Washington State Department of Transportation

Lynn Peterson
Secretary of Transportation

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August 28, 2015

Environmental Protection Agency
Office of Water and Watersheds
NPDES Permits Unit
1200 6th Avenue, Suite 900
Seattle, WA 98101

Attn: Misha Vakoc

RE: NPDES Permit Application for Municipal Separate Storm Sewer System (MS4) Discharges to Portions of the Puyallup River Subject to Federal and Tribal Jurisdiction - **Application Submittal Amendment**

Dear Ms. Vakoc:

Please find enclosed the Washington State Department of Transportation's (WSDOT's) amended permit application for stormwater discharges to portions of the Puyallup River subject to federal and Tribal jurisdiction. WSDOT's application was previously submitted in December 2012. The enclosed application has been revised based on EPA's February 23, 2015 letter clarifying the expected content of WSDOT's application. The enclosed application and attachments contain updated information to reflect current outfall and project design information, and stormwater program management descriptions.

Please consider this letter a request to proceed with processing the permit. We look forward to working with you to gain NPDES coverage for affected portions of WSDOT's stormwater drainage system.

Should you require further information, please contact Jana Ratcliff at 360-570-6649 or ratclij@wsdot.wa.gov.

Sincerely,

For Lynn Peterson
Secretary of Transportation

Enclosure: Permit Application

cc: Char Naylor, Puyallup Tribe of Indians
Bill Sullivan, Puyallup Tribe of Indians
Jana Ratcliff, WSDOT
Jeff Sawyer, WSDOT
Ken Stone, WSDOT

Washington State Department of Transportation's National Pollutant Discharge Elimination System (NPDES) Permit Application for Municipal Separate Storm Sewer Systems (MS4) Discharging to Puyallup Tribal Waters
August 27, 2015

This application submittal constitutes the Washington State Department of Transportation's (WSDOT) response to the Region 10 Environmental Protection Agency's (EPA) letter dated June 19, 2012, titled *Request of Permit Application under NPDES Program for Storm Water Discharges to the Portion of the Puyallup River Subject to Federal and Tribal Jurisdiction.*

This submittal contains the following eight sections which correspond to the organization of the permit's application request:

1) General Information
2) Legal Authority
3) Source Identification
4) Discharge Characterization
5) Management Programs
6) Fiscal Resources
7) Assessment of Controls
8) Signature

1) General Information

Washington State Department of Transportation
PO Box 47332
Olympia, WA 98504-7332

Contact:
Jana Ratcliff
Municipal Stormwater Permit Coordinator
360-570-6649
RatcliJ@wsdot.wa.gov

The Washington State Department of Transportation (WSDOT) is a state agency under the laws of the State of Washington (Chapter 47.01 Revised Code of Washington (RCW)). WSDOT owns and operates a municipal separate storm sewer system (MS4) subject to the conditions set forth in a municipal stormwater permit issued by the Washington State Department of Ecology (Ecology).

2) Legal Authority

WSDOT's existing legal authority to control discharges to existing and planned/future municipal separate storm sewer systems is described as follows:

Title 47 of the 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. Non-limited access segments within city limits are shown on *Maps 1, 3* and *5* in *Attachment A*.

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:

- Title to all limited access state highways is vested in the state RCW 47.24.020(2); 47.52.090.
- 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.
- 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:

- 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.
- WSDOT is neither the owner nor the operator of underground stormwater features.
- 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 MS4s 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;* Ecology requirements; or local rules, regulations, ordinances, and resolutions, whichever is more stringent.

This legal authority is described in *Section 2.4* of WSDOT's *Stormwater Management Program Plan (SWMPP)*. WSDOT implements and enforces the Ecology-approved *SWMPP* as a condition of its Ecology-issued municipal stormwater permit.

3) Source Identification

See *Attachment A* for the series of maps depicting one mile beyond the service boundary for the existing and planned right-of-way.

(1) *Maps 1 - 4* include all known WSDOT MS4 outfalls potentially discharging to the Puyallup River[1] and tributaries of the Puyallup River[2], and discharges from WSDOT's MS4 to the Puyallup River[1] indirectly through another MS4. *Tables 5, 6* and *7* contain outfall details.

(2) *Maps 3 and 4* show the planned new outfall to the Puyallup River.

(3) *Maps 1 - 8* show characteristics of the catchment basin draining WSDOT's MS4.

(4) Two NPDES Construction Stormwater General Permits have been issued to WSDOT in the service area:

- The I-5, M Street to Portland Ave. – High-Occupancy-Vehicle (HOV) project is located on I-5 between milepost 132.86 and 134.89, permit number WAR301303.
- The I-5, Portland Ave. to Port of Tacoma Rd. Northbound – HOV project is located on I-5 between milepost 134.89 and 136.09, permit number WAR125208.

(5) *Map 8* shows the location of the I-5, Portland Ave. to Port of Tacoma Rd. SB – HOV project which is currently in design; and the SR 167, Tacoma to Edgewood New Freeway Construction project, currently in the early stages of design. This project is not expected to be complete until approximately 2025. This project will relocate SR 167 away from the Puyallup River and the existing SR 167 will be turned over to the City of Tacoma.

Map 1 shows existing stormwater control structures within WSDOT's service area.

Map 4 shows planned stormwater control structures within WSDOT's service area.

[1] Specific to portions of the Puyallup River subject to federal and Tribal jurisdiction.
[2] Specific to outfalls near the confluence with portions of the Puyallup River subject to federal and Tribal jurisdiction.

4) Discharge Characterization

(A) Monthly Mean Rain and Snow Fall Estimates and Monthly Average Number of Storm Events

Table 1: Average Monthly Rain and Snowfall for Tacoma, Washington Between 3/1/1982 and 9/25/2015

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Total Precipitation (inches)	6.08	3.63	4.33	3.06	2.09	1.64	0.74	0.83	1.27	3.56	6.82	5.72
Average Total Snowfall (inches)	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1

Source: Western Regional Climate Center (http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?wa8278)

Table 2: Average Number of Rainfall Events: Water Years 2002-2009 (Oct. 1 – Sept. 30)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Number of Rainfall Events	13	10	15	11	8	5	2	4	5	10	14	15

Reference: City of Tacoma, Tacoma Central Treatment Plant ISCO Rain Gauge

(B) Existing Quantitative MS4 Outfall Volume and Quality Data to Tribal Waters

No quantitative data exists describing the volume and quality of discharges from existing MS4 outfalls to Tribal waters.

Existing flows from the service area discharging to the Puyallup River[1] were derived using MGSFlood modeling software for the purpose of assessing runoff treatment compliance. Modeling included a survey of existing terrain and local precipitation data to generate a continuous storm analysis. Flow analysis results show a flow rate of 13.78 cubic feet per second in the 2-year mean recurrence interval storm.

Completion of WSDOT's Northbound and Southbound High Occupancy Vehicle (HOV) improvement projects will result in runoff treatment via a treatment train prior to discharging from the proposed new outfall to the Puyallup River. The treatment train consists of a constructed stormwater treatment wetland (CSTW) followed by a modified media filter drain (MMFD). The MMFD mix includes specific material for removing pollutants (see *Appendix B* for MMFD specifications and plan sheets. Details on other BMPs are available upon request). This design will provide maximum treatment through the 2-year storm event. The CSTW provides the primary treatment and the MMFD provides further polishing. For storms exceeding the 2-year storm event, the additional runoff will receive treatment solely through the CSTW prior to discharge. This design provides a 95% probability that all storm events will receive full treatment through the entire CSTW-MMFD treatment train prior to discharge. *Table 3* summarizes the projected pollutant concentrations after receiving treatment. *Table 4* provides annual pollutant loading estimates for this treatment system.

Table 3: Projected Pollutant Concentration Following Treatment

Pollutant	CSTW Treatment (micrograms/liter)	CSTW + MMFD Treatment (micrograms/liter)
Dissolved Copper	14 µg/L	12.4 µg/L
Dissolved Zinc	80 µg/L	25 µg/L
Bis-2-ethylhexyl-phthalate (BEHP)	2.34 µg/L	1.64 µg/L

Source: WSDOT Tacoma/Pierce County HOV Program. *Analysis of Water Quality Effects of I-5 Stormwater Runoff Discharges on the Puyallup River* (March 2012)

Table 4: Projected Annual Pollutant Loading Estimates Following Treatment

Pollutants	Estimated Annual Pollutant Loading (grams)
Dissolved Copper	199 g
Dissolved Zinc	442 g
Bis-2-ethylhexyl-phthalate (BEHP)	27 g

Source: WSDOT Tacoma/Pierce County HOV Program. *Analysis of Water Quality Effects of I-5 Stormwater Runoff Discharges on the Puyallup River* (March 2012)

(C) MS4 Discharges to Tribal Water Bodies

Potential outfalls from WSDOT's MS4 to the Puyallup River[1] are described in *Table 5* and depicted as green dots on *Maps 1* and *3* in *Attachment A*. *Table 5* includes drainage area when available. Outfall photos and field notes are available upon request.

Table 5: Potential WSDOT Outfalls to the Puyallup River[1]*

Discharge Point	Milepost	Estimated Drainage Area Impervious / Pervious (acres)	Site Notes	Outfalls To
SR 167 – 0.101	0.8	0.04 impervious	Buried pipe likely located under the access road built to the revamp the Clear Creek tide gate.	Bank of Puyallup River
SR 167 – 1.102	1.7	0.30/0.00	Drainage area includes 0.11 acre contribution from local automotive repair business.	Bank of Puyallup River
SR 167 - 1.110	1.32	Not available	No outlet observed, assumed to infiltrate.	Low point in WSDOT vegetated ditch (within 50ft of river).
SR 167 - 1.111	1.39	Not available	No outlet observed, assumed to infiltrate.	WSDOT vegetated ditch flows to low area (within 50' of river).
SR 167 - 1.112	1.47	Not available	No outlet observed, assumed to infiltrate.	WSDOT vegetated ditch flows to low area (within 50' of river).
SR 167 - 1.113	1.75	Not available	No outlet observed, assumed to infiltrate.	WSDOT vegetated ditch flows to low area (within 50' of river).
SR 167 - 1.114	1.97	Not available	No outlet observed, assumed to infiltrate.	WSDOT vegetated ditch flows to low area (within 50' of river).
SR 167 – 2.103	2.87	0.50/0.00	No offsite incoming discharges evident.	Bank of Puyallup River
SR 167 - 3.122	3.7	Not available	Not available	Bank of Puyallup River
SR 167 – 4.101 & SR 167 – 4.112	4.36	1.54/0.00	No offsite incoming discharges evident. Bioswale bypass evident.	Stormwater bypassing the designed bioswale outfall to the Puyallup River (SR 167 - 4.112). Instead, discharging to bank of the Puyallup River at the SR 167-4.101 outfall.
SR 167 – 4.122	4.66	1.64/0.05	Drainage area includes weight station drainage (0.14 ac.) and some pervious area.	Bank of Puyallup River

*WSDOT documents stormwater discharges from its MS4 to the ground within 50 feet of a receiving water as an outfall.

Potential outfalls from WSDOT's MS4 to tributaries of the Puyallup River[2] are described in *Table 6* and depicted as pink dots on *Maps 1*and *3* in *Attachment A*. *Table 6* includes drainage area when available.

Table 6. Potential WSDOT Outfalls to Tributaries of the Puyallup River[2]*

Discharge Point	Mile Post	Drainage Area (acres)	Outfalls To
SR 167 – 0.01	0.80	0.21/0.00	Wet area tributary to Swan Creek
SR 167 – 3.23	3.7	0.55/0.13	Broad vegetated ditch to Clark's Creek

*WSDOT documents stormwater discharges from its MS4 to the ground within 50 feet of a receiving water as an outfall.

Potential discharges from WSDOT's MS4 to the Puyallup River[1] through another operator's MS4 are described in *Table 7* and depicted as yellow and red dots on *Maps 1* and *3* in *Attachment A*. *Table 7* includes drainage area when available.

Table 7. Potential Indirect Discharge to Tribal Waters Through Other MS4

Discharge Point	Mile Post	Drainage Area (acres)	Discharges To
SR 167 – 3.24	3.32	Not available	Private parking lot manhole. Unable to confirm connection, drain inlet full.
SR 167 – 4.13	4.76	Not available	Possible city manhole.
I-5 service area	134.0 to 135.5	40.6 impervious	City of Tacoma MS4, entering the Puyallup River via the City's Cleveland Way Pump Station.

Incoming connections to WSDOT's MS4 that may indirectly outfall to the Puyallup River[1] are described in *Table 8*. Incoming connections are not included in *Attachment A*. Additional information is available upon request.

Table 8. Connections to WSDOT's MS4

Discharge Point	Mile Post	Potential related Puyallup River Outfall	Discharges To
SR 167 – 4.14	4.68	167 – 4.122	Local drain inlet pipe flows toward WSDOT's conveyance system, cannot locate pipe outlet.
SR 167 – 4.22	4.6	167 – 4.122	Parking lot drain pipe flows toward WSDOT drain inlet.
SR 167 – 4.23	4.61	167 – 4.122	Parking lot drain pipe flows toward WSDOT property, cannot locate outlet.
I-5 – 134.04	134.9	Cleveland Way Pump Station	Pipe from Private landowner (utility permit # U00-017) to WSDOT catch basin.
I-5 – 134.5	134.5	Cleveland Way Pump Station	Pipe from E 27th Street to WSDOT inlet.

(1) Ecology conducts a Water Quality Assessment biennially for submittal to EPA under sections 303(d) and 305(b) of the CWA. The Department of Ecology's water quality assessment is available at: http://www.ecy.wa.gov/programs/wq/303d/index.html.

Table 9 provides the 303[d] listed (Category 5) water bodies within the service area appearing on Ecology's *2012 Integrated Water Quality Assessment. Attachment C* includes a map and query results for applicable Category 5, 4a and 2-listings.

Table 9: Waterway and 2012 Category 5 303(d) listing

Water body	Category 5 Parameter	Listing ID
Clear Creek	Fecal coliform	7501
Clarks Creek	Dissolved Oxygen	35407
Puyallup River	Fecal coliform	7498
Puyallup River	Mercury	35421
Swan Creek	Fecal coliform	7514

(2) Not applicable.

(3) WSDOT has not conducted any sediment pollutant testing in the waters referenced in this application. See response to *4C(1)* above regarding Ecology assessment query. No 303(d) listings exist in the vicinity for sediments, fish tissue or biosurvey.

(D) Field Screening

WSDOT conducted the field screening analysis of all known outfalls with potential discharges to Tribal waters on August 28, 2012. *Table 10* provides the results of the field screening analysis. Note: Upon revising this application in 2015, additional outfalls were identified based on current mapping information. A field screening of those outfalls per *4(D)* of the *Application Requirements* has not been performed.

Table 10: Results of Field Screening Analysis

Point Name	Milepost	Outfalls To	Field Observations
SR 167 - 0.01	0.80	Wet area tributary to Swan Creek	No dry season flows. No illegal dumping in the vicinity. No illicit connections.
SR 167 - 1.102	1.70	Bank of Puyallup River	No dry season flows. No illegal dumping in the vicinity. No illicit connections. Surface staining on the pavement surface of the nearby local auto shop parking area suggests potential illicit discharge to the outfall structure through the grated lid. This staining consisted of a white residue and a black oily residue. A thick brown surface scum existed on the top of the water in the sump of the outfall structure. A strong organic decay odor emanated from the basin.
SR 167 - 2.103	2.87	Bank of Puyallup River	No dry season flows. No illegal dumping in the vicinity. No illicit connections.
SR 167 - 3.23	3.70	Vegetated ditch to Clarks Creek	No dry season flows. No illegal dumping in the vicinity. No illicit connections.
SR 167 - 4.101	4.36	Bioswale on Bank of Puyallup River	No dry season flows. No illegal dumping in the vicinity. No illicit connections.
SR 167 - 4.122	4.66	Bank of Puyallup River	No dry season flows. No illegal dumping in the vicinity. No illicit connections.

(E) Characterization Data

Not applicable

5) Management Programs

(A) Description of Stormwater Management Programs

WSDOT implements and enforces its Ecology-approved *SWMPP* as a condition of its Ecology-issued NPDES municipal stormwater permit. The *SWMPP* is incorporated as *Appendix 5* of the permit and several responses below reference various sections of the *SWMPP*. The full permit containing the *SWMPP* can be downloaded at: http://www.ecy.wa.gov/programs/wq/stormwater/municipal/wsdot.html.

WSDOT designed its *SWMPP* to:

a. Reduce the discharge of pollutants from all municipal separate storm sewers and other conveyances owned or operated by WSDOT to the maximum extent practicable (MEP);
b. Protect water quality and beneficial uses of waters of the state from impacts which cause or contribute to loss or impairment; and
c. Satisfy appropriate requirements of the Clean Water Act.

WSDOT's *SWMPP* is organized as follows:

Section 1: Background and Overview provides an introduction/overview of WSDOT's stormwater management program, the area and facilities that are affected, and the regulations that govern WSDOT operations.

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

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

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

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

Section 6: Stormwater Management for Existing Facilities describes stormwater best management practice (BMP) retrofit program to address existing impervious surfaces

that do not have treatment or flow control, or for which treatment or flow control is substandard.

Section 7: Maintenance describes maintenance-related stormwater controls.

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

While WSDOT implements pollution prevention activities statewide, the *SWMPP* strategically targets resources to address priority stormwater management and water resource issues. A description of WSDOT's structural and source controls, including operation and maintenance measures for structural controls, are contained in our *SWMPP* and *HRM*, and section *5(C)* below. WSDOT applies the technical standards in the *HRM* for the planning, design, and operation and maintenance of stormwater facilities. *Appendix 1* of WSDOT's municipal stormwater permit incorporates the *HRM* by reference. The *HRM* can be downloaded at:
http://www.wsdot.wa.gov/publications/manuals/fulltext/M31-16/HighwayRunoff.pdf

Relevant sections of WSDOT's *HRM* include:

Section 3-4 provides guidelines to assess stormwater retrofit obligations for WSDOT projects and identify stormwater retrofit opportunities.

Section 5-4 provides the design guidelines for most of the commonly used permanent structural BMPs for highway applications.

Section 5-5 provides the facility-specific maintenance standards used for determining when maintenance actions are required for conditions identified through inspection.

The *HRM* refers to *Volume IV* of Ecology's *Stormwater Management Manual for Western Washington* and *Chapter 8* of the *Stormwater Management Manual for Eastern Washington* for guidelines and criteria on the design of source control BMPs.

WSDOT's *Temporary Erosion and Sediment Control Manual (TESCM), Chapter 5,* provides the guidelines for the design and application of temporary BMPs used during construction, including spill prevention and containment BMPs.

WSDOT submits annual reports to Ecology documenting WSDOT's progress in meeting its municipal stormwater permit requirements. This includes those areas discharging to Tribal waters in Pierce County. The annual report also serves as a self-audit for WSDOT to evaluate and assess the appropriateness and effectiveness of various programs and activities described in the *SWMPP*. As such, the annual report also serves as the vehicle for describing and justifying any WSDOT-proposed stormwater management program modifications.

Section 7: Assessment of Controls, in this application, includes a description of future/planned structural and source controls, including operation and maintenance measures for those structural controls.

(B) Illicit Discharge Detection & Elimination

Section 3 of WSDOT's *SWMPP* describes procedures to identify and eliminate illicit discharges and illegal connections to WSDOT's MS4. The *SWMPP* clarifies and separates out the spill response procedures from the illicit discharge detection and elimination procedures (IDDE). WSDOT has been working with an interagency group to develop a common set of spill response procedures and protocols.

(1) See *Section 2: Legal Authority,* in this application, for the explanation of WSDOT's means to prevent illicit discharges to its MS4.

(2) As explained in the *SWMPP*, substantial differences exist between WSDOT's illicit discharge detection and elimination (IDDE) programs for state transportation departments and those for municipalities since:

- Fewer opportunities exist for cross connections between stormwater systems and sanitary sewer systems;
- Access to the right-of-way is generally controlled; and
- WSDOT field crews and contractors provide on-going presence in the field to identify and report illicit discharges and illegal connections.

While public reporting plays a role, the detection and identification of illicit discharges and illicit connections (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.

(3) WSDOT staff use the following indicators in the field to detect and identify potential 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.); and
- 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, and estimated quantity of the discharge, and any additional information describing the discharge into WSDOT's IDDE database.

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

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

WSDOT includes the *Notification of Spill* reporting hotline phone numbers (listed in General Condition G3 of WSDOT's municipal stormwater permit) on its internet site to facilitate public reporting of pollution sources they observe along WSDOT roadsides or facilities.

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

(4) WSDOT considers spills that can be cleaned, removed, or contained with resources readily available to the first responder (including cleanup capabilities of a responding Registered Tow Truck Operator) as manageable. To qualify as manageable, the spill must be non-hazardous and contained on an impervious roadway surface.[3] WSDOT considers spills onto state highways as major when the first responder cannot manage (i.e., clean, remove, or contain) the spill with resources easily and readily available to them or the spill enters a MS4 or waterway. Major spills require

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

the help of an outside agency to remediate (i.e., Ecology spill response, fire department, local jurisdiction, or remediation contractor). Major spills, given the potential to reach waterways, trigger the notification requirement in WSDOT's municipal stormwater permit (General Condition G3).

First responders (i.e., WSP, WSDOT incident response) notify WSP that a traffic-related spill has occurred on WSDOT right-of-way. The notification procedures triggered depend on the severity of the spill.[4]

WSDOT staff receives instruction to only take the emergency actions required to protect human life and property until the WSP gains control of the situation. WSDOT staff, who received training to do so, will take control actions when necessary and feasible to prevent the release of small quantities of petroleum products into surface waters. WSDOT personnel assist in managing traffic at the scene in support of the overall incident management effort. WSDOT personnel may also provide technical information (e.g., information on drainage system characteristics) in support of the incident response.[5]

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

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

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

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

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[4] For manageable spills, WSP dispatch sends out a "memo" via email to all potentially affected jurisdictions. Manageable spills do not require Ecology notification. For major spills, WSP dispatch sends out a "memo" via email to all potentially affected jurisdictions, as well as Ecology and agencies that may be able to offer assistance (e.g., local fire department). Along with sending out a "memo", the first responder or the dispatch center will make the appropriate phone notifications required in General Condition G3 of WSDOT's municipal stormwater permit.

[5] The WSP has the responsibility for carrying out safety measures and coordinating the clean-up of spilled substances.

These SWPPPs:

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

WSDOT keeps each SWPPP on site or within reasonable access to the site. WSDOT staff performs site inspections twice a year to ensure implementation, which can include visual inspection of facility discharges to evaluate effectiveness of the program. WSDOT staff periodically conduct additional site inspections to verify implementation of the plan.

WSDOT requires contractors to prepare a Spill Prevention Control and Countermeasures (SPCC) plan for all construction projects. SPCC plans must meet the requirements prescribed in *WSDOT Standard Specifications 1-07.15(1)*. SPCC plans are reviewed and accepted by the WSDOT project engineer prior to beginning construction. The specifications also require the contractor to maintain a copy of the plan on site and when encountering hazardous materials, do everything possible to control and contain the material until appropriate measures can be taken.

Chapter 3 of WSDOT's *Temporary Erosion and Sediment Control Manual (TESCM)* provides internal guidelines for reviewing and accepting SPCC plans. Additional guidelines and resources are available on the WSDOT Hazardous Materials Program webpage: http://www.wsdot.wa.gov/Environment/HazMat/SpillPrevention.htm.

(5) WSDOT's web page includes information on WSDOT's IDDE program contact numbers to report illicit discharges, connections, and spills to facilitate public reporting of pollution sources they witness along the roadside or at rest areas. The web page also provides examples of illicit discharges that could enter our MS4. The web address pertaining to this is:
http://www.wsdot.wa.gov/Environment/WaterQuality/IDDE.htm

(6) Due to the nature of WSDOT's IDDE program, as described in *5(B)(2)* above, WSDOT focuses its IDDE education and training efforts on WSDOT staff who, as part of their normal job responsibilities, may come into contact with or otherwise observe an ID/IC to WSDOT's 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. WSDOT also provides refresher training on the SWPPP for maintenance crews for each facility and documents and maintains records of training.

WSDOT's *Construction Site Erosion and Sediment Control* course includes information about spill prevention and countermeasures. WSDOT also provides on-line educational programs for employees that review and enforce SPCC plans. Information about training can be found on the Hazardous Materials Program webpage: http://www.wsdot.wa.gov/Environment/HazMat/SpillPrevention.htm.

(7) WSDOT's IDDE program, described in *5(B)(3)* above, includes procedures that would identify and seek remediation of infiltration seepage from municipal sanitary sewers to our MS4 system.

(C) Source and Structural Control Measures

Beyond the jurisdiction of state right-of-way, WSDOT does not have the authority to control runoff from commercial and residential areas discharging to Tribal waters. However, WSDOT does implement measures to reduce pollutants from residential and commercial areas that are discharging pollutants to our right-of-way or MS4.

As described in our response to *5(B)* above, WSDOT coordinates directly with local jurisdictions and Ecology in the identification and elimination of illicit discharges and connections.

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

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

WSDOT developed the *Regional Road Maintenance Endangered Species Act (ESA) Program Guidelines* (*RRMP*) in response to the listing of several species of salmon under

the ESA. Implementation of the RRMP exempts the prohibition of take for threatened species under the 4(d) Rule (NMFS, 7/10/00, 65 FR 42422). The *RRMP* requires the use of a field checklist titled *The Best Management Practices Field Guide for ESA Section 4 (d) Habitat Protection* which prescribes the use of BMPs to achieve environmental outcomes. This field checklist includes stormwater source control BMPs for routine maintenance activities.

(1) WSDOT's municipal stormwater permit requires annual inspection of catch basins and inlet features using *HRM* maintenance standards. Permit compliance is determined by achieving an annual rate of at least 95% of inspections.
   - Inspections may be conducted on a circuit basis whereby a sampling of 25% of catch basins within each circuit is inspected to identify maintenance needs. Included in the sampling is an inspection of the catch basin immediately upstream of any system outfall. All catch basins within a given circuit will be cleaned if the inspection indicates cleaning is needed.
   - WSDOT may clean all stormwater pipes, ditches, catch basins, and inlets within a circuit once during the permit term. Circuits selected for this alternative must drain to a single point.
   - As an alternative to inspecting catch basins on a circuit basis, WSDOT may inspect all catch basins, and clean only catch basins where cleaning is needed to comply with maintenance standards.
   - The length of time between catch basin inspections may be increased as long as *HRM* catch basin maintenance standards are being met. This catch basin inspection schedule change must be based on maintenance records of double the length of time of the proposed inspection frequency. For example, if Maintenance wants to inspect a catch basin only once every three years then maintenance records for six consecutive years must be available showing that maintenance standards can be met with this less frequent inspection schedule. In the absence of maintenance records for catch basins, WSDOT Maintenance may substitute a written statement. Written statements must be based on actual inspection and maintenance experience.

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

WSDOT's municipal stormwater permit requires annual inspection of permanent stormwater BMPs using *HRM* maintenance standards. WSDOT can reduce the annual inspection requirement based on supporting inspection records. Changing the inspection frequency to less frequently than annually must be based on maintenance records of double the length of time of the proposed inspection frequency. In the

absence of maintenance records, WSDOT may substitute written statements to document a specific less frequent inspection schedule. Permit compliance requires annual inspection of at least 95% of all permanent stormwater BMP sites.

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

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

WSDOT must continue to request new funding for the maintenance of stormwater ponds and underground detention vaults based on a five year sediment removal cycle. If inspections determine that more than 20% of these structures require sediment removal to meet maintenance standards, then WSDOT will prioritize the cleaning of these structures. A few older stormwater BMPs constructed without sufficient maintenance access may require the construction of maintenance access roads. WSDOT Maintenance will request additional funding to build access roads as needed. Stormwater features built without access roads may defer maintenance until access roads are in place. WSDOT must notify Ecology in cases where it is not possible to maintain specific stormwater BMPS due to the manner in which they were constructed.

(2) Refer to *Section 2: Legal Authority* and *5(B)* and *(E)*, in this application.

(3) WSDOT conducts sweeping operations to keep road surfaces clean and remove sediment, leaves, litter, and other debris before it enters the storm drain systems or surface waters. Debris accumulation may require sweeping to occur as frequently as twice a month. The extent of debris accumulation and funding provided by the State Legislature dictates scheduling.

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

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

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

(4) Not applicable.

(5) Not applicable.

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

(D) Monitor and Control Pollutants from Municipal Landfills, Hazardous Waste Treatment, Disposal and Recovery Facilities, and Industrial Facilities

(1) and (2) No contributions from these types of facilities occur to WSDOT's MS4 discharging to Puyallup Tribal waters.

(E) Construction Stormwater Pollution Prevention

(1) *Section 4* of WSDOT's *SWMPP* describes WSDOT's construction stormwater pollution prevention program. The program addresses construction-related stormwater pollution prevention primarily through the *Temporary Erosion and Sediment Control Manual (TESCM)* which can be downloaded at: http://www.wsdot.wa.gov/Publications/Manuals/M3109.htm.

WSDOT's construction stormwater pollution prevention planning components consist of Spill Prevention, Control, and Countermeasures (SPCC) plans and Temporary Erosion and Sediment Control (TESC) plans. The *TESCM* provides guidance for preparing TESC plans and for selecting appropriate erosion and sediment control BMPs.

WSDOT requires contractors to prepare a Spill Prevention Control and Countermeasures (SPCC) plan for all construction projects. SPCC plans must meet the requirements prescribed in *WSDOT Standard Specifications 1-07.15(1)*. These *Specifications* include the language used to enforce contractual obligations to prepare and implement the SPCC plans. The specifications also require the contractor to submit the plan to the Engineer prior to the commencement of any on-site construction activities; maintain a copy of the plan on site; and when encountering hazardous materials, do everything possible to control and contain the material until appropriate measures can be taken. Guidelines and templates to assist contractors in developing a site-specific SPCC Plan are available at: http://www.wsdot.wa.gov/Environment/HazMat/SpillPrevention.htm.

(2) Erosion control-related elements in WSDOT's Standard Plans appear in *Section I: Site Preservation and Erosion Control*, which can be viewed directly at: http://www.wsdot.wa.gov/Design/Standards. *Chapter 5* of the *TESCM* includes BMP descriptions, references to applicable contract specifications and standards plans, design criteria and other pertinent information.

(3) WSDOT requires that contractors perform site inspections in accordance with the *NPDES Construction Stormwater General Permit* (*CSWGP*). *Section 8-01.3(1)B* of the *Standard Specifications* outlines these inspection requirements. WSDOT's *Standard Specifications* can be downloaded at: http://www.wsdot.wa.gov/Publications/Manuals/M41-10.htm. WSDOT uses a standardized Erosion and Sediment Control Inspection Form to ensure compliance with the CSWGP requirements. Contractor Certified Erosion and Sediment Control Leads (CESCLs, known as ESC Leads as defined by *Standard Specification 8-01.3(1)B)*, must complete this form and provide it to the Project Engineer. Projects keep a copy of each inspection report on-site in the site log book or have them available on-site electronically.

Each fall, WSDOT performs a *Statewide Erosion Control Plan Implementation and Effectiveness Assessment* (Fall Assessments) for all active construction projects with moderate to high-risk of erosion, as defined in *Chapter 2* of the *TESCM* (e.g., slope length and gradient, soil type, proximity to receiving surface water bodies, and wet-season earthwork). Performance measures evaluated include: thoroughness of original erosion control plans, implementation of the erosion control plan elements, responsiveness to changing field conditions, and BMP effectiveness. The Fall Assessments consist of a site documentation and field assessment. WSDOT combines Fall Assessment findings into a project summary report which project management teams use to better prepare for the wet season work. Each project management team must address the concerns identified in the project summary report and submit a written response within 10 days of the assessment. The Erosion Control Program assessor analyzes statewide findings and identifies trends or policy gaps requiring attention at the headquarters' level. The Fall Assessment process provides an internal mechanism to help continually improve and enhance the effectiveness of the Erosion Control Program and TESC Planning at the project management level.

6) Fiscal Resources

Table 11 shows an estimate of how much WSDOT spent implementing its municipal stormwater permit and *SWMPP* requirements during the previous fiscal year.

Table 11: Estimated Expenditures for Municipal Stormwater Permit Implementation
July 1, 2013 - June 30, 2014

Implementation Task Summary	Estimated Expenditures for Permit Implementation
Information Technology[1]	$ 145,000
Facilities Operation[2]	$ 425,000
Environmental Services[3]	$2,983,500
Highway Maintenance and Operations[4]	$ 7,517,500
Facilities Capital[5]	$ 700,000
Transportation Equipment Fund[6]	$ 139,000
Total[7]	**11,910,000**

1. Information Technology includes database development and management needed to comply with the permit.
2. Facilities Operation includes maintenance activities like managing oil and fluid drippings from motor vehicles, keeping materials like salt and sand swept up in stockpile areas, and inspecting and maintaining BMPs at maintenance facilities, rest areas, and park and ride lots.
3. Environmental Services includes permit coordination and management, TMDL management, construction site pollution prevention management, stormwater features inventory, illicit discharge detection and elimination, and stormwater monitoring.
4. Highway Maintenance and Operations includes activities like highway BMP inspection and maintenance, catch basin inspection and maintenance and sweeping within the Phase I and Phase II permit areas.
5. Facilities Capital includes minor site improvements and construction at maintenance facilities, rest areas, and park and ride lots.
6. Transportation Equipment Fund includes vactor truck equipment rental for cleaning catch basins.
7. Does not include WSF Maintenance and Operations (i.e., ferry terminal BMP inspection and maintenance, sweeping, and terminal inspections). This information was excluded from the application because ferry terminals do not exist in the applicable service area. Expenditures for WSF Maintenance and Operations can be found in WSDOT's most recent annual stormwater report.

In addition to the amounts listed in *Table 11*, WSDOT invests a portion of highway construction funds to mitigate adverse stormwater runoff effects from highway construction projects. During this period, WSDOT spent about $1.5 billion on our Highway Construction Program statewide, a portion of which covered stormwater-related expenditures. These expenditures are not included in *Table 11* because our accounting systems do not track individual stormwater-related expenditures in overall project costs. This makes generating stormwater mitigation costs very difficult. Based on WSDOT's *2013 Project Environmental Mitigation Costs Case Studies* report, stormwater mitigation can account for up to 18 percent of an overall project's costs. A specific project's stormwater mitigation costs can depend on the location of the project related to urban areas, whether it is in eastern or western Washington, the size of the project, and its proximity to receiving water bodies, among other factors. The full report is available at: http://www.wsdot.wa.gov/projects/mitigation.

The *2015-17 WSDOT Biennial Budget Request Executive Summary* provides an overview of WSDOT's fiscal resources and budget: http://www.wsdot.wa.gov/NR/rdonlyres/5A5D6DC6-93A7-499E-8B90-72B59B1E238F/0/20152017BiennialBudgetRequest.pdf.

(4) WSDOT or contractor staff responsible for performing CESCL activities, such as construction site inspections or discharge sampling, must receive training from an Ecology-approved training provider prior to performing these duties. WSDOT requires personnel responsible for designing or inspecting a TESC plan and consultant personnel designing these plans to take WSDOT's Construction Site Erosion and Sediment Control course. This course also includes information on spill prevention and countermeasures. WSDOT also provides on-line educational programs for employees that review and enforce SPCC plans. Information about this training can be found at:
http://www.wsdot.wa.gov/Environment/HazMat/SpillPrevention.htm.

7) Assessment of Controls

As explained in response *4(B)*, no quantitative data exists describing the volume and quality of discharges from existing municipal storm sewer outfalls to Tribal waters. However, a white paper prepared for WSDOT in 2007 characterizes pollutants in untreated highway runoff in western Washington. This white paper, *Untreated Highway Runoff in Western Washington* (2007), can be downloaded at: http://www.wsdot.wa.gov/NR/rdonlyres/B947A199-6784-4BDF-99A7-DD2A113DAB74/0/BA_UntreatedHwyRunoffWestWA.pdf.

The white paper identifies pollutants present in untreated highway runoff as measured at edge of pavement and prior to any treatment via natural process and/or engineered systems. Where possible, the white paper also describes typical and worst case concentrations of these pollutants and the key factors that may influence these concentrations based on data compiled from studies in western Washington. Where applicable, the white paper characterizes the central tendency, variance, and range for each pollutant using tabular and graphical representations of the data. The tabular representations (see *Table 5* and *Appendix B* in the white paper) present basic summary statistics for each pollutant.

Runoff discharging from SR 167 within the service area flows through vegetation providing treatment opportunities via natural processes (e.g., filtration, absorption, infiltration). Furthermore, considering the small size of the drainage areas contributing to these outfalls along with ample opportunity for infiltration, it is unknown to what extent the amount of runoff, if any, makes its way to the receiving waters. *Map 1* shows the existing bioswale along SR 167 that discharges to the Puyallup River.

Currently, only a portion of I-5 runoff in the service area receives treatment, via a bioswale near McKinley Park, prior to discharging into City of Tacoma's MS4. However, upon completion of WSDOT's Northbound and Southbound HOV improvement projects, stormwater treatment will be provided for new impervious surface, as well as stormwater retrofits for 31.8 acres of existing impervious surface. The Northbound project, currently under construction, will retrofit 17.1 acres of existing impervious surface, and the Southbound project, currently in design, will retrofit 14.7 acres. The stormwater facilities are designed to meet the requirements of the Puyallup Tribe of Indians, including the mitigation of polycyclic aromatic hydrocarbons and other vehicle-generated pollutants through bioremediation.

Map 4 shows the proposed treatment BMPs that will drain to the new outfall. A description follows:

- Two constructed stormwater wetlands (CSTW) will be located at I-5 and East Bay Street and will receive water from 39 acres of the proposed I-5 service area.
- Discharge from the largest CSTW receives further treatment via a modified media filter drain (MMFD). The MMFD mix includes specific material for removing pollutants (see *Appendix B* for MMFD plan sheets and specifications. Details on other BMPs are available upon request).

- One Filterra cartridge systems will treat runoff from City streets in the vicinity of East Bay Street near the end of the SR 167 off-ramp from northbound I-5.

These new treatment facilities will discharge to a new pump station on WSDOT's right-of-way. The pump station will discharge to the Puyallup River upstream of the new I-5 Puyallup River bridges (identified on *Maps 3* and *4* as the "new outfall"). The emergency backup generator for the new pump station will be located in a pump house with a concrete slab designed to contain any spills from generator operation. The pump house will store oil containment booms and absorbent spill pads ready to be deployed if needed. The project's operations and maintenance manual will include details for proper operation of this facility.

WSDOT will equip the proposed CSTW with absorbent booms to prevent or minimize spilled material getting into the effluent. The CSTW outlets will have mechanical gates that can be closed in the event of a spill to prevent the spilled substance from reaching the pump station and outfall. WSDOT will develop protocol and procedures for gate operation in the event that a spill occurs. Procedures will also be developed for removing the spilled substance.

Maintenance and operations procedures affecting discharges from the proposed Tacoma/Pierce County HOV storm sewer outfall to the Puyallup River meet or exceed the procedures and standards described in WSDOT's *SWMPP*. The outfall pumps will receive inspection and maintained in accordance with manufacturer's instructions and will include an automated pump failure warning system. Inspection of the outfall structure will occur after heavy storm events along with removal of any debris caught on the structure.

Map 4 also shows the proposed treatment BMPs that will drain to the Cleveland Way Pump Station. A description follows:

- Media filter drains will treat runoff from approximately 5 acres of I-5 between McKinley Way and Portland Avenue. This area will discharge to the Puyallup River through existing City of Tacoma storm sewers and the Cleveland Way Pump Station. An area of 5.4 acres will bypass treatment and outfall to the Puyallup River, via the City of Tacoma system, at the Cleveland Way Pump Station.
- Six Filterra cartridge systems and two biofiltration swales will be constructed as part of the Northbound HOV project in the vicinity of East Bay Street. These BMPs are within WSDOT's right-of-way but will be maintained by the City of Tacoma and will discharge into their MS4.

8) Signature

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

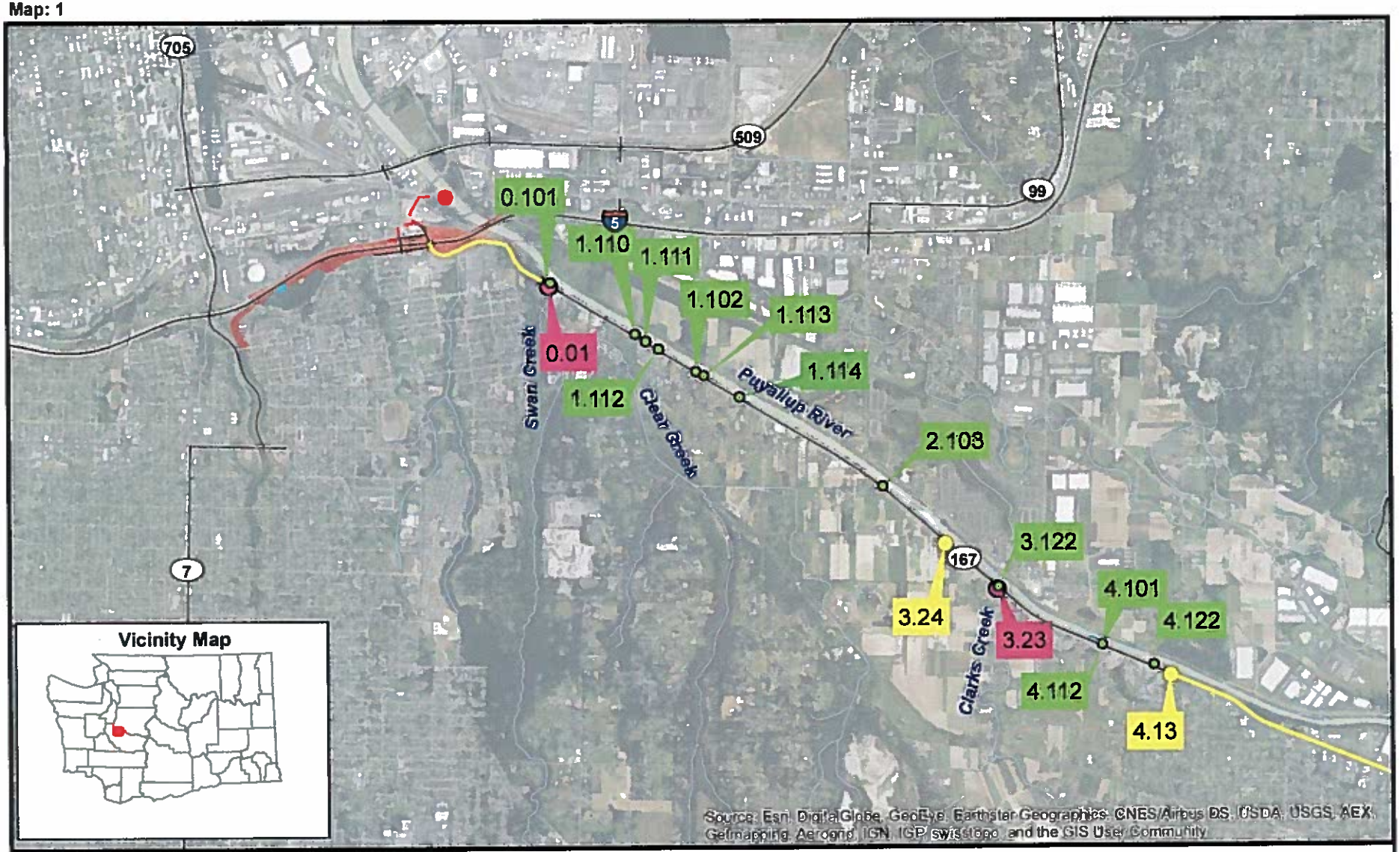
for Lynn Peterson, P.E.
Secretary of Transportation
Washington State Department of Transportation

8/28/15
Date

Attachment A

Source Identification Maps

Map: 1



Date Prepared: August 2015
Data Source: Discarge Points, State Routes, and Railroads from WSDOT.

N

0 0.5 1
Miles

- Non-LimitedAccess W/in City Limits
- Existing Cleveland Way Pump Station Outfall
- Conveyance to Cleveland Way Pump Station
- Ultimately Drains to Cleveland Way Pump Station Outfall
- Bioswales
- Potential Indirect Discharge to Tribal Waters Though Other MS4

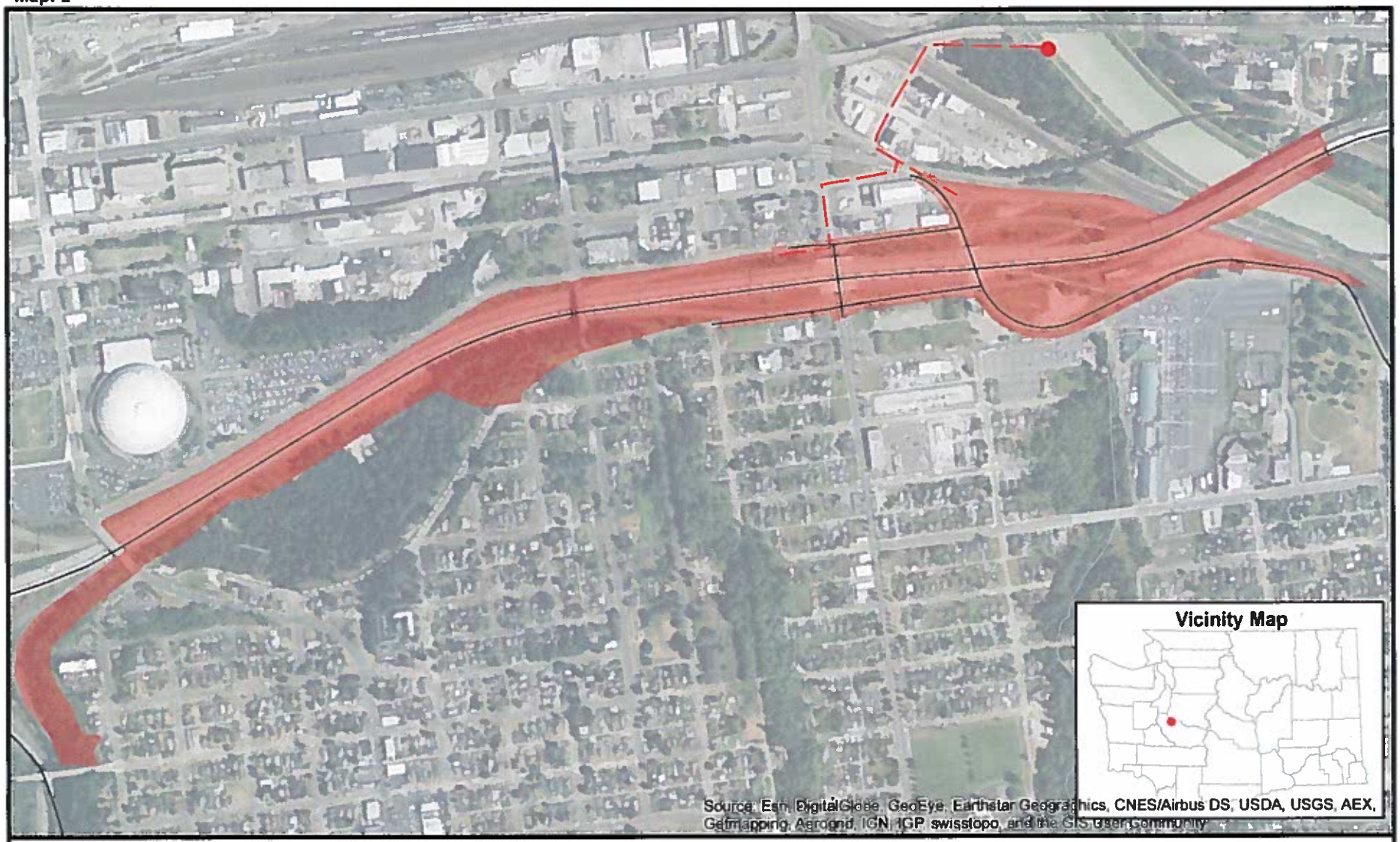
Potential WSDOT Outfalls

- Puyallup River
- Tributary

Washington State Department of Transportation

Existing I-5 and SR 167 Service Area

Map: 2



Date Prepared: August 2015
Data Source: Service Area, Discarge Points, State Routes, and Railroads from WSDOT.

N

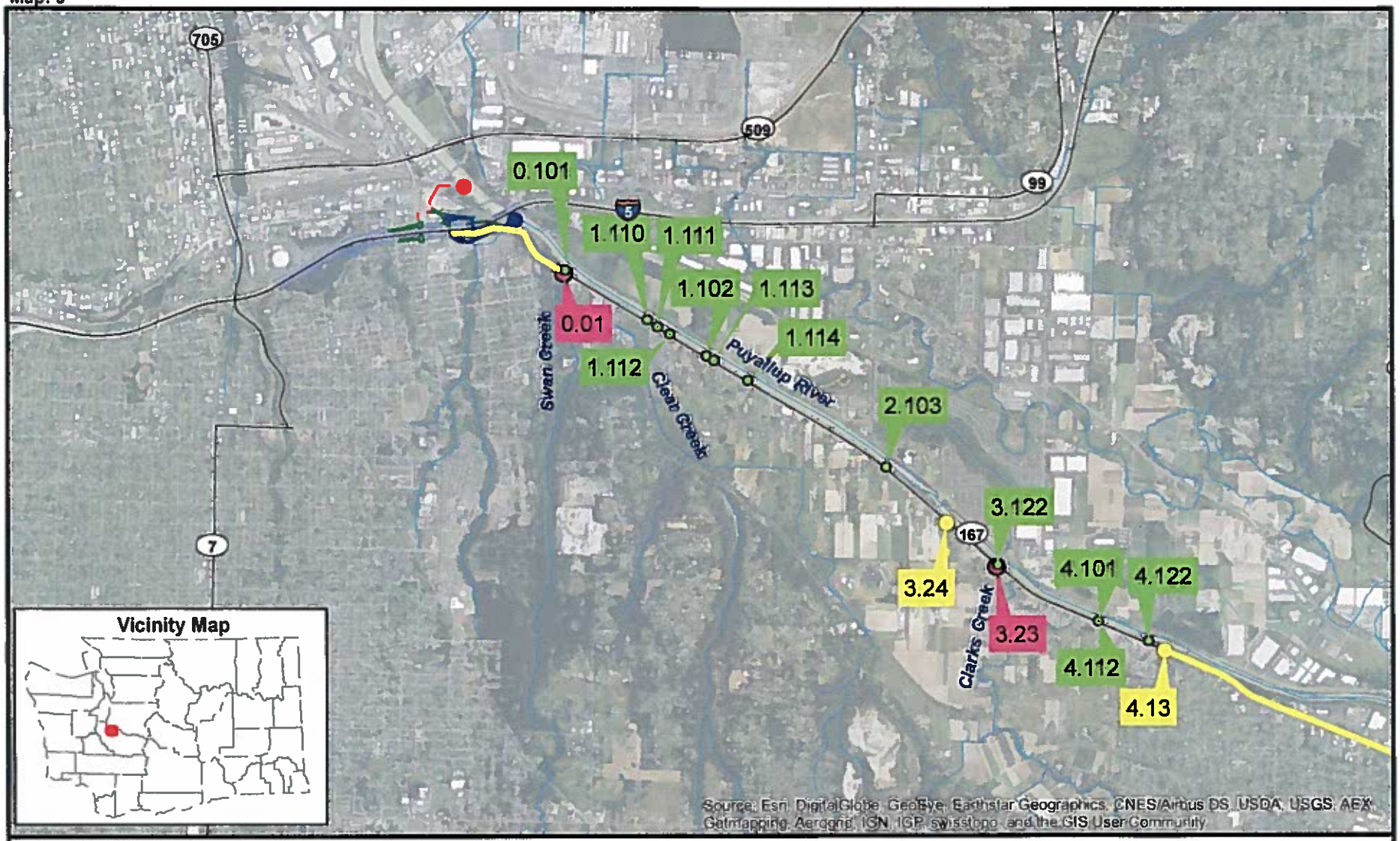
0 0.1 0.2
Miles

Washington State Department of Transportation

Existing I-5 Service Area

- Ultimately Drains to Cleveland Way Pump Station Outfall
- Existing Cleveland Way Pump Station Outfall
- Conveyance to Cleveland Way Pump Station

Map: 3



Date Prepared: August 2015
Data Source: Discarge Points, State Routes, and Railroads from WSDOT.

N
0 0.5 1
Miles

Washington State Department of Transportation

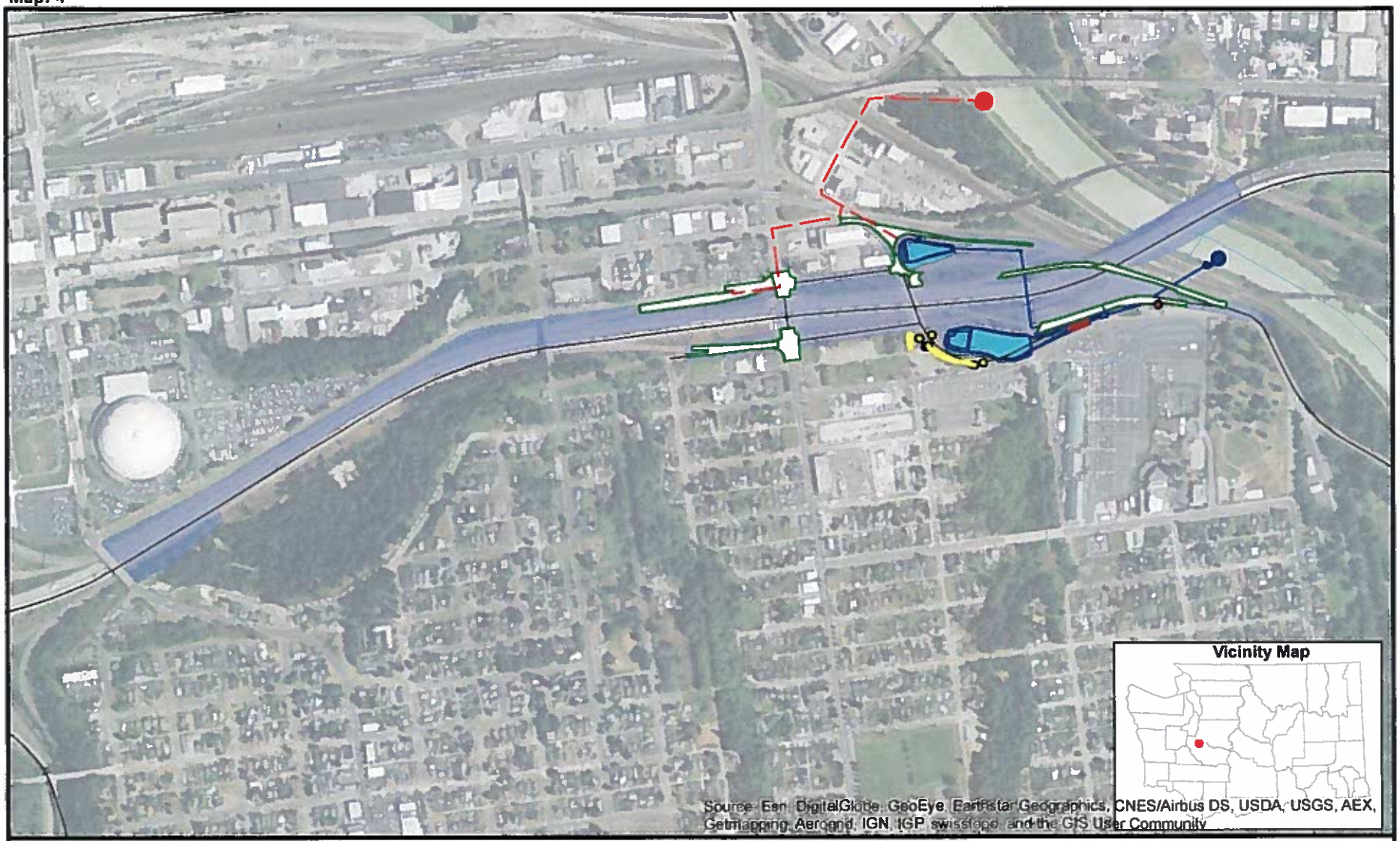
- Drains to New Outfall
- New Outfall
- Conveyance to Outfall
- By-pass Area to Cleveland Way Pump Station
- Existing Cleveland Way Pump Station Outfall
- Conveyance to Cleveland Way Pump Station
- Non-LimitedAccess W/in City limits
- Potential Indirect Discharge to Tribal Waters Though Other MS4

Potential WSDOT Outfalls

- Puyallup River
- Tributary

Proposed I-5 and SR 167 Service Area

Map: 4



Date Prepared: August 2015
Data Source: Discarge Points, State Routes, and Railroads from WSDOT.

N
0 0.1 0.2
Miles

Drains to New Outfall
New Outfall
Conveyance to Outfall
Media Filter Drain to Cleveland Way Pump Station
Existing Cleveland Way Pump Station Outfall
Conveyance to Cleveland Way Pump Station
Constructed Stormwater Treatment Wetland
By-pass Area to Cleveland Way Pump Station

Proposed I-5 Service Area

Bioswale
Modified Media Filter Drain

Filterra

WSDOT
City

Washington State Department of Transportation

Map: 5

Date Prepared: August 2015
Data Source: Discarge Points, State Routes, and Railroads from WSDOT; Image from NAIP 2011.

N

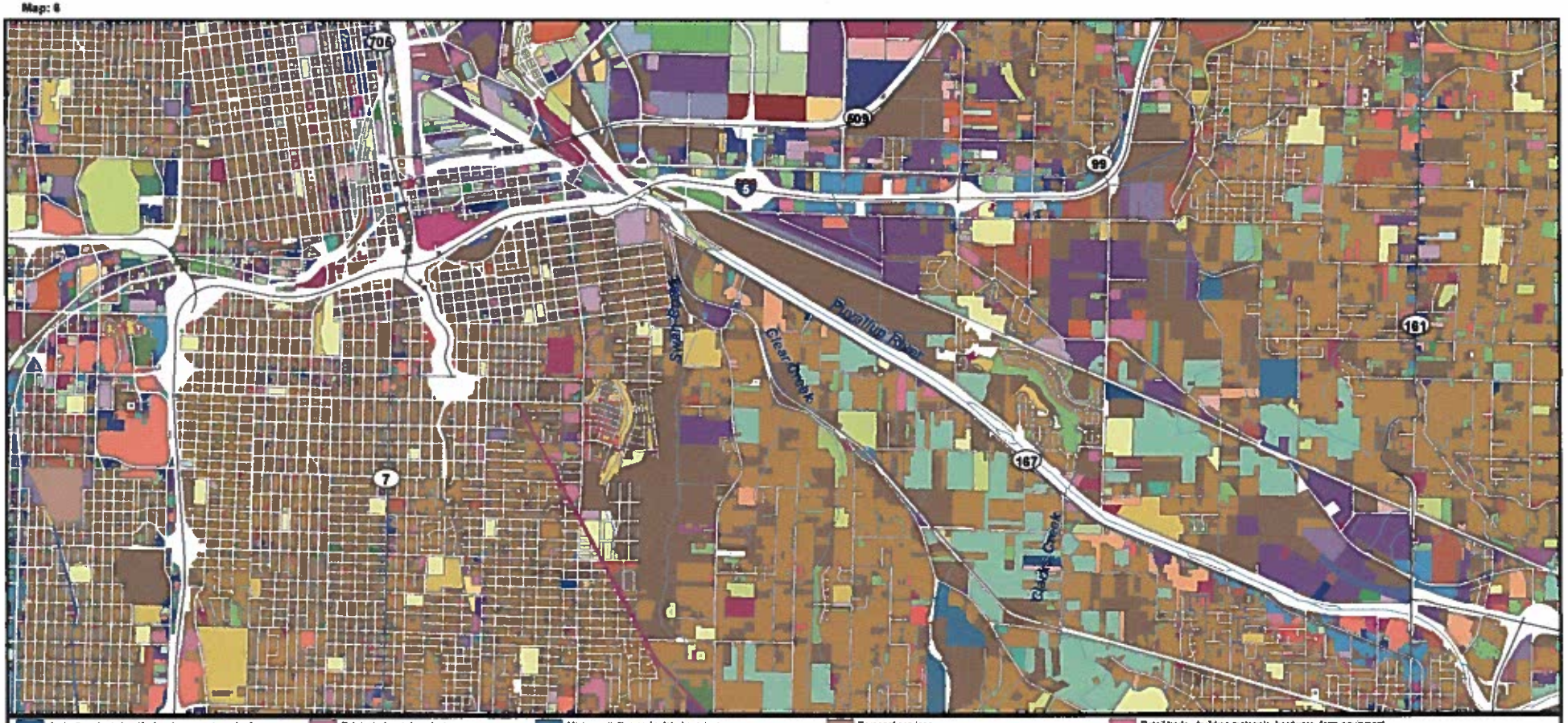
0 0.25 0.5

Washington State Department of Transportation

SR 167 Service Area

Non-Limited Access Within City Limits

Map: 6



- Agriculture (not classified under current use law)
- Agriculture classified under current use chapter 84.34 RCW
- Agriculture related activities
- Aircraft transportation
- All other residential not elsewhere coded
- Amusements
- Apparel and other finished products
- Automobile parking
- Business services
- Chemicals
- Communication
- Contract construction services
- Cultural activities and nature exhibitions
- Designated forest land - chapter 84.33 RCW (20 acres or >)
- Educational services
- Fabricated metal products
- Finance, insurance, and real estate services
- Fishing activities and related services
- Food and kindred products
- Furniture and fixtures
- Governmental services
- Highway and street right of way
- Hotels/motels
- Household, 2-4 units
- Household, multiunits (5 or more)
- Household, single family units
- Institutional lodging
- Leather and leather products
- Lumber and wood products (except furniture)
- Marine craft transportation
- Mining activities and related services
- Miscellaneous manufacturing
- Miscellaneous services
- Mobile home parks or courts
- Motor vehicle transportation
- Noncommercial forest
- Open space land classified - chapter 84.34 RCW/Public OS
- Other Government
- Other cultural, entertainment, recreational / church, cemetery
- Other resource production
- Other retail trade
- Other transportation, communication, and utilities
- Other undeveloped land
- Paper and allied products
- Parks / Wilderness, Refuges, Preserves
- Personal services
- Petroleum refining and related industries
- Primary metal industries
- Printing and publishing
- Professional scientific, control instruments, photographic
- Professional services
- Public assembly
- Public timberland/non-designated forest
- Railroad/transit transportation
- Recreational activities
- Repair services
- Residential condominiums
- Resorts and group camps
- Retail trade - apparel and accessories
- Retail trade - automotive, marine craft, aircraft, accessories
- Retail trade - building materials, hardware, farm equipment
- Retail trade - eating and drinking
- Retail trade - food
- Retail trade - furniture, home furnishing, equipment
- Retail trade - general merchandise
- Rubber and miscellaneous plastic products
- Stone, clay and glass products
- Textile mill products
- Timberland classified - chapter 84.34 RCW (< 20 acres)
- Undeveloped land
- Utilities
- Vacation cabin
- Water areas
- Wholesale trade

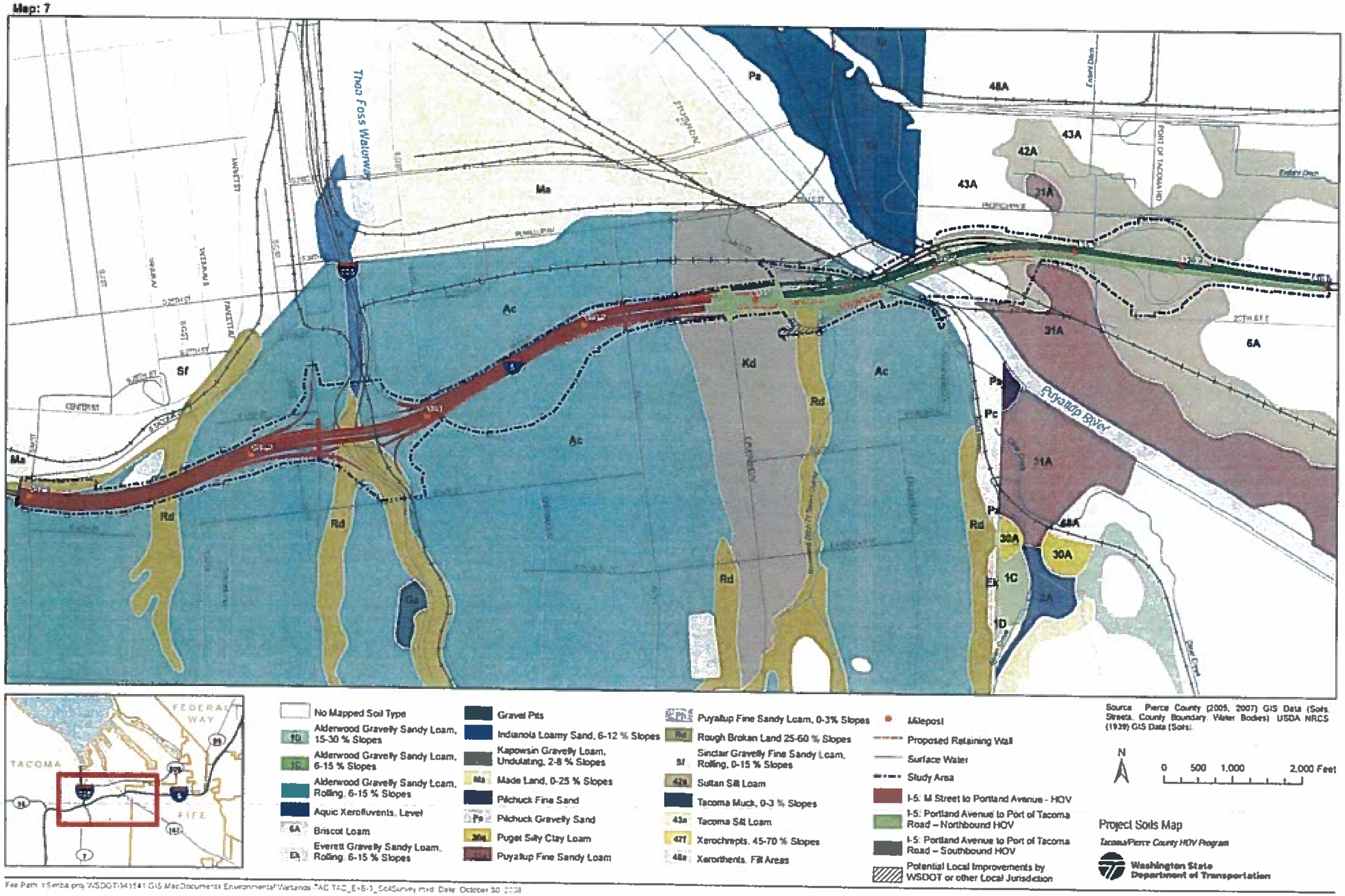
Land Use

N

0 0.5 1
Miles

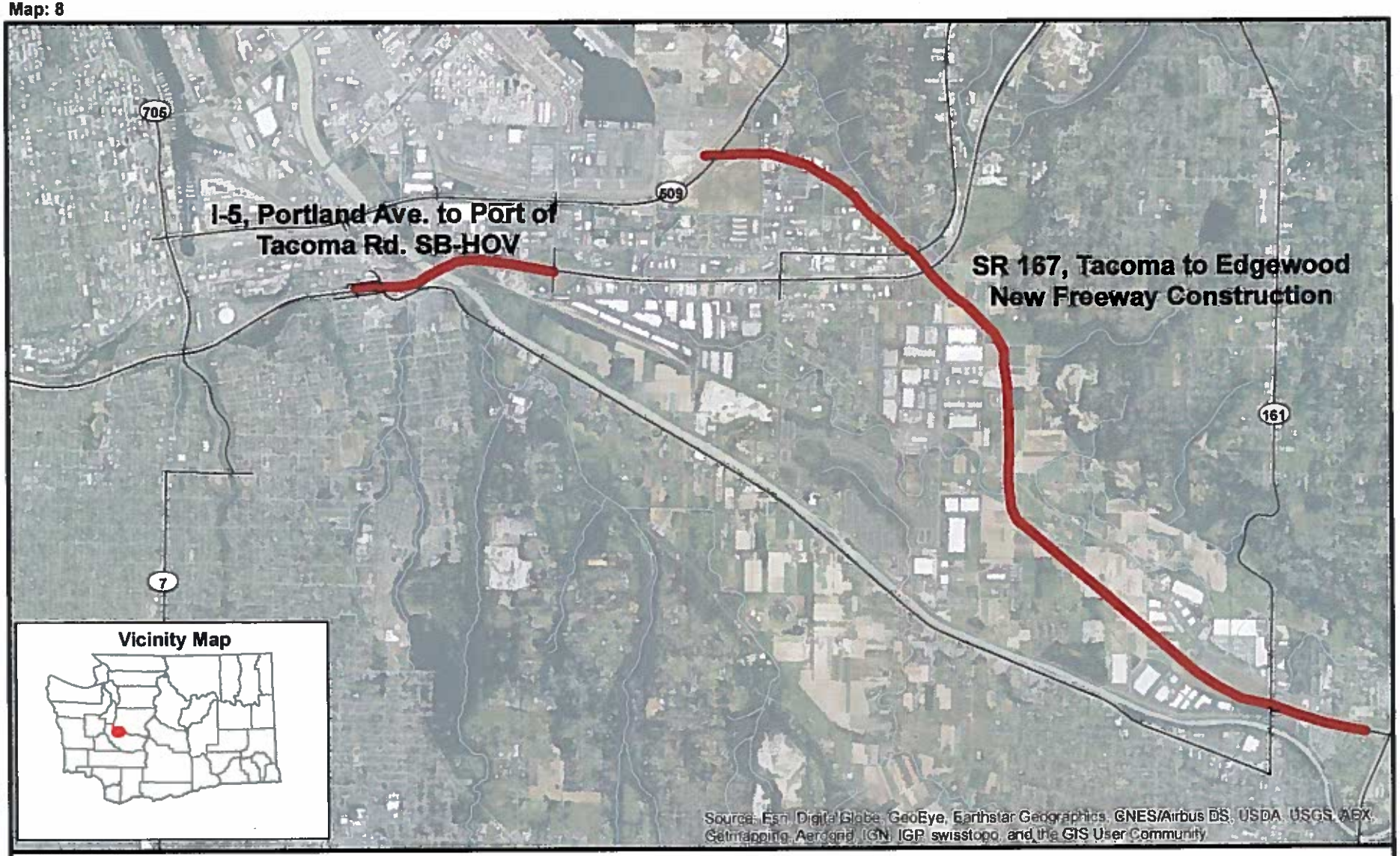
Washington State Department of Transportation

Map: 7



Thea Foss Waterway
Puyallup River
PORT OF TACOMA RD
Ma
Ps
Ac
Kd
Rd
Sf
31A
42A
43A
48A
6A
30A
1C
1D
2A
Pc
Ek
No Mapped Soil Type
Alderwood Gravelly Sandy Loam, 15-30 % Slopes
Alderwood Gravelly Sandy Loam, 6-15 % Slopes
Alderwood Gravelly Sandy Loam, Rolling, 6-15 % Slopes
Aquic Xerofluvents, Level
Briscot Loam
Everett Gravelly Sandy Loam, Rolling, 6-15 % Slopes
Gravel Pits
Indianola Loamy Sand, 6-12 % Slopes
Kapowsin Gravelly Loam, Undulating, 2-8 % Slopes
Made Land, 0-25 % Slopes
Pilchuck Fine Sand
Pilchuck Gravelly Sand
Puget Silty Clay Loam
Puyallup Fine Sandy Loam
Puyallup Fine Sandy Loam, 0-3% Slopes
Rough Broken Land 25-60 % Slopes
Sinclair Gravelly Fine Sandy Loam, Rolling, 0-15 % Slopes
Sultan Silt Loam
Tacoma Muck, 0-3 % Slopes
Tacoma Silt Loam
Xerochrepts, 45-70 % Slopes
Xerorthents, Fill Areas
Milepost
Proposed Retaining Wall
Surface Water
Study Area
I-5: M Street to Portland Avenue - HOV
I-5: Portland Avenue to Port of Tacoma Road – Northbound HOV
I-5: Portland Avenue to Port of Tacoma Road – Southbound HOV
Potential Local Improvements by WSDOT or other Local Jurisdiction
Source: Pierce County (2005, 2007) GIS Data (Soils, Streets, County Boundary, Water Bodies) USDA NRCS (1939) GIS Data (Soils)
N
0 500 1,000 2,000 Feet
Project Soils Map
Tacoma/Pierce County HOV Program
Washington State Department of Transportation
TACOMA
FEDERAL WAY
FIFE

Map: 8



Date Prepared: August 2015
Data Source: Service Areas, Discarge Points, State Routes, and Railroads from WSDOT

N

0 0.5 1

Miles

Washington State Department of Transportation

Proposed Projects

Future Projects

Attachment B

Modified Media Filter Drain (MMFD)
Specifications and Plan Sheets

Constructed Stormwater Treatment Wetland (CSTW) Outfall

Description

This Work consists of constructing the modified media filter drain (MMFD), flanged connections, and flexible check valve.

Materials

Modified Media Filter Drain (MMFD)

Materials for the Modified Media Filter Drain (MMFD) shall meet the requirements of the following sections:

Gravel Backfill for Drains	9-03.12(4)
Corrugated Polyethylene (PE) Drain Pipe, Couplings, and Fittings (up to 10 inch)	9-05.1(6)
Corrugated Polyethylene (PE) Drain Pipe, Couplings, and Fittings (12 inch through 60 inch)	9-05.1(7)
Perforated Corrugated Polyethylene (PE) Underdrain Pipe, Couplings, and Fittings (up to 10 inch)	9-05.2(7)
Perforated Corrugated Polyethylene (PE) Underdrain Pipe (12 inch through 60 inch Diameter Maximum), Couplings, and Fittings	9-05.2(8)
Mortar	9-20.4(3)
Construction Geotextile for Underground Drainage	9-33

Media Mix shall conform to the requirements of the Media Filter Drain Mix specified in the Special Provision **Media Filter Drain** in these Specifications.

Flanged Connections

Flanged connections shall be as recommended by the manufacturer of the pipe material(s) being connected: 24 inch ductile iron pipe to 26 inch HDPE IPS diameter pipe.

Ductile iron flanges shall be plain faced cast-on flanges meeting the requirements of AWWA C110. Convoluted ductile iron back-up flanges shall be plain faced and meet AWWA C110 bolt circle, bolt size, and bolt count requirements. Contractor shall provide flange filler rings as needed. Ductile iron flanges and ductile iron convoluted back-up flanges shall be provided with 1-mil seal coat per AWWA C104 or ceramic-filled, amine-cured Novalac Epoxy lining. Hardware shall be stainless steel, alloy 304.

Manufacturers:

American Cast Iron Pipe Inc., 1501 31st Avenue North, Birmingham, AL 35207, (205) 325-7701
Tyler Union • 11910 CR 492 • Tyler, Texas 75706 • (800) 527-8478
Texas Flange - PO Box 2889 - Pearland, TX 77588, 800-826-3801

HDPE fused flange adapters shall be SDR 17 HDPE matching PPI designation PE 3408, and conforming to AWWA C906.

Manufacturers:

Ferguson, 740 S 28TH St, Washougal, WA 98671 USA, (360) 835 2129

Independent Pipe, 4949 Joseph Hardin Dr., Dallas, TX, 75236, (800)499-6927

Flexible Check Valve

The flexible check valve shall be 24 inch inside diameter, natural rubber, either TideFlex Check Valve Series 35, Onyx Valve Series DBF, Elasto-Valve Rubber Products Inc. Series CPF-NR , or approved equal having the following features:

A. Prevents Backflow
B. Low Cracking Pressure
C. Low Head Loss
D. Corrosion Resistant
E. Stainless Steel Back-up flange
F. Frost/Freeze Proof
G. Back pressure rating of 6.5 psi

Construction Requirements

Submittals

Media Mix Placement Plan

The Contractor shall submit the proposed media mix mixing method and proposed method of placement which will produce the desired uniformly mixed ratios. The Media Mix Placement Plan shall be submitted to the Engineer at least 30 calendar days prior to the anticipated beginning of media mix placement. Media mix mixing and placement shall not occur until the Engineer has reviewed the Media Mix Placement Plan. Mixing of MFD mix shall occur off the project site.

Installation

Modified Media Filter Drain (MMFD)

The Contractor shall construct the modified media filter drain in accordance with the details in the Plans, the approved Media Mix Placement Plan, and as specified herein.

The Contractor shall conduct the installation of the media mix such that the different sections of the media mix are not contaminated by other materials during installation. Media mix and gravel backfill for drain shall be placed loosely.

The Contractor shall not drive vehicles or equipment over the modified media filter drain area.

Drain Pipe for manifold to lateral connections, manifold and lateral cleanouts shall conform to drain pipe, multiple tee and split end cap assemblies as shown in the plans. The drain pipe assemblies shall have watertight joints. PVC drain pipe shall be jointed with a bell and spigot joint using a flexible elastomeric seal as in accordance with Section 9-04.8. The bell shall be oriented toward the inlet of the MMFD. PE drain pipe shall be jointed with snap-on, screw-on, bell and spigot, or wraparound coupling bands as recommended by the manufacturer of the tubing.

Underdrain pipes shall be laid in conformity with the line and grades as shown in the Plans. Underdrain pipes shall use Class 2 perforations. "Underdrain Pipe 6 In. Diam." shall contain 3 perforations at 120 degrees with a consistent orientation along the entire length of the pipe. "Underdrain Pipe 18 In. Diam." shall contain 6 perforations at 60 degrees. Underdrain pipe shall be installed with the orientation of one perforation in the vertical position. Upon final acceptance of the Work, all underdrain pipes shall be open, clean, and free draining. Perforated pipe does not require a watertight joint. PVC underdrain pipe shall be jointed using either the flexible elastomeric seal in accordance with Section 9-04.8 or solvent cement as specified in Section 9-04.9. The bell and spigot shall be laid upstream or in the direction of the manifold. PE drainage tubing underdrain pipe shall be jointed with snap-on, screw-on, bell and spigot or wraparound coupling bands as recommended by the pipe manufacturer.

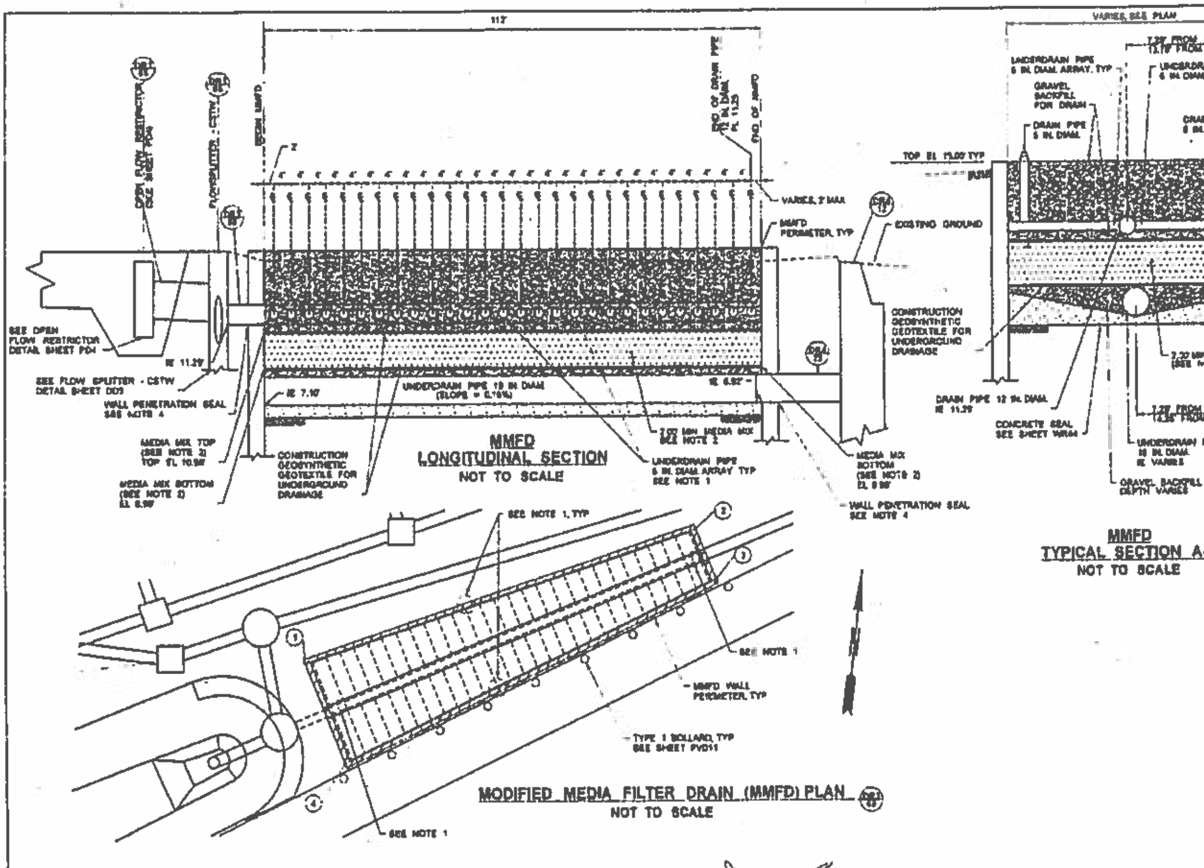
Gravel Backfill for Drain shall be placed at a minimum depth of 6 inches above Underdrain Pipe 18 In. Diam. and at a minimum depth of 3 inches below drain pipes and underdrain pipes at all other locations.

Gravel Backfill for Drain over Underdrain 6 In. Diam. and Drain Pipe 12 In. Diam. shall be filled to a depth matching the top of the MMFD Wall as shown in the Plans.

Gravel Backfill for Drain shall be loosely placed in a manner to maintain the position of pipe on true line and grade.

Construction Geotextile for Underground Drainage shall be furnished and placed as shown in the Plans and in accordance with Section 2-12.3 unless otherwise specified herein

The geotextile shall be placed in a manner which will ensure intimate contact between the soil and the geotextile (i.e., no voids, folds, or wrinkles).



NOTES:

1. SEE MANIFOLD AND LATERAL DETAILS SHEET DD6 AND DD7.
2. SEE SPECIAL PROVISION MODIFIED MEDIA FILTER DRAIN.
3. ALL LATERALS SHOULD BE INSTALLED LEVEL.
4. SEE SPECIAL PROVISIONS FOR MMFD WALL.

MMFD COORDINATE TABLE

POINT	NORTHING	EASTING
1	[illegible]	[illegible]
2	[illegible]	[illegible]
3	[illegible]	[illegible]
4	[illegible]	[illegible]

FED.AID PROJ.NO.

10 WASH

XL3498

8/26/14

Washington State Department of Transportation

I-5
PORTLAND AVENUE TO PORT OF TACOMA ROAD - NORTHBOUND HOV

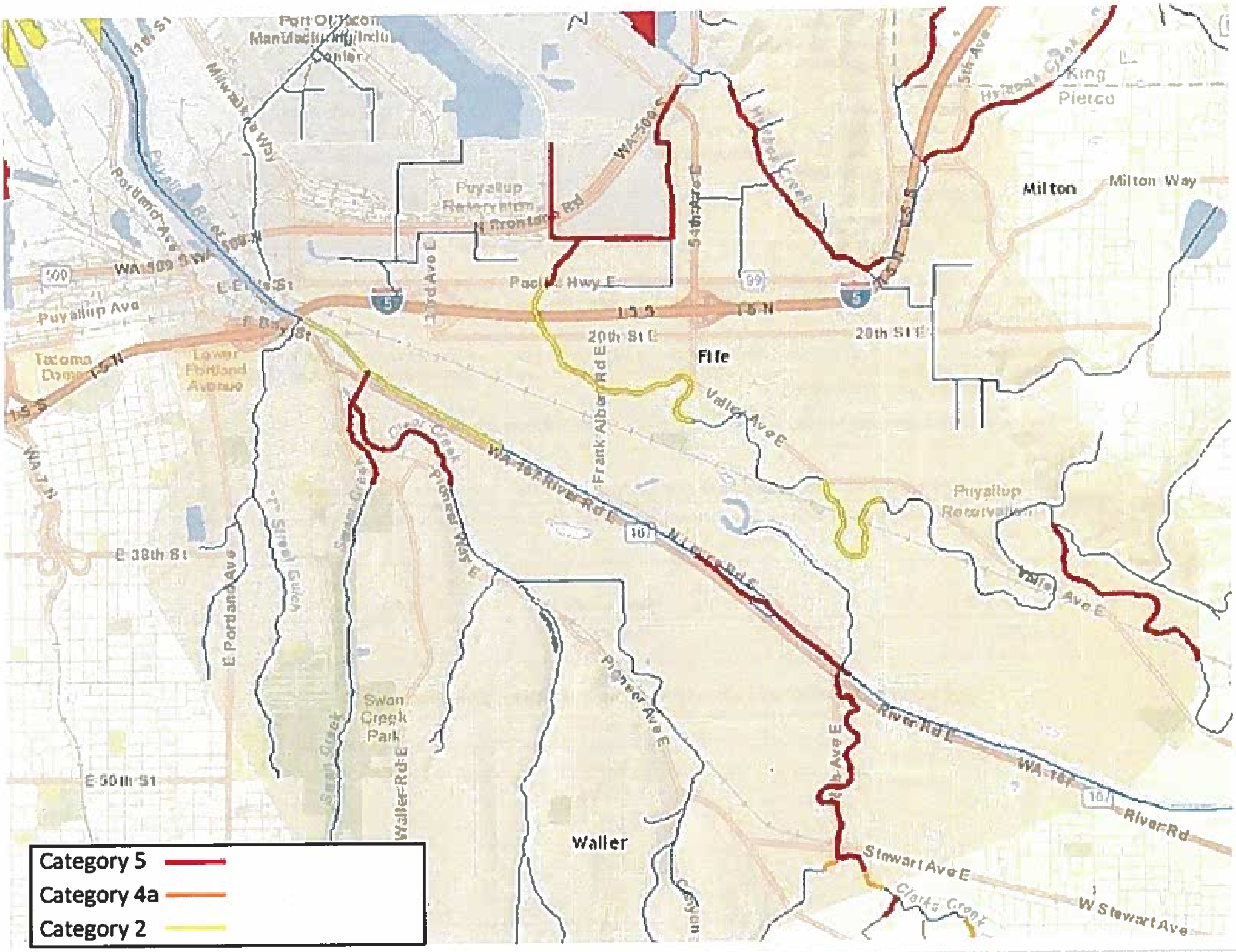
DRAINAGE DETAILS

DD6

390 of 1233

Attachment C

2012 Water Quality Assessment Results


Category 5
Category 4a
Category 2
Fife
Milton
Waller
Puyallup Reservation
Swan Creek Park
Tacoma Dome
Lower Portland Avenue
Milton Way
Pacific Hwy E
20th St E
Valley Ave E
Frank Albert Rd E
54th Ave E
E Portland Ave
E 38th St
E 50th St
Waller Rd E
Pioneer Ave E
Stewart Ave E
W Stewart Ave
River Rd E
WA-167
WA-509
Puyallup Ave
Milwaukee Way
Clarks Creek
Hylebos Creek
King
Pierce

Water Quality Assessment for Washington

Listing 7501

Water Quality Listing Policy

Listing ID: 7501
Medium: Water
Parameter: Bacteria S
CAS Number: None
Waterbody Name: CLEAR CREEK
Waterbody Type: Rivers
Waterbody Class: RA
Collection Date: N/A
WRIA: 10 - Puyallup-White
PSAA: South Central Puget Sound
WASWIS: UP04FV
WASWIS Upper Route: 1.413
WASWIS Lower Route: 0.000

2012 Category: 5 S
2008 Category: 5
2004 Category: 5
On 1998 303(d) List?: Y
On 1998 303(d) List?: Y
County: Pierce
Township/Range/Section: 20N-3E-11
Grid Cell: None
Grid Cell Latitude: None
Grid Cell Longitude: None
LLID: 1223927472341
LLID Upper Route: 1.413
LLID Lower Route: 0.000

Basis:

Location ID [10-CLR-0.4] -- 0 of 5 (0.0%) of samples collected in 2007 exceed the percent criterion (200 col/100mL)
Location ID [10-CLR-0.4] -- A geometric mean of 25.00 col/100mL calculated from 5 samples collected in 2007 does not exceed the geometric mean criterion (100 col/100mL)

Location ID [10-CLR-0.4] -- 0 of 5 (0.0%) of samples collected in 2006 exceed the percent criterion (200 col/100mL)
Location ID [10-CLR-0.4] -- A geometric mean of 34.01 col/100mL calculated from 5 samples collected in 2006 does not exceed the geometric mean criterion (100 col/100mL)

Ebbert, et al. 1987. 2 excursions beyond the criterion (at 31st Avenue) on 11/83 and 2/84.

Remarks:

Available data does not meet minimum data requirements of Ecology WQP Policy 1-11 to make a category change.

Fecal coliform data were previously submitted only in hardcopy form. The water segment is listed as Category 5 based on the 1998 assessment.

EIM:

User Study ID:	User Location ID:
LSUL0001	10-CLR-0.4

If you find an error or have a question about this listing, please contact us directly:

Name:
E-mail Address:
Question:

Submit

If you wish to contact us about something unrelated to this listing, click here.

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Water Quality Assessment for Washington

Listing 35398

Water Quality Listing Policy

Listing ID:	35398
Medium:	Other
Parameter:	Bioassessment S
CAS Number:	None
Waterbody Name:	CLEAR CREEK
Waterbody Type:	Rivers
Waterbody Class:	RA
Collection Date:	N/A
WRIA:	10 - Puyallup-White
PSAA:	South Central Puget Sound
WASWIS:	UP04FV
WASWIS Upper Route:	1.413
WASWIS Lower Route:	0.000
2012 Category:	2 S
2008 Category:	2
2004 Category:	2
On 1998 303(d) List?:	N
On 1996 303(d) List?:	N
County:	Pierce
Township/Range/Section:	20N-3E-11
Grid Cell:	None
Grid Cell Latitude:	None
Grid Cell Longitude:	None
LLID:	1223927472341
LLID Upper Route:	1.413
LLID Lower Route:	0.000

Basis:

Puyallup Tribe of Indians unpublished data (submitted by Char Naylor on 3 March 2003) show biological degredation of aquatic life based an Benthic Index of Biological Integrity (B-IBI) score of 18.

Remarks:

This listing was previously placed on Category 4C for biological data in accordance with Policy 1-11. The listing has been moved to Category 2 based on recommendations from EPA, since the data is insufficient to determine if the biological impairment is from a pollutant or pollution. Additional monitoring needs to occur before the sources of impairment can be identified. -kk

If you find an error or have a question about this listing, please contact us directly:

Name:

E-mail Address:

Question:

Submit

If you wish to contact us about something unrelated to this listing, click here.

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Water Quality Assessment for Washington

Listing 7500

Water Quality Listing Policy

Listing ID:	7500	**2012 Category:**	2 S
Medium:	Water	**2008 Category:**	2
Parameter:	Dissolved Oxygen S	**2004 Category:**	2
CAS Number:	None	**On 1998 303(d) List?:**	N
Waterbody Name:	CLEAR CREEK	**On 1996 303(d) List?:**	N
Waterbody Type:	Rivers	**County:**	Pierce
Waterbody Class:	RA	**Township/Range/Section:**	20N-3E-11
Collection Date:	N/A	**Grid Cell:**	None
WRIA:	10 - Puyallup-White	**Grid Cell Latitude:**	None
PSAA:	South Central Puget Sound	**Grid Cell Longitude:**	None
WASWIS:	UP04FV	**LLID:**	1223927472341
WASWIS Upper Route:	1.413	**LLID Upper Route:**	1.413
WASWIS Lower Route:	0.000	**LLID Lower Route:**	0.000

Basis:

Ebbert, et al. 1987. , 1 excursion beyond the criterion (at 31st Avenue) on 11/3/84.

Puyallup Tribe of Indians unpublished data at station CLR-3 (submitted by Char Naylor on 3 March 2003) show 5 excursions beyond the criterion from 18 measurements collected in 2002.

If you find an error or have a question about this listing, please contact us directly:

Name:

E-mail Address:

Question:

Submit

If you wish to contact us about something unrelated to this listing, click here.

Back | Print Version

Water Quality Assessment for Washington

Listing 35407

Water Quality Listing Policy

Listing ID: 35407
Medium: Water
Parameter: Dissolved Oxygen S
CAS Number: None
Waterbody Name: CLARKS CREEK
Waterbody Type: Rivers
Waterbody Class: RA
Collection Date: N/A
WRIA: 10 - Puyallup-White
PSAA: South Central Puget Sound
WASWIS: AD37IU
WASWIS Upper Route: 2.428
WASWIS Lower Route: 0.069

2012 Category: 5 S
2008 Category: 2
2004 Category: 2
On 1998 303(d) List?: N
On 1996 303(d) List?: N
County: Pierce
Township/Range/Section: 20N-4E-19
Grid Cell: None
Grid Cell Latitude: None
Grid Cell Longitude: None
LLID: 1223400472140
LLID Upper Route: 2.429
LLID Lower Route: 0.069

Basis:

Location ID [CURS-1] – In 2003, 5 of 8 samples (62.5%) showed an excursion of the criteria for this waterbody, (criterion = 8.0 mg/L).

Location ID [CURS-1] – In 2002, 4 samples showed no excursions of the criteria for this waterbody, (criterion = 8.0 mg/L).

Puyallup Tribe of Indians unpublished data at station CLK-4 (submitted by Char Naylor on 3 March 2003) show excursions beyond the criterion from measurements collected in 1999 and 2001.

Remarks:

Ten percent or more of the samples collected in a single year were an excursion of the criterion.

EIM:

User Study ID:	User Location ID:
G0100116	CURS-1

If you find an error or have a question about this listing, please contact us directly:

Name:
E-mail Address:
Question:

Submit

If you wish to contact us about something unrelated to this listing, click here.

Back Print Version

Water Quality Assessment for Washington

Listing 45187

Water Quality Listing Policy

Listing ID: 45187
Medium: Water
Parameter: Bacteria S
CAS Number: None
Waterbody Name: CLARKS CREEK
Waterbody Type: Rivers
Waterbody Class: RA
Collection Date: N/A
WRIA: 10 - Puyallup-White
PSAA: South Central Puget Sound
WASWIS: None
WASWIS Upper Route: None
WASWIS Lower Route: None

2012 Category: 4A S
2008 Category: 4A
2004 Category: 3
On 1998 303(d) List?: N
On 1996 303(d) List?: N
County: Pierce
Township/Range/Section: 20N-4E-19
Grid Cell: None
Grid Cell Latitude: None
Grid Cell Longitude: None
LLID: 1223400472140
LLID Upper Route: 2.429
LLID Lower Route: 0.069

Basis:

Location ID [10-CLK-0.01] -- 1 of 5 (20.0%) of samples collected in 2007 exceed the percent criterion (200 col/100mL)
Location ID [10-CLK-0.01] -- A geometric mean of 108.14 col/100mL calculated from 5 samples collected in 2007 exceeds the geometric mean criterion (100 col/100mL)

Location ID [10-CLK-0.01] -- 0 of 5 (0.0%) of samples collected in 2008 exceed the percent criterion (200 col/100mL)
Location ID [10-CLK-0.01] -- A geometric mean of 72.63 col/100mL calculated from 5 samples collected in 2008 does not exceed the geometric mean criterion (100 col/100mL)

Location ID [CURS-1] -- 5 of 8 (62.5%) of samples collected in 2003 exceed the percent criterion (200 col/100mL)
Location ID [CURS-1] -- A geometric mean of 354.69 col/100mL calculated from 8 samples collected in 2003 exceeds the geometric mean criterion (100 col/100mL)

Location ID [CURS-1] -- 2 of 4 (50.0%) of samples collected in 2002 exceed the percent criterion (200 col/100mL)
Location ID [CURS-1] -- Fewer than five samples were available in 2002, therefore a geometric mean was not calculated for this period

Remarks:

Part of the Clarks Creek Watershed Fecal Coliform TMDL, approved by EPA 6/4/08. -kk

Category was determined by an exceedance of the fecal coliform geometric mean criteria. [Data collection period(s) -- 2007: Location ID -- 10-CLK-0.01]

EIM:

User Study ID:	User Location ID:
LSUL0001	10-CLK-0.01
G0100116	CURS-1

If you find an error or have a question about this listing, please contact us directly:

Name:
E-mail Address:
Question:

Submit

If you wish to contact us about something unrelated to this listing, click here.

Back Print Version

Water Quality Assessment for Washington

Listing 50860

Water Quality Listing Policy

Listing ID: 50860
Medium: Water
Parameter: pH S
CAS Number: None
Waterbody Name: CLARKS CREEK
Waterbody Type: Rivers
Waterbody Class: RA
Collection Date: N/A
WRIA: 10 - Puyallup-White
PSAA: South Central Puget Sound
WASWIS: None
WASWIS Upper Route: None
WASWIS Lower Route: None

2012 Category: 2 S
2008 Category: 2
2004 Category: 3
On 1998 303(d) List?: N
On 1996 303(d) List?: N
County: Pierce
Township/Range/Section: 20N-4E-19
Grid Cell: None
Grid Cell Latitude: None
Grid Cell Longitude: None
LLID: 1223400472140
LLID Upper Route: 2.429
LLID Lower Route: 0.069

Basis:

Location ID [CURS-1] -- In 2002, 0 of 4 samples (0.0%) showed an excursion of the criteria for this waterbody.

Location ID [CURS-1] -- In 2003, 2 of 8 samples (25.0%) showed an excursion of the criteria for this waterbody: 2 low pH excursions

Remarks:

At Least 10 percent of samples were excursion of the criteria in at least one year, however fewer than 3 excursions exist from all data considered.

EIM:

User Study ID:	User Location ID:
G0100116	CURS-1

If you find an error or have a question about this listing, please contact us directly:

Name:

E-mail Address:

Question:

Submit

If you wish to contact us about something unrelated to this listing, click here.

Back | Print Version

Water Quality Assessment for Washington

Listing 17521

Water Quality Listing Policy

Listing ID: 17521
Medium: Water
Parameter: Dissolved Oxygen S
CAS Number: None
Waterbody Name: PUYALLUP RIVER
Waterbody Type: Rivers
Waterbody Class: RA
Collection Date: N/A
WRIA: 10 - Puyallup-White
PSAA: South Central Puget Sound
WASWIS: PX29AG
WASWIS Upper Route: 5.894
WASWIS Lower Route: 3.908

2012 Category: 2 S
2008 Category: 2
2004 Category: 2
On 1998 303(d) List?: N
On 1998 303(d) List?: N
County: Pierce
Township/Range/Section: 20N-3E-11
Grid Cell: None
Grid Cell Latitude: None
Grid Cell Longitude: None
LLID: 1224252472685
LLID Upper Route: 2.023
LLID Lower Route: 0.036

Basis:

Ebbert, 2002. Shows excursions beyond the criterion from measurements collected in 2000. Ebbert, 2002. Shows no excursions beyond the criterion from measurements collected in 2001.

If you find an error or have a question about this listing, please contact us directly:

Name:
E-mail Address:
Question:

Submit

If you wish to contact us about something unrelated to this listing, click here.

Back Print Version

Water Quality Assessment for Washington

Listing 17520

Water Quality Listing Policy

Listing ID: 17520
Medium: Water
Parameter: Dissolved Oxygen S
CAS Number: None
Waterbody Name: PUYALLUP RIVER
Waterbody Type: Rivers
Waterbody Class: RA
Collection Date: N/A
WRIA: 10 - Puyallup-White
PSAA: South Central Puget Sound
WASWIS: PX29AG
WASWIS Upper Route: 9.368
WASWIS Lower Route: 7.735

2012 Category: 2 S
2008 Category: 2
2004 Category: 2
On 1998 303(d) List?: N
On 1996 303(d) List?: N
County: Pierce
Township/Range/Section: 20N-4E-18
Grid Cell: None
Grid Cell Latitude: None
Grid Cell Longitude: None
LLID: 1224252472685
LLID Upper Route: 5.497
LLID Lower Route: 3.863

Basis:

Ebbert, 2002. Shows excursions beyond the criterion from measurements collected in 2000. Ebbert, 2002. Shows no excursions beyond the criterion from measurements collected in 2001.

Hallock (2001) Dept. of Ecology Ambient Monitoring Station 10A050 (Puyallup R @ Puyallup (USGS)) shows 0 excursions beyond the criterion out of 8 samples collected between 1993 - 2001

If you find an error or have a question about this listing, please contact us directly:

Name:
E-mail Address:
Question:

Submit

If you wish to contact us about something unrelated to this listing, click here.

Back Print Version

Water Quality Assessment for Washington

Listing 35421

Water Quality Listing Policy

Listing ID: 35421	**2012 Category:** 5 S
Medium: Water	**2008 Category:** 5
Parameter: Mercury S	**2004 Category:** 5
CAS Number: 7439-97-6	**On 1998 303(d) List?:** N
Waterbody Name: PUYALLUP RIVER	**On 1996 303(d) List?:** N
Waterbody Type: Rivers	**County:** Pierce
Waterbody Class: RA	**Township/Range/Section:** 20N-4E-18
Collection Date: N/A	**Grid Cell:** None
WRIA: 10 - Puyallup-White	**Grid Cell Latitude:** None
PSAA: South Central Puget Sound	**Grid Cell Longitude:** None
WASWIS: PX29AG	**LLID:** 1224252472685
WASWIS Upper Route: 9.368	**LLID Upper Route:** 5.497
WASWIS Lower Route: 7.735	**LLID Lower Route:** 3.863

Basis:

Hallock (2004), Dept. of Ecology ambient station 10A050 shows 1 sample in year 2003 exceeded the chronic criterion.

Puyallup Tribe of Indians unpublished data (submitted by Char Naylor on 3 March 2003) show 1 excursion beyond the chronic criterion from 3 samples collected in 2002 at RM 5.8.

Remarks:

Changed from Category 2 to Category 5 on 01/24/05 due to consolidation with Listing ID 42777 (cat 2). -kk

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Water Quality Assessment for Washington

Listing 7498

Water Quality Listing Policy

Listing ID: 7498	**2012 Category:** 5 S
Medium: Water	**2008 Category:** 5
Parameter: Bacteria S	**2004 Category:** 5
CAS Number: None	**On 1998 303(d) List?:** Y
Waterbody Name: PUYALLUP RIVER	**On 1996 303(d) List?:** Y
Waterbody Type: Rivers	**County:** Pierce
Waterbody Class: RA	**Township/Range/Section:** 20N-4E-18
Collection Date: N/A	**Grid Cell:** None
WRIA: 10 - Puyallup-White	**Grid Cell Latitude:** None
PSAA: South Central Puget Sound	**Grid Cell Longitude:** None
WASWIS: PX29AG	**LLID:** 1224252472685
WASWIS Upper Route: 9.368	**LLID Upper Route:** 5.497
WASWIS Lower Route: 7.735	**LLID Lower Route:** 3.863

Basis:

Location ID [10-PUY-5.7] -- 0 of 5 (0.0%) of samples collected in 2007 exceed the percent criterion (200 col/100mL)
Location ID [10-PUY-5.7] -- A geometric mean of 23.45 col/100mL calculated from 5 samples collected in 2007 does not exceed the geometric mean criterion (100 col/100mL)

Location ID [10-PUY-5.7] -- 0 of 5 (0.0%) of samples collected in 2006 exceed the percent criterion (200 col/100mL)
Location ID [10-PUY-5.7] -- A geometric mean of 14.84 col/100mL calculated from 5 samples collected in 2006 does not exceed the geometric mean criterion (100 col/100mL)

Hallock (2004), Dept. of Ecology ambient station 10A050 shows 1 of 4 samples (25%) in year 2001 exceeded the percentile criterion.

Hallock (2001) Dept. of Ecology Ambient Monitoring Station 10A050 (Puyallup R @ Puyallup (USGS)) shows a geometric mean of 42 does not exceed the criterion and that 10% of the samples does not exceed the percentile criterion from 10 samples collected during 2001.

Hallock (2001) Dept. of Ecology Ambient Monitoring Station 10A050 (Puyallup R @ Puyallup (USGS)) shows a geometric mean of 115 exceeds the criterion and that 0% of the samples does not exceed the percentile criterion from 3 samples collected during 2000.

Ebbert, et al. 1987. 3 excursions beyond the criterion at station 12102100 (At River Road) in 8/83, 11/83, and 2/84;

Remarks:

Available data does not meet minimum data requirements of Ecology WQP Policy 1-11 to make a category change.

Fecal coliform data were previously submitted only in hardcopy form. The water segment is listed as Category 5 based on the 1998 assessment.

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Water Quality Assessment for Washington

Listing 7514

Water Quality Listing Policy

Listing ID:	7514	**2012 Category:**	5 S
Medium:	Water	**2008 Category:**	5
Parameter:	Bacteria S	**2004 Category:**	5
CAS Number:	None	**On 1998 303(d) List?:**	Y
Waterbody Name:	SWAN CREEK	**On 1996 303(d) List?:**	Y
Waterbody Type:	Rivers	**County:**	Pierce
Waterbody Class:	RA	**Township/Range/Section:**	20N-3E-11
Collection Date:	N/A	**Grid Cell:**	None
WRIA:	10 - Puyallup-White	**Grid Cell Latitude:**	None
PSAA:	South Central Puget Sound	**Grid Cell Longitude:**	None
WASWIS:	YA22IG	**LLID:**	1223911472365
WASWIS Upper Route:	1.072	**LLID Upper Route:**	1.081
WASWIS Lower Route:	0.000	**LLID Lower Route:**	0.000

Basis:

Location ID [10-SWN-0.01] – 0 of 5 (0.0%) of samples collected in 2007 exceed the percent criterion (200 col/100mL)
Location ID [10-SWN-0.01] -- A geometric mean of 27.13 col/100mL calculated from 5 samples collected in 2007 does not exceed the geometric mean criterion (100 col/100mL)

Location ID [10-SWN-0.01] -- 0 of 3 (0.0%) of samples collected in 2006 exceed the percent criterion (200 col/100mL)
Location ID [10-SWN-0.01] -- Fewer than five samples were available in 2006, therefore a geometric mean was not calculated for this period

Location ID [10-SWN-0.6] – 0 of 5 (0.0%) of samples collected in 2007 exceed the percent criterion (200 col/100mL)
Location ID [10-SWN-0.6] – A geometric mean of 8.62 col/100mL calculated from 5 samples collected in 2007 does not exceed the geometric mean criterion (100 col/100mL)

Location ID [10-SWN-0.6] – 0 of 4 (0.0%) of samples collected in 2006 exceed the percent criterion (200 col/100mL)
Location ID [10-SWN-0.6] -- Fewer than five samples were available in 2006, therefore a geometric mean was not calculated for this period
Ebbert, et al. 1987, 2 excursions beyond the criterion at station 12102212 (at Pioneer Way) on 11/83 and 2/84.

Ebbert, et al. 1987, 3 excursions beyond the criterion at station 12102202 (at Pioneer Way) on 11/83, 2/84, and 4/84.

Remarks:

Available data does not meet minimum data requirements of Ecology WQP Policy 1-11 to make a category change.

Fecal coliform data were previously submitted only in hardcopy form. The water segment is listed as Category 5 based on the 1998 assessment.

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Water Quality Assessment for Washington

Listing 8679

Water Quality Listing Policy

Listing ID: 8679	**2012 Category:** 2 S
Medium: Water	**2008 Category:** 2
Parameter: Benzene S	**2004 Category:** 2
CAS Number: 71-43-2	**On 1998 303(d) List?:** N
Waterbody Name: WAPATO CREEK	**On 1996 303(d) List?:** N
Waterbody Type: Rivers	**County:** Pierce
Waterbody Class: RA	**Township/Range/Section:** 20N-3E-12
Collection Date: N/A	**Grid Cell:** None
WRIA: 10 - Puyallup-White	**Grid Cell Latitude:** None
PSAA: South Central Puget Sound	**Grid Cell Longitude:** None
WASWIS: ZV38XK	**LLID:** 1223689472459
WASWIS Upper Route: 5.351	**LLID Upper Route:** 5.357
WASWIS Lower Route: 2.935	**LLID Lower Route:** 2.941

Basis:

One excursion beyond National Toxics Rule (40 CFR Part 131) criterion at USEPA station 11Y025 (east of Tacoma Thruway) on 6/3/80.

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