

APPENDIX 2 – Total Maximum Daily Load (TMDL) Requirements

Additional permit requirements based on established TMDLs

Note to Reviewers:

This draft Appendix contains the list of all TMDLs in Eastern Washington that have requirements that are not already found in the permit. Each TMDL lists the Permittees to which these draft requirements apply. The draft TMDL actions are not presented in a track changes format, as Ecology proposes to completely update this Appendix for the next permit term.

Ecology included for public review several TMDLs in this Appendix that are still being developed or in EPA review, but are anticipated to be approved before the final permit is issued. Reviewers may comment on draft actions proposed or described for TMDLs not yet approved and/or for proposed New Permittees or areas of coverage still under evaluation pending either EPA approval or a final determination by Ecology regarding permit coverage.

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Name of TMDL	South Fork Palouse River Fecal Coliform Bacteria TMDL: Water Quality Improvement Report
EPA Approved Document(s) for TMDL	South Fork Palouse River Fecal Coliform Bacteria Total Maximum Daily Load - Water Quality Improvement Report October 2009 Publication No. 09-10-060
Location of Original 303(d) Listings	Paradise Creek 10443 (WA-34-1025) Paradise Creek 10439 (WA-34-1025) Paradise Creek 10444 (WA-34-1025)

	South Fork Palouse River 6712 (WA-34-1020) South Fork Palouse River 6711 (WA-34-1020) South Fork Palouse River 6710 (WA-34-1020) South Fork Palouse River 6707 (WA-34-1020) Dry Fork Creek 46406 Missouri Flat Creek 6713 (WA-34-1024)
Area Where TMDL Requirements Apply	These requirements apply to areas served by MS4s within the City of Pullman, including the Washington State University Campus that is within the City of Pullman.
Parameter(s)	Fecal Coliform Bacteria
MS4 Permittee:	City of Pullman WAR04-6504 Washington State University WAR04-6700

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Actions Required

City of Pullman

- A. The City of Pullman, within the permit coverage area, shall:
 - 1. Inventory and inspect the stormwater system to develop a map and descriptions of known illicit connections and potential sources of fecal coliform to the MS4 by December 31, 2014.
 - 2. Develop and implement a pet waste education program for residents of Pullman.
 - 3. The City of Pullman Planning and Public Works Departments will consider during SEPA review the potential for projects to increase runoff and sources of fecal coliform, and the need for mitigation measures to reduce these adverse impacts to the MS4 and surface waters.
 - 4. Conduct all monitoring to assess changes in water quality and progress toward elimination of stormwater related bacteria discharges to surface water under an Ecology approved QAPP. Ecology must be given a minimum of 3 months prior to sampling to review and approve the QAPP.
 - 5. Enter monitoring data collected into Ecology’s Environmental Information Management (EIM) database. The database can be accessed at: www.ecy.wa.gov/science/data.html.

- B. Beginning no later than the effective date of this permit, the City of Pullman shall, implement an illicit discharge detection and elimination program for stormwater outfalls within the area under its jurisdiction. The outfalls shall be prioritized in the following order:
 - 1. The area draining to the outfall identified as 34MissSD120.
 - 2. The area draining to multiple outfalls draining to the compliance point identified as 34Dry00.4.

1 3. For the areas draining to the remaining stormwater basins under its jurisdiction,
2 Pullman shall by December 31, 2014:

- 3 i. Submit to Ecology a plan outlining subsequent focus areas for the illicit
4 discharge detection and elimination program.
5 ii. Focus areas will be prioritized based on the TMDL, more recent monitoring
6 findings, and consultation with Ecology’s TMDL and Stormwater leads.
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8 C. For each outfall drainage area investigated under the IDDE program, the City of Pullman
9 shall submit to Ecology a report 18 months after initiating the investigation summarizing:

- 10 a. Actions taken to reduce fecal coliform pollution.
11 b. Results of any outfall monitoring completed up to issuance of this permit that
12 include a comparison of monitoring data to the TMDL Waste Load Allocation
13 to evaluate progress toward meeting the percent reduction needed at the
14 outfall. Because the water quality standard for fecal coliform is concentration
15 based, progress will be assessed by examining concentrations at the outfall
16 and making progress toward the percent reductions and not on a specific
17 bacteria load.
18 c. Portions of this report may be submitted prior to permit issuance and will be
19 considered to fulfill this requirement.
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21 D. For any outfall that has not achieved a 40% toward the WLA target (percent reduction) by
22 December 31, 2015, submit to Ecology a 4-year Action Plan outlining actions and
23 monitoring intended to achieve targeted reductions. The Action Plan shall include:

- 24 • The specific purpose of the plan
25 • A description of key actions and who will conduct them
26 • Implementation schedule, including milestones, deadlines, and how
27 frequently the plan should be updated
28 • Discussion of legal authority to implement actions
29 • Process and schedule for how to evaluate appropriateness of actions in
30 the plan and how frequently to update it
31 • The specific type of monitoring that will be used to evaluate the
32 effectiveness of the plan

33 E. Within 90 days of Ecology approval, begin implementing the Ecology-approved Action Plan.

34 Washington State University
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36 A. Washington State University, within the area under its jurisdiction, shall from the effective
37 date of this permit:

- 38 1. Conduct education and outreach with an emphasis on animal waste disposal practices
39 to reduce potential bacteria-laden runoff.

- 1 2. The Capital Planning Department will consider during SEPA review the potential for
2 projects to increase runoff and sources of fecal coliform, and the need for mitigation
3 measures to reduce these adverse impacts to the MS4 and surface waters.
- 4 3. Conduct all monitoring to assess changes in water quality and progress toward
5 elimination of stormwater related bacteria discharges to surface water under an
6 Ecology approved QAPP. Ecology must be given a minimum of 3 months prior to
7 sampling to review and approve the QAPP.
- 8 4. Enter monitoring data collected into Ecology's Environmental Information
9 Management (EIM) database. The database can be accessed at:
10 www.ecy.wa.gov/science/data.html.

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12 B. Beginning no later than the date this permit becomes effective, Washington State University
13 shall implement an illicit discharge detection and elimination program for stormwater
14 outfalls within the area under its jurisdiction. The outfalls should be prioritized in the
15 following order:

- 16 1. The area draining to the outfall identified as 34SFPRWSU1.
- 17 2. The next basin for further monitoring and investigation will be based on the findings
18 of the City of Pullman's investigation of the 34MissSD120 drainage.
 - 19 a. If the City of Pullman finds that Washington State University contributes
20 greater fecal coliform bacteria loads to the 34MissSD120 system than the
21 loading found during the TMDL study to the South Fork Palouse River from
22 34SFPRWSU2 then 34MissSD120 will be the next drainage basin for WSU
23 investigation.
 - 24 b. If the City of Pullman finds that Washington State University contributes less
25 fecal coliform bacteria loads to the 34MissSD120 system than the loading
26 found during the TMDL study to the South Fork Palouse River from
27 34SFPRWSU2 then the 34SFPRWSU2 basin will be the next drainage basin
28 for investigation.
- 29 3. The basin not selected in B.2 above.

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31 C. For each outfall drainage area investigated under the IDDE program submit to Ecology a
32 report 18 months after initiating the investigation summarizing:

- 33 a. Actions taken to reduce fecal coliform pollution.
- 34 b. Results of any outfall monitoring completed up to issuance of this permit
35 that include a comparison of monitoring data to the TMDL Waste Load
36 Allocation to evaluate progress toward meeting the percent reduction needed
37 at the outfall. Because the water quality standard for fecal coliform is
38 concentration based, progress will be assessed by examining concentrations
39 at the outfall and making progress toward the percent reductions and not on
40 a specific bacteria load.

- 1 c. Portions of this report may be submitted prior to permit issuance and will be
 2 considered to fulfill this requirement.
- 3 D. For any outfall that has not achieved a 40% toward the WLA target (percent reduction) by
 4 December 31, 2015, submit to Ecology a 3-year Action Plan outlining actions and
 5 monitoring intended to achieve targeted reductions. The Action Plan shall include:
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 - The specific purpose of the plan
 - A description of key actions and who will conduct them
 - Implementation schedule, including milestones, deadlines, and how
 - 7 frequently the plan should be updated
 - Discussion of legal authority to implement actions
 - Process and schedule for how to evaluate appropriateness of actions in
 - 8 the plan and how frequently to update it
 - The specific type of monitoring that will be used to evaluate the
 - 9 effectiveness of the plan
- 10 E. Within 90 days of Ecology approval, implement the Ecology-approved Action Plan.
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Name of TMDL	Selah Ditch Multiparameter Total Maximum Daily Load
EPA Approved Document(s) for TMDL	Selah Ditch Multiparameter Total Maximum Daily Load, Technical Assessment Report, January 2005, Publication Number 05-10-020 Selah Ditch Multiparameter Total Maximum Daily Load, Water Quality Improvement Report, June 2006, Publication No. 06-10-040
Location of Original 303(d) Listings	Selah Ditch, Water Resource Inventory Area (WRIA) 39, Selah Ditch is a short (0.83 mile), straight, man-made drainage canal that is classified as a Class A water body.
Area Where TMDL Requirements Apply	City of Selah
Parameter(s)	Fecal Coliform Bacteria, and Temperature
EPA Approval Date	Water Quality Improvement Plan – June 2006
MS4 Permittee	City of Selah

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1 **Actions Required:**

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3 City of Selah

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- 5 • Implement the schedule and activities in S5.B.3 for Public Education and Outreach to
 - 6 include education and outreach to target the reduction of fecal coliform bacteria
 - 7 discharges into the stormwater system to include the following:
 - 8 ○ Targeted education regarding the effects of pet waste on stormwater and inform
 - 9 pet owners about proper management of pet waste.
 - 10 ○ Installation of pet waste pick-up bags in city parks, and on city-owned open
 - 11 spaces, where appropriate.

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Name of TMDL	Wilson Creek Sub-Basin Bacteria Total Maximum Daily Load
EPA Approved Document(s) for TMDL	Wilson Creek Sub-Basin Bacteria Total Maximum Daily Load (Water Cleanup Plan), Submittal Report, June 2005 Publication Number 05-10-041
Location of Original 303(d) Listings	Wilson Creek (WA-39-1020) PY59BF (inside city limits) Mercer Creek EY18WK, Whiskey Creek SO19BM
Area Where TMDL Requirements Apply	City of Ellensburg (The Kittitas County unincorporated UGA surrounding Ellensburg is under evaluation by Ecology for permit coverage. The draft actions would apply if the County becomes a permittee and if, as expected, the EPA approves the TMDL prior to final permit issuance.)
Parameter(s)	Fecal Coliform Bacteria
EPA Approval Date	TMDL – June 2005
MS4 Permittee	City of Ellensburg, Central Washington University <i>(Kittitas County for the Ellensburg UGA, pending Ecology’s completion of evaluation for coverage. Draft actions would apply in the Ellensburg unincorporated UGA if Kittitas County becomes a permittee.)</i>

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14 **Actions Required:**

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16 City of Ellensburg

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- 18 • Implement the schedules and activities for Public Education and Outreach identified in
 - 19 S5.B.1 include the following:

- A targeted education program for pet waste. including installing pet waste pick-up bags in city parks and/or on city property and/or open spaces where pets may be present.
- Provide information to the general public about the relationship between feeding wildlife water fowl and fecal coliform bacteria in stormwater.

Central Washington University

- Implement the schedules and activities for public education and outreach identified in S6.D.1.b.vii. Part of this program shall include installing pet waste pick-up bags on university owned spaces where people might walk their pets.

Kittitas County

(These draft actions are presented for Kittitas County pending completion of Ecology’s evaluation of the county for coverage. If Kittitas County becomes a Permittee, the actions would apply in the Ellensburg unincorporated UGA.)

- Implement the schedules and activities identified in S5.B.3 for Public Education and Outreach to include the following:
 - Targeted education regarding the effects of pet waste on stormwater and inform pet owners about proper management of pet waste. Installation of pet waste pick-up bags in county owned parks and open spaces where people might walk their pets that is in the county’s Urban Growth Area (within MS4 area).
 - Information for the general public about the relationship between feeding wildlife water fowl and fecal coliform bacteria in stormwater.
 - Information to owners of livestock within the county’s Urban Growth Area (within MS4 area) on how to manage animal waste.

Name of TMDL	Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load
EPA Approved Document(s) for TMDL	Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load Water Quality Improvement Report Revised February 2010 Publication No. 07-10-073
Location of Original 303(d) Listings	Lake Spokane 40939 Spokane River 17523 (WA-54-1010) Spokane River 15188 (WA-54-1010) Spokane River 15187 (WA-54-1010) Spokane River 11400 (WA-57-1010) Spokane River 6373 (WA-54-1020)

Area Where TMDL Requirements Apply	These requirements apply to areas served by MS4s owned or operated by the Permittees within the TMDL coverage area.
Parameter(s)	Total Phosphorus, Ammonia, CBOD ₅
MS4 Permittee:	City of Spokane WAR04-6505, City of Spokane Valley WAR04-6507 Spokane County WAR04-6506

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Actions Required

The City of Spokane and Spokane County shall each develop and implement monitoring programs for phosphorus, ammonia, and CBOD according to the schedules outlined below. Flow rates shall also be measured in order to calculate volumes of stormwater to determine pollutant loadings.

City of Spokane

- No later than August 31, 2014, the City of Spokane shall prepare a monitoring plan. The outfalls for the North Driscoll Residential Basin, the North Division Commercial Basin, and the West Trent Industrial Basin shall be monitored for phosphorus, ammonia, CBOD, and flow rates. A Quality Assurance Project Plan (QAPP) that follows *Quality Assurance Project Plans for Environmental Studies*, July 2004, Ecology Publication No. 04-03-030 shall be prepared and submitted to Ecology for review and approval.
- Ecology will review and provide written comments on the monitoring plan by November 30, 2014.
- The City of Spokane shall submit an updated QAPP to Ecology responding to Ecology’s comments by February 28, 2015. If Ecology provides comments later than November 30, 2014, the updated QAPP submittal deadline will be extended by the number of calendar days that Ecology exceeds past the November 30, 2014 date.
- No later than August 31, 2015 the City of Spokane shall implement the Ecology-approved monitoring plan. The monitoring plan shall be conducted until the expiration of the Permit. The results of the monitoring shall be entered into Ecology’s EIM database.
- No later than August 31, 2016 the City of Spokane shall begin evaluating the results of the monitoring plan with respect to the city’s share of the stormwater Waste Load Allocations in the TMDL. If the monitoring results indicate that stormwater Waste Load Allocations are being exceeded then an adaptive management response to reduce pollutant loading shall be initiated. The City of Spokane shall prepare an Action Plan. The Action Plan must include:
 - The specific purpose and objective of the plan
 - A description of key actions and who will conduct them
 - Implementation schedule, including milestones, deadlines, and how frequently the plan should be updated

- Discussion of legal authority to implement actions
- Process and schedule for how to evaluate appropriateness of actions in the plan and how frequently to update it
- Any additional monitoring that may be necessary to evaluate the effectiveness of the plan

Spokane County

- No later than August 31, 2014, Spokane County shall prepare a monitoring plan to evaluate its stormwater discharges to the Spokane River in order to determine pollutant loading for total phosphorus, ammonia, and CBOD. Sampling shall be conducted at the Ella Road outfall. Sampling shall be representative of the total quantity of flows and shall be conducted at least once per month during the months of March through October during the first precipitation event in a month that produces adequate stormwater for analysis. Discharge volume estimates shall be calculated for all events sampled. A Quality Assurance Project Plan (QAPP) that follows *Quality Assurance Project Plans for Environmental Studies*, July 2004, Ecology Publication No. 04-03-030 shall be prepared and submitted to Ecology for review and approval by August 31, 2014. The monitoring shall be conducted using Ecology approved Standard Operating Procedures. If the QAPP needs to be modified, Spokane County will provide the updated QAPP for review and approval within 90 days of receiving Ecology comments.
- No later than August 31, 2015 Spokane County shall start sampling and implement the Ecology-approved monitoring plan. All applicable seasonal results of the monitoring shall be entered into Ecology’s EIM database by December 31st of each year. A summary and discussion of the monitoring results shall be included with the appropriate annual report. Sampling shall continue until the expiration of the permit, or until the discharge has been eliminated.
- No later than December 31, 2016 Spokane County shall, in consultation with Ecology, evaluate the results of the monitoring plan in order to evaluate pollutant loading with respect to Spokane County’s share of the Stormwater Waste Load Allocations in the TMDL. If the monitoring results indicate that Stormwater Waste Load Allocations are being exceeded then an adaptive management response to reduce pollutant loading shall be initiated. Spokane County shall submit an Action Plan for Ecology approval by March 31, 2017. The Action Plan must include:
 - The specific purpose and objective of the plan
 - A description of key actions and who will conduct them
 - Implementation schedule, including milestones, deadlines, and how frequently the plan should be updated
 - Discussion of legal authority to implement actions
 - Process and schedule for how to evaluate appropriateness of actions in the plan and how frequently to update it
 - Any additional monitoring that may be necessary to evaluate the effectiveness of the plan

City of Spokane Valley

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- No later than August 31, 2014, the City of Spokane Valley shall prepare a monitoring plan to evaluate all of its remaining stormwater discharges to the Spokane River in order to determine pollutant loading for total phosphorus, ammonia, and CBOD. Sampling shall be representative of the total quantity of flows and shall be conducted at least once per month during the months of March through October during the first precipitation event in a month that produces adequate stormwater for analysis. Discharge volume estimates shall be calculated for all events sampled. A Quality Assurance Project Plan (QAPP) that follows *Quality Assurance Project Plans for Environmental Studies*, July 2004, Ecology Publication No. 04-03-030 shall be prepared and submitted to Ecology for review and approval by August 31, 2014. The monitoring shall be conducted using Ecology approved Standard Operating Procedures. If the QAPP needs to be modified, the City of Spokane Valley will provide the updated QAPP for review and approval within 90 days of receiving Ecology comments.
 - No later than August 31, 2015 the City of Spokane Valley shall start sampling and implement the Ecology-approved monitoring plan. All applicable seasonal results of the monitoring shall be entered into Ecology’s EIM database by December 31st of each year. A summary and discussion of the monitoring results shall be included with the appropriate annual report. Sampling shall continue until the expiration of the permit, or until the discharges have been eliminated.
 - No later than December 31, 2016 the City of Spokane Valley shall, in consultation with Ecology, evaluate the results of the monitoring plan in order to evaluate pollutant loading with respect to the city’s share of the Stormwater Waste Load Allocations in the TMDL. If the monitoring results indicate that Stormwater Waste Load Allocations are being exceeded then an adaptive management response to reduce pollutant loading shall be initiated. The City of Spokane Valley shall submit an Action Plan for Ecology approval by March 31, 2017. The Action Plan must include:
 - The specific purpose and objective of the plan
 - A description of key actions and who will conduct them
 - Implementation schedule, including milestones, deadlines, and how frequently the plan should be updated
 - Discussion of legal authority to implement actions
 - Process and schedule for how to evaluate appropriateness of actions in the plan and how frequently to update it
 - Any additional monitoring that may be necessary to evaluate the effectiveness of the plan