



**Washington State
Department of Transportation**

Stormwater Management Program Plan

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Multimodal Development and Delivery
Development Division, Environmental Services Office

Title VI, ADA

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LIST OF ACRONYMS

AD	Advertisement
AKART	All Known, Available Reasonable methods of prevention, control and Treatment
BMP	Best Management Practice
CABS	Compost-Amended Biofiltration Swales
CESCL	Certified Erosion and Sediment Control Lead
CSWGP	Construction Stormwater General Permit
CTR	Commute Trip Reduction
CWA	Clean Water Act
EIM	Environmental Information Management
EMS	Environmental Management System
EPA	Environmental Protection Agency
ESC	Erosion and Sediment Control
ESO	Environmental Services Office
GIS	Geographic Information Systems
GPS	Global Positioning System
HATS	Highway Activity Tracking System
HRM	Highway Runoff Manual
ID/IC	Illicit Discharge and Illicit Connection
IDDE	Illicit Discharge Detection and Elimination
IVM	Integrated Vegetation Management
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
PNS	Pacific Northwest Snowfighters Association
QAPP	Quality Assurance Project Plan
RCW	Revised Code of Washington
ROW	Right-of-Way
RRMP	Regional Road Maintenance Program
SMS	Safety Management System
SPCC	Spill Prevention, Control, and Countermeasures
SWMM	Stormwater Management Manuals
SWMP	Stormwater Management Program
TAPE	Technology Assessment Protocol - Ecology
TESC	Temporary Erosion and Sediment Control
TESCM	Temporary Erosion and Sediment Control Manual
TMDL	Total Maximum Daily Load
UIC	Underground Injection Control
WSDOT	Washington State Department of Transportation
WSF	Washington State Ferries
WSP	Washington State Patrol

SECTION 1: INTRODUCTION

Traditionally, the Washington State Department of Transportation (WSDOT) managed stormwater runoff from highways to maintain safe driving conditions and preserve the condition of the roadway. The goal was to get the water off the roadway as fast as possible. While safety and preservation continue to be top priorities for WSDOT, the agency also recognizes that stormwater runoff from highways and other transportation facilities can contribute to water quality problems. WSDOT acknowledges the state has an interest in protecting and preserving natural resources and other environmental assets including ecosystem functions and beneficial uses of Washington State receiving waters. WSDOT stormwater management procedures and practices have changed over time to reflect these interests.

The WSDOT National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge Municipal Stormwater Permit requires WSDOT to develop and implement a stormwater management program (SWMP) plan. WSDOT developed this SWMP plan to fulfill that obligation and document the procedures and practices it uses to reduce the discharge of pollutants from storm sewer systems owned or operated by WSDOT.

While WSDOT implements some pollution prevention activities statewide, the SWMP plan specifically applies to areas covered by the WSDOT Municipal Stormwater Permit. Elements of the SWMP plan may also apply to EPA-approved total maximum daily loads (TMDL) with wasteload allocations and associated implementation documents specifying actions for WSDOT stormwater discharges.

1.1 Organization of the SWMP

Section 1: Introduction - provides an introduction and overview of WSDOT's Stormwater Management Program and describes the geographic area for which it is applicable. The remainder of this document describes the essential program components.

Section 2: Stormwater Program Management Requirements - describes WSDOT's responsibilities for overall permit compliance and program implementation.

Section 2.1.1: Legal Authority - describes WSDOT's authority to control discharges to and from municipal separate storm sewer systems (MS4) owned or operated by WSDOT.

Section 2.1.2: Coordination - describes coordination mechanisms among departments within WSDOT as well as intergovernmental coordination.

Section 2.1.3: MS4 Asset Mapping - describes WSDOT's ongoing program for mapping WSDOT's MS4 assets.

Section 2.1.4: Traffic Collision Related Spills, Illicit Discharges, and Illicit Connections - describes the procedures and protocols for responding to traffic collision related spills as well as procedures to identify and eliminate illicit discharges and illicit connections to WSDOT's MS4.

Section 2.1.5: Controlling Runoff from New Development, Redevelopment, and Construction Sites - describes the minimum requirements that must be applied during planning and design of stormwater management facilities and best management practices (BMP) as prescribed by the Highway Runoff Manual (HRM) as well as procedures for controlling erosion associated with construction activity.

Section 2.1.6: Stormwater Retrofits for Existing Highways - describes WSDOT's stormwater 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 2.1.7: Maintenance - describes maintenance activities used to prevent or reduce stormwater impacts from WSDOT's MS4.

Section 2.1.8: Education, Training, and Public Involvement - describes opportunities for public involvement as well as training opportunities for employees and contractors.

Section 2.2: Total Maximum Daily Load Allocations - describes how WSDOT participates in developing TMDLs and implements action items required by TMDLs.

Section 2.3: Monitoring - describes WSDOT's stormwater monitoring program, current studies, and involvement in regional scale monitoring programs.

Section 2.4: Reporting Requirements - describes WSDOT's annual reports for compliance with the permit.

Section 3: Conclusion

SECTION 2: STORMWATER MANAGEMENT PROGRAM REQUIREMENTS

2.1 Stormwater Management Program - S5

- A. WSDOT shall implement a Stormwater Management Program (SWMP) during the term of this permit. A SWMP is a documented set of actions and activities comprising the components listed in S5.
1. *WSDOT shall organize their SWMP according to the program components and requirements listed in S5.C and shall update it at least annually for submittal with the annual report to Ecology.*
 - a. *The SWMP shall be designed to:*
 - i. *Reduce the discharge of pollutants from all municipal MS4s and other conveyances owned or operated by WSDOT covered under this permit to the maximum extent practicable (MEP) and meet state AKART requirements.*
 - ii. *Protect water quality and beneficial uses of waters of the State from impacts which cause or contribute to loss or impairment.*
 - iii. *Satisfy appropriate requirements of the Clean Water Act (CWA).*
 - iv. *Describe how WSDOT implements the program components and requirements listed in S5 Stormwater Management Program, S6 Compliance with TMDL Requirements, and S7 Monitoring.*

This SWMP plan documents how WSDOT implements the program components and requirements in S5 Stormwater Management Program, S6 Total Maximum Daily Load Allocations, S7 Monitoring, and S8 Reporting Requirements of the permit to protect water quality and beneficial uses of waters of the State. WSDOT will update the SWMP plan annually throughout the Permit term to reflect changes in its approaches to manage stormwater and implement Permit requirements, and will submit the updated plan to Ecology by October 31 each year with its annual report.

Maximum Extent Practicable is the federal statutory standard that establishes the level of pollutant reductions that permit holders must achieve. The Clean Water Act requires NPDES municipal permit holders to “require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design, and engineering methods...” All Known, Available, And Reasonable methods of prevention, control and Treatment (AKART) is understood to mean a technology-based approach to limiting pollutants from state wastewater discharges. AKART requires both engineering judgment and economic judgment. As the Permit requirements are held to establish MEP and AKART, full implementation of WSDOT’s SWMP plan and compliance with the permit constitutes compliance with both these standards as well as the Clean Water Act.

2. *WSDOT shall request adequate resources to maintain compliance with this permit and implement its SWMP in its proposed budget submittals to the Governor's Office. WSDOT shall track the estimated cost of permit implementation. This information shall be provided to Ecology upon request.*

If WSDOT needs more resources to maintain compliance with the permit and implement its SWMP, WSDOT would first submit its agency-request budget to the Office of Financial Management within the Governor's Office. The Governor would then submit a transportation budget to the Legislature recommending funding levels and allocations. The amount WSDOT requests would supplement the carryover permit implementation funds from the previous biennium. WSDOT tracks the estimated cost of permit implementation and will provide this information to Ecology upon request.

B. WSDOT shall continue implementation of its existing (2014) SWMP until they begin implementation of the updated SWMP in accordance with terms of this permit, including implementation schedules.

C. The SWMP shall include the components listed below.

WSDOT continued implementing its 2014 SWMP until its 2019 SWMP plan became effective. WSDOT considers its updated SWMP plan to be effective after being submitted to Ecology by October 31 each year.

This SWMP plan includes all of the components required by S5.C. See Section 1.2 Organization of the SWMP for an overview.

2.1.1 Legal Authority - S5.C.1

Within the limitations of state law and federal law, WSDOT shall demonstrate that they can operate pursuant to legal authority which authorizes or enables WSDOT to control discharges to and from MS4s owned or operated by WSDOT. This legal authority may be a combination of statutes, ordinances, permits, contracts, orders, interagency agreements, or similar instruments.

Title 47 of the Revised Code of Washington (RCW), 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 those MS4s that WSDOT owns or operates.

The Washington State Legislature has invested WSDOT with the exclusive authority to site, design, construct, operate and maintain all state highways. RCW 47.01.260(1). Such clear authority has been consistently upheld by the Washington State Supreme Court. Therefore, WSDOT exercises complete control over all aspects of state highways with one exception. In those instances where a city street forms part of a non-limited access state highway, the legislature has divided certain ownership, maintenance, and control responsibilities between WSDOT and the city. RCW 47.24.020.

Washington's state highway system is composed of two types of state highways: (1) limited access highways and (2) controlled access highways, also known as non-limited access highways. RCW 47.50.010(2). Title to each type of state highway is as follows:

- A. Title to all limited access state highways is vested in the state RCW 47.24.020(2); 47.52.090.
- B. Title to all non-limited access state highways is also vested in the state if located outside the boundaries of incorporated cities. RCW 47.04.040.
- C. Title to non-limited access state highways located inside the boundaries of incorporated cities is vested in the city, not the state. RCW 47.24.020(15). This title encompasses underground facilities and fixtures attached to such highways.

Where a city street forms part of a non-limited access state highway, WSDOT exercises full responsibility for and control over the street/highway between and including the curbs or, where there is no curb, within that portion of the highway used for highway purposes. A city, in general terms, exercises full responsibility for and control over the remainder of the street/highway. RCW 47.24.020(2).

Regardless of the general allocation of responsibilities and control over city streets that form part of a non-limited access state highway, a city, at its own expense, is required by law to maintain all underground facilities under such streets/highways, RCW 47.24.020(4), including storm sewer inlets and catch basins. RCW 47.24.020(6). However, WSDOT has the legal right to use all storm sewers on such streets/highways without cost. RCW 47.24.020(7).

Given the allocation of ownership and responsibility described above, WSDOT has full control over the MS4s on all state highways, except for those non-limited access streets/highways for which title is, by law, vested in a city. To clarify: for limited access highways, WSDOT is the owner and /or operator of the MS4s that drain such highways, whether the highway lies inside or outside a city. For non-limited access highways within cities, WSDOT's status as an owner or operator is as follows:

- A. WSDOT is the operator, but not the owner, of above-ground stormwater features that lie between the curbs or, where there is no curb, within the portion of the right-of-way used for highway purposes.
- B. WSDOT is neither the owner nor the operator of underground stormwater features.
- C. WSDOT is neither the owner nor the operator of above-ground stormwater features that lie outside the curbs or, where there is no curb, outside the portion of the right-of-way used for highway purposes.

WSDOT possesses the legal authority adequate to prohibit illicit discharges to those MS4s that it owns or operates. Chapter 47.32 RCW empowers 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 those MS4s that WSDOT owns or operates would constitute encroachments that WSDOT can remove. Discharge of pollutants into the MS4 owned or operated by WSDOT, even if emanating off the right-of-way if in sufficiently close proximity to jeopardize MS4s owned or operated by WSDOT, 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. This authority is not exclusive; where a limited access highway passes through an incorporated city or town, the police department, county sheriff, and the WSP all have independent and concurrent jurisdiction to enforce any violation of the laws of the state occurring on the highway. RCW 47.52.200. 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 assistance to address spills, dumping, or disposal of materials other than stormwater on state highways.

WSDOT controls construction work through contract provisions. WSDOT's Standard Specifications for Road, Bridge, and Municipal Construction (Standard 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 pursuant to chapter 47.44 RCW or an access connection permit to the state highway pursuant to chapter 47.50 RCW, 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 for all stormwater drainage or utility connections from private and public property into the state highway right-of-way drainage system other than naturally-occurring water flows. Chapter 47.44 RCW. WSDOT's Utilities Manual outlines procedures for obtaining such permits. Utilities or other entities that have pipes, culverts, or ditches that convey waters other than stormwater or natural base flow will not be granted a utility permit for conveyances using MS4s owned or operated by WSDOT, including roadside ditches. Those utilities or other entities discharging to MS4s owned or operated by WSDOT, or to 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.

2.1.2 Coordination - S5.C.2

The SWMP shall include coordination mechanisms among departments within WSDOT to eliminate barriers to compliance with the terms of this permit.

The SWMP shall also include coordination mechanisms among entities covered under a municipal stormwater NPDES permit to encourage coordinated stormwater-related policies, programs, and projects within a watershed.

Internal Coordination

WSDOT's headquarters offices work with the six region offices and Washington State Ferries Division (WSF) to implement the permit. In the headquarters Environmental Services Office (ESO), the Stormwater Permit Program coordinates compliance activities, tracks overall implementation of the permit, and leads policy development for stormwater management. The Stormwater Permit Program Manager coordinates with managers from headquarters groups including the Stormwater Features Inventory and Monitoring and Research Programs Maintenance Operations Division and Hydraulics Section who are responsible for implementation tasks, supporting policy development, and providing stormwater-related technical support. Region offices and WSF are primarily responsible for implementing the permit in the field, though some headquarters groups also implement requirements in the field.

WSDOT's headquarters Stormwater Branch holds a monthly communication forum for stormwater subject area experts and region staff to share information and identify emerging issues around stormwater and water quality as well as help eliminate barriers to compliance with the terms of the permit.

Intergovernmental Coordination

WSDOT pays stormwater utility fees, in accordance with RCW 90.03.525, that help finance implementation of local government stormwater management programs. WSDOT also maintains communication and coordinates with local, state, and national programs to share resources, promote and conduct stormwater research, and stay up to date on emerging issues or innovations related to stormwater and water quality. In addition to sharing information and knowledge with others, WSDOT greatly benefits from the information shared during events and from participating in advisory groups, committees, and partnerships including:

- Permit coordination and implementation:
 - Phase I Permit Coordinators
 - Phase II NPDES Permit Coordinators
 - South Sound Phase II Group
 - Stormwater Technical Advisory Committee with the cities of Olympia, Lacey, Tumwater, and Thurston County
 - Regional Operations and Maintenance Program
 - Street Maintenance Solids Meetings

- State and Regional Committees and Advisory Groups:
 - American Public Works Association Stormwater Managers Committee
 - Stormwater Technical Resource Center Advisory Committee
 - Ecology’s Technology Assessment Protocol (TAPE) Stakeholder Advisory Group
 - American Society of Civil Engineers Water Resources Committee
 - Puget Sound Clean Cars Stormwater Partnership
 - Don’t Drip and Drive Program
 - Deschutes Watershed Council
 - Clarks Creek Advisory Group
 - Stormwater Retrofit Planning Project for Washington State Water Resource Inventory Area 9 Stakeholder Workshop
 - Stormwater Work Group State Agency Caucus
 - Oregon Stormwater Technology Testing Center
 - Interagency Project Team

- National Committees and Advisory Groups:
 - American Association of State Highway and Transportation Officials, Committee on Environment and Sustainability
 - Transportation Research Board annual meetings
 - Transportation Research Board Committees on Hydrology and Hydraulics, Stormwater and Landscape and Environmental Design
 - National Cooperative Highway Research Program
 - TransNow

2.1.3 MS4 Asset Mapping - S5.C.3

The SWMP shall include an ongoing program for mapping WSDOT's MS4 assets.

- a. WSDOT shall maintain mapping data for the features listed below.*

 - i. Newly constructed, modified, and identified outfalls, discharge points, and stormwater treatment/control facilities (including UIC facilities).*
 - ii. Connection points between MS4s owned or operated by WSDOT and other public entities (outside city limits for managed access highways).*
 - iii. Associated drainage features conveying highway runoff to WSDOT outfall and discharge point locations.*

- b. Meet the pace of 79.5 centerline miles per year of complete conveyance mapping until all WSDOT owned or operated highways within areas described in S1.B are mapped.*

During the previous permit cycles, WSDOT:

- Developed and deployed its Stormwater Features Inventory Database;
- Mapped all known outfalls, discharge points, and stormwater treatment/control facilities (including underground injection control (UIC) facilities); and
- Developed and initiated an ongoing program to map its complete MS4 within areas described in S1.B 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 complete MS4 follows the main steps below:

Step 1: Digitize individual features from geo-rectified contract plan sheets

In the office, WSDOT researches and maps the information on as-built plan sheets. WSDOT staff use Geographic Information Systems (GIS) software to place the as-built plan sheet images where they belong on a map, then create points, lines, and polygons to represent the stormwater infrastructure such as discharge points and outfalls, pipes, drainage inlets, BMPs and ditches. Staff add attributes describing the points, lines, and polygons with information contained in the as-builts and Hydraulic report for the construction project.

Step 2: Concurrently perform field mapping

In the field, WSDOT crews use Global Positioning System (GPS) units to locate and document stormwater conveyance infrastructure and attributes. In areas where no or minimal infrastructure information exists, WSDOT finds and maps the infrastructure and documents all attribute

information. In areas where a base level of information exists from in-office mapping efforts, field crews locate and update or confirm the information based on field observations.

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

WSDOT continues to research automation options to import the information from as-built plan sheets directly into the Stormwater Features Inventory Database. WSDOT has developed workflows to transfer individual business areas common features and attribution between WSDOT's Design software and GIS applications, and is testing those workflows.

WSDOT has also implemented a web application to tie existing project tracking and management information to individual stormwater treatment and flow control facilities. The application tracks each facility's lifecycle through design, construction, and completion. This is now a requirement for WSDOT projects and will become a useful reporting and tracking tool for treatment of highway runoff on WSDOT right-of-way.

- c. No later than three years from the effective date of this permit, WSDOT shall develop a process and an implementation plan to map drainage areas associated with known WSDOT owned or operated stormwater outfalls and discharge points within areas described in S1.B.*

Currently, site specific mapping of drainage areas is done as project needs arise. First, stormwater conveyance systems are defined through our ongoing program for complete conveyance mapping. Then, high resolution aerial imagery and elevation data are used to estimate drainage breaks between systems. WSDOT is researching options to use GIS to automate the process and obtain more accurate results through processing geometric networks and elevation models.

- d. The required format for mapping is electronic with fully described mapping standards.*
- e. To the extent consistent with national security laws and directives, WSDOT shall make available to Ecology, upon request, maps depicting the information required in S5.C.3a., b., and c., above.*
- f. WSDOT shall provide mapping information to municipal stormwater permittees and federally recognized Indian Tribes upon request. This permit does not preclude WSDOT from recovering reasonable costs associated with fulfilling mapping information requests from municipal stormwater permittees and federally recognized Indian Tribes.*

WSDOT's mapping data comes from a variety of sources including scanned and georectified as-built plan sheets, GPS data collected by field crews, stormwater feature location and attribute information collected by WSDOT's maintenance program, and computer aided engineering drawings. Office data collection involves screen-digitizing features from the scanned and georectified as-built plan sheets, incorporating all other existing data sources as base-level data when available. The two pieces of software used for office data collection are: Environmental Systems Research Institute Esri ArcGIS and ArcGIS Workflow Manager (WMX).

WSDOT has several standard operating procedures which are version-controlled documents and subject to modifications that reflect agency needs. Together these documents describe our mapping standards.

To the extent consistent with national security laws and directives, WSDOT makes available to Ecology, upon

request, available maps depicting the information required. WSDOT also provides mapping information to municipal stormwater permittees and federally recognized Indian Tribes upon request. WSDOT may recover reasonable costs associated with fulfilling mapping information requests.

2.1.4 Traffic Collision Related Spills, Illicit Discharges, and Illicit Connections - S5.C.4

- a. *The SWMP shall include a program to ensure consistent, timely notification and response to traffic collision related spills.*
 - i. *This program shall include:*
 - (1) *Procedures for coordination between WSDOT, Washington State Patrol (WSP), Ecology, local jurisdictions, and first responders.*
 - (2) *Utilization of Ecology's spill tracking information to assist in the identification of high-risk spill locations on state routes.*

WSDOT designed its illicit discharge and illicit connection detection and elimination (IDDE) program, in part, to ensure consistent, timely notification and response to traffic collision related spills. WSDOT staff receive instruction to only take the emergency actions required to protect human life and property until the Washington State Patrol (WSP) gains control of the situation. 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. 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. The WSP has the responsibility for carrying out safety measures and coordinating the clean-up of spilled substances. Notification procedures for collision related spills depends on whether the spill is considered manageable or major.

WSDOT considers spills to be manageable if they can be cleaned, removed, or contained with resources readily available to the first responder (including cleanup capabilities of a responding Registered Tow Truck Operator). To qualify as manageable, the spill must be non-hazardous and contained on an impervious roadway surface. Under agreement with WSDOT and 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 and authorized representative of WSP or WSDOT gives the "Notice to Proceed." First responders (i.e., WSP, WSDOT incident response) notify WSP dispatch that a traffic collision related spill has occurred on WSDOT ROW. WSP dispatch then sends a "memo" via email to all potentially affected jurisdictions. Manageable spills do not require Ecology notification.

If a spill cannot be managed (i.e., cleaned, removed, contained) by first responders with resources easily and readily available to them, or the spill enters a MS4 or waterway, WSDOT considers the spill to be a major spill. Major spills require the help of an outside agency to remediate (i.e., Ecology spill response, fire department, local jurisdiction, or remediation contractor). First responders (i.e., WSP, WSDOT incident response) notify WSP dispatch that a traffic collision related spill has occurred on WSDOT right-of-way (ROW). WSP dispatch then sends a "memo" via email to all potentially affected jurisdictions, as well as to Ecology and agencies that may be able to offer assistance (e.g., local fire department). Given the potential to reach waterways, major spills, trigger the permit's G3 notification requirement. Thus, along with sending a "memo," the first responder or WSP dispatch will make the appropriate phone notifications required in G3.

WSDOT documents all known spills, whether manageable or major. WSDOT's tracking of traffic collision related spills occurs in conjunction with the WSP and the local law enforcement agency responding to the collision scene. There is a collision form which is used to record whether a manageable or major spill occurred, if a hazardous material was involved, and in the event of a spill, if a release occurred. WSDOT also maintains a database on collisions and utilizes Ecology's spill tracking information to assist in identifying high-risk spill

locations on state routes. WSDOT uses these tools to target safety improvements at sites where frequent collisions occur with the aim of reducing collisions and in turn, reducing spills.

- b. The SWMP shall include a program designed to identify and eliminate illicit discharges and illicit connections (ID/IC) to WSDOT's MS4.
 - i. This program shall include procedures for identifying, reporting, and correcting or removing illicit connections and illicit discharges when they are suspected or identified. The program shall also include procedures for addressing pollutants entering the MS4 from an interconnected, adjoining MS4.**

WSDOT designed its IDDE program in part to identify and work to eliminate illicit discharges and illicit connections (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 the 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 the permit.

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 use the following indicators in the field to detect and identify suspected 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.

Not all external discharges or connections to WSDOT's MS4 and property are illicit. WSDOT's Accommodation of Stormwater Runoff onto Right of Way (WSDOT Executive Order E 1103.00) serves as a reference for employees on accommodation of stormwater discharges from adjacent properties onto WSDOT ROW. In carrying out permit-required MS4 asset 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 or franchise authorizing the connection or discharge. Drainage or connections without a valid permit or franchise are directed to the appropriate WSDOT region utilities office for resolution.

WSDOT regional offices review utility permit applications to ensure they meet required conditions as described in WSDOT's Utilities Manual (i.e., Chapter 1, 120.05 – Storm Drainage and Hydraulics). To accept surface runoff discharged into WSDOT's drainage system, the discharges must 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'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 for projects in which a portion of the local system will be replaced and turned over to the local jurisdiction for operation and maintenance.

WSDOT staff suspecting an ID/IC notify 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.

Where possible, WSDOT staff identify 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.

- c. *Compliance with the provisions in S5.C.4.a, and b, above, shall be achieved by meeting the following timelines:*
 - i. *Immediately take appropriate action for all illicit discharges, including spills, which could constitute a threat to human health, welfare, or the environment consistent with General Condition G3.*
 - ii. *Initiate an investigation (or refer to the appropriate agency with authority to act) within 7 days, on average, any complaints, reports or monitoring information that indicates a potential illicit discharge.*
 - iii. *Initiate an investigation within 21 days of any report or discovery of a suspected illicit connection to determine whether it is illicit.*
 - iv. *Upon confirmation of an illicit connection, use enforcement authority in a documented effort to eliminate the illicit connection within 6 months. All known illicit connections to the MS4 shall be eliminated.*

As described in the sections above, WSDOT coordinates directly with WSP, local jurisdictions, and Ecology to immediately take appropriate actions related to notification required for G3 as well as identifying and eliminating illicit discharges and illicit connections.

- d. *WSDOT shall maintain records of the activities to meet the requirements of this section including tracking traffic collision related spills, illicit discharges, and illicit connections that were found by, reported to, or investigated by WSDOT. The data shall include the information specified in Appendix 2 and WQWebIDDE. WSDOT may either use its own system or WQWebIDDE for recording this data. Final submittal shall be compatible with and follow the format and data schema described in Appendix 2 and WQWebIDDE.*

WSDOT has its own IDDE database where it documents all known spills as well as ID/IC and actions taken to remedy the issues. The database is being updated to follow the format and data schema described in Appendix 2 of the permit. WSDOT will use WQWebIDDE as well as its IDDE database for recording this data until updates to the database are complete.

- e. *WSDOT shall provide required training pursuant to S5.C.8.b.i.*

WSDOT first responder personnel (i.e., Incident Response staff) receive training to identify and distinguish major and manageable spills. WSDOT incident response also receive instruction on how to effectively communicate with WSP dispatch.

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. There is also a new eLearning course available for WSDOT staff. In some cases this can take the place of in-person training.

- f. *WSDOT shall include reporting hotline telephone numbers on its internet site to facilitate public reporting of spills and other illicit discharges.*

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. WSDOT's website also lists contact information for regional WSDOT IDDE staff for non-emergency spill and illicit discharges that do not reach WSDOT's MS4.

2.1.5 Controlling Runoff from New Development, Redevelopment, and Construction Sites - S5.C.5

The SWMP shall include a program to prevent and control the impacts of runoff from new development, redevelopment, and construction activities.

- a. WSDOT shall apply the minimum requirements, thresholds, adjustments, and definitions in the Washington State Highway Runoff Manual (HRM) as specified in Appendix 1 to the planning and design of stormwater management facilities and best management practices for construction activities and new and existing Washington State highways, rest areas, park and ride lots, ferry terminals, and highway maintenance facilities*
- b. WSDOT shall apply the technical standards including the minimum requirements, thresholds, adjustments, and definitions in the HRM or an Ecology approved alternative approach demonstrating compliance with Washington State Water Quality Standards on a site and project specific basis for the planning, design, and operation and maintenance of stormwater facilities within areas described in S1.B. One year from the effective date of this permit (i.e., April 5, 2019), projects going to advertisement (AD) shall comply with the 2019 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 2019 HRM will not result in compliance with State Water Quality Standards.*
 - ii. Projects receiving Design Approval before July 1, 2019 may use the 2014 HRM on the condition that the projects go to AD by June 30, 2022.**
- c. WSDOT shall provide required training pursuant to S5.C.8.b.ii.*

WSDOT's Highway Runoff Program directs the planning and design of permanent stormwater management facilities mainly through the Highway Runoff Manual (HRM). This manual meets the level of stormwater management established by 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.

WSDOT has an implementing agreement with Ecology regarding the application of the HRM. This implementing agreement was adopted in accordance with the Memorandum of Understanding between the Washington State Departments of Ecology and Transportation Regarding Environmental Issues under Department of Ecology Jurisdiction, executed August 4, 1988. Under this agreement, WSDOT agrees to apply the HRM statewide to direct the planning, design, and maintenance of stormwater management facilities for new and redeveloped Washington State highways, rest areas, park-and-ride lots, ferry terminals, and highway maintenance facilities. The agreement remains in effect for five years beginning at the date of issuance of WSDOT's NPDES municipal stormwater permit.

WSDOT uses the Hydraulics Manual, available on WSDOT's internet site, in conjunction with the HRM 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.

Training for hydrologic analysis and hydraulic modeling as well as other aspects supporting effective implementation of the 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) who use the HRM. WSDOT requires all consultants and design engineers to have this HRM training in each the following scenarios:

- Designing and building new stormwater BMPs on WSDOT right-of-way.
- Modifying existing stormwater BMPs on WSDOT right-of-way.
- Designing new or modifying existing BMPs that will be turned back to WSDOT for ownership.

The final Hydraulics Report must have a valid Professional Engineers stamp along with the name(s) and HRM Training Certificate number(s) of the person(s) responsible for developing the stormwater design portion of the report as a condition of final concurrence from WSDOT.

- d. *The program shall include procedures designed to control erosion and prevent sediment and other pollutants associated with construction activity from impacting water quality.*
 - i. *WSDOT shall provide required training pursuant to S5.C.8.b.iii.*
- e. *WSDOT shall perform statewide erosion control fall assessments for all active construction projects with moderate to high-risk of erosion. Performance measurements include:*
 - i. *Thoroughness of original erosion control plans*
 - ii. *Implementation of the erosion control plan elements*
 - iii. *Responsiveness to changing field conditions*

WSDOT's erosion control program provides policies and procedures, mainly through the Temporary Erosion and Sediment Control Manual (TESCM), to control erosion and prevent sediment and other pollutants associated with construction activity from impacting soil, air, and water quality, and to comply with NPDES Construction Stormwater General Permit (CSWGP). In combination, the TESCM and HRM are deemed equivalent to Ecology's Stormwater Management Manuals (SWMMs) for western and eastern Washington.

WSDOT's construction stormwater pollution prevention planning components consist of a Spill Prevention, Control, and Countermeasures (SPCC) plan and Temporary Erosion and Sediment Control (TESC) plan. Guidelines and templates to assist contractors in developing a site-specific SPCC Plan are available on the WSDOT Hazardous Materials webpage. The TESCM provides guidelines for preparing TESC plans and for selecting appropriate erosion and sediment control best management practices (BMPs). The TESCM also includes installation and maintenance requirements for BMPs and provides guidance on water quality sampling and reporting procedures for WSDOT projects required to monitor discharge water quality during construction.

WSDOT's Construction Manual provides guidelines, procedures, and methods for construction engineering staff to properly perform construction administration at WSDOT. This manual includes a section on erosion control, which addresses general requirements related to erosion control, site inspections, and compliance with

the CSWGP. WSDOT's Standard Specifications include 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. The Standard Specifications also contain TESC BMP material requirements. The guidance in the TЕСM, Construction Manual, Standard Specifications, Standard Plans, and contract provisions, is meant to work together to promote uniformity of results among all WSDOT construction activities.

Construction Site Erosion and Sediment Control Training

WSDOT provides Construction Site Erosion and Sediment Control training annually. This class renews existing Certified Erosion and Sediment Control Lead (CESCL) certifications as long as the certification has not been expired for 6 months or more. It also meets the eight-hour classroom portion of the training requirements for a new CESCL certification. To obtain a new certification, a field-BMP course must also be taken within six months of completing the classroom portion of the training requirements. WSDOT's Erosion Control Policies and Procedures webpage contains more information on this training.

WSDOT requires personnel responsible for designing or implementing a TESC plan as well as consultant personnel designing TESC plans to take the WSDOT Construction Site Erosion and Sediment Control course.

WSDOT requires all individuals performing CSWGP required site inspections to have a current CESCL certification. WSDOT confirms CESCL certification status as a condition of authorizing construction contracts to proceed. Contractor staff seeking CESCL certification to perform CSWGP related site inspections or discharge sampling activities must receive training from an Ecology-approved training provider.

Erosion Control Fall Assessments

Each fall, WSDOT performs erosion control fall assessments (fall assessments) for all active construction projects with moderate to high-risk of erosion, as defined in the TЕСM. 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 assessments review site documentation and field conditions. WSDOT compiles its 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 ten days of receiving the report. Beginning fall 2019, staff performing the assessments will be testing a new mobile assessment form to help streamline fall assessments and the related follow-up communication with projects. WSDOT also uses the fall assessments to identify trends and potential policy gaps to inform follow-up actions which may include policy development or training updates.

2.1.6 Stormwater Retrofits for Existing Highways - S5.C.6

The SWMP shall include a program to retrofit existing highways lacking stormwater treatment or flow control, or for which treatment or flow control is not to current standards as specified in the Highway Runoff Manual.

- a. WSDOT shall maintain a list of highway segments prioritized for stormwater retrofits.
- b. WSDOT shall retrofit (i.e. provide stormwater treatment or flow control to) existing highways if a project triggers runoff treatment or flow control requirements as defined in the HRM.
- c. For projects located within the Puget Sound Basin that trigger runoff treatment or flow control requirements as defined in the HRM, WSDOT shall either:
 - i. Retrofit, at a minimum, the amount of existing impervious surface and existing pollutant generating impervious surface within the project limits that equates to 20% of the cost to meet stormwater requirements for the new impervious surfaces and new pollutant generating impervious surface (i.e., 20% cost obligation);
 - ii. Transfer an amount of money equal to the 20% cost obligation to fund stand-alone stormwater retrofit projects within the Puget Sound Basin; however, projects with high priority retrofit areas falling within their project boundaries cannot use this option; OR
 - iii. Meet the 20% cost obligation within the project site to the extent feasible and transfer funds equivalent to the unmet balance to fund stand-alone stormwater retrofit projects within the Puget Sound Basin.
- d. WSDOT shall track the number of stand-alone stormwater retrofits completed as well as acres of existing impervious surface retrofitted or reverted to pervious surface through the stormwater retrofit program. WSDOT shall also track the amount of funds transferred to fund stand-alone stormwater retrofit projects within the Puget Sound Basin pursuant to S5.C.6.c.ii.

In 2017, WSDOT completed a [Stormwater Retrofit Program Management Plan](#) to identify and document how WSDOT's stormwater retrofit program is organized and managed. The primary topics include prioritization, scoping, design, and tracking of project-triggered, stand-alone, and opportunity-based retrofits. In addition, the plan outlines roles, responsibilities, and performance metrics for the program. The plan is designed to document how WSDOT meets the permit obligations associated with stormwater retrofits for existing highways referred to in S5.C.6.

- For more information on WSDOT's prioritization process and the list of highway segments prioritized for stormwater retrofits (S5.C.6.a) see page 5 and Appendices 2 and 3 of the Stormwater Retrofit Program Management Plan.
- For more information on project-triggered retrofits and requirements in the Puget Sound Basin (S5.C.6.b and c.) see pages 5-6 and Appendix 4 of the Stormwater Retrofit Program Management Plan and Section 3-4.2 of the HRM.
- For more information on stand-alone stormwater retrofits (S5.C.6.d.) see pages 6-7 and Appendix 5 of the Stormwater Retrofit Program Management Plan.

2.1.7 Maintenance - S5.C.7

WSDOT shall implement a program to regulate and conduct maintenance activities to prevent or reduce stormwater impacts.

- a. Maintenance Standards. WSDOT shall implement maintenance standards in accordance with the 2019 HRM. For facilities which do not have maintenance standards, WSDOT shall develop a maintenance standard. The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facility's required condition at all times between inspections. Exceeding the maintenance standard between inspections and/or maintenance is not a permit violation.*

WSDOT's Maintenance and Operations Division coordinates with the Regions to implement stormwater-related maintenance activities and develop policies and procedures for preventing or reducing stormwater impacts from other maintenance activities. For ferry terminals, Washington State Ferries (WSF) is responsible for stormwater-related maintenance and developing policies and procedures for preventing or reducing stormwater impacts from other maintenance activities.

The Highway Runoff Manual (HRM) directs the planning and design of stormwater management facilities for WSDOT's existing and new highways and WSDOT facilities statewide. Chapter 5 of the HRM describes BMP-specific maintenance standards used during inspections to determine when maintenance actions are required. For new BMPs, built in accordance with the 2019 HRM, designers must create "owner manuals" with specific BMP information for maintenance crews to reference when conducting inspections and maintenance.

b. *Maintenance of stormwater treatment and flow control BMPs:*

- i. *WSDOT shall implement a program to annually inspect all permanent stormwater treatment and flow control BMPs/facilities owned or operated by WSDOT within areas described in S1.B.*

WSDOT may reduce the inspection frequency 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. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with G19 Certification and Signature.

- ii. *Compliance with the inspection requirements of S5.8.b.i shall be determined by the presence of an established inspection program designed to inspect all sites and achieving an annual rate of at least 95% of planned inspections.*
- iii. *Unless there are circumstances beyond WSDOT's control, when an inspection identifies an exceedance of the maintenance standard, maintenance shall be performed:*
- (1) Within 1 year for typical maintenance of facilities and*
 - (2) Within 2 years for BMPs requiring non-typical maintenance amounting to less than \$25,000.*
 - (3) WSDOT shall prioritize repairs to BMPs amounting to more than \$25,000, as well as building access roads and address them 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's Maintenance Division and WSF each have a program designed to annually inspect all known permanent stormwater BMPs within areas described in S1.B of the permit using the HRM maintenance standards. If an inspection identifies an exceedance of maintenance standards, that maintenance is completed within the one year timeline allowed by the permit if the maintenance required is typical. If the maintenance required is non-typical, then it is completed within the two-year timeline allowed by the permit if it amounts to less than \$25,000. Repairs over \$25,000 get prioritized based on how much time the repairs will take to complete, the cost of repairs, and available funding.

WSDOT will continue to request new funding, as needed, 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. If there are circumstances beyond WSDOT's control, in the event of an exceedance of the maintenance timelines defined in

the permit, WSDOT documents the circumstances.

WSDOT may at some point reduce the annual inspection frequency of permanent stormwater BMPs based on supporting inspection 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 in accordance with the permit.

c. Maintenance of catch basins and inlets:

- i. WSDOT shall implement a program to annually inspect catch basins owned or operated by WSDOT within areas described in S1.B and clean catch basins where cleaning is needed, or implement an alternative below.*

Alternatives to the standard approach of inspecting catch basins annually and cleaning only catch basins where cleaning is needed: WSDOT may apply the following alternatives to all or portions of their system.

- (1) WSDOT may reduce the inspection frequency 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. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with G19 Certification and Signature.*
 - (2) Annual 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 MS4 outfall or discharge point. Clean all catch basins within a given circuit if the inspection indicates cleaning is needed.*
 - (3) WSDOT may clean all 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.*
- ii. Compliance with the inspection requirements of S5.C.8.c.i shall be determined by the presence of an established program designed to inspect all catch basins and achieving an annual rate of at least 95% of planned inspections.*
- iii. Unless there are circumstances beyond WSDOT's control, when an inspection identifies an exceedance of the maintenance standards, maintenance shall be performed within 6 months for at least 95% of catch basins needing maintenance and within one year for at least 98% of catch basins needing maintenance.*

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.

- iv. The disposal of decant water shall be in accordance with the requirements in Appendix 5.*

WSDOT's Maintenance Division and WSF each have a program designed to annually inspect all known catch

basins within areas described in S1.B of the permit using HRM maintenance standards. WSDOT typically cleans catch basins where cleaning is needed at the same time as the inspection. When catch basin inspections identify exceedances of maintenance standards, WSDOT aims to complete most maintenance within six months and at least 98 percent of maintenance needed within the one year timeline allowed by the permit. If there are circumstances beyond WSDOT's control, in the event of an exceedance of the maintenance timelines defined in the permit, WSDOT documents the circumstances.

WSDOT may at some point reduce the annual inspection frequency of catch basins based on supporting inspection records of double the length of time of the proposed inspection frequency. In the absence of maintenance records showing HRM catch basin maintenance standards are being met, WSDOT may substitute written statements to document a specific less frequent inspection schedule in accordance with the permit.

WSDOT follows the procedures and preferences in Appendix 5 of the permit for disposing of street waste liquids, including decant waters.

- d. *WSDOT shall implement practices, policies, and procedures to reduce stormwater impacts associated with 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, and as applicable for TMDL areas covered under this permit.*

The following activities shall be addressed:

- i. Cleaning of culverts that convey stormwater in ditch systems*
- ii. Ditch maintenance*
- iii. Street sweeping*
- iv. Road repair and resurfacing, including pavement grinding*
- v. Snow and ice control*
- vi. Utility installation*
- vii. Maintaining roadside areas, including vegetation management*
- viii. Dust control*
- ix. Pavement striping maintenance*
- x. Application of fertilizers, pesticides, and herbicides according to the instructions for their use, including reducing nutrients and pesticides using alternatives that minimize environmental impacts*
- xi. Sediment and erosion control*
- xii. Landscape maintenance*
- xiii. Trash and pet waste management*
- xiv. Building exterior cleaning and maintenance*

Several different manuals and publications document WSDOT's policies and procedures for preventing and reducing stormwater impacts from the activities listed above. WSDOT's Environmental Manual includes a chapter that summarizes the environmental requirements and procedures that apply to WSDOT's Maintenance and Operations Division. Washington State Ferries Division (WSF) conducts work under its Environmental

Management System (EMS) that is integrated with the WSF Safety Management System (SMS). The stormwater procedures in the SMS describe WSF environmental policies and procedures for conducting maintenance activities to prevent or reduce stormwater impacts at ferry terminals.

The WSDOT 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. The main topics in the manual related to stormwater include drainage facility maintenance (e.g., ditches, dry wells, culverts, treatment and flow control BMPs, and catch basins), roadside maintenance (including vegetation management), snow and ice control, and pavement repair.

WSDOT's Regional Road Maintenance Endangered Species Act Program Guidelines (RRMP), provide tools for selecting BMPs and developing implementation plans for maintenance activities based on the type of maintenance being performed, site specific conditions, and desired outcomes. The main topics covered in the manual related to stormwater include drainage system maintenance, street surface cleaning and repair, snow and ice control, and vegetation management.

The sections below describe the main policies and procedures from these and other manuals and publications related to reducing the impact on stormwater from the specific maintenance activities listed in the permit.

i. Culverts

The Maintenance Manual provides general guidelines for inspecting and maintaining culverts. WSDOT inspects culverts as time and resources allow. Routine inspections are performed twice per year, once before fall and winter storms and once after the rainy season has ended to ensure they are clean and in good operating condition. Level 1 inspections are used to rate the condition of the culvert as well as document any needed further actions including cleaning, repair, or need for a level 2 inspection. Level 1 inspections are performed once every 5 years. Level 2 inspections are performed when a culvert has a condition rating of poor or critical.

ii. Ditches

The Maintenance Manual provides general guidelines for inspecting and maintaining ditches. WSDOT routinely checks and maintains open ditches to remove litter and debris and keep them as close as possible to the line, grade, depth, and cross section to which they were constructed. Vegetation in ditches is only removed when flow is blocked or excess sediments have accumulated. Ditch linings of loose or grouted rock and concrete are checked frequently and repaired as necessary.

iii. Sweeping

WSDOT conducts sweeping operations to keep road surface clean and remove sediment, leaves, litter, and other debris before it enters the stormwater systems or surface waters. The extent of debris accumulation and funding provided by the State Legislature dictates scheduling. Sweeping at ferry terminals occurs on a quarterly basis or more frequently as determined through adaptive management.

WSDOT documents 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. Typically, WSDOT manages collected street sweepings in a two-step process: 1) interim, and 2) final reuse. For the interim, WSDOT stores sweepings it collects 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.

iv. Road repair and resurfacing

The RRMP provides guidelines and BMPs for maintenance personnel to use when performing these maintenance activities.

v. 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 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.

vi. Utility installation

The Utilities Manual and the Developer Services Manual provide procedures related to work associated with utilities located within the state right-of-way. WSDOT Region offices review utility permit applications to ensure the requirements for issuing utility permits or franchises are met.

vii. Maintaining roadsides, including vegetation management

WSDOT has several local 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 documentation of site-specific IVM methods to control weeds, together with follow-up evaluations of treatments and ongoing control measures. WSDOT's Roadside Policy and Roadside Manuals also contain roadside restoration policies and guidance, which are based on minimizing life cycle costs while providing operational and environmental functions.

viii. Dust control

The RRMP provides guidelines and BMPs for maintenance personnel to use when performing maintenance activities. Controlling dust is considered a BMP for road repairs as well as street surface cleaning because it can remove sediment from the roadway before it enters the stormwater system or other water bodies. Controlling dust also reduces airborne pollution and sediment loading.

ix. Pavement striping maintenance

The RRMP provides guidelines and BMPs for maintenance personnel to use when performing these maintenance activities.

x. Application of fertilizers, pesticides, and herbicides

Policies and procedures for these activities are included in the local IVM plans as well as the Roadside Policy Manual. See “Maintaining roadsides” above for more information.

xi. Sediment and erosion control

WSDOT’s Temporary Erosion and Sediment Control (TESC) Manual is the primary policy document for these activities. The RRMP also provides guidelines and BMPs related to controlling sediment and erosion while conducting maintenance activities.

xii. Landscape maintenance

See “Maintaining roadsides” above for more information.

xiii. Trash and pet waste management

The RRMP provides guidelines and BMPs for maintenance personnel to use when performing street cleaning maintenance activities. Litter is typically collected and bagged by the Department of Corrections work release program, the Adopt-A-Highway program, or the Ecology Youth Corps program. WSDOT Maintenance staff pick up and dispose of litter bags, large debris, and dead animals. Washington State Patrol is responsible for enforcement of litter-control laws on state highways.

WSDOT has installed and continues to maintain several pet waste bag stations, including several within a fecal coliform Total Maximum Daily Load (TMDL) boundary as required by that TMDL. Both the WSDOT Design Manual and WSF Terminal Design Manual provide guidance on installing pet waste bag stations near pet walking areas at rest areas and ferry terminals. WSDOT’s Maintenance Manual provides guidelines for maintaining and stocking pet waste stations.

xiv. Building exterior cleaning and maintenance

WSDOT’s HRM states certain types of activities, including washing and painting building structures, may require source control BMPs. For guidelines on selecting proper source control BMPs, the HRM points to the detailed descriptions of source control activities and associated BMPs in Volume IV of Ecology’s Stormwater Management Manual for Western Washington or Chapter 8 of the Stormwater Management Manual for Eastern Washington.

- e. WSDOT shall provide training required pursuant to S5.C.8.b.iv. (i.e. Road Operation and Maintenance training for WSDOT maintenance program personnel. The training must include the importance of protecting water quality, operation and maintenance standards, selecting appropriate BMPs, and ways to perform job activities to prevent or minimize impacts to water quality.)*

WSDOT maintenance program personnel receive both formal, in-class training and informal, on-the-job 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 RRMP. This course provides the foundation upon which other activity-specific training is built upon. Maintenance staff also attend an 8 hour course that covers how to install BMPs in the field

to meet environmental outcomes, including spill response. Other environmental training courses maintenance personnel attend in connection with their individual job duties include:

- Field BMP Training for in Water Work – This course 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.
- SWPPP Training – This training covers maintaining facilities under stormwater pollution prevention plans (SWPPP). It is provided within three months of developing a new SWPPP and as ongoing refresher training for maintenance crews for each facility.

Much of the training maintenance personnel receive is informal, on-the-job training. For example a Regional Maintenance Environmental Coordinator may informally train region maintenance staff to prevent or resolve an emerging issue. If resources are available and a need arises, WSDOT maintenance program personnel may receive training related to the following:

- Emergency response and the BMPs and environmental procedures that apply for these activities.
- Stormwater BMP inspections and maintenance of highway stormwater BMPs.
- Bridge maintenance and the use of approved materials and BMPs employed during routine maintenance activities on or near bridges that pass over rivers, streams, and other waterways.
- Environmental compliance updates to keep staff current on environmental compliance issues specific to their maintenance area.
- Integrated Vegetation Management (IVM) Plans covering the use of herbicides and control of invasive species.

- f. *Implement a Stormwater Pollution Prevention Plan (SWPPP) for each ferry terminal, and for each road maintenance facility where equipment is stored, there is a fueling station, and where heavy equipment is repaired, that has an MS4 and is within areas covered by the Phase I Municipal Stormwater Permit, the Eastern Washington Phase II Municipal Stormwater Permit, or the Western Washington Phase II Municipal Stormwater Permit. Generic SWPPPs that can be applied at multiple sites may be used to comply with this requirement.*
 - i. *Develop new SWPPPs, as needed, within 12 months of the effective date of this permit (i.e. April 5, 2019)*
 - ii. *At a minimum, SWPPPS shall:*
 - (1) *Identify measures to prevent and control the contamination of discharges of stormwater to surface and groundwater. The prevention and control measures include sweeping activities and measures to minimize and control the discharge of deicing agents as much as safely possible.*
 - (2) *Include a site map showing significant features, stormwater drainage, sources of possible stormwater pollutants, and locations of stormwater off site discharge.*
 - (3) *Apply applicable source control BMPs listed in Ecology’s stormwater management manuals, or equivalent manual approved by Ecology.*
 - (4) *Identify necessary capital structural control treatment BMPs for each facility. These capital improvements and treatment BMPs will be ranked and constructed on a priority basis.*
 - (5) *Include a spill prevention and response plan that identifies spill prevention BMPs, spill response procedures, and appropriate emergency contacts.*

WSDOT has developed individual SWPPPs as required for road maintenance facilities (with stormwater conveyance systems) that store equipment, fuel vehicles, and conduct heavy equipment and vehicle repair within areas covered by the permit.

WSF developed a generic Stormwater Pollution Prevention Plan for the system’s ferry terminals covered under the WSDOT Municipal Stormwater Permit. The requirements of the SWPPP have been integrated into a Stormwater Pollution Prevention Procedure as part of the SMS/EMS.

- iii. *WSDOT shall provide required training pursuant to S5.C.8.b.v. (i.e. SWPPP training for maintenance crews at each WSDOT facility with a SWPPP within three months of developing a new SWPPP and ongoing refresher training.)*
- iv. *WSDOT’s Washington State Ferries Division (WSF) shall provide required training pursuant to S5.C.8.b.vi. (i.e. Training program for WSF terminal staff on ferry terminal SWPPPs and procedures, and stormwater-related laws and regulations.)*

As described above in section describing the road operation and maintenance training for WSDOT maintenance program personnel, WSDOT provides SWPPP training to maintenance crews at each WSDOT facility with a SWPPP. This training covers procedures for maintaining facilities under SWPPPs. It is provided within three months of developing a new SWPPP and as ongoing refresher training for maintenance crews for each facility.

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 the SWPPP and related procedures. Terminal Supervisors receive training related to stormwater-related laws and regulations. Other staff receive training from 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.

- v. *Perform site inspections at ferry terminals and road maintenance facilities with SWPPPs twice a year, including visual inspections of facility discharges, to ensure SWPPP implementation and evaluate effectiveness of the plan. Compliance shall be determined by achieving an annual rate of at least 95% of planned inspections.*
- vi. *WSDOT shall keep each SWPPP on site or within reasonable access to the site.*

WSDOT performs site inspections twice a year at its road maintenance facilities with SWPPPs to ensure SWPPP implementation. Inspections include visual inspections of facility discharges to evaluate effectiveness of the program and verifies that the SWPPP is on site or within reasonable access to the site. WSDOT periodically conducts additional site inspections to verify implementation of the plans.

Each ferry terminal keeps a copy of the SWPPP on site and maintains a formal inspection log. To ensure the SWPPP is implemented properly, WSF conducts several types of terminal site inspections. Employees inspect terminals daily, SWPPP stormwater inspectors inspect sites twice a month between September and May, and terminal maintenance engineers inspect the stormwater systems at the terminals annually.

- g. *Maintain records of inspections and maintenance or repair activities conducted.*

WSDOT's Maintenance and Operations Division tracks all inspection and maintenance activities in its Highway Activity Tracking System (HATS). Each stormwater feature (e.g. catch basin, permanent BMP) has a unique identifier in HATS. Thus, the system provides the ability to precisely document each inspection and subsequent cleaning and corrective action for individual features. WSDOT continues to train all new maintenance staff and provide refresher trainings and technical support to maintenance staff to encourage proper entry of information about actions taken.

If WSF stormwater inspectors identify a maintenance need during inspections, they note it on an inspection sheet, discuss the corrective action needed with the terminal superintendent, and notify WSF management if additional actions are needed. Terminal supervisors and terminal maintenance staff track completion of maintenance activities, document the results, and adjust preventative maintenance schedules to balance available resources and identified maintenance needs.

2.1.8 Education, Training, and Public Involvement - S5.C.8

The SWMP shall include a program designed to educate and involve the public, consultants, contractors, and WSDOT staff to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.

- a. *To involve the public, WSDOT shall:
 - i. *Provide public involvement opportunities for stewardship activities.*
 - ii. *Provide opportunities for the public to participate in stormwater management planning and implementation including updates to WSDOT's SWMP.*
 - iii. *Post on their website their SWMP and the most recent annual report. WSDOT shall also make newly published stormwater-related research reports available for downloading for a 2-year period on WSDOT's website. All other submittals shall be available to the public upon request.**

WSDOT has a variety of programs and opportunities for public involvement that reduce adverse effects of stormwater. The main stewardship activities WSDOT coordinates include:

Adopt-A-Highway Program

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 is an ongoing roadside cleanup program that focuses on preventing and removing litter and trash as well as promoting pride and ownership in keeping our state beautiful. The program allows groups to "adopt" a section of state highway by agreeing to take care of it for a four-year period. The assigned sections typically include two to four miles of roadside. Private sponsors, typically businesses, may hire a professional contractor to take care of a section of highway. WSDOT provides traffic control equipment, safety equipment, safety training, litter bags and disposes of filled bags for the volunteers. Additionally, WSDOT installs signs, giving recognition to the individual, group, or business that has adopted the section of highway. WSDOT's maintenance staff dispose of the bags of litter collected by the Adopt-a-Highway program, as well as other groups that clean up state highway roadsides like Department of Corrections and Department of Ecology Youth Corps litter clean-up crews.

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. It 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.

WSDOT regularly provides opportunities for the public to participate in stormwater management planning and implementation including:

Stormwater Management in 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.

Stormwater Management Program

Beginning in fall 2020, WSDOT will be giving the public the opportunity to provide feedback on the 2020 Stormwater Management Program (SWMP) Plan. WSDOT will review and consider all comments received by October 18, 2020, before finalizing the 2020 plan. WSDOT will review and consider comments received after that date for the 2021 updates to the plan. Members of the public may access WSDOT's SWMP Plan on its [Managing stormwater from state highways](#) website.

WSDOT's Internet Site

WSDOT's internet site helps disseminate information regarding the various elements of WSDOT's stormwater management programs. Information available on the site includes WSDOT's SWMP Plan, the most recent annual report, as well as stormwater-related guidance manuals, procedures, design tools, and related resources. WSDOT provides downloadable versions of its newly published stormwater-related research reports for at least two years. After that WSDOT lists the reports on the website as bibliographic entries and makes them available upon request.

- The SWMP can be found on the [Managing stormwater from state highways](#) website.
- The annual report can be found on the [Water resources & erosion control research & reports](#) website.
- Stormwater-related resources can be found on the [Water resources & erosion control](#) website.
- Research reports can be found on the [Research reports](#) website.

WSDOT makes all other submittals available to the public according to Washington State public disclosure requirements.

- b. *WSDOT shall provide the following stormwater management-related training:*
- i. *Illicit Discharge Detection and Elimination training for WSDOT first responder personnel and WSDOT staff who, as part of their normal job responsibilities, may come into contact with or otherwise observe an illicit discharge or connection to WSDOTs MS4 or property. Training must include identification of illicit discharges and connections, as well as the proper procedures for notification, reporting, and responding.*
 - ii. *Highway Runoff Manual training for all WSDOT personnel, consultants, and contractors involved in stormwater facility design.*
 - iii. *Construction Site Erosion and Sediment Control training for WSDOT staff and consultant personnel responsible for design, implementation, or inspection of a temporary erosion and sediment control (TESC) plan during construction.*
 - iv. *Road Operation and Maintenance training for WSDOT maintenance program personnel. The training must include the importance of protecting water quality, operation and maintenance standards, selecting appropriate BMPs, and ways to perform job activities to prevent or minimize impacts to water quality.*
 - v. *SWPPP training for maintenance crews at each WSDOT facility with a SWPPP within three months of developing a new SWPPP and ongoing refresher training.*
 - vi. *Training program for WSF terminal staff on ferry terminal SWPPPs and procedures, and stormwater-related laws and regulations.*

WSDOT provides education and training to help ensure its employees (and its consultants and contractors) possess the knowledge and skills necessary to perform their functions effectively and efficiently. 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. Other sections of this SWMP Plan provide more detailed information on WSDOT's various training programs as outlined below:

- IDDE training (S5.C.8.b.i) - Section 2.1.4, pages 16-17
- HRM training (S5.C.8.b.ii) - Section 2.1.5, page 19
- Construction Site Erosion and Sediment Control training (S5.C.8.b.iii) - Section 2.1.5, page 20
- Road Operation and Maintenance training (S5.C.8.b.iv) - Section 2.1.7, pages 28-29
- SWPPP training (S5.C.8.b.v) - Section 2.1.7, pages 30-31
- WSF training program (S5.C.8.b.vi) - Section 2.1.7, page 31

2.2 Total Maximum Daily Load Allocations - S6

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 and timeframes 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.*

WSDOT participates in developing TMDLs to help ensure the WSDOT Municipal Stormwater Permit is understood and properly characterized at stakeholder meetings and in TMDL related reports and final Implementation Plans. Being proactive and participating also helps ensure action items for WSDOT required by TMDLs are appropriate and as consistent as possible across the state.

WSDOT uses various strategies to identify TMDLs currently in development and those expected to include WSDOT as a stakeholder. WSDOT may consider itself a stakeholder for a TMDL for several reasons including when:

- WSDOT has been identified as a source, or a conveyor (e.g., agriculture runoff to MS4), of the pollution of concern within the TMDL boundary.
- WSDOT's impact is unknown, but is of interest to other stakeholders.
- There is opportunity for coordination, outreach, or education.
- The TMDL is precedent-setting or could indirectly affect WSDOT (e.g., stormwater pollution surrogate indicators).

WSDOT maintains a TMDL development project list to prioritize its involvement. WSDOT categorizes the TMDL development project list into high, medium, and low priorities based on information available. Maintaining the project list is an iterative process. When new information becomes available TMDL projects may be removed, added, or involvement priorities may change. WSDOT's TMDL project list includes information needed for planning and coordination, such as:

- TMDL point of contact.
- The pollutant(s) to be addressed by each TMDL.
- Other details that may be relevant to prioritization.

WSDOT notifies Ecology about its intent to participate in TMDL development as a stakeholder and participates as a stakeholder in TMDL development meetings based on its identified priorities.

Because each of Ecology's regions have varying practices for developing TMDLs, WSDOT has found direct coordination with regional Ecology staff is key. Direct coordination helps ensure WSDOT's efforts to prioritize

involvement is as comprehensive as possible for planning purposes and helps ensure WSDOT will:

- Be added to Ecology stakeholder distribution lists and invited to stakeholder meetings.
- Understand the potential impact of the TMDL to WSDOT.
- Prepare for important development milestones such as draft deliverable review opportunities and public comment periods.

WSDOT's TMDL lead coordinates with WSDOT Regional TMDL support staff, maintenance staff, and other WSDOT staff to implement assigned TMDL actions specified in Appendix 3 of the permit and develop policies and procedures for preventing or reducing stormwater impacts to impaired water bodies. WSDOT may participate in TMDL adaptive management meetings convened by Ecology to document implementation efforts assigned to WSDOT. Currently none of the TMDLs listed in Appendix 3 require WSDOT to conduct water quality monitoring.

2.3 Monitoring - S7

A. Monitoring Objectives

WSDOT shall continue a monitoring program to evaluate best management practice (BMP) effectiveness at facility sites, and continue a monitoring program to evaluate BMP effectiveness at highway 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).*

WSDOT has a stormwater monitoring program that evaluates best management practice effectiveness at facility sites and highway sites. WSDOT implements quality control procedures through all phases of data collection and analyses. These procedures include field collection and laboratory processing for all permit-required samples. Additionally, verification and validation of both field- and laboratory-generated data occur as part of data management activities. The quality of raw, unprocessed, and processed data is subject to review and management. WSDOT's *Quality Assurance Project Plan for WSDOT Facility Stormwater Treatment Evaluation: Best Management Practices* and *Quality Assurance Project Plan for WSDOT Embankment Hydrology Monitoring* include comprehensive descriptions of quality assurance and quality control activities WSDOT uses to ensure monitoring studies produce scientifically credible and representative data.

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

- 1. WSDOT shall continue a monitoring program to evaluate the effectiveness of stormwater treatment and hydrologic management BMPs at rest areas, maintenance facilities, or ferry terminals.*
- 2. WSDOT shall continue evaluating BMPs at its existing facilities under the 2014 issued permit.*
- 3. 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>

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. 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.

Under the permit issued in 2014, WSDOT chose to monitor compost-amended biofiltration swales (CABS) to evaluate its effectiveness in treating of stormwater runoff at three maintenance facilities. The study tests variations in stormwater treatment and flow control designs of a standard CABS, such as increasing hydraulic residence time with compost amendment, flow length reduction, and incorporation of oyster shells for phosphorous removal. Staff will be reviewing chemistry and hydrology data as the studies progress to evaluate any adaptive management strategies deemed necessary. If the sites appear to be underperforming or there are site design issues, staff make changes as appropriate.

WSDOT completed site retrofits at two CABS sites in western Washington maintenance facilities as part of the current facilities study. Another CABS study site in Spokane was found to have unexpectedly high volume and sediment loads not known during design of the bioswale. WSDOT is currently redesigning the site for future monitoring.

WSDOT will continue monitoring the BMPs at the three sites until meeting statistical goals in TAPE for each site or until it reaches the maximum sampling effort of 35 sampling events for each site, as defined in the permit.

C. *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. *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>

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

Under the permit issued in 2014, WSDOT began a new BMP effectiveness study at highway sites to replace the previous vegetated filter strip study that concluded field data collection in July 2018. The new highway BMP effectiveness study was chosen based on WSDOT's stormwater management research priorities, stormwater treatment needs of the agencies, and is approximately the same level of monitoring effort and cost as the previous VFS BMP effectiveness studies.

The new study collects hydrologic data from roadside embankments to assess infiltration levels. The data will help validate an empirically optimized method for estimating saturated hydraulic conductivity (K_{sat}) developed by WSDOT's Geotechnical Office. WSDOT intends to use the validated K_{sat} estimation method to help improve future BMP designs and help evaluate the effectiveness of currently installed vegetated filter strip BMPs.

- D. Within one year following submittals of both the facilities and highways study's final monitoring reports or no later than October 1, 2021, WSDOT, in consultation with Ecology, shall: (1) prepare and submit an Ecology-approved QAPP; and (2) begin implementing the next facilities and highways BMP effectiveness evaluation(s). The selection of studies shall be based on WSDOT's stormwater management research priorities, stormwater treatment needs of the agencies, and shall be at the approximate same level of monitoring effort and cost as previous effectiveness studies.

WSDOT began site selection for new highway BMP studies that will test the effectiveness of swales that are older than their expected life spans. A previous swale study site was upgraded with bigger flumes and solar panels at the sample boxes for possible inclusion in this new highway BMP study. WSDOT is currently selecting other new sites for the study and will ground truth them during rain events to ensure the swales are operating in a manner that allows scientific study.

The selection of new studies is based on WSDOT's stormwater management research priorities, stormwater treatment needs of the agencies, and will be at the approximate same level of monitoring effort and cost as previous effectiveness studies.

E. Regional Status and Trends Monitoring

1. WSDOT shall pay \$21,172 into the collective fund to implement regional small streams and marine nearshore areas status and trends monitoring in Puget Sound. This payment into the collective fund is due on or before October 15, 2019.
2. No later than August 15, 2019, WSDOT shall notify Ecology in writing which of the following two options for regional status and trends monitoring they choose to carry out during the duration of this permit. Either option will fully satisfy WSDOT's obligations under this section. WSDOT shall select a single option for the duration of this permit.
 - a. Pay into two collective funds to implement regional receiving water status and trends monitoring in both Puget Sound and the Lower Columbia River basin. The payments into the collective funds are due to Ecology annually. The first payment is due on or before August 15, 2020. Subsequent payments are due on or before August 15 each year thereafter for the duration of this permit. The amounts are:
 - i. \$21,172 for status and trends monitoring of small streams and marine nearshore areas in Puget Sound, and
 - ii. \$9,160 for urban streams status and trends monitoring in the Lower Columbia River basin.

Or

- b. Conduct monitoring at five independent discharge locations in accordance with Appendix 6 and an Ecology-approved QAPP as follows:
 - i. No later than February 1, 2020 submit a draft stormwater discharge monitoring QAPP to Ecology for review and approval. The QAPP shall be prepared in accordance with the requirements in Appendix 6. If Ecology does not request changes within 90 days, the draft QAPP is considered approved. The final QAPP shall be submitted to Ecology as soon as possible following finalization, and before August 15, 2020.
 - ii. Flow monitoring at the new discharge monitoring locations shall begin no later than October 1, 2020. Stormwater discharge monitoring shall be fully implemented no later October 1, 2021 and shall continue for the duration of this permit.
 - iii. Data and analyses shall be reported annually in accordance with the Ecology- approved QAPP.
3. All payments shall be by ACH, check, or money order and shall be mailed to:

Department of Ecology, Cashiering Section
Stormwater Action Monitoring
P.O. Box 47611
Olympia, WA 98504-7611

WSDOT elected to pay into the collective fund to implement regional small streams and marine nearshore areas status and trends monitoring. WSDOT sends its payments to Ecology annually.

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 for each QAPP prior to implementation.*

WSDOT has developed and maintained QAPPs for all aspects of its monitoring program in accordance with Ecology's guidance. All QAPPs and amendments have been approved by Ecology.

G. Collaborative and Independent Programs

- 1. 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.*
- 2. 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.*

WSDOT plans to continue developing all of the components of its monitoring program, conduct the monitoring, and report results independently.

3. *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.*
4. *Approved or final QAPPs shall be completed for:*
 - a. *BMP effectiveness monitoring at rest areas, maintenance facilities, or ferry terminals within the one year following submittal of the facilities and highways studies final monitoring reports or no later than October 1, 2021.*
 - b. *BMP effectiveness monitoring at highways within the one year following submittal of the facilities and highways studies final monitoring reports or no later than October 1, 2021.*
5. *WSDOT shall begin full implementation of:*
 - a. *Facilities BMP effectiveness monitoring no later than October 1, 2021.*
 - b. *Highway BMP effectiveness monitoring no later than October 1, 2021.*

After new studies are selected for replacing the current BMPs effectiveness monitoring for facilities and highways, and within the one year following submittal of the final monitoring reports for the current facilities and highways studies, WSDOT staff will begin developing QAPPs for the new studies. WSDOT plans to begin full implementation of its new BMP effectiveness monitoring studies no later than October 1, 2021.

H. Stormwater Monitoring Reporting

1. *A Stormwater Monitoring Report shall be prepared and submitted with each Annual Report by October 31 per S8.*
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.*

Each year, WSDOT staff prepare annual monitoring reports for its BMP effectiveness monitoring at facilities and highways. These reports are submitted with the Annual Stormwater Report that WSDOT submits to Ecology for overall permit compliance in accordance with S8 of the permit. WSDOT submits these reports to Ecology by October 31st.

WSDOT staff upload data into EIM after the completion of each study.

2.4 Reporting Requirements - S8

A. Reports required in this permit serve as compliance reports 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

B. WSDOT shall submit an annual report no later than October 31 of each year beginning in 2019. The reporting period shall cover the previous fiscal year (July 1 to June 30). For S7. Monitoring-related reporting, the reporting period shall cover the previous water year (October 1 to September 30).

C. WSDOT shall submit a final report for each BMP effectiveness monitoring evaluation pursuant to S7.B., S7.C., and S7.D. within 12 months once the monitoring goals defined in the approved QAPP have been achieved.

D. WSDOT shall keep all records related to this permit until five years after the permit is no longer in effect.

E. WSDOT shall make all records related to this permit and the SWMP 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.

F. The annual report shall include the following:

1. Certifications and signatures as described in G19.C and notification of any changes to authorization as described in G19.B.

2. 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.

3. A summary of G20 notifications to Ecology regarding noncompliance with permit terms and conditions.

4. A summary of G21 notifications to Ecology regarding upsets.

5. A copy of WSDOT's current SWMP as required by S5.A.1.

6. A description of the status of implementation of the requirements of this permit.

7. 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.

8. A summary of the status of mapping the MS4 owned or operated by WSDOT and drainage areas associated with known WSDOT owned or operated stormwater outfalls and discharge points. This

summary shall, include any GIS layer updates related to WSDOT's MS4 mapping, and whether WSDOT met the pace for complete conveyance mapping of the MS4 WSDOT owns or operates.

9. Documentation of response and remediation activities related to traffic collision-related spills and ID/IC.
10. A summary of findings from fall assessments.
11. Documentation of the number and types of stormwater treatment and flow control facilities built.
12. For projects in the Puget Sound Basin pursuant to S5.C.6.c report the amount of funds transferred.
13. Documentation of the number of stand-alone stormwater retrofits completed.
14. Documentation of the number of acres of existing impervious surface retrofitted or reverted to pervious surface through the stormwater retrofit program.
15. Documentation of conducting 95% of planned inspections of all known permanent stormwater treatment and flow control BMPs/facilities owned or operated by WSDOT within areas described in S1.B.
16. Documentation of performing maintenance to BMPs pursuant to S5.C.7.b.iii and the prioritized list of repairs to BMPs amounting to more than \$25,000 as well as building access roads to BMPs that were built without access roads.
17. Documentation of conducting 95% of planned inspections of catch basins owned or operated by WSDOT within areas described in S1.B.
18. Documentation of performing maintenance to catch basins pursuant to S5.C.7.c.
19. 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.
20. Documentation of conducting 95% of planned site inspections at ferry terminals and road maintenance facilities for SWPPP implementation.
21. Documentation of public involvement opportunities for stewardship activities.
22. Documentation of opportunities for the public to participate in stormwater management planning and implementation including updates to WSDOT's SWMP.
23. Website addresses for WSDOT's SWMP, WSDOT's most recent annual report, and WSDOT's newly published stormwater-related research reports.
24. Documentation of the number of training courses WSDOT held and the number of WSDOT staff, consultants, and contractors trained on:
 - a. Illicit Discharge Detection and Elimination
 - b. Highway Runoff Manual
 - c. Construction Site Erosion and Sediment Control

25. Descriptions of the training programs and the number of WSDOT staff trained for:
- a. Road Operation and Maintenance and Maintenance Facility SWPPPs for maintenance program personnel.
 - b. WSF SWPPPs and procedures, and stormwater-related laws and regulations for WSF terminal personnel.
26. A summary of WSDOT's participation in TMDL development.
27. A summary of the status of compliance with each action item required by applicable TMDLs and listed in Appendix 3.
28. For reporting related to facilities and highways BMP effectiveness monitoring pursuant to S7.B, S7.C, and S7.D., include:
- a. A description of the status of preparations for new monitoring pursuant to S7.D until implementation of the new evaluation begins (no later than October 21, 2021).
 - b. Data collected from October 1 through September 30 of the previous year for BMP monitoring sites.
 - c. Stormwater management actions taken or planned to reduce pollutants.
 - d. The following information, if applicable, for each sampling event from each site:
 - i. Sample event identification (date, time, location)
 - ii. Tabular water quality data and summary results for each monitored parameter
 - iii. Antecedent dry period, inter-event period and total precipitation depth
 - 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.
 - e. The following information, if applicable, for each site:
 - i. Status of implementing the program and a description of the BMP monitoring programs still in progress at the end of the reporting year
 - 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 Urban Stormwater BMP Performance Monitoring or the most recent version of these guidelines
 - iii. Status of cumulative (including previous years) performance data in terms of statistical goals for each test site
 - iv. If applicable, status of performance data concerning flow reduction performance for any hydrologic reduction BMP
 - v. Any proposed changes to the monitoring program that could affect future data results.

G. Final reports for BMP effectiveness monitoring evaluations pursuant to S7.B, S7.C, and S7.D shall include:

- a. 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.*
- b. An estimated cost of the BMP effectiveness monitoring.*

WSDOT's Annual Stormwater Report together with its Annual Stormwater Monitoring Reports, serve as WSDOT's permit-required annual report. The Annual Stormwater Report provides a status update on permit compliance and implementation as well as information required under S8.F.1 through 27 for the previous fiscal year (July 1 to June 30). The Annual Stormwater Monitoring Reports provide information required under S8.F.28 for the previous water year (October 1 to September 30), and cumulative data as required by S8.F.28.e.ii and iii. WSDOT submits two printed copies and an electronic (PDF) copy of its annual report to Ecology by October 31 each year as required by S8.A.

In addition to the annual report, WSDOT submits its final monitoring reports required under S8.C to Ecology within 12 months once the monitoring goals defined in the approved QAPP have been achieved. All of the information required under S8.G is included in these reports.

WSDOT will keep all records related to the permit for a minimum of five years after the permit is no longer in effect.

WSDOT makes all of its records related to the permit and this SWMP Plan available to the public according to Washington State public disclosure requirements. Members of the public may access WSDOT's annual reports on its [Water resources & erosion control research & reports website](#).

SECTION 3: CONCLUSION

WSDOT developed this SWMP plan to document the procedures and practices WSDOT uses to reduce the discharge of pollutants from storm sewer systems owned or operated by WSDOT as required by the WSDOT Municipal Stormwater Permit. WSDOT will update the SWMP plan annually throughout the Permit term to reflect changes in its approaches to manage stormwater and implement Permit requirements. WSDOT will continue to provide opportunities for the public to participate in the planning and implementation, including updates to WSDOT's SWMP. For more information on participation opportunities, see Section 2.1.8 of this plan.

Questions about WSDOT's SWMP should be directed to:

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