Ecology publication #08-10-040 and #06-10-058):
  - Update WSDOT stormwater facilities on Southbound I-5 at milepost 110 by June 30, 2017.
3. Issaquah Creek Basin Fecal Coliform TMDL (Ecology publication #04-10-055):
  - If stormwater discharges that transport bacteria over natural background levels to listed receiving waters are found from sources within WSDOT's right-of-way and control, WSDOT will apply BMPs from their SWMPP or perform remediation to correct bacteria discharges. For run-on sources of bacteria identified by WSDOT that

are from outside of WSDOT's right-of-way, WSDOT will notify Ecology and work cooperatively with Ecology, the local jurisdiction, and other parties involved for their resolution.

(As needed)

4. Little Bear Creek Watershed Fecal Coliform TMDL (Ecology publication #05-10-024):

- If stormwater discharges that transport bacteria over natural background levels to listed receiving waters are found from sources within WSDOT's right-of-way and control, WSDOT will apply BMPs from their SWMPP or perform remediation to correct bacteria discharges. For run-on sources of bacteria identified by WSDOT that are from outside of WSDOT's right-of-way, WSDOT will notify Ecology and work cooperatively with Ecology, the local jurisdiction, and other parties involved for their resolution.

(As needed)

5. Nisqually River Tributaries Fecal Coliform and Dissolved Oxygen TMDL (Ecology publication #07-10-016 and #05-10-040):

- Provide replacement bags at pet waste station on the dike at McAllister Creek or close public access to the dike.

(As needed)

- Participate in adaptive management meetings.

(As needed)

6. Oakland Bay Tributaries/Hammersley Inlet Fecal Coliform and Temperature TMDL (Ecology publication No. 11-10-039, <http://www.ecy.wa.gov/biblio/1110039.html>):

- WSDOT will work with Ecology, Squaxin Island Tribe, and Mason County to determine potential sources of fecal coliform within WSDOT's right-of-way and control on a limited number of high priority Highway 3 stormwater discharge locations to Oakland bay. This work may include but is not limited to site visits, data review, and collaborative problem solving. If sources are identified within WSDOT's control, WSDOT will develop a plan and initiate efforts to apply best management practices from their SWMPP or perform remediation to correct the situations.

(On-going)

- WSDOT will inventory highway stormwater discharge locations, implement pollutant source identification, and identification of illicit sources of bacteria to WSDOT's stormwater conveyance system at the following locations within the TMDL boundary:
  - SR 3 stormwater discharge locations to Oakland Bay and the stormwater conveyance system directly discharging to this receiving water.
  - SR 3 stream crossings and the stormwater conveyance system directly discharging to these receiving waters.

- US 101 stream crossings and the stormwater conveyance system directly discharging to these receiving waters.

(Complete implementation by December 2015)

- Prepare inventory findings report.

(Submit by December 2015)

- Prepare addendum to the initial inventory findings report. Include updates on potential TMDL concerns, and follow-up actions taken and/or notification to others where a concern has been identified but occurred outside WSDOT's right-of-way and control.

(Submit 6 months after initial inventory findings report)

- If stormwater discharges that transport bacteria over natural background levels to listed receiving waters are found from sources within WSDOT's right-of-way and control, WSDOT will apply BMPs from their SWMPP or perform remediation to correct bacteria discharges. For run-on sources of bacteria identified by WSDOT that are from outside of WSDOT's right-of-way, WSDOT will notify Ecology and work cooperatively with Ecology, the local jurisdiction, and other parties involved for their resolution.

(As needed)

7. Palouse River Watershed Fecal Coliform TMDL (Ecology publication #10-10-067):

- WSDOT will implement its programmatic approach (see flow chart at the end of Appendix 3) within the Palouse River fecal coliform bacteria TMDL boundary. These efforts will focus identification of illicit sources of bacteria and sediment discharges to WSDOT's stormwater conveyance system. Prioritization of inventory, illicit discharge detection, and source identification efforts will occur in the following order:
  - Highway 26 and Highway 195 stormwater discharge locations to the Palouse River near Colfax and the stormwater conveyance ditches discharging to this receiving water.
  - Highway 26 stream crossing and stormwater discharges to the Palouse River at the Adams/Whitman County line.
  - Highway 195 stormwater discharge locations to Dry Creek and the stormwater conveyance ditches discharging to this receiving water.
  - Highway 26 steam crossings and stormwater discharge locations to Rebel Flat, Union Flat, and Willow creeks.
  - Highway 23 stormwater discharge locations and stormwater conveyance ditches discharging into receiving waters.

(Complete by March 2015)

- Prepare inventory findings report.

(Submit by March 2015)

- Prepare addendum to the initial inventory findings report. Include updates on potential TMDL concerns, and follow-up actions taken and/or notification to others where a concern has been identified but occurred outside WSDOT's right-of-way and control.

(Submit 6 months after initial inventory findings report)

- If stormwater discharges that transport bacteria over natural background levels to listed receiving waters are found from sources within WSDOT's right-of-way and control, WSDOT will apply BMPs from their SWMPP or perform remediation to correct bacteria discharges. For run-on sources of bacteria identified by WSDOT that are from outside of WSDOT's right-of-way, WSDOT will notify Ecology and work cooperatively with Ecology, the local jurisdiction, and other parties involved for their resolution.

(As needed)

8. Samish Bay Watershed Fecal Coliform TMDL (Ecology publication #09-10-019):

- Participate in TMDL adaptive management process.

(On-going)

9. South Fork Palouse River Fecal Coliform TMDL (Ecology publication #11-10-074 and #09-10-060):

- Prepare addendum to the initial inventory findings report. Include updates on potential TMDL concerns, and follow-up actions taken and/or notification to others where a concern has been identified but occurred outside WSDOT's right-of-way and control.

(Submit 6 months after initial inventory findings report)

- If stormwater discharges that transport bacteria over natural background levels to listed receiving waters are found from sources within WSDOT's right-of-way and control, WSDOT will apply BMPs from their SWMPP or perform remediation to correct bacteria discharges. For run-on sources of bacteria identified by WSDOT that are from outside of WSDOT's right-of-way, WSDOT will notify Ecology and work cooperatively with Ecology, the local jurisdiction, and other parties involved for their resolution.

(As needed)

- WSDOT will annually inspect under the Highway 195 Bridge in Colfax and take any necessary action to prevent pigeons from roosting there.

(Within 90 days of the annual inspection)

- WSDOT will implement its programmatic approach at Highway 195 stormwater discharge locations and stormwater conveyance ditches discharging into Dry Fork Creek south of Pullman, WA.

(Complete by March 2015)

10. South Prairie Creek Watershed Fecal Coliform and Temperature TMDL (Ecology publication #06-10-018 and #03-10-055):

- If stormwater discharges that transport bacteria over natural background levels to listed receiving waters are found from sources within WSDOT's right-of-way and control, WSDOT will apply BMPs from their SWMPP or perform remediation to correct bacteria discharges. For run-on sources of bacteria identified by WSDOT that are from outside of WSDOT's right-of-way, WSDOT will notify Ecology and work cooperatively with Ecology, the local jurisdiction, and other parties involved for their resolution.

(As needed)

- Participate in adaptive management meetings.

(As needed)

11. Spokane River Watershed Dissolved Oxygen TMDL (Ecology publication #07-10-073):

- Prepare addendum to the initial inventory findings report. Include updates on potential TMDL concerns, and follow-up actions taken and/or notification to others where a concern has been identified but occurred outside WSDOT's right-of-way and control.

(Submit 6 months after initial inventory findings report)

- If stormwater discharges that transport phosphorus and ammonia over natural background levels to listed receiving waters are found from sources within WSDOT's right-of-way and control, WSDOT will apply BMPs from their SWMPP or perform remediation to correct the situation. For run-on sources of phosphorus and ammonia identified by WSDOT that are from outside of WSDOT's right-of-way, WSDOT will notify Ecology and work cooperatively with Ecology, the local jurisdiction, and other parties involved for their resolution.

(As needed)

12. Stillaguamish River Watershed Fecal Coliform, Dissolved Oxygen, Turbidity, pH, Mercury, Arsenic and Temperature TMDL (Ecology publication #06-10-057):

- If stormwater discharges that transport bacteria over natural background levels to listed receiving waters are found from sources within WSDOT's right-of-way and control, WSDOT will apply BMPs from their SWMPP or perform remediation to correct bacteria discharges. For run-on sources of bacteria identified by WSDOT that are from outside of WSDOT's right-of-way, WSDOT will notify Ecology and work cooperatively with Ecology, the local jurisdiction, and other parties involved for their resolution.

(As needed)

- Provide replacement bags and maintain educational signage at pet waste management stations at I-5 rest areas.

(As needed)

13. Swamp Creek Basin Fecal Coliform TMDL (Ecology publication #06-10-021):

- If stormwater discharges that transport bacteria over natural background levels to listed receiving waters are found from sources within WSDOT's right-of-way and control, WSDOT will apply BMPs from their SWMPP or perform remediation to correct bacteria discharges. For run-on sources of bacteria identified by WSDOT that are from outside of WSDOT's right-of-way, WSDOT will notify Ecology and work cooperatively with Ecology, the local jurisdiction, and other parties involved for their resolution.

(As needed)

14. Teanaway River Temperature TMDL (Ecology publication #03-10-025 and #01-10-019)

- Maintain roads and roadside stormwater conveyance ditches to prevent entry of sediment into area waterways.

(On-going)

15. Totten, Eld, and Skookum Inlets Tributaries Fecal Coliform and Temperature TMDL (Ecology publication #06-03-007):

- If stormwater discharges that transport bacteria over natural background levels to listed receiving waters are found from sources within WSDOT's right-of-way and control, WSDOT will apply BMPs from their SWMPP or perform remediation to correct bacteria discharges. For run-on sources of bacteria identified by WSDOT that are from outside of WSDOT's right-of-way, WSDOT will notify Ecology and work cooperatively with Ecology, the local jurisdiction, and other parties involved for their resolution.

(As needed)

16. Tucannon River Watershed Temperature TMDL (Ecology publication #10-10-019):

- Maintain roads and roadside stormwater conveyance ditches to prevent entry of sediment into area waterways.

(On-going)

17. Upper Yakima River Basin Suspended Sediment, Turbidity and Organochlorine Pesticide TMDL (Ecology publication #02-10-047 and #03-10-058):

- Maintain roads and roadside stormwater conveyance ditches to prevent sediment from entering area waterways.

(On-going)

18. Walla Walla River Watershed Fecal Coliform, PCBs, Chlorinated Pesticide, Temperature, pH and Dissolved Oxygen TMDL (Ecology publication #06-10-074 (Bacteria), #05-10-079 (Toxics), #07-10-030 (Temperature), and #07-03-010 (DO and pH)):

- The US 12 project will re-route 97 percent of the highway's traffic volume to the plateau located well above the Walla Walla River.

(Dependent on funding)

- WSDOT will implement infiltration and/or dispersion to address the pollutants covered under this TMDL, where feasible.

(On-going)

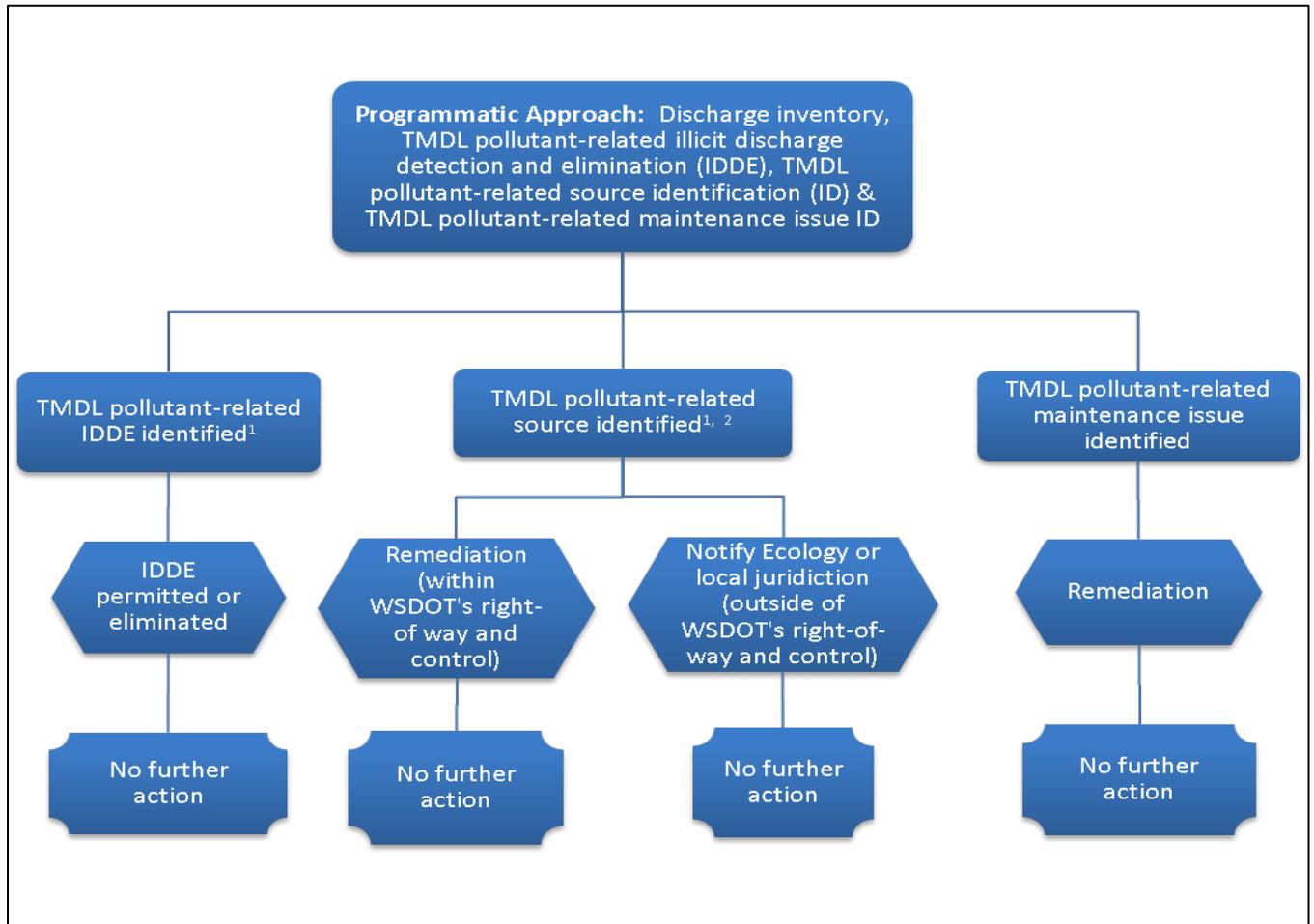
- WSDOT will follow the current Integrated Roadside Vegetation Management Plan (South Central Region, Area 4) within the Walla Walla TMDL boundary.

(On-going)

**Part 2** – For the TMDLs listed in this part, in addition to applying the Highway Runoff Manual (HRM), compliance with permit obligations that address the TMDL-listed pollutants shall constitute compliance with these TMDLs and prescribed WLAs.

1. Bear-Evans Fecal Coliform, Dissolved Oxygen and Temperature TMDL (Ecology publication #08-10-026 and 08-10-058)
2. Green River Temperature TMDL (Ecology publication #11-10-046)
3. Liberty Bay Watershed Fecal Coliform Bacteria TMDL (Ecology publication # 13-10-014)
  - WSDOT’s obligations apply to Phase II municipal stormwater permit areas only.
4. Newaukum Creek Temperature TMDL (Ecology publication #11-10-047)
5. Puyallup River Watershed Fecal Coliform TMDL (Ecology publication #11-10-040)
6. Salmon Creek Watershed Temperature TMDL (Ecology publication #11-10-044)
7. Sinclair and Dyes Inlets Fecal Coliform Bacteria TMDL (Ecology publication #11-10-051)
8. Snoqualmie River Temperature TMDL (Ecology publication #11-10-041)
9. Upper Naches River and Cowiche Creek Temperature TMDL(publication #10-10-068):
  - WSDOT’s obligations apply to Phase II municipal stormwater permit areas only.
10. Whatcom, Squalicum, and Padden Creeks Temperature TMDL (Ecology publication #11-10-019)

## WSDOT's Programmatic Approach flow chart



<sup>1</sup> Based on visual observation

<sup>2</sup> Only sources that enter a WSDOT conveyance and discharge to a surface water body included in the TMDL.

## APPENDIX 4: LABORATORY METHODS

Unless alternative methods are approved by Ecology in WSDOT's QAPPs, WSDOT shall use the following analytical methods when analyzing stormwater and sediments as required by section S7 – *Monitoring* of this permit. For consideration of Ecology's approval, any alternative method proposed by WSDOT must have similar reporting limits, or provide adequate justification for the likely range of concentrations. WSDOT must receive Ecology approval of alternative methods or reporting limits prior to implementation.

### A. Methods for Water Samples

Analyte	Method in Water (SM=Standard Method, EPA=EPA Method)	Reporting Limit Target <sup>a</sup>
Total Suspended Solids (TSS)	SM 2540B or SM 2540D	1.0 mg/L
Total Chloride	EPA 300.0 Rev. 2.1, EPA 325.2 or SM 4110B	0.2 mg/L
Particle Size Distribution (PSD)	ASTM D3977-97/TAPE; Coulter Counter, laser diffraction; or comparable method - <i>see attached method</i> , or SM 2560B	NA
pH	EPA 150.2 or SM 4500H <sup>+</sup> B	0.2 units
Hardness as CaCO <sub>3</sub>	EPA 200.7, SM 2340B (ICP), SM 2340C (titration) or SM 3120B	1.0 mg/L
Fecal coliform	SM 9221E; SM 9222D	2 min., 2E6 max CFU/100 mL
Total Phosphorus (TP)	EPA 365.3, EPA 365.4, SM 4500-P E, or SM 4500-P F	0.01 mg P/L
Orthophosphate (OP)	EPA 365.1, 365.3, SM 4500-P E, or SM 4500-P F, SM 4500-P G	0.01 mg P/L
Total Recoverable Zinc	EPA 200.8 (ICP/MS), EPA 200.7 or SM 3125 (ICP/MS)	5.0 ug/L
Dissolved Zinc	EPA 200.8 (ICP/MS) or SM 3125 (ICP/MS)	5.0 ug/L
Total Recoverable Lead	EPA 200.8 (ICP/MS) or SM 3125 (ICP/MS)	0.1 ug/L
Dissolved Lead	EPA 200.8 (ICP/MS) or SM 3125 (ICP/MS)	0.1 ug/L
Total Recoverable Copper	EPA 200.8 (ICP/MS) or SM 3125	0.1 ug/L

Analyte	Method in Water (SM=Standard Method, EPA=EPA Method)	Reporting Limit Target <sup>a</sup>
Dissolved Copper	EPA 200.8 (ICP/MS) or SM 3125 (ICP/MS)	0.1 ug/L
Total Recoverable Cadmium	EPA 200.8 (ICP/MS) or SM 3125 (ICP/MS)	0.2 ug/L
Dissolved Cadmium	EPA 200.8 (ICP/MS) or SM 3125 (ICP/MS)	0.1 ug/L
PAH Compounds*	EPA SW-846 8310 or 8270D	0.1 ug/L
Phthalates**	EPA SW-846 8270D	1.0 ug/L
Herbicides - Dichlobenil, 2,4-D, Clopyralid, Picloram, Triclopyr (Ester formula only)	EPA SW-846 Method 8270D or EPA SW-846 8151A	0.01-1.0 ug/L
Herbicides - Diuron	EEPA SW-846 Method 8270D, SW-846 Method 8321B, EPA SW-846 8151A	0.01-1.0 ug/L
Herbicides – Glyphosate (non-aquatic formula)	EPA 547, EPA SW-846 Method 8270D, EPA SW-846 8151A	25 ug/L
Total Petroleum Hydrocarbons-Diesel (NWTPH-Dx)	NWTPH-Dx - Ecology 1997 (Publication No. 97-602) or EPA SW-846 Method 8015C(B)	0.25 – 0.50 mg/L
Total Petroleum Hydrocarbons-Gasoline (NWTPH-Gx)	NWTPH-Gx - Ecology 1997 (Publication No. 97-602)	0.25 mg/L

a. The QAPP shall identify Ecology- or EPA-approved methods with appropriate reporting limits. An individual sample that could not be run at a reporting limit because of matrix interference or other such reasons would not be called into question for compliance purposes. The QAPP shall also identify and define data qualification criteria for values resulting below the reporting limit.

NA – Not applicable

SM – Standard Methods

\*PAH compounds including at a minimum, but not limited to: acenaphthene, acenaphthylene, anthracene, benzo[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[ghi]perylene, benzo[a]pyrene, chrysene, dibenzo[a,h]anthracene, fluoranthene, fluorene, indeno[1,2,3-cd]pyrene, naphthalene, phenanthrene, and pyrene

\*\*Phthalates including, at a minimum, but not limited to: *bis*(2-Ethylhexyl)phthalate, Butyl benzyl phthalate, Di-n-butyl phthalate, Diethyl phthalate, Dimethyl phthalate, and Di-n-octyl phthalate

## B. Methods for Sediment Samples

Analyte	Method in Sediment	Reporting Limit Target <sup>a</sup>
Total Solids (%)	SM 2540G; SM 2540B	N/A
Total Volatile Solids (%)	EPA 160.4 or SM 2540E	0.1%
Total Organic Carbon (TOC)	Puget Sound Estuary Protocols (PSEP 1997), SM 5310C, SM 5310D or EPA 9060A	0.1%
Particle Size (grain size)	Ecology Method Sieve and Pipet (ASTM 1997), PSEP 1986/2003, ASTM F312-97 or ASTM D422	N/A
Total Recoverable Zinc	EPA 200.8 (ICP/MS), EPA 200.7 (ICP), EPA SW-846 6010C, EPA SW-846 6020A or SM 3125	5.0 mg/kg dry
Total Recoverable Lead	EPA 200.8 (ICP/MS), EPA SW-846 6010C, EPA SW-846 6020A or SM 3125 (ICP/MS)	0.1 mg/kg dry
Total Recoverable Copper	EPA 200.8 (ICP/MS), EPA SW-846 6010C, EPA SW-846 6020A or SM 3125 (ICP/MS)	0.1 mg/kg dry
Total Recoverable Cadmium	EPA 200.8 (ICP/MS), EPA SW-846 6010C, EPA SW-846 6020A or SM 3125 (ICP/MS)	0.1 mg/kg dry
Total Recoverable Arsenic	EPA 200.8 (ICP/MS), EPA SW-846 6010C, EPA SW-846 6020A or SM 3125 (ICP/MS)	0.1 mg/kg dry
Total Phosphorus (TP)	EPA 200.7, SW-846 6020 A	0.01 mg/kg dry
Herbicides Dichlobenil, Triclopyr, Picloram, Clopyralid	EPA SW-846 8270D or EPA 8151A	70 ug/Kg dry
PCB-Aroclors	EPA Method 8082A	1.25-2.5 ug/kg dry
PAH compounds*	EPA SW-846 Method 8270D	70 ug/kg dry
Phthalates**	EPA SW-846 Method 8270D	70 ug/kg dry
Phenolics***	EPA SW-846 Method 8270D or PSEP 1997	70 ug/kg dry
Total Petroleum Hydrocarbons-Diesel (NWTPH-Dx)	Ecology 1997 (Publication No. 97-602) or EPA SW-846 Method 8015C(B)	25.0-100.0 mg/Kg dry

a. The QAPP shall identify Ecology- or EPA-approved methods with appropriate reporting limits. An individual sample that could not be run at a reporting limit because of matrix interference or other such reasons would not be called into question for compliance purposes. All results shall be reported. The QAPP shall also identify and define data qualification criteria for values resulting below the reporting limit.

NA – Not applicable

SM – Standard Methods

\*PAH compounds including at a minimum, but not limited to: acenaphthene, acenaphthylene, anthracene, benzo[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[ghi]perylene, benzo[a]pyrene, chrysene, dibenzo[a,h]anthracene, fluoranthene, fluorene, indeno[1,2,3-cd]pyrene, naphthalene, phenanthrene, and pyrene.

\*\*Phthalates including, at a minimum, but not limited to: *bis*(2-Ethylhexyl)phthalate, Butyl benzyl phthalate, Di-n-butyl phthalate, Diethyl phthalate, Dimethyl phthalate, and Di-n-octyl phthalate.

\*\*\*Phenolics including, at a minimum, but not limited to: phenol, 2-methylphenol, 4-methylphenol, 2,4-dimethylphenol, pentachlorophenol, benzyl alcohol, and benzoic acid.

## **C. Wet Sieving Mass Measurement for Laser Diffraction Analysis**

### **Sample Collection/Handling**

Samples should be collected in HDPE or Teflon containers and held at 4 degrees C during the collection process. If organic compounds are being collected, the sample containers should be glass or Teflon.

### **Preservation/Holding Time**

Samples should be stored at 4° C and must be analyzed within 7 days (EPA, 1998). Samples may not be frozen or dried prior to analysis, as either process may change the particle size distribution.

### **Sonication**

Do not sonicate samples prior to analysis to preserve particle integrity and representativeness. Laboratories using laser diffraction will have to be notified not to sonicate these samples at any time during the analysis. It is recommended that this request also be written on the chain-of-custody form that the analytical laboratory receives in order to assure that sonication is omitted.

## ***LABORATORY PROCEDURES***

### ***Equipment***

- 2 Liters of stormwater sample water [total sample required for analysis (ASTM D 3977)]
- Drying oven (90 degrees C  $\pm$ 2 degrees)
- Analytical balance (0.01 mg accuracy)
- Desiccator (large enough diameter to accommodate sieve)
- Standard sieves – larger than 2” diameter may be desirable
  - 500 um (Tyler 32, US Standard 35)
  - 250 um (Tyler 60, US Standard 60)
- Beakers – plastic (HDPE)
- Funnel (HDPE – Large enough diameter to accommodate sieve)
- Wash bottle
- Pre-measured reagent-grade water

### ***Sample Processing***

- Dry 250 um and 500 um mesh sieves in a drying oven to a constant weight at  $90 \pm 2$  C.
- Cool the sieves to room temperature in a desiccator.
- Weigh each sieve to the nearest 0.01 mg.
- Record the initial weight of each dry sieve.
- Measure the volume of sample water and record.
- Pour the sample through a nested sieve stack (the 500 um sieve should be on the top and the

sieve stack should be stabilized in a funnel and the funnel should be resting above/inside a collection beaker).

- Use some of the pre-measured reagent-grade water in wash bottle to thoroughly rinse all soil particles from sample container so that all soil particles are rinsed through the sieve.
- Thoroughly rinse the soil particles in the sieve using a pre-measured volume of reagent-grade water.
- The particles that pass through the sieve stack will be analyzed by laser diffraction Particle Size Distribution (PSD) analysis using the manufacturers recommended protocols (with the exception of no sonication).
- Particles retained on the sieve (>250 um) will not be analyzed with the laser diffraction PSD.
- Dry each sieve (500 um and 250 um) with the material it retained in a drying oven to a constant weight at  $90 \pm 2$  C. The drying temperature should be less than 100 C to prevent boiling and potential loss of sample (PSEP, 1986).
- Cool the samples to room temperature in a desiccator.
- Weigh the cooled sample with each sieve to the nearest 0.01 mg.
- Subtract initial dry weight of each sieve from final dry weight of the sample and sieve together.
- Record weight of particles/debris separately for each size fraction ( $\geq 500$  um and 499 - 250 um).
- Document the dominant types of particles/debris found in this each size fraction.

### **Laser Diffraction (PSD)**

PSD results are reported in mg/L for each particle size range. Particle size gradations should match the Wentworth grade scale (Wentworth, 1922).

### **Mass Measurement**

#### ***Equipment***

- Glass filter - 0.45 um (pore size) glass fiber filter disk (Standard Method D 3977) (larger diameter sized filter is preferable)
- Drying oven (90 degrees C  $\pm$ 2 degrees)
- Analytical balance (0.01 mg accuracy)
- Wash bottle
- Reagent-grade water

#### ***Procedure***

- Dry glass filter in drying oven at  $90 \pm 2$  C to a constant weight.
- Cool the glass filter to room temperature in a desiccator.
- Weigh the 0.45 um glass filter to the nearest 0.01mg.

- Record the initial weight of the glass filter.
- Slowly pour the laser diffraction sample water (after analysis) through the previously weighed 0.45 um glass filter and discard the water.
- Use reagent-grade water in wash bottle to rinse particles adhering to the analysis container onto glass filter
- Dry glass filter with particles in a drying oven at  $90 \pm 2$  C to a constant weight.
- Cool the glass filter and dried particles to room temperature in a desiccator. Weigh the glass filter and particles to the nearest 0.01mg.
- Subtract the initial glass filter weight from the final glass filter and particle sample weight.
- Record the final sample weight for particles <250 um in size.

### ***Quality Assurance***

Dried samples should be cooled in a desiccator and held there until they are weighed. If a desiccator is not used, the particles will accumulate ambient moisture and the sample weight will be overestimated. A color-indicating desiccant is recommended so that spent desiccant can be detected easily. Also, the seal on the desiccator should be checked periodically, and, if necessary, the ground glass rims should be greased or the "O" rings should be replaced.

Handle sieves with clean gloves to avoid adding oils or other products that could increase the weight. The weighing room should not have fluctuating temperatures or changing humidity. Any conditions that could affect results such as doors opening and closing should be minimized as much as possible.

After the initial weight of the sieve is measured, the sieve should be kept covered and dust free. Duplicate samples should be analyzed on 10% of the samples for both wet sieving and mass measurements.

### ***Reporting***

Visual observations should be made on all wet sieved fractions and recorded. For example if the very coarse sand fraction (2,000-1,000 um) is composed primarily of beauty bark, or cigarette butts, or other organic debris this should be noted. An option might also be for a professional geologist to record the geological composition of the sediment as well.

### **REFERENCES**

- ASTM. 1997. Standard test methods for determining sediment concentration in water samples. Method D 3977. American Society for Testing and Materials, Philadelphia, PA.
- PSEP. 1986. Recommended Protocols for measuring conventional sediment variables in Puget Sound. Prepared by Tetra Tech, Inc. for EPA and Puget Sound Water Quality Authority. Tetra Tech Inc., Bellevue, WA.
- EPA. 1998. Analysis of total suspended solids by EPA Method 160.2. Region 9, Revision 1. SOP 462. 12 pp
- Wentworth, C.K. 1922. A scale of grade and class terms for clastic sediments. *Journal of Geology*. 30:377-39

**APPENDIX 5: STORMWATER MANAGEMENT PROGRAM PLAN**

**Washington State Department of  
Transportation**

**Stormwater Management Program  
Plan**

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# SECTION 1: BACKGROUND AND OVERVIEW

## 1.1 Introduction

The Washington State Department of Transportation's (WSDOT) National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater and State Waste Discharge Permit requires WSDOT to develop and implement a stormwater management program plan (SWMP). WSDOT developed this SWMP plan to fulfill that obligation and prescribe the procedures and practices used to reduce the discharge of pollutants in stormwater runoff from storm sewer systems owned or operated by WSDOT. This SWMP plan reflects changes in regulations, advancements in stormwater management, and the evolution of WSDOT procedures and practices.

The methods used by WSDOT to manage stormwater runoff from its facilities evolved concurrently with changes required for core functions. Originally, WSDOT only managed highway stormwater to maintain safe-driving conditions, using engineering techniques designed to prevent stormwater from ponding on road surfaces.

Maintaining safe driving conditions continues to be essential for any functional highway drainage system. However, WSDOT also acknowledges the state's vital interests in protecting and preserving natural resources and other environmental assets as well as its citizens' health and safety. These interests have become integrated with other vital interests committed to WSDOT, including the cost-effective delivery and operation of transportation systems and services that meet public needs. Thus, WSDOT's stormwater management objectives have expanded to include:

1. Protecting the functions of the transportation facility; and
2. Protecting ecosystem functions and beneficial uses of Washington State receiving waters.

While WSDOT implements pollution prevention activities statewide, the SWMP strategically targets resources to address priority stormwater management and water resource issues. It takes into consideration a number of circumstances or characteristics particular to WSDOT's facilities, operations, and approaches to addressing compliance under this Permit. Except where noted, this SWMP applies to all discharge stormwater runoff from municipal separate storm sewer systems (MS4)<sup>1</sup> serving the state highways, rest areas, ferry terminals, maintenance areas, and vector decant, street sweepings facilities, and winter chemical storage facilities within the applicable areas requiring municipal permit coverage by Ecology. Elements of the SWMP also apply to EPA-approved total maximum daily loads with waste load allocations and associated implementation documents specifying actions for WSDOT stormwater discharges.

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<sup>1</sup> *Municipal Separate Storm Sewer Systems (MS4s)* is a conveyance or system of conveyances (including roads, with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- i. Owned or operated by a state, county, city, town, or other public entity (created by or pursuant to state law) that discharges to waters of the state;
- ii. Designed or used for collecting or conveying stormwater;
- iii. Which is not a combined sewer; and
- iv. Which is not part of a Publicly Owned Treatment Works (POTW)

## **1.2 Organization of the SWMP**

*Section 1: Background and Overview* provides an introduction/overview of WSDOT's stormwater management program, the area and facilities that are affected, and the regulations that govern WSDOT operations. The remainder of this document describes the essential program elements.

*Section 2: Stormwater Program Management Framework* describes WSDOT's organizational framework and management responsibilities for overall permit compliance and program implementation. *Section 2* also describes interagency coordination, key WSDOT stormwater-related guidance and procedures, WSDOT's legal authority to control discharges into its storm drainage systems, program planning, and the SWMP revision process.

*Section 3: Traffic Collision Related Spills, Illicit Discharges, and Illicit Connections* describe the procedures and protocols related to responding to non-construction-related spills. This section also describes procedures to identify and eliminate illicit discharges and illegal connections to WSDOT's MS4.

*Section 4: Construction Stormwater Pollution Prevention* describes construction-related stormwater pollution prevention. These elements include WSDOT's erosion control program and its spill prevention, control and countermeasures.

*Section 5: Stormwater Management for New Facilities* describes post-construction stormwater management controls as prescribed by the *Highway Runoff Manual*.

*Section 6: Stormwater Management for Existing Facilities* describes stormwater BMP retrofit program to address existing impervious surfaces that do not have treatment or flow control, or for which treatment or flow control is substandard.

*Section 7: Maintenance* describes maintenance-related stormwater controls.

*Section 8: Education/Training/Public Involvement Programs* describes education programs for WSDOT employees and contractors, and the WSDOT permit's and SWMP's public involvement process.

## **SECTION 2: STORMWATER PROGRAM MANAGEMENT FRAMEWORK**

### **2.1 Internal Coordination and Stormwater Management Responsibilities**

The Department's Headquarter Offices, its Regions, Mega Projects, and Divisions get assigned functional responsibilities associated with the stormwater management program. The responsibility for initiation of SWMP implementation directives lies with Headquarter Offices, in consultation with WSDOT's Stormwater Policy Committee (SPC).

WSDOT created the Stormwater Policy Committee (SPC) to provide assistance regarding stormwater management policy issues as well as provide a framework for communication, coordination, and cooperation in the development and implementation of the SWMP. The SPC members include representatives from WSDOT Regional Offices, Mega Projects, WSF, and Headquarters Offices committing or expending resources related to stormwater management. SPC duties and responsibilities include:

1. Guiding WSDOT in conducting deliberations with permitting agencies and making decisions regarding stormwater management policy.
2. Providing recommendations to executive management on preferred approaches to meet regulatory obligations.
3. Guiding preparation of the SWMP and making recommendations regarding:
  - Funds, staffing, and other resources necessary to support their development and implementation.
  - The roles and responsibilities of all regions, transportation modes, and WSDOT offices essential for their successful implementation.
  - How WSDOT will carry out stormwater-related work or, if that is not possible, suggest priorities so as to understand the risks and downsides.
4. Promoting and providing ongoing evaluation of the SWMP's effectiveness.
5. Improving communication among affected workgroups in regions, modes, and WSDOT offices required to commit or expend resources on stormwater.
6. Assisting in the resolution of stormwater-related problems and conflicts.

Headquarters' responsibilities include areas of program and policy development, oversight, technical assistance, research, monitoring, and reporting. The Environmental Services Office's (ESO) Stormwater and Watersheds Program maintains the overall responsibility for managing and coordinating the SWMP. These responsibilities include guiding and coordinating SWMP program policy development, monitoring, reporting, and compliance with the NPDES stormwater permit obligations. The primary responsibilities of the Design Office's Hydraulics Branch include managing and updating the *Highway Runoff Manual* and providing technical support on hydraulics and hydrology issues to WSDOT headquarters and regional offices. Responsibilities of environmental support staff in the Maintenance and Operations Division include technical support and implementing stormwater-related maintenance activities, in coordination with the regions.

Responsibilities for the Washington State Ferries Division include all stormwater management activities at ferry terminals. The Region’s primary stormwater management implementation responsibilities fall in the areas of meeting stormwater-related construction- and post-construction requirements including related ongoing operations and maintenance.

## **2.2 Intergovernmental Coordination**

The following section describes how WSDOT coordinates with local governments (i.e., cities, counties, and tribes) and various groups in areas where highway and municipal separate storm system runoff commingle. Improved intergovernmental coordination helps identify areas for stormwater retrofit, maintenance, illicit connection removal, spill response, and education. As appropriate, WSDOT works with these groups to help coordinate the implementation of this SWMP. In addition, WSDOT pays stormwater utility fees that help finance development and implementation of local government stormwater management programs.

### **2.2.1 Maintenance Coordination**

WSDOT allocates maintenance responsibilities between WSDOT and Washington cities according to a memorandum of understanding (MOU) signed with the Association of Washington Cities (*City Streets as Part of State Highways Maintenance Guidelines*). The guidelines, general in nature, facilitate the allocation of maintenance responsibilities between WSDOT and Washington Cities pursuant to RCW 47.24.

*Section 7* describes WSDOT’s maintenance program and activities in greater detail.

### **2.2.2 Total Maximum Daily Load Processes**

#### **TMDL Development**

WSDOT actively participates in the following TMDL development process where WSDOT facilities or operations are identified as contributing sources to the pollutant being characterized:

1. WSDOT develops an annual TMDL project list which contains information regarding:
  - The pollutant(s) to be addressed by each TMDL; and
  - Ecology contact information for each TMDL.
2. WSDOT establishes priorities and determines their level of involvement. WSDOT then notifies Ecology about its intent to participate and provides contact information for the WSDOT representative.
3. WSDOT participates as a member of Ecology’s TMDL advisory committees for those TMDLs identified by WSDOT as priorities in *Step 2*.

#### **TMDL Implementation**

WSDOT implements assigned TMDL actions specified in Appendix 3 of the permit. WSDOT may participate in TMDL adaptive management meetings convened by Ecology to document implementation efforts assigned to WSDOT. Refer to S6. Total Maximum Daily Load Allocations and Appendix 3 – Applicable TMDL Requirements for the listing of WSDOT’s permit-related TMDL permit obligations.

### **2.2.3 Storm Sewer Connections**

WSDOT's *Utilities Manual* (i.e., Chapter 1, 120.05 – *Storm Drainage and Hydraulics*) includes procedures regarding discharges into WSDOT's municipal stormwater systems. This includes the conditions governing the acceptance of surface runoff discharged into WSDOT's drainage system. These conditions specify that discharges meet the requirements in the *Highway Runoff Manual*; comply with existing and future state and local requirements; and assume all costs and liabilities associated with the design, construction, maintenance, and operation of stormwater management facilities. WSDOT regional offices review utility permit applications to ensure they meet the required conditions.

WSDOT's *Highway Runoff Manual* includes procedures for seeking approval from a local jurisdiction when WSDOT wants to discharge stormwater into the municipality's storm sewer system and/or for projects in which a portion of the local system will be replaced and turned over to the local jurisdiction for operation and maintenance.

As described in *Section 3*, WSDOT coordinates directly with local jurisdictions and Ecology in the identification and elimination of *illicit discharges* and *illegal connections*.

### **2.3 Stormwater Facilities Inventory and Documentation**

WSDOT inventories its stormwater-related facilities to document their location and aid in setting levels of maintenance service, identifying deficiencies and illicit discharges, and addressing deficiencies by prioritizing retrofits.

During the previous permit cycle, WSDOT:

- Developed and deployed its *Stormwater Features Inventory Database*;
- Mapped all known outfalls, discharge points, and stormwater treatment/control facilities (including UIC facilities); and
- Developed and initiated an ongoing program to map its MS4 which includes:
  - Maintaining existing inventory to include newly constructed, modified, and identified outfalls, discharge points, and stormwater treatment/control facilities;
  - Mapping connection points between MS4s owned or operated by WSDOT and other public entities (outside the city limits for managed access highways); and
  - Mapping associated drainage features conveying highway runoff to WSDOT outfall and discharge point locations.

WSDOT's on-going program to map its MS4 follows a staged approach:

Stage 1- Digitize individual features from geo-referenced contract plan sheets.

Concurrently perform field mapping in areas where no contract plan sheet information exists.

Stage 2- Field verify, updating as needed, the digitized collection of features from the contract plan sheets.

Stage 3- Maintain and update the inventory to reflect new construction and system modifications as they occur.

- No later than two years from the effective date of this permit (i.e., March 6, 2016) WSDOT will establish an approach and pace for complete conveyance mapping/verification of its MS4. During the first two years of the permit, WSDOT will conduct pilot inventory efforts utilizing existing stormwater features inventory staff resources to establish this approach and assess the pace. These staff resources include: three field staff; two office staff; and one program coordinator. This pace will establish the performance indicator for the remaining three years of the permit cycle. WSDOT will define its estimate in *centerline miles per year* and will establish a pace utilizing the current mapping resources, taking into consideration that these resources get tasked to meet WSDOT's other mapping-related obligations (e.g., IDDE, TMDL, legal requests). This estimate will not include conveyance inventory and mapping of highway segments that require road closure. Rather, inventory work requiring road closures will occur during a construction project that includes drainage work. WSDOT will develop and submit a report to Ecology describing the approach and pace, along with relevant and supporting background data, by March 6, 2016.

No later than five years from the effective date of this permit (i.e., March 6, 2019) WSDOT will develop a program to map drainage areas associated with known WSDOT owned or operated stormwater outfalls and discharge points.

To the extent consistent with national security laws and directives, WSDOT must make available to Ecology, upon request, available maps depicting the information required. The preferred format of submission will be an electronic format with fully described mapping standards.

To the extent appropriate, WSDOT must provide mapping information to municipal stormwater permittees and tribal governments upon request. This permit does not preclude WSDOT from recovering reasonable costs associated with fulfilling mapping information requests.

## **2.4 Legal Authority**

Title 47 of the Revised Code of Washington, Public Highways and Transportation, provides the Department with legal authority adequate to meet the requirements of 40 CFR § 122.26(d)(1)(ii) to control discharges to municipal separate storm sewer systems WSDOT owns or operates. RCW 47.01.260 provides that:

*The department of transportation shall exercise all powers and perform all duties necessary, convenient, or incidental to the planning, locating, designing, constructing, improving, repairing, operating, and maintaining state highways, including bridges and other structures, culverts, and drainage facilities and channel changes necessary for the protection of state highways....*

RCW 47.04.040 vests in the State of Washington all right, title, and interest to the rights-of-way of state highways, including the roadway and ditches and existing drainage facilities, together with all appurtenances thereto.

WSDOT possesses the legal authority adequate to prohibit illicit discharges to its storm sewer system. Chapter 47.32 RCW empowers the WSDOT to operate state highways free from all obstructions, encroachments, occupancy, and public nuisances. RCW 47.32.010 authorizes WSDOT, upon due notice, to order obstructions, encroachments, structures, buildings, improvements, or other means of occupancy of any right-of-way to the state highway to be removed within ten days. Failure to so remove the offending property results in the property becoming unlawful property, which WSDOT may confiscate, remove, sell, or destroy.

RCW 47.32.130(1) provides:

*Whenever there exists upon the right-of-way of any state highway or off the right-of-way thereof in sufficiently close proximity thereto, any structure, device, or natural or artificial thing that threatens or endangers the state highway or portion thereof, or that tends to endanger persons traveling thereon, or obstructs or tends to obstruct or constitutes a hazard to vehicles or persons traveling thereon, the structure, device, or natural or artificial thing is declared to be a public nuisance, and the department is empowered to take such action as may be necessary to effect its abatement. Any such structure, device, or natural or artificial thing considered by the department to be immediately or eminently dangerous to travel upon a state highway may be forthwith removed, and the removal in no event constitutes a breach of the peace or trespass.*

Thus, illicit discharges to WSDOT's storm sewers would constitute encroachments that WSDOT can remove. Discharge of pollutants into the WSDOT's storm sewer system, even if emanating off the right-of-way if in sufficiently close proximity to jeopardize WSDOT's system, would constitute a public nuisance that WSDOT is empowered to abate.

The Washington State Patrol (WSP) has general authority for the administration and enforcement of traffic and other laws on state highways. RCW 46.48.170 authorizes the WSP to adopt and enforce regulations concerning the transportation of hazardous materials. Chapter 446-50 WAC contains these regulations, consistent with those promulgated by the United States Department of Transportation, Title 49 CFR parts 100 through 199, designed to protect persons and property from unreasonable risk of harm or danger. WSDOT can solicit WSP's authority to address spills, dumping, or disposal of materials other than stormwater on state highways.

WSDOT controls construction work through contract provisions. Standard provisions and specifications require that contractors comply with all applicable federal, state, and local regulations, including obtaining required permits and licenses. WSDOT requires contractors to submit and implement erosion and sediment control plans and spill prevention, control, and countermeasures plans.

WSDOT lacks general authority to regulate activities occurring outside its right-of-way. However, where a proposed development requires a utility permit or franchise from WSDOT or an access connection permit to the state highway, WSDOT may add conditions to the permit regarding stormwater flow and quality. WSDOT can also request the help of local and state agencies, which have legal enforcement authority to conduct inspections and investigations outside of the right-of-way, if necessary, to detect and eliminate illicit discharges.

Furthermore, WSDOT requires a utility permit and/or franchise for all stormwater drainage or utility connections from private and public property onto state highway right-of-way. WSDOT's *Utilities Manual* outlines procedures for obtaining such permits. Utilities or jurisdictions which have pipes, culverts, or ditches conveying sources other than stormwater or natural base flow will not be granted a utility permit or franchise for conveyances using WSDOT storm sewer systems, including roadside ditches. Those utilities or jurisdictions discharging to WSDOT storm sewer systems or natural base flow originating off the right-of-way must provide WSDOT water quantity and quality controls, including conveyances which conform with requirements and specifications in the *Highway Runoff Manual*; Department of Ecology requirements; or local rules, regulations, ordinances, and resolutions, whichever is more stringent.

## **2.5 SWMP Revision Process**

In the process of compiling and evaluating information for the Annual Report, WSDOT may identify trends, common problems, or solutions that may spur the need to revise the SWMP and amend its NPDES municipal stormwater permit. Upon Ecology's approval, WSDOT would revise the SWMP as necessary to maintain an effective stormwater management program that reflects advancements in stormwater management and lessons learned. Ecology may also initiate NPDES municipal stormwater permit amendments and revisions to the SWMP.

## **2.6 Stormwater Program Management Framework Evaluation**

*Table 2.1* summarizes the key activities identified in the SWMP associated with this program section along with applicable performance indicators.

**Table 2-1: Key Activities and applicable Performance Indicators Associated with the Stormwater Program Management Framework**

Key Activity	Performance Indicator
<b>Program Development</b>	
Develop approach and pace for complete conveyance mapping of WSDOT's MS4	No later than two years from the effective date of the permit (i.e., March 6, 2016), establish an approach and pace for complete conveyance mapping of WSDOT's MS4
Develop process for mapping drainage areas associated with WSDOT owned or operated stormwater outfalls and discharge points	By the end of the permit term (i.e., March 6, 2019), develop a process for mapping drainage areas associated with WSDOT owned or operated stormwater outfall and discharge points
<b>Implementation</b>	
Continue intergovernmental coordination associated with implementation of this SWMP.	Participate in watershed planning and TMDL development where WSDOT identifies itself as a key stakeholder.
Continue to identify trends, common problems, or solutions that may spur the need to update and revise elements contained or referenced in the SWMP.	Annually document changes proposed to elements contained or referenced in the SWMP.
Document newly constructed stormwater outfall and discharge points and stormwater treatment/control facilities into the <i>Stormwater Features Inventory Database</i> .	Map and document all newly constructed stormwater outfall and discharge points and stormwater treatment/control facilities as part of the project closeout into the <i>Stormwater Features Inventory Database</i>
Map conveyances of WSDOT's MS4, including connections between WSDOT's MS4 and other entities	Starting year three of the permit (i.e., March 6, 2017), meet pace defined by the first two years for MS4 conveyance and connection mapping.

*Appendix 2. Table of Performance Indicators of the WSDOT NPDES Municipal Stormwater Permit* incorporates these key activities and performance indicators as reporting elements for the permit.

## **SECTION 3: TRAFFIC COLLISION RELATED SPILLS, ILLICIT DISCHARGES, AND ILLICIT CONNECTIONS**

WSDOT designed its illicit discharge and illicit connection detection and elimination (IDDE) program to: 1) Ensure consistent, timely notification and response to traffic collision related spills; and 2) To identify and work to eliminate illicit discharges and illicit connections (ID/IC) to WSDOT's MS4. *Section 3.1* addresses procedures for traffic collision related spills. *Section 3.2* addresses ID/ICs along WSDOT's highway right-of-way (ROW).

### **3.1 Traffic Collision Related Spills**

WSDOT considers spills that can be cleaned, removed, or contained with resources readily available to the first responder (including cleanup capabilities of a responding Registered Tow Truck Operator) as *manageable*. To qualify as *manageable*, the spill must be non-hazardous and contained on an impervious roadway surface.<sup>2</sup>

WSDOT considers spills onto state highways as *major* when the first responder cannot manage (i.e., clean, remove, or contain) the spill with resources easily and readily available to them or the spill enters a MS4 or waterway. *Major* spills require the help of an outside agency to remediate (i.e., Ecology spill response, fire department, local jurisdiction, or remediation contractor). *Major* spills, given the potential to reach waterways, trigger the permit's G3 notification requirement.

#### **3.1.1 Notification Procedures**

First responders (i.e., WSP, WSDOT incident response) notify WSP that a traffic-related spill has occurred on WSDOT ROW. The notification procedures triggered depend on the severity of the spill.<sup>3</sup>

#### **3.1.2 Response and Remediation**

WSDOT staff receives instruction to only take the emergency actions required to protect human life and property until the WSP gains control of the situation. WSDOT staff, who received training to do so, will take control actions when necessary and feasible to prevent the release of small quantities of petroleum products into surface waters. WSDOT personnel assist in managing traffic at the scene in support of the overall incident management effort. WSDOT personnel may also provide technical information (e.g., information on drainage system characteristics) in support of the incident response.<sup>4</sup>

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<sup>2</sup>Under agreement with WSDOT and the Washington State Patrol (WSP), registered tow operators must complete the removal and clearance of all collision scene vehicles, cargo, debris and nonhazardous vehicle fluids, and open all travel lanes within 90 minutes after WSP and/or WSDOT authorized representative give the "Notice to Proceed".

<sup>3</sup>For manageable spills, WSP dispatch sends out a "memo" via email to all potentially affected jurisdictions. Manageable spills do not require Ecology notification. For major spills, WSP dispatch sends out a "memo" via email to all potentially affected jurisdictions, as well as Ecology and agencies that may be able to offer assistance (e.g., local fire department). Along with sending out a "memo", the first responder or the dispatch center will make the appropriate phone notifications required in G3.

<sup>4</sup>The WSP has the responsibility for carrying out safety measures and coordinating the clean-up of spilled substances.

### 3.1.3 Spills Tracking

WSDOT maintains a database on collisions and utilizes Ecology's spill tracking information to assist in identifying high-risk spill locations on state routes. WSDOT employs these tools to target safety improvements at sites where frequent collisions occur with the aim of reducing collisions and in turn, reducing spills.

WSDOT's efforts to track traffic collision related spills occur in conjunction with the WSP and/or the local law enforcement agency responding to the collision scene. The collision form records whether a *manageable* or *major* spill occurred and if a hazardous material was involved and, in the event of a spill, if a release occurred. In addition, WSDOT documents all known *manageable* and *major* spills.

### 3.1.4 Traffic Collision Spill Response Training

WSDOT first responder personnel (i.e., Incident Response staff) receive training to identify and distinguish *major* and *managed* spills. As WSDOT relies heavily on WSP for coordinating responses to traffic collision related spill, WSDOT incident response will also receive instruction on how to effectively communicate with WSP dispatch.

## 3.2 Illicit Discharges and Illicit Connections (ID/IC)

WSDOT designed its ID/IC detection and elimination program to identify and eliminate ID/IC to WSDOT's MS4. The permit defines an *illicit discharge* as any discharge to a MS4 that is not composed entirely of stormwater or non-stormwater discharges allowed as specified in this Permit. Illicit discharges can include wash water, sediment, chemicals, or sewage discharges to the MS4. The permit defines an *illicit connection* as any man-made conveyance to the MS4 that is not intended, permitted, or used for collecting and conveying stormwater or non-stormwater discharges allowed as specified in this Permit. This section addresses procedures for hazardous and non-hazardous illicit discharges to WSDOT's MS4 through a connection or overland flow.

Not all external discharges/connections to WSDOT's MS4 and property are illicit. WSDOT's *Accommodation of Stormwater Runoff onto Right of Way* (WSDOT Policy Statement P 2032.00) serves as a reference for employees on accommodation of stormwater discharges from adjacent properties onto WSDOT ROW. EPA regulations allow discharges from an NPDES-permitted source and discharges from emergency firefighting activities. Other non-stormwater discharges, conditionally allowed unless WSDOT identifies them as a significant contributor of pollutants to the MS4 include:

- Diverted stream flow
- Irrigation return flow
- Rising ground waters
- Uncontaminated ground water infiltration (as defined at 40 CFR § 35.2005(20))
- Uncontaminated pumped ground water
- Springs
- Flows from riparian habitats and wetlands
- Foundation drains
- Air conditioning condensation
- Uncontaminated water from crawl space pumps
- Footing drains

- Discharges from potable water sources, including water line flushing, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges to a conveyance system or surface water will be de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted, if necessary, and volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4.
- Discharges from lawn watering and other irrigation runoff. Minimize these discharges through, at a minimum, education activities for WSDOT maintenance staff and water conservation efforts.
- Street and sidewalk wash water, water used to control dust, and routine external building wash-down that does not use detergents. WSDOT will reduce these discharges through, at a minimum, education activities and/or water conservation efforts. To avoid washing pollutants into the MS4, WSDOT must minimize the amount of street wash and dust control water used. At active construction sites, WSDOT must perform street sweeping prior to washing the street.
- Other non-stormwater discharges. The discharges must comply with the requirements of the stormwater pollution prevention plan, reviewed by WSDOT, which addresses control of such discharges.

### **3.2.1 ID/IC Identification**

While public reporting plays a role, the detection and identification of ID/IC on WSDOT properties relies primarily on field observations reported from trained maintenance, construction, and design staff as well as crews inventorying and documenting stormwater facilities and connection points. These ongoing efforts to identify and report ID/IC are an integral part of WSDOT's stormwater maintenance inspection and facilities mapping efforts.

WSDOT staff uses the following indicators in the field to detect and identify suspect illicit discharges:

- Visible signs of staining, residues, or oily substances in the water or detained within ditches, channels, catch basins, or surrounding pavement and soils
- Pungent odors coming from the drainage system (e.g., discharge smells like sewage, sulfide, petroleum/gas, rancid, etc.)
- Discoloration or oily substances in the water
- Abnormal water flow during the dry weather season
- Excessive sediment deposits or turbid waters, particularly near active off-site construction sites
- Floatables (e.g., discharge includes sewage, an oil sheen, suds, etc.)
- Broken concrete or other disturbances at or near junction structures.

For reporting purposes, WSDOT documents these observations along with the date, time, location of discharge, estimated quantity of the discharge, and any additional information describing the discharge into WSDOT's IDDE database.

In carrying out the SWMPP's stormwater facility mapping and documentation efforts, WSDOT determines whether stormwater drainages and connections emanating outside the right-of-way that discharge to WSDOT's MS4 or property possess a valid WSDOT utility permit and/or franchise authorizing the connection/discharge. Drainage or connections without a valid permit or franchise are directed to the appropriate WSDOT region utilities office for resolution.

### **3.2.2 Notification Procedures**

WSDOT staff suspecting an ID/IC notifies the appropriate WSDOT region IDDE contact for remediation. The regional IDDE contact determines if the suspected ID/IC has been permitted and takes action upon identifying an ID/IC. WSDOT follows the G3 notification requirements for suspected hazardous illicit discharges or discharges that could constitute a threat to human health, welfare, or the environment. WSDOT will also notify other emergency response authorities as appropriate.

WSDOT includes the reporting hotline phone numbers listed in G3 on its internet site to facilitate public reporting of pollution sources they observe along WSDOT roadsides or facilities.

### **3.2.3 Response and Remediation**

Where possible, WSDOT staff identifies the source of the ID/IC. For unknown sources originating outside of WSDOT right-of-way, staff contacts the local jurisdiction responsible for the area with the originating discharge. WSDOT seeks remediation and cleanup of ID/ICs by the responsible party, if known. If the responsible party is unknown or unresponsive to WSDOT's remediation requests, WSDOT solicits enforcement action by contacting the local governmental jurisdiction in the area where the ID/IC originates. In instances where the discharger or local jurisdiction fails to correct the discharge in a timely manner, WSDOT contacts Ecology to solicit enforcement action.

### **3.2.4 ID/IC Training**

WSDOT trains staff who, as part of their normal job responsibilities, may come into contact with or otherwise observe an ID/IC to WSDOTs MS4 or property. This training includes the identification of an ID/IC as well as the proper procedures for reporting and responding. WSDOT provides refresher training as needed to address changes in procedures, techniques, requirements, or staffing. WSDOT offers refresher training to all applicable WSDOT staff on a two-year cycle. This training cycle also allows WSDOT to evaluate and refine its training to enhance its effectiveness.

## **3.3 Traffic Collision Spill Response and IC/ID Elimination Program Evaluation**

*Table 3.1* summarizes the key activities identified in the SWMP associated with this section along with applicable performance indicators.

**Table 3-1: Key Activities and Performance Indicators Associated with the Traffic Collision Spill Response and the IC/ID Elimination Programs**

Key Activity	Performance Indicator
<b>Implementation</b>	
Require training for WSDOT first responder personnel on spill identification and notification procedures.	Annually document the number of training courses held and the number of staff trained.
Track all <i>major</i> traffic collision related spills.	Annually document <i>major</i> traffic collision related spill response/remediation activities.
Train applicable staff and contractors on ID/IC identification and notification procedures.	Annually document the number of courses held and the number of staff trained.
Track all ID/IC confirmed by staff and contractors and seek remediation when necessary. Report unresolved problems to Ecology via the <i>Environmental Reporting and Tracking System</i> for further action.	Annually document remediation activities for ID/IC.

*Appendix 2. Table of Performance Indicators of the WSDOT NPDES Municipal Stormwater Permit incorporates these key activities and performance indicators as reporting elements for the permit.*

## **SECTION 4: CONSTRUCTION STORMWATER POLLUTION PREVENTION**

### **4.1 Erosion Control Program**

The primary focus of construction stormwater planning aims to prevent sediment and other pollutants associated with construction activity from impacting soil, air, and water quality to comply with *NPDES Construction Stormwater General Permit* (CSWGP) requirements. The WSDOT Erosion Control Program maintains internal and external webpages providing information about training, technical assistance and compliance assurance.

#### **4.1.1 Technical Guidance and Standards**

##### ***Highway Runoff Manual***

WSDOT's comprehensive program to address stormwater runoff from construction activity occurs primarily through the *Highway Runoff Manual, Chapter 6*. The information from this chapter has been moved to a stand-alone manual titled: "*Temporary Erosion and Sediment Control Manual (TESCM)*". WSDOT's construction stormwater pollution prevention planning components consist of Spill Prevention, Control, and Countermeasures (SPCC) plans and Temporary Erosion and Sediment Control (TESC) plans. The TESCM provides guidelines for preparing TESC plans and for selecting appropriate erosion and sediment control best management practices (BMPs). The chapter includes installation and maintenance requirements for BMPs. The TESCM also provides guidance on water quality sampling and reporting procedures for WSDOT projects required to monitor discharge water quality during construction.

The TESCM *Appendix* includes BMP descriptions, references to applicable contract specifications and standards plans, design criteria and other pertinent information. Designers and construction inspectors use the guidelines contained in the TESCM *Appendix* when selecting the best combination of erosion and sediment control BMPs for a given project.

##### ***Construction Manual***

The *Construction Manual* provides guidelines as to the objectives, procedures, and methods for construction administration at WSDOT. *Section 8-1, Erosion Control*, addresses general requirements relating to erosion control and contractor work and payment.

##### ***Standard Specifications***

*Section 1-07* and *8-01* of the WSDOT's *Standard Specifications* includes the language used to enforce contractual erosion control and water quality protection requirements. The specifications include general construction requirements like: seasonal limits on clearing and grading, certification and site inspection requirements for contractor Erosion and Sediment Control (ESC) Leads, and detailed specifications for TESC BMPs. *Section 9-14* of the *Standard Specifications* contains TESC BMP material requirements.

### ***Qualified Products List***

The Qualified Products List (QPL) contains approved erosion and sediment control products available to WSDOT engineers. However, the final selection of the product(s) used in field must take into consideration site conditions and constraints. WSDOT's internet site provides further information on the QPL.

### **4.1.2 Site Inspections**

WSDOT is ultimately responsible for all erosion and sediment control activities on projects with WSDOT owned CSWGP. WSDOT may utilize contractor staff for completing CSWGP compliance related activities such as site inspections. For example, WSDOT may contract an Erosion Sediment Control (ESC) Lead to perform site inspections per *Standard Specification 8-01.3(1)B*. The ESC Lead *Standard Specification 8-01.3(1)B* requires all individuals performing CSWGP required site inspections to have a current Erosion and Sediment Control Lead (CESCL) certification. WSDOT confirms CESCL certification status as a condition of authorizing construction contracts to proceed. WSDOT also verifies that required contractor CESCL certifications remain current in the *Statewide Erosion Plan Implementation and Effectiveness Assessment*. **Contractor staff seeking CESCL certification to perform CSWGP related site inspections or discharge sampling activities must receive training from an Ecology-approved training provider.**

WSDOT requires that contractors perform site inspections in accordance with the CSWGP. *Section 8-01.3(1)B* of the *Standard Specifications* outlines these inspection requirements. WSDOT uses a standardized Erosion and Sediment Control Inspection Form to ensure compliance with the CSWGP requirements. Contractor CESCLs (ESC Leads, as defined by *Standard Specification 8-01.3(1)B*), must complete this form and provide it to the Project Engineer. Projects keep a copy of each inspection report on-site in the site logbook or have them available on-site electronically.

### **4.1.3 Information Management**

#### ***Training Tracking***

The Erosion Control Program provides statewide training annually and tracks WSDOT employee attendance. WSDOT's Human Resource Office's Staff Development Program maintains a training matrix and database to track training needs and accomplishments.

#### ***Statewide Erosion Plan Implementation and Effectiveness Assessment***

Each fall season WSDOT's Erosion Control Program performs a *Statewide Erosion Control Plan Implementation and Effectiveness Assessment* (Fall Assessments) for all active construction projects with moderate to high-risk of erosion, as defined in the TESCO. Performance measures evaluated include: thoroughness of original erosion control plans, implementation of the erosion control plan elements, responsiveness to changing field conditions, and BMP effectiveness. The Fall Assessments consist of a site documentation and field assessment. WSDOT combines Fall Assessment findings into a project summary report which project management teams use to better prepare for the wet season work. Each project management team must address the concerns identified in the project summary report and submit a written response within 10 days of the assessment. The Erosion Control Program assessor analyzes statewide findings and identifies trends or policy gaps requiring attention at the headquarters' level.

The Fall Assessment process provides an internal mechanism to help continually improve and enhance the effectiveness of the Erosion Control Program and TESC Planning at the project management level.

#### **4.1.4 Construction Stormwater Pollution Prevention Training**

WSDOT requires personnel responsible for designing or inspecting a TESC plan and consultant personnel designing these plans to take WSDOT's Construction Site Erosion and Sediment Control course. WSDOT's Erosion Control Program webpage contains more information on these and other training programs. WSDOT contractor staff responsible for performing CESCL activities, such as site inspections, must receive training from an Ecology-approved training provider prior to performing these duties.

### **4.2 Spill Prevention, Control, and Countermeasures**

WSDOT requires contractors to prepare a Spill Prevention Control and Countermeasures (SPCC) plan for all construction projects. SPCC plans must meet the requirements prescribed in *WSDOT Standard Specifications 1-07.15(1)*. SPCC plans are reviewed and accepted by the WSDOT project engineer prior to beginning construction. **Guidelines and templates** to assist contractors in developing a site-specific SPCC Plan are **available on the WSDOT Hazardous Materials webpage**.

#### **4.2.1 Technical Guidance and Standards**

##### ***Highway Runoff Manual***

The TESC provides internal guidelines for reviewing and accepting SPCC plans. Additional guidelines and resources are available on the WSDOT Hazardous Materials Program webpage.

##### ***Standard Specifications***

*Section 1-07.15(1)* of the WSDOT's *Standard Specifications* includes the language used to enforce contractual obligations to prepare and implement the SPCC plans. The specifications also require the contractor to submit the plan to the Engineer prior to the commencement of any on-site construction activities; maintain a copy of the plan on site; and when encountering hazardous materials, do everything possible to control and contain the material until appropriate measures can be taken. WSDOT's Hazardous Materials Program developed a number of documents and guidelines to assist contractors in developing a SPCC Plan to satisfy the requirements of *Standard Specification 1-07.15(1)*.

### 4.2.2 Spill Prevention, Control, and Counter Measures Training

The Construction Site Erosion and Sediment Control course, discussed in *Section 4.1.4*, includes information about spill prevention and countermeasures. WSDOT also provides on-line educational programs for employees that review and enforce SPCC plans. Information about training can be found on the Hazardous Materials Program webpage.

### 4.3 Construction Stormwater Pollution Prevention Program Evaluation

*Table 4.1* summarizes the key activities identified in the SWMP associated with this program section along with applicable performance indicators. In addition to these indicators, WSDOT does comply with the NPDES CSWGP requirements.

**Table 4-1: Key Activities and Performance Indicators Associated with the Construction Stormwater Pollution Prevention Program**

Key Activity	Performance Indicator
<b>Implementation</b>	
Continue to require training for WSDOT personnel involved in design or inspection of TESC plans.	Annually document the number of training courses held and the number of staff who received the training.
Continue Fall Assessment of all moderate to high-risk construction sites.	Annually summarize findings.

*Appendix 2. Table of Performance Indicators* of the *WSDOT NPDES Municipal Stormwater Permit* incorporates these key activities and performance indicators as reporting elements for the permit.

## **SECTION 5: STORMWATER MANAGEMENT FOR NEW FACILITIES**

### **5.1 Stormwater Controls for New Facilities**

This section of the SWMP focuses on post-construction stormwater management controls. Maintenance-related stormwater controls described in *Section 7* are used to manage post-construction sites.

#### **5.1.1 Highway Runoff Manual**

The *Highway Runoff Manual* (HRM), available on WSDOT's internet site, directs the planning and design of WSDOT stormwater management facilities. This manual meets the level of stormwater management established by the Washington Department of Ecology's stormwater management manuals. The HRM establishes minimum requirements and provides uniform technical guidelines for avoiding and mitigating impacts to water resources associated with the development of state-owned and operated transportation infrastructure systems, and for reducing and minimizing water resource impacts associated with the redevelopment of those facilities.

The HRM receives periodic updates (subject to review and approval by Ecology) to enhance content clarity as well as reflect changes in regulations, advancements in stormwater management, and improvements in design tools. WSDOT provides information on post-publication updates on its internet site as well as instructions on how to receive emails announcing HRM updates, training opportunities, and improvement in design tools.

#### **5.1.2 Hydraulics Manual**

WSDOT uses the *Hydraulics Manual*, available on WSDOT's internet site, in conjunction with the *Highway Runoff Manual* for analysis and design of stormwater facilities. This manual describes the preparation of project Hydraulic Reports as well as provides detailed information on hydraulic and hydrologic analysis related to drainage collection and conveyance systems, culverts, drainage outfalls, and a variety of other hydraulic features of highway design.

### **5.2 Stormwater Controls for New Facilities Training**

Training for hydrologic analysis and hydraulic modeling as well as other aspects supporting effective implementation of the *Highway Runoff Manual* (HRM) are incorporated into the Hydraulics Branch's curriculum. WSDOT also provides HRM-related training to WSDOT's consultants as well as local jurisdictions (including their consultants and contractors) who use the HRM. WSDOT requires all consultants, contractors, and design engineers to have this training prior to working on new facilities. As a condition of final approval, Hydraulic Reports must include the name(s) and HRM Training Certificate number(s) of the person(s) responsible for developing the stormwater design portion of the report.

### **5.3 New Facilities Stormwater Management Program Evaluation**

*Table 5.1* summarizes key activities identified in the SWMP along with applicable performance indicators for this program section.

**Table 5.1: Key Activities and Performance Indicators Associated with the New Facilities Stormwater Management Program**

Key Activity	Performance Indicator
<b>Implementation</b>	
Require <i>Highway Runoff Manual</i> training for staff, consultants, and contractors involved in stormwater facility design.	Annually document the number of training courses held and the number of staff, consultants, and contractors who received the training
Track the number and type of stormwater treatment and flow control facilities built.	Document the number and type of stormwater treatment and flow control facilities built annually.

*Appendix 2. Table of Performance Indicators of the WSDOT NPDES Municipal Stormwater Permit* incorporates these key activities and performance indicators as reporting elements for the permit.

## **SECTION 6: STORMWATER BMP RETROFIT FOR EXISTING FACILITIES**

WSDOT's stormwater facilities retrofit program consists of the following four elements:

1. *Stand-alone*: The amount the State Legislature appropriates for stand-alone stormwater retrofits.
2. *Cleanup Plan-triggered*: TMDL-related stormwater retrofit obligations prescribed in WSDOT's municipal stormwater permit. Similarly, superfund site remediation may also prescribe retrofit obligations to prevent recontamination.
3. *Project-triggered*: Stormwater retrofit to existing and replaced pavement as part of transportation improvement projects per requirement triggers prescribed in the *Highway Runoff Manual*.
4. *Opportunity-based*: Stormwater retrofit of existing and replaced pavement that occurs as part of transportation improvement projects when WSDOT determines that it is cost-effective to provide retrofits beyond those required to comply with the project-triggered retrofit requirements prescribed in the *Highway Runoff Manual*.

### **6.1 Stand-alone Stormwater Retrofits**

WSDOT's departmental budget structure includes a specific category for retrofitting existing impervious surfaces in order to meet one of the requirements of Washington Administrative Code (WAC) 173-270-060. WSDOT accomplishes the construction of stand-alone BMP retrofits with specific allocations through the Washington State Legislature and with dollars transferred from projects within the Puget Sound basin as described in *Section 6.3* below. Selection of individual stand-alone retrofit projects is identified through WSDOT's stormwater retrofit prioritization process, described in *Section 6.5* below.

### **6.2 Cleanup Plan-triggered Stormwater Retrofits**

TMDL water cleanup plans may prescribe stormwater retrofit obligations as an action item in instances where evidence exist tying WSDOT's stormwater discharges as source of the pollutant of concern. WSDOT's municipal stormwater permit would document the obligation along with the timeline for implementation. Similarly, superfund site remediation may also prescribe retrofit obligations to prevent recontamination.

### **6.3 Stormwater Retrofit Requirements in the Puget Sound Basin**

Highway projects in the Puget Sound basin that add new impervious surfaces and exceed the threshold to comply with stormwater management requirements (per the *Highway Runoff Manual*) must either:

- Retrofit, at a minimum, the amount of existing impervious surface within the project limits that equates to 20% of the cost to meet stormwater requirements for the new impervious surfaces (i.e., *20% cost obligation*);
- Transfer an amount of money equal to the *20% cost obligation* to fund stand-alone stormwater retrofit projects; or

- Meet the *20% cost obligation* within the project site to the extent feasible<sup>5</sup> and transfer funds equivalent to the unmet balance to fund stand-alone stormwater retrofit projects.

Highway projects with *high priority* retrofit locations falling within their project boundaries cannot use *Option ii*.

## 6.4 Opportunity-based Retrofits

WSDOT established guidelines when making decisions about adding the stormwater retrofits of existing impervious surfaces into new improvement and preservation projects. In general, most preservation projects do not add any new impervious surface and therefore the guidelines generally have minimal impact for this category of projects. However, if a stormwater deficiency falls within the limits of a preservation project, the WSDOT may develop a companion project proposal as a stand-alone stormwater retrofit if they consider the deficiency a priority. These retrofit project proposals get folded into the prioritization process along with the other stormwater retrofit needs already identified.

## 6.5 Project-triggered Stormwater Improvements

In the context of highway projects, the project retrofit triggers contained in Ecology’s stormwater management manuals give rise to transportation deficiencies acting as the driving force to initiate stormwater retrofits, rather than environmental priorities. The alternative options described in the *Highway Runoff Manual* aim to amplify environmental benefits while improving highway project delivery by targeting project-driven stormwater retrofit investments based on environmental priorities by providing guidelines to assess whether project-driven stormwater retrofit obligations can be met off-site by retrofitting state highway segments in targeted environmental priority locations.

### 6.5.1 Mechanics

The alternative options differ from the Ecology manuals’ project-driven retrofit approach by directing stormwater retrofit investments programmatically based on environmental driven priorities identified through a prioritization scheme. Stormwater retrofit priorities<sup>6</sup> located within project boundaries must be retrofitted as part of that highway project. Otherwise, the sequence for selecting alternative offsite environmental priority locations takes place as follows, looking:

1. Within the same sub-*Water Resource Inventory Area (WRIA)* basin as where the project obligation was incurred.
2. Within the same WRIA as where the project obligation was incurred.
3. Within the same region as where the project obligation was incurred.<sup>7</sup>

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<sup>5</sup>*Feasible* means there are no physical site limitations such as geographic or geologic constraints, steep slopes, soil instability, proximity to water bodies, presence of significant cultural resources, or shallow water tables (or other applicable factors contained in *Appendix 2A of the Highway Runoff Manual – Engineering and Economic Feasibility for Construction of Stormwater Management Facilities*).

<sup>6</sup> Identified by WSDOT Headquarters using the criteria contained in *SWMP Table 6-1: Stormwater Retrofit Prioritization Scheme*.

<sup>7</sup> For implementation purposes, the state is divided into the following three regions: eastern Washington, the Puget Sound Basin, and the rest of western Washington outside the Puget Sound Basin.

The highway project proponents must develop and fund project-triggered retrofits regardless of whether they occurred within the project limits or outside the project's boundary.

### **6.5.2 Accounting and Reporting**

Implementation of this approach requires an accounting and reporting system to track the amount of retrofit obligation accrued as well as accomplished. Similarly, WSDOT tracks the location and extent of the alternative retrofitted sites.

### **6.5.3 Legacy Retrofit Deficiencies**

In regard to those project sites in western Washington designing flow control facilities based on actual pre-project land cover conditions (rather than historic land cover conditions), use of this aspect of the alternative option results in highway sections considered deficient by Ecology with respect to the western Washington flow duration (i.e., *historic condition*) standard. WSDOT keeps records of such deficiencies by state route number and milepost.

## **6.6 Stormwater Retrofit Prioritization Process**

WSDOT's stormwater retrofit prioritization scheme (*Table 6-1*) involves a qualitative process for assigning a retrofit priority value to specific road segment locations. The stormwater retrofit prioritization scheme:

1. Focuses data collection on areas with the greatest stormwater retrofit needs;
2. Targets urban fringe areas before costs escalate;
3. Reduces costs by identifying opportunities to combine stormwater retrofits with construction projects; and
4. Maximizes immediate benefits by first targeting areas with highest environmental benefits relative to cost.

*Table 6-1* describes the criteria and rationale for each prioritization factor encompassed in this approach. The first stage in the prioritization process involves screening the entire state using Geographical Information Systems (GIS) map tools. This screening identifies highway segments having predefined conditions known to present greater than average risks for highway stormwater impacts. Stage 2 of the prioritization process involves a site-specific reconnaissance of high scoring Stage 1 retrofit candidate sites (i.e., highway segments receiving scores of 8 to 16) to identify those with closed conveyance systems; known high habitat value; and known or observable erosion, pollution, or flooding problems. The third and final prioritization stage involves collecting detailed site information to determine drainage areas and estimate retrofit costs. The results of Stage 3 allow WSDOT to readily evaluate whether: 1) It makes sense to package nearby retrofit segments (and the gaps between those projects) into a single stand-alone retrofit project; and 2) If the potential exists to bundle any of the retrofit priorities with programmed highway projects rather than advancing them as separate stand-alone retrofit projects. Those priorities not falling within a programmed highway project boundary will get completed in order of their priority ranking score for each of the three regions of the state as stand-alone retrofits.

WSDOT updates stormwater retrofit prioritization scores to reflect new information and changing conditions brought to our attention.

**Table 6-1: Stormwater Retrofit Prioritization Scheme**

Prioritization Factor	Criteria	Rationale	Point Weighting
<b>Stage 1: GIS Screen</b>			
Large, frequently traveled highways	Traffic level >30,000 annual average daily traffic (AADT).	For a variety of reasons, larger, frequently traveled highways are associated with greater pollutant generating potential.	1
Drinking water supply source	Mapped wellhead protection zones, sole sources aquifers, and drinking water source-protected watersheds.	Protect drinking water supplies.	2
Fish bearing streams	Waters identified by the Department of Fish and Wildlife as <i>fish bearing</i> .	Protect fish resources.	2
Summer spawning areas	Waters identified in state water quality standards as summer spawning areas.	Spawning areas and summer holding and migration areas provide critically important habitat for summer chum and summer steelhead.	2
Small streams	Waters with mean annual flows less than 20 cubic feet per second (i.e., waters that are not shorelines of the state)	Small streams are less able to assimilate runoff and more vulnerable to changes in flow.	3
High quality surface receiving waters	Waters identified in State water quality standards as <i>Char</i> and <i>Core salmon spawning and rearing</i> .	High quality streams provide important habitat	3
Urban fringe	Urban fringe areas within designated <i>Urban Growth Areas</i> .	More economical to retrofit prior to development which significantly reduces stormwater management options and increases capital and operational costs.	3
<b>Stage 2: Reconnaissance</b>			
Untreated closed, curbed, and/or impervious-lined conveyance systems	Untreated runoff primarily conveyed by curbs, culverts, impervious-lined conveyances, and/or pipes to a receiving water body.	Closed, curbed, and impervious-lined conveyance systems have greater pollutant discharge potential than open drainage systems which have treatment and flow attenuation properties.	2
WSDOT observed erosion, pollution, or flooding problems	Eroded channels, embankments, excess sediment buildup/loading in stormwater infrastructure, visual observation of water pollution, or flood prone areas.	Gives consideration for known problems.	2
Discharges to 303(d) listed water bodies for certain pollutants of concern	303(d) listed water bodies for: PAH, metals (zinc and copper), turbidity, and herbicides used by WSDOT.	Gives consideration to known receiving water problems that could be exacerbated by discharges of untreated highway runoff.	2
Locally identified erosion, pollution, or flooding problems	Consult local basin plans, recovery plans, and associated TMDL implementation documents for identified stormwater runoff-related problems and/or retrofit priorities.	Factors in well-informed local knowledge.	3
Habitat suitability and value	Waters identified by the WDFW area habitat and Tribal biologist as important small stream habitat as well as highway segments with fish passages identified by WSDOT as high retrofit priorities.	Factors in well-informed local knowledge.	3
<b>Stage 3: Detail Site Assessment</b>			
Stage 2 synthesis	Highway segments receiving a <i>Stage 2 Reconnaissance</i> score of 8 to 12.	Gives higher priority to factors evaluated in Stage 2.	1
Large highway drainage area	Draining area > 5 acres of impervious surface.	Larger drainage areas generate more runoff.	1

## 6.7 Stormwater BMP Retrofit Program Evaluation

Table 6.2 summarizes key activities identified in the SWMP along with applicable performance indicators for this program section.

**Table 6-2: Key Activities and Performance Indicators Associated with the Stormwater BMP Retrofit Program**

Key Activity	Performance Indicator
<b>Implementation</b>	
Implement <i>Capital Improvement Plan</i> for stand-alone retrofits.	Annually document number of stand-alone retrofits completed.
Track acres of existing impervious surface retrofitted or reverted to pervious surface through stand-alone, cleanup plan-triggered, project-triggered, and opportunity-based retrofits.	Annually document the number of acres of existing impervious surface retrofitted or reverted to pervious surface through stand-alone, cleanup plan-triggered, project-triggered, and opportunity-based retrofits.
Track the amount of offsite retrofit obligation accrued and location and extent of the alternative retrofits accomplished in order to verify that retrofit obligations incurred were satisfied.	Annually document the acreage of offsite project-driven retrofit obligation incurred and the acreage of alternative retrofit accomplished (this is a subset of the acreage reported in the preceding performance indicator).

Appendix 2. *Table of Performance Indicators* of the *WSDOT NPDES Municipal Stormwater Permit* incorporates these key activities and performance indicators as reporting elements for the permit.

## **SECTION 7: MAINTENANCE**

### **7.1 Technical Guidance and Standards**

The following sections summarize the technical guidance, manuals, and standards used by WSDOT's Maintenance program that support implementation of WSDOT's municipal NPDES Stormwater Permit.

#### **7.1.1 Maintenance Manual**

The *Maintenance Manual* provides maintenance personnel with guidance on how to conduct and perform a wide variety of maintenance activities. The manual focuses on equipment, materials, techniques, and other information needed to properly carry out basic maintenance activities such as patching a pothole or removing snow from a roadway. The *Maintenance Manual* was developed as a guide for maintenance activities, but does not establish absolute standards. The primary activities described that are related to stormwater concerns are roadside maintenance, drainage facilities (e.g., ditches, dry wells, culverts and detention ponds), snow and ice control, and pavement repair.

#### **7.1.2 Highway Runoff Manual**

The *Highway Runoff Manual* directs the planning and design of stormwater management facilities for existing and new Washington State highways, rest areas, park-and-ride lots, ferry terminals, and highway maintenance facilities throughout the state. *Section 5-5* of the *Highway Runoff Manual* describes BMP-specific maintenance standards used during inspections to determine when maintenance actions are required.

#### **7.1.3 Regional Road Maintenance Endangered Species Act Program Guidelines**

WSDOT developed the *Regional Road Maintenance ESA Program Guidelines* (RRMP) in response to the listing of several species of salmon under the Endangered Species Act (ESA). Implementation of the RRMP exempts the prohibition of take for threatened species under the 4(d) Rule (NMFS, 7/10/00, 65 FR 42422). The RRMP requires the use of a field checklist titled *The Best Management Practices Field Guide for ESA Section 4 (d) Habitat Protection* which prescribes the use of BMPs to achieve environmental outcomes. This field checklist includes stormwater source control BMPs for routine maintenance activities.

### **7.2 Maintenance Practices for Operating Highways**

The following sections describe procedures within the Maintenance and Operations program related to implementing stormwater management activities related to highways.

#### **7.2.1 Road Operation and Maintenance BMPs**

##### ***Street Sweeping***

WSDOT conducts sweeping operations to keep road surface clean and remove sediment, leaves, litter, and other debris before it enters the storm drain systems or surface waters. Debris

accumulation may require sweeping to occur as frequently as twice a month. The extent of debris accumulation and funding provided by the State Legislature dictates scheduling.

WSDOT manages collected street sweepings in a two-step process: 1) interim, and 2) final reuse. For the interim, WSDOT stores sweepings on its property. WSDOT manages sweepings placement so as to not risk impact to watercourses or drinking water sources. WSDOT also does not locate sweepings in areas of designated geologic sensitivity. Final reuse may involve the screening of sweepings at the management facility. WSDOT gives highest priority to recycling, reuse, and permanent solutions rather than landfill disposal. WSDOT identifies its methods of storing sweepings and vector material in its *Sweepings and Vector Material Management Storage Plan* or the appropriate operations plan required by local health departments. WSDOT considers the following areas as inappropriate sites for street sweeping reuse:

- Within 100 feet of a private drinking water well
- Within stormwater drainage areas

### ***Snow and Ice Control***

WSDOT's *Snow and Ice Plan* provides guidance and specific goals for WSDOT Maintenance's snow and ice control program. This plan includes anti-icing chemical application guidelines. WSDOT only uses anti-icing products on the approved *Pacific Northwest Snowfighters* (PNS) *Association's* list of approved products. The PNS evaluates and establishes specifications for products used in winter maintenance that emphasize safety, environmental preservation, infrastructure protection, cost-effectiveness and performance. WSDOT employs BMPs as part of maintaining storage of snow and ice control products such as salt, sand and liquid deicers. These include proper containment, handling, and clean up related to using these materials.

### ***Catch Basin and Inlet Maintenance***

Compliance with the inspection requirements for catch basins in Phase I and II designated areas shall be determined by the presence of an established inspection program designed to annually inspect all features using *Highway Runoff Manual* maintenance standards. Compliance shall be determined by achieving an annual rate of at least 95% of inspections.

- Inspections may be conducted on a *circuit basis* whereby a sampling of 25% of catch basins within each circuit is inspected to identify maintenance needs. Included in the sampling is an inspection of the catch basin immediately upstream of any system outfall. All catch basins within a given circuit will be cleaned if the inspection indicates cleaning is needed.
- WSDOT may clean all stormwater pipes, ditches, catch basins, and inlets within a circuit once during the permit term. Circuits selected for this alternative must drain to a single point.
- As an alternative to inspecting catch basins on a *circuit basis*, WSDOT may inspect all catch basins, and clean only catch basins where cleaning is needed to comply with maintenance standards.
- The length of time between catch basin inspections may be increased as long as *Highway Runoff Manual* catch basin maintenance standards are being met. This catch basin inspection schedule change must be based on maintenance records of double the length of

time of the proposed inspection frequency. For example, if Maintenance wants to inspect a catch basin only once every three years then maintenance records for six consecutive years must be available showing that maintenance standards can be met with this less frequent inspection schedule. In the absence of maintenance records for catch basins, WSDOT Maintenance may substitute a written statement. Written statements must be based on actual inspection and maintenance experience.

Refer to Section 7.4 for Stormwater conveyance liquids disposal procedures.

Unless circumstances exist beyond WSDOT's control, WSDOT will aim to resolve catch basins maintenance deficiencies within 6 months. Examples of the circumstances beyond WSDOT's control include denial or delay of access by property owners, denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to perform emergency work. Compliance constitutes achieving an annual deficiency correction rate of at least 95% within 6 months and 100% within one year. In the event of an exceedance, WSDOT shall document the circumstances and how they were beyond WSDOT's control.

### **7.2.2 Maintenance of Stormwater Treatment and Flow Control BMPs**

WSDOT will annually inspect permanent stormwater BMPs in Phase I and II areas using *Highway Runoff Manual* maintenance standards. WSDOT can reduce the annual inspection requirement based on supporting inspection records. Changing the inspection frequency to less frequently than annually must be based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, WSDOT may substitute written statements to document a specific less frequent inspection schedule. Compliance requires annual inspection of at least 95% of all permanent stormwater BMP sites.

WSDOT shall correct stormwater BMP deficiencies as discovered. Unless there are circumstances beyond WSDOT's control, when an inspection identifies an exceedance of the maintenance standard, maintenance shall be performed:

- Within 1 year for typical maintenance of facilities, except catch basins; and
- Within 2 years for BMPs requiring non-typical maintenance amounting to less than \$25,000.
- Repairs over \$25,000 get prioritized and addressed as funding becomes available.

Circumstances beyond WSDOT's control include denial or delay of access by property owners, denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to perform emergency work. In the event of an exceedance, WSDOT shall document the circumstances and how they were beyond WSDOT's control.

WSDOT will continue to request new funding for the maintenance of stormwater ponds and underground detention vaults based on a five year sediment removal cycle. If inspections determine that more than 20% of these structures require sediment removal to meet maintenance standards, then WSDOT will prioritize the cleaning of these structures. A few older stormwater BMPs constructed without sufficient maintenance access may require the construction of maintenance access roads. WSDOT Maintenance will request additional funding to build access roads as needed. Stormwater features built without access roads may defer maintenance until

access roads are in place. WSDOT will notify Ecology in cases where it is not possible to maintain specific stormwater BMPS due to the manner in which they were constructed.

### **7.2.3 Stormwater Pollution Prevention Plans**

WSDOT has individual stormwater pollution prevention plans (SWPPPs) in Phase I and II areas covered by the permit for Road maintenance facilities (with stormwater conveyance systems) that store equipment, fuel vehicles, and conduct heavy equipment and vehicle repair.

These SWPPPs:

- Identify measures to prevent and control the contamination of discharges of stormwater to surface and groundwater.
- Include a site map showing significant features, stormwater drainage, sources of possible stormwater pollutant, and locations of stormwater off site discharge.
- Apply applicable source control BMPs listed in Ecology's stormwater management manuals, or equivalent manual.
- Identify necessary capital structural control and treatment BMPs for each facility. These capital improvements and treatment BMPs will be ranked and constructed on a priority basis.
- Include a spill prevention and response plan that identifies spill prevention BMPs, spill response procedures, and appropriate emergency contacts.

WSDOT will:

- Provide refresher training for maintenance crews for each facility. WSDOT will document and maintain records of training.
- Perform site inspections twice a year by facility staff to ensure implementation, which can include visual inspection of facility discharges to evaluate effectiveness of the program. WSDOT will periodically conduct site inspections to verify implementation of the plan.
- Keep each SWPPP on site or within reasonable access to the site.

### **7.2.4 Vegetation Management**

WSDOT developed locally-based roadside vegetation management plans to facilitate the use of Integrated Vegetation Management (IVM) by the local area maintenance crews. These plans include an inventory of routine maintenance activities, weed infestations, and sensitive areas together with prescriptions for the most effective methods for consistent and low-cost roadside vegetation management. They also include the use of a record keeping system to document site-specific IVM methods for control of weeds, together with a follow-up evaluation of treatments and ongoing control measures in succeeding years.

### **7.2.4 Road Operation and Maintenance Training**

WSDOT maintenance program personnel receive training on how to comply with the NPDES Municipal Stormwater Permit and how to implement BMPs for a variety of maintenance activities. WSDOT requires all new maintenance program staff to attend a classroom course on

how to implement the ESA 4(d) Regional Road Maintenance Program (RRMP). This course provides the foundation upon which other activity-specific training is built upon. Maintenance staff also attend and an 8 hour field course that covers how to install BMPs to meet environmental outcomes, including spill response. Other environmental training courses maintenance personnel attend in connection with their individual job duties include:

Training for Bridge Maintenance – Provides hands-on training on the proper use of approved materials and BMPs employed during routine maintenance activities on or near bridges that pass over rivers, streams, and other waterways.

Field BMP Training for in Water Work – Provides employees with field experience in applying in-water BMPs to a variety of maintenance situations. Participants learn how to conduct maintenance activities in an around streams and ditches with minimum impacts to the aquatic environment.

Emergency Response – Training to differentiate between emergency and unscheduled routine road maintenance and the BMPs and environmental procedures that apply for these activities.

Stormwater BMP Maintenance – Covers the inspection of stormwater features at facilities and NPDES permit requirements for maintenance of highway stormwater BMPs.

SWPPP Training – Covers maintaining facilities under SWPPP plans.

Environmental Compliance Update – This reoccurring training, provided at the maintenance area level, focuses on updating field staff on current environmental compliance issues specific to their maintenance area. This may include use of field checklist, communication procedures, implementing operational and field BMPs, reporting, and understanding regulatory jurisdiction.

Integrated Vegetation Management (IVM) Plans – WSDOT delivers ongoing IVM training to field crews which cover use of herbicides and control of invasive species.

### **7.3 Maintenance Practices for Operating Washington State Ferries Division Terminals**

Washington State Ferries Division (WSF) developed an *Environmental Management System (EMS)* that is integrated with the WSF Safety Management System (SMS). The SMS currently describes WSF environmental policy, procedures, roles and responsibilities, the management review process, internal and external communications, documentation, tracking, corrective actions, training, and system audits. In addition, the SMS documentation describes the following activities related to stormwater management:

- Spill prevention and containment,
- Stormwater system maintenance,
- Deicing,
- Sweeping,
- Vegetation and landscape maintenance, and
- Inspections.

### **7.3.1 Spill Prevention and Containment**

WSF developed a generic Stormwater Pollution Prevention Plan (SWPPP) for system's ferry terminals covered under the WSDOT Municipal Stormwater Permit. WSF uses the SMS/EMS as the vehicle to implement the SWPPP procedures and best management practices system wide. WSF integrated the requirements of the SWPPP into a Stormwater Pollution Prevention Procedure. This procedure addresses spill response, cleanup, illicit discharges, and potential discharges of hazardous materials.

The EMS receives internal and external auditing on an annual basis. Procedures get updated as corrective actions get entered into the system, audits uncover a nonconformity, and/or changes emerge in regulatory/permit requirements. The EMS includes a Stormwater Pollution Prevention procedure. The SWPPP and stormwater procedures get updated to reflect findings from program evaluations.

### **7.3.2 Stormwater BMP Facility Maintenance**

Preventative maintenance schedules involve inspecting the storm drain system annually as well as cleaning oil-water separators and catch basins with inserts. The inspections may generate work orders that involve the cleaning of other stormwater features or the performance of other corrective maintenance work.

### **7.3.3 Sweeping**

Sweeping at ferry terminals occurs on a quarterly basis or more frequently as determined through adaptive management.

### **7.3.4 Training and Education**

WSF utilizes multiple venues to inform, train, and educate WSF employees. These venues include, but are not limited to: fleet advisories, new employee orientation, annual operational staff training, on-site fleet and terminal training, applicable WSDOT training/educational materials, and third party professional training. All terminal employees receive training on SWPPP and procedures. Terminal Supervisors receive annual training as applicable to stormwater. Other staff receives training by supervisors and stormwater inspectors. SMS training covers compliance of applicable stormwater-related laws and regulations and procedures. WSF creates and provides training as newly created and revised procedures emerge.

### **7.3.5 Audits and Corrective Actions**

An internal and external auditing process, integral to the SMS, identifies what works and what needs improvement within the system. WSF and the external auditor conduct these audits annually. Weaknesses identified in the system undergo evaluation to determine the appropriate corrective action(s). Corrective actions could include additional training, changes to procedures, and/or changes to materials or equipment.

## 7.4 Stormwater Conveyance Liquids Disposal

### 7.4.1 General Procedures

1. Stormwater conveyance system cleaning should emphasize retention of solids in preference to liquids. Solids removed, the principal objective in the maintenance of stormwater conveyance systems, are substantially easier to store and treat than liquids.
2. Liquids removed from catch basins require treatment before their discharge. Catch basin liquids usually contain high amounts of suspended and total solids and adsorbed metals. Treatment requirements depend on the discharge location.
3. Discharges to sanitary sewer and storm sewer systems must receive approval by the entity responsible for operation and maintenance of the system. Ecology will not generally require waste discharge permits for discharge of stormwater decant to sanitary sewers or to stormwater treatment BMPs constructed and maintained in accordance with Ecology's stormwater management manuals or Ecology-approved equivalent manuals such as the *Highway Runoff Manual*.

### 7.4.2 Order of Preference for Disposal

Disposal of catch basin decant liquids and water removed from stormwater treatment facilities must occur in the following order of preference:

1. The preferred disposal options involves discharge of catch basin decant liquids to a municipal sanitary sewer connected to a Public Owned Treatment Works (POTW). Discharge to a municipal sanitary sewer requires the approval of the sewer authority. Conditions for discharge approval to a POTW will likely contain pretreatment, quantity, and location conditions to protect the POTW.
2. Discharge of catch basin decant liquids may be allowed into a *Basic* or *Enhanced* stormwater treatment BMP if *option 1* is not available. Discharge of decant liquid collected from cleaning catch basins and stormwater treatment wet vaults back into the storm sewer system may occur under the following conditions:
  - The preferred disposal option of discharge to sanitary sewer is not reasonably available; and
  - The discharge goes to a *Basic* or *Enhanced* stormwater treatment facility. If pretreatment does not remove visible sheen from oils, the treatment facility must prevent the discharge of oils causing a visible sheen; and
  - Discharge occurs as close to the treatment facility as practical to minimize contamination or recontamination of the collection system; and
  - The storm sewer system owner/operator has granted approval and has determined that the treatment facility will accommodate the increased loading. The owner/operator can issue pretreatment conditions to protect the treatment BMP as part of the approval process.
  - Flocculants for the pretreatment of catch basin decant liquids must be non-toxic under the circumstances of use and require approval in advance by Ecology.

WSDOT will determine the reasonable availability of sanitary sewer discharge by evaluating such factors as distance, time of travel, load restrictions, and capacity of the stormwater treatment facility.

3. Water removed from stormwater ponds, vaults and oversized catch basins may be returned to the storm sewer system. Stormwater ponds, vaults, and oversized catch basins contain substantial amounts of liquid which hampers the collection of solids and pose problems if the removed materials must be hauled away from the site. Water removed from these facilities may be discharged back into the pond, vault or catch basin provided:
  - Clear water removed from a stormwater treatment structure may be discharged directly to a down gradient cell of a treatment pond or into the storm sewer system.
  - Turbid water may be discharged back into the structure it was removed from if:
    - a) The removed water has been stored in a clean container (eductor truck, Baker tank, or other appropriate container used specifically for handling stormwater or clean water); and
    - b) There will be no discharge from the treatment structure for at least 24 hours.
  - The storm sewer system owner/operator approves the discharge.

## 7.5 Maintenance Program Evaluation

Tables 7-1 and 7-2 summarize key activities identified in the SWMP along with applicable performance indicators for this program section. Table 7-1 pertains to the highway maintenance and Table 7-2 pertains to the ferry terminal maintenance.

**Table 7-1: Key Activities and Performance Indicators Associated with Highway Maintenance**

Key Activity	Performance Indicator
<b>Implementation</b>	
Carry out annual catch basin inspection and maintenance program.	Conduct 95% of planned inspections within the Phase I and II designated areas and schedule noted deficiencies for correction. Document corrections fully achieved at 6 months and at one year from the date the deficiency was identified.
Complete SWPPP inspections for permit covered maintenance facilities.	Conduct 95% of planned inspections within the Phase I and II designated areas.
Train all maintenance staff on stormwater related maintenance activities.	Annually document the number of training courses held and the number of staff who received the training.
Annually inspect and maintain all known permanent stormwater BMPs and correct deficiencies as applicable.	Conduct 95% of planned inspections within Phase I and II designated areas and schedule noted deficiencies for correction. Document corrections fully achieved within: 1) One year from the date the deficiency was identified for typical facility maintenance (except catch basins); and 2) two years for BMPs requiring non-typical maintenance amounting to less than \$25,000. If applicable, provide a prioritized list of permanent stormwater BMP deficiencies that require non-typical repairs over \$25,000 as well as a list of these deficiencies that WSDOT repaired.

Appendix 2. Table of Performance Indicators of the WSDOT NPDES Municipal Stormwater Permit incorporates these key activities and performance indicators as reporting elements for the permit.

**Table 7-2: Key Activities and Performance Indicators associated with Ferry Terminal Maintenance**

Key Activity	Performance Indicator
<b>Implementation</b>	
Train staff on SWPPP, procedures, and applicable regulations.	Annually document the number of training courses held and the number of staff who received the training.
Train Terminal Supervisors on applicable stormwater topics.	Annually document the number of training courses (for WSF Terminal Supervisors on applicable stormwater topics) held and the number of Terminal Supervisors who received the training.
Complete SWPPP inspections for all permit covered Ferry Terminals.	Conduct 95% of planned inspections within the Phase I and II designated areas.
Implement SWPPP at permit covered WSF terminals.	Annually summarize WSF's regular stormwater management-related maintenance activities including sweeping terminals and inspecting and cleaning storm drain systems.

Appendix 2. Table of Performance Indicators of the WSDOT NPDES Municipal Stormwater Permit incorporates these key activities and performance indicators as reporting elements for the permit.

## **SECTION 8: EDUCATION/TRAINING/PUBLIC INVOLVEMENT PROGRAMS**

### **8.1 Education and Public Involvement Programs**

WSDOT utilizes a variety of programs to educate the public, consultants, contractors, and WSDOT personnel on stormwater issues. Several of the major education efforts include the Adopt-A-Highway Program, WSDOT's Internet web pages, and *Highway Runoff Manual*-related training curriculum.

#### **8.1.1 Adopt-A-Highway Program and Litter Prevention Campaign**

Litter and debris deposited on WSDOT right-of-way can become a stormwater pollutant during wet weather events and clog drainage and stormwater management facilities. WSDOT's Adopt-A-Highway Program, an anti-litter and roadside enhancement campaign, partners with Ecology's litter prevention campaign. The Adopt-A-Highway Program encourages individuals and organized groups to agree to help take care of an "adopted" section of state highway. WSDOT personnel pick up the bags of litter collected by any group working on state roadways. These groups primarily include the Ecology Youth Corps, Department of Corrections, Adopt-a-Highway groups, and some Community Litter Cleanup Program crews.

#### **8.1.2 Commute Trip Reduction Program**

The Commute Trip Reduction (CTR) program aims to reduce traffic congestion, reduce air pollution, and petroleum consumption through employer-based programs that decrease the number of commute trips made by people driving alone. The CTR program provides water quality benefits through source control.

The CTR program achieves results through collaboration between local jurisdictions, employers, and WSDOT. WSDOT provides technical assistance to jurisdictions and employers to help implement the program. WSDOT also staffs the CTR Task Force.

#### **8.1.3 WSDOT's Internet Site**

WSDOT's Internet site disseminates information regarding the various elements of WSDOT's water quality protection and stormwater management programs. In addition, the Internet site provides information for contacting WSDOT staff regarding water quality and stormwater inquiries.

Information available on the site includes the NPDES municipal stormwater permit WSDOT operates under as well as a downloadable version of its most recent annual report. WSDOT's site also provides access to stormwater-related guidance manuals, procedures, design tools, and related resources. WSDOT provides downloadable versions of its newly published stormwater-related research reports for two years. After two years, WSDOT lists the reports on the website as bibliographic entries and makes them available upon request.

#### **8.1.4 Knowledge and Technology Transfer**

As a recognized leader in stormwater management among state and local transportation agencies, WSDOT's expertise is continually sought at the national, state, and local levels by many government agencies as well as non-profit organizations and areas of the private sector.

WSDOT develops and improves stormwater management techniques, guidance manuals, training, and design tools. Municipal transportation organizations around the state often adopt WSDOT's manuals, standard specifications, and general contracting provisions. WSDOT promotes these and other stormwater-related innovations through a variety of venues including: research report and publications; ad hoc presentations and web telecasts; and participation in various committees.

#### **8.1.5 Employee, Consultant, and Contractor Training and Education**

WSDOT provides education and training to ensure that its employees (and its consultants and contractors) possess the knowledge and skills necessary to perform their functions effectively and efficiently. WSDOT offers many courses covering updates to its manuals. WSDOT develops and presents employee-training programs with curricula and materials tailored to specific topics and personnel levels. WSDOT evaluates and refines these programs periodically to ensure the educational messages remain current and effective.

WSDOT's education and training activities reach beyond in-house personnel and include attendees from the private sector as well as other state and local agencies. A main goal of WSDOT's stormwater-related training supports the effective implementation of its *Highway Runoff Manual* (HRM) and BMPs related to maintenance activities to protect environmental quality. Other sections of this SWMP plan provide more detailed information on WSDOT's various training programs.

### **8.2 Public Involvement in Permit/Program Development**

#### **8.2.1 Transportation Projects**

WSDOT regularly holds public meetings and hearings for specific transportation projects. Combined with project-specific advisory groups and open houses, these meetings provide the public opportunities for early, continuous, and meaningful involvement in projects in their local area. The public also has an opportunity to review environmental impact statements or environmental assessments that are developed for projects, which include water quality discipline reports that describe alternatives for stormwater management.

### **8.3 Education/Outreach/Involvement Program Evaluation**

*Table 8-1* summarizes key activities identified in the SWMP along with applicable performance indicators for this program section.

**Table 8-1: Key Activities and Performance Indicators Associated with the Education/ Outreach/Involvement Program**

Key Activity	Performance Indicator
<b>Implementation</b>	
Provide public involvement opportunities in support of WSDOT's source control objectives.	Provide support for public involvement programs such as <i>Adopt-a-Highway</i> , <i>Commute Trip Reduction</i> , and roadside anti-litter campaigns.
Continue to provide stormwater management-related training.	Training-related indicators included in <i>Sections 3, 4, 5, and 7</i> .
Maintain WSDOT's internet sites to disseminate information regarding implementation of WSDOT's SWMP.	Post most recent version of WSDOT's annual report.
Continue to support knowledge and technology transfer related to stormwater management	Make newly published stormwater-related research reports available for downloading for a 2-year period.

*Appendix 2. Table of Performance Indicators of the WSDOT NPDES Municipal Stormwater Permit incorporates these key activities and performance indicators as reporting elements for the permit.*

## **APPENDIX 6: PERMIT APPLICATION**

At least 180 days prior to the expiration date of this permit, WSDOT shall apply for permit renewal. The following form is provided for use at permit renewal.



## Notice Of Intent (NOI) For Coverage Under a Washington State Department Of Transportation National Pollutant Discharge Elimination System And State Waste Discharge Municipal Stormwater General Permit

Permit Number: WAR 043000A

New Application

Renewal Application

### 1. MS4 Operator

Washington State Department of  
Transportation

Headquarters Office

Street Address:

310 Maple Park Avenue S.E.

City, State, Zip:

Olympia, WA 98504

### 2. Staff contact (person responsible for program implementation and coordination):

Name:

Phone:

Title:

E-mail:

Are there regional WSDOT staff contacts? If yes, please list names and contact information.

Yes /  No

Name	Region	Title	Phone	Email

### 3 Description of Storm Sewer System

#### A. Areas served by your MS4. (Update where information is available within coverage area)

Miles of State Highway	
Number of Maintenance Facilities*	
Number of Ferry Terminals	
Number of Rest Areas*	

	Number of Park and Ride Lots		
	* Only facilities with municipal separate storm sewer systems (MS4)		
	<b>B. Storm Drainage Infrastructure (Update where information is available within coverage area)</b>		
	<b>Please provide estimates, using the most accurate information available at this time, for the following storm drainage infrastructure features owned or operated by WSDOT.</b>		
	<b>Conveyance system:</b>		<b>Comments</b>
	Open ditches (miles or feet)		
	Storm sewers (miles or feet)		
	Outfalls (estimate number)		
	Catch basins (estimate number)		
	<b>Flow Control Facilities:</b>		<b>Regional Facilities</b> <b>Comments</b>
	Estimate number operated by MS4		
	<b>Treatment Facilities:</b>		<b>Regional Facilities</b> <b>Comments</b>
	Estimate number operated by MS4.		
	<b>Combined Treatment and Flow Control Facilities</b>		<b>Region Facilities</b> <b>Comments</b>
	Estimate number operated by MS4		

<b>4.</b>	<b>Map Requirements:</b>
	<p><b>Include maps of each WSDOT Region that identify:</b></p> <ul style="list-style-type: none"> <li>• State right-of-ways <ul style="list-style-type: none"> <li>○ AADT – &lt;10K <ul style="list-style-type: none"> <li>▪ 10 – 50K</li> <li>▪ 50 – 100K</li> <li>▪ &gt;100K</li> </ul> </li> </ul> </li> <li>• Rest Areas</li> <li>• Ferry Terminals</li> <li>• Maintenance Facilities</li> <li>• Park and Ride Lots</li> <li>• 303(d)-listed water bodies that receive stormwater from WSDOT outfalls</li> <li>• <i>(Shown on the “Inventoried Stormwater Outfall” map)</i> Counties</li> <li>• Phase 1 &amp; II municipalities (as of the most recently issued permits, where available)</li> <li>• Indian Reservations</li> </ul> <p><b>Include a map (or maps) showing areas of the state where WSDOT has mapped outfalls.</b></p> <p><b>Please assure that information is clearly readable. Submit GIS maps if available, in 300dpi .jpg format. Use print formatting when exporting to adobe acrobat. Maps must be of the same page size.</b></p>

<b>5.</b>	<b>Certification :</b>
	<p>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations</p>

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**Print or type name** of responsible official or representative  
**Title**

/ /

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**Signature** of responsible official or representative

**Date**

