Fact Sheet

NPDES Permit Number:	IDS028398
Public Comment Period Issuance Date:	November 26, 2018
Public Comment Period Expiration Date:	January 10, 2019
Technical Contact:	Misha Vakoc (206) 553-6650 or (800) 424-4372 vakoc.misha@epa.gov

The U.S. Environmental Protection Agency (EPA) Proposes to Issue a National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater Discharges To:

City of Moscow

The EPA Region 10 proposes to issue a NPDES permit authorizing the discharge of stormwater from all municipal separate storm sewer system (MS4) outfalls owned and/or operated by the City of Moscow. The City of Moscow is referred to in this document as "the Permittee." Permit requirements are based on Section 402(p) of the Clean Water Act (CWA), 33 U.S.C. § 1342(p), and EPA regulations for permitting municipal stormwater discharges (40 CFR §§ 122.26, 122.30-35, and 123.35; see also 64 FR 68722 [Dec. 8, 1999] and 81 FR 89320 [Dec. 9, 2016]).

In August 2008, the EPA determined that discharges from the City of Moscow's MS4 contributed to violations of water quality standards in Paradise Creek. As such, pursuant to the EPA's residual designation authority under 40 CFR §§ 122.26(a)(1)(v) and 122.26(a)(9)(iii), the EPA designated the City of Moscow's MS4 as a regulated small MS4 that required a NPDES permit. In addition, the EPA required the City of Moscow to submit a NPDES permit application for the MS4 discharges by September 2009. The issue of whether the designation was proper remains open during the comment period on this permit. See 40 CFR § 124.52(c). Therefore, the EPA is taking comment on whether the initial designation of the City of Moscow's MS4 was appropriate.

The Permit requires the implementation of a comprehensive stormwater management program (SWMP) and outlines the control measures to be used by the Permittee to reduce pollutants in their stormwater discharges to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the CWA. Annual reporting is required to reflect the status of the SWMP implementation.

This Fact Sheet includes:

- information on public comment, public hearing, and appeal procedures;
- the rationale for the EPA's decision to designate the City of Moscow's MS4 as a regulated small MS4 requiring NPDES permit coverage;
- descriptions of the regulated MS4 discharges to be covered under the Permit; and
- explanation of the control measures and other Permit terms and conditions.

The EPA requests public comment on all aspects of the designation decision and the Permit.

State CWA Section 401 Certification

Upon the EPA's request, the Idaho Department of Environmental Quality (IDEQ) has provided a draft certification of the permit under Section 401 of the CWA. Comments regarding the certification should be directed to:

Idaho Department of Environmental Quality
ATTN: Sujata Connell, Surface Water Quality Manager
1118 "F" Street
Lewiston, ID 83501

Public Comment and Opportunity for Public Hearing

Persons wishing to comment on, or request a Public Hearing for, the draft Permit must do so in writing by the expiration date of the Public Comment period. A request for Public Hearing must state the nature of the issues to be raised as well as the requester's name, address and telephone number. All comments and requests for Public Hearings must be in writing and should be submitted to the EPA as described in the Public Comments Section of the attached Public Notice.

After the comment period ends, and all comments have been considered, the EPA's Regional Director for the Office of Water and Watersheds will make a final decision regarding permit issuance. If the EPA receives no comments, the tentative conditions in the draft permit will become final. If comments are submitted, the EPA will prepare a response to comments document and, if necessary, will make changes to the draft Permit. After making any necessary changes, the EPA will issue the Permit with a response to comments document, unless issuance of a new draft Permit is warranted pursuant to 40 CFR § 122.14. The Permit will become effective no earlier than thirty (30) days after the issuance date, unless the permit is appealed to the Environmental Appeals Board within 30 days pursuant to 40 CFR § 124.19.

Documents Available for Review

The draft Permit, and other information is available on the EPA Region 10 website at: https://www.epa.gov/npdes-permits/stormwater-discharges-municipal-sources-idaho-and-washington OR https://www.epa.gov/npdes-permits/idaho-npdes-permits.The draft Permit and related materials can be reviewed in person by contacting the EPA Region 10 Operations Office in Boise or in Region 10's Regional Office in Seattle, between 8:30 a.m. and 4:00 p.m. (Mountain Time), Monday through Friday:

U.S. Environmental Protection Agency, Region 10
Idaho Operations Office
950 W. Bannock Street, Suite 900
Boise, ID 83702
(208) 378-5746

U.S. Environmental Protection Agency, Region 10
Office of Water and Watersheds
1200 Sixth Avenue, Suite 155, OWW-191
Seattle, Washington 98101
(800) 424-4372, and request x-0523

For questions regarding the Permit or Fact Sheet, contact Misha Vakoc at the phone number or E-mail listed above. Services for persons with disabilities are available by contacting Audrey Washington at (206) 553-0523.

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Acronyms

ACM	Alternative Control Measure
BMP	Best Management Practice
CFR	Code of Federal Regulations
CGP	Construction General Permit, i.e., the most current version of the NPDES General Permit for Stormwater Discharges from Construction Activities in Idaho
CWA	Clean Water Act
CZARA	Coastal Zone Act Reauthorization Amendments
EFH	Essential Fish Habitat
ESA	Endangered Species Act
EPA	United States Environmental Protection Agency, Region 10
FR	Federal Register
GI	Green Infrastructure
GSI	Green Stormwater Infrastructure
IDAPA	Idaho Administrative Procedures Act
IDEQ	Idaho Department of Environmental Quality
LA	Load Allocation
LID	Low Impact Development
mg/L	Milligrams per Liter
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
OWW	EPA Office of Water and Watersheds
SWMP	Stormwater Management Program
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
US	United States
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
WA	Washington
WAC	Washington Administrative Code
WDOE	Washington Department of Ecology
WLA	Wasteload Allocation
WQS	Water Quality Standards

1. INTRODUCTION

Stormwater is the surface runoff that results from rain and snow melt. Urban development alters the land's natural infiltration, and human activity generates a host of pollutants that can accumulate on paved surfaces. Uncontrolled stormwater discharges from urban areas can negatively impact water quality. The National Pollutant Discharge Elimination System (NPDES) regulations establish permit requirements for discharges from regulated municipal separate storm sewer systems (MS4s) located in Census-defined Urbanized Areas and/or that are designated by the NPDES permitting authority. Appendix 2 of this Fact Sheet details the types of pollutants typically found in urban stormwater and explains the regulatory background for the MS4 permit program.

The terms "municipal separate storm sewer" and "small municipal separate storm sewer system" are defined at 40 CFR §122.26(b)(8) and (b)(16), respectively. MS4s include any publicly-owned conveyance or system of conveyances used for collecting and conveying stormwater that discharge to waters of the United States. MS4s are designed for conveying stormwater only, and are not part of a combined sewer system, nor part of a publicly owned treatment works. Such a system may include roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains.[1] In Idaho, various public entities own and/or operate MS4s, including, but not limited to: cities and counties; local highway districts; Idaho Transportation Department; and colleges and universities.

A *regulated small MS4* is defined as any MS4 located in an Urbanized Area as defined by the Bureau of the Census from the latest Decennial Census. The term may also describe any small MS4 located outside of an Urbanized Area that is designated as regulated by the NPDES permitting authority. See 40 CFR §§ 122.26(a)(1)(v), 122.26(a)(9), and 122.32(a). Such a designation by the NPDES permitting authority may be based on a finding that discharges from the MS4 contribute to a violation of a water quality standard, is a significant contributor of pollutants to waters of the United States, and/or substantially contributes to the pollutant loadings of a physically interconnected (and otherwise regulated) small MS4.

This Fact Sheet provides the technical basis for the U.S. Environmental Protection Agency's (EPA's) decision to:

1. Finalize the decision to designate the MS4 owned and/or operated by the City of Moscow (City) as a "regulated small MS4" (see Fact Sheet Section 1.1. and Appendix 6); and
2. Issue a NPDES Permit authorizing stormwater discharges from the regulated small MS4 owned and/or operated by the City located within the corporate boundaries of the City.

1.1. EPA's Decision to Designate the City of Moscow's MS4 as a Regulated Small MS4

Pursuant to 40 C.F.R. §§ 122.26(a)(1)(v) and 122.26(a)(9)(iii), in August 2008, the EPA designated the MS4 owned and/or operated by the City as a regulated small MS4 requiring a NPDES permit. The initial designation was based on the determination that the City's MS4 contributed to violations of the State of Washington's water quality standard for fecal coliform in Paradise Creek. The EPA made the determination after evaluating available water quality data from both IDEQ and the Washington Department

[1] *See*: 40 CFR §122.26(b); 122.32(a); and EPA 1990.

of Ecology (WDOE), as well as consideration of other relevant factors (such as whether existing environmental programs were in place to adequately address the discharges).

The Idaho portion of Paradise Creek was initially listed by IDEQ as impaired for fecal coliform, and in 1997 IDEQ developed the *Paradise Creek TMDL: Water Body Assessment and Total Maximum Daily Load* (Paradise Creek TMDL). In calendar year 2000, IDEQ revised its water quality bacteria indicators from fecal coliform to *E. coli,* such that the current Idaho water quality standard for protecting secondary contact recreation is a geometric mean of one hundred twenty-six (126) *E. coli* organisms cfu/100 mL, based on a minimum of five (5) samples taken every three (3) to seven (7) days over a thirty (30) day period. IDEQ has used *E.coli* sampling to review progress toward meeting the 1997 TMDL bacteria allocation in Paradise Creek

Between 2006-2008, available water quality information reviewed by EPA showed that, although the Idaho portion of Paradise Creek was not violating the IDEQ *E. coli* standard, WDOE monitoring data collected immediately downstream of the Idaho/Washington border showed violations of Washington standard for fecal coliform during both wet weather and dry weather sampling. See Appendix 6 of this Fact Sheet for the initial designation document.

The EPA required the City to submit a NPDES permit application by September 30, 2009, and the City submitted the application as requested.[2]

In 2015, IDEQ updated the Paradise Creek TMDL to reference the State's *E. coli* standard. To establish *E. coli* pollutant allocation targets, IDEQ conducted in-stream sampling between May 2013 through April 2014 sufficient to calculate monthly geometric means comparable to the *E.coli* standard, at a location representative of pollutant loading from the urban area after the Creek has passed through the City and the University of Idaho. All of the calculated monthly geometric means exceeded the 126 cfu/100 mL criterion.[3] As a result, IDEQ's *Paradise Creek TMDL 2015 Bacteria Addendum,* approved by EPA in November 2016, establishes a revised daily *E. coli* load allocation for nonpoint sources and waste load allocations for point sources of 126 cfu/100 mL (i.e., the water quality standard). In addition, the 2015 Paradise Creek TMDL Addendum confirms that urban runoff from the City and the University are contributing sources of *E. coli* in Paradise Creek.[4] Meanwhile, existing environmental programs are insufficient to adequately address these discharges.

Pursuant to 40 CFR § 124.52(b), when the EPA uses its designation authority, the issue of whether the designation was proper remains open for consideration during the public comment period. Therefore, the EPA is seeking comment on whether the designation of the MS4 owned and/or operated by the City of Moscow is proper.

[2] In late 2011, the EPA also met with University of Idaho (the University) to discuss the EPA's tentative decision to also designate the University's MS4 based on the determination that those discharges contribute to a violation of the Washington water quality standards. However, the EPA deferred the initial designation of the University at that time. When the EPA initially designates the University's MS4, the EPA will request a NPDES permit application and begin the MS4 permit development process.

[3] IDEQ 2015. Specifically, see Appendix B, Table B-1, and Appendix C.

[4] IDEQ's 2015 TMDL Addendum incorporates by reference the detailed pollutant source inventory and discussion of contributing nonpoint pollutant sources located in the subbasin from the original 1997 TMDL for Paradise Creek.

1.2. Idaho NPDES Program Authorization

On June 5, 2018, the EPA approved Idaho's application to administer and enforce the Idaho Pollutant Discharge Elimination System (IPDES) program. IDEQ is taking the IPDES program in phases over a four-year period in accordance with the Memorandum of Agreement (MOA) between IDEQ and the EPA, and subject to EPA oversight and enforcement. IDEQ will obtain permitting authority for the stormwater phase on July 1, 2021. At that time, all documentation required by the permit will be sent to IDEQ rather than to the EPA and any decision under the permit stated to be made by the EPA or jointly between the EPA and IDEQ will be made solely by IDEQ. Permittees will be notified by IDEQ when this transition occurs.

1.3. Applicant and Permit Area

In accordance with CWA Section 402(p), 33 USC § 1342(p), and federal regulations at 40 CFR §§ 122.26(a)(5) and 122.32, the EPA is proposing to issue a NPDES permit on a jurisdiction-wide basis to the City for discharges of municipal stormwater from the City's MS4 located within the corporate limits of the City of Moscow, in Latah County, Idaho. See Appendix 3.1 for a map of the City of Moscow area.

The EPA received a NPDES permit application from the City on September 28, 2009, describing a SWMP designed to reduce pollutants in discharges from the MS4 to the maximum extent practicable (MEP). Daily administration over the City's MS4 is managed by the Public Works Director and the Streets and Fleet Operations Manager. The field operations and maintenance of the MS4 is performed by the Street Division personnel. Public outreach, permitting, enforcement of new development standards, and development of capital improvement projects is performed by the Engineering Division under the direction of the City Engineer and the Public Works Director.

Applicant	Physical Address
City of Moscow Public Works	201 Main Street, P.O. Box 9203, Moscow, Idaho 83843

1.4. Description of the MS4 and Discharge Locations

The City's MS4 serves an area of approximately 6.7 square miles and consists of approximately 56 miles of stormwater conveyance mains, 2,943 catch basins and storm manholes, 19 detention ponds, and 6.5 miles of storm drainage ditches. The MS4 discharges to Paradise Creek, Hog Creek (a tributary of Paradise Creek), and the South Fork of the Palouse River via approximately 130 outfalls.[5]

1.5. Permit Development

The NPDES permitting authority must include permit conditions in each MS4 permit that meet all of the requirements of 40 CFR § 122.34(a)(2), to "…..*establish in specific, clear, and measurable terms what is required to reduce the discharge of pollutants to the MEP, to protect water quality, and to satisfy the appropriate water quality requirements of the CWA. …For permits being issued to a small MS4 for the first time, [the NPDES permitting authority] may specify a period of up to five years from the date of permit*

[5] City of Moscow, 2009.

issuance for the permittee to fully comply with the permit and to implement necessary best management practices." [6]

In 2011, the EPA developed a preliminary draft MS4 permit for the City, and shared that draft with IDEQ, WDOE, and the City. The EPA then revised the preliminary draft in 2012 based on IDEQ and WDOE input.[7]

Instead of completing the individual permit action, the EPA decided to move forward with issuing a Phase II MS4 general permit for the State of Idaho. In 2016 and 2017, the EPA released preliminary draft general permits that included discharges from newly regulated small MS4s like the City. The EPA received input and comments from the City, and other Permittees on the draft general permit. The EPA has decided to issue individual permits instead of a general permit. However, the information received, in conjunction with the NPDES permit application, has been used to inform the current draft Permit. All of these materials are available as part of the Administrative Record.

The Permit is being issued for the first time; as such, 40 CFR § 122.34(a)(1) allows the NPDES permitting authority to specify a period of up to five years to fully comply with the conditions of the first term MS4 permit. The EPA allows the Permittee up to 4.5 years to fully implement all required stormwater management control measures set forth in the Permit.

The EPA has considered a variety of information in order to develop the Permit terms and conditions, including but not limited to:

- The MS4 permit application submitted by the City in 2009;
- Prior EPA-issued MS4 permits in Idaho;
- Applicable total maximum daily loads (TMDLs) analyses, and impaired waters listings by IDEQ and WDOE for Paradise Creek and the South Fork Palouse River;
- Updated Urbanized Area maps and boundaries, based on the Year 2010 Census;
- Input from Idaho stakeholders on the EPA's preliminary draft MS4 general permit(s);
- EPA guidance and national summary information regarding MS4 permits,[8] including:
    - *Compendium Part 1: Six Minimum Control Measure Provisions, November 2016;*
    - *Compendium Part 2: Post Construction Performance Standards, November 2016;*
    - *Compendium Part 3: Water Quality-Based Requirements, April 2017;*
    - *Summary of State Post Construction Stormwater Standards, July 2016;*
    - *EPA's November 2014 Memo entitled Revisions to the November 22, 2002 Memorandum "Establishing TMDL Wasteload Allocations (WLAs) for Stormwater Sources and NPDES Permit Requirements Based on Those WLAs;" and the*
    - *MS4 Permit Improvement Guide, April 2010.*
- Conclusions and recommendations from the National Research Council Report entitled *Urban Stormwater Management in the United States*, dated October 2008;
- Technical developments in the field of stormwater management, including recent research and information on effective and feasible methods for the on-site management and treatment of stormwater using practices commonly referred to as

[6] See 40 CFR §122.34(a), EPA 2016a, and EPA 2016b.
[7] See additional discussion in Section 1.6 and Appendix 5 of this Fact Sheet.
[8] EPA documents listed here are available at https://www.epa.gov/npdes/stormwater-discharges-municipal-sources

"low impact development" (LID), "green infrastructure" (GI) and/or "green stormwater infrastructure" (GSI) techniques.

- Other MS4 permits issued by the EPA for regulated MS4s in Washington, Puerto Rico, Massachusetts, and New Mexico, as well as MS4 permits issued by other state NPDES permitting authorities.

A partial list of references supporting the development of the Permit is provided in Section 6 of this Fact Sheet. All supporting references are available in the Administrative Record for this action.

1.6. Average Annual Precipitation in the Moscow, Idaho Area

The National Oceanic and Atmospheric Administration's (NOAA's) Western Regional Climate Center maintains historical climate information for various weather stations throughout the western United States. The Moscow area receives an annual average precipitation of approximately 23.1 inches, and an annual average snowfall of approximately 49.8 inches.

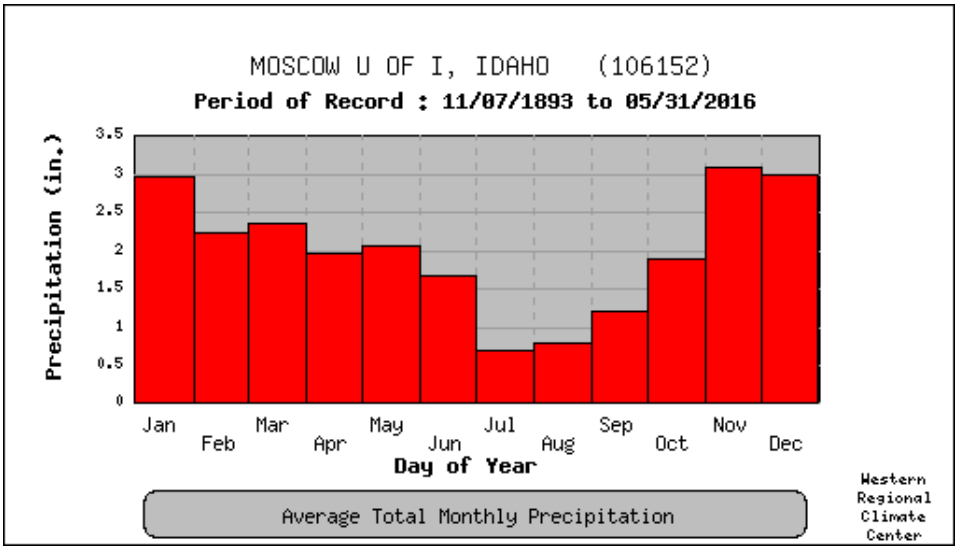

Figure 1. Average Total Monthly Precipitation in the Moscow, Idaho Area.

1.7. Receiving Waters

The EPA intends to issue the Permit authorizing discharges from the MS4 owned and/or operated by the City of Moscow to waters of the United States (U.S.) that include Paradise Creek, Hog Creek, and the South Fork Palouse River.[9] All discharges to waters of the U.S. located in the Permit Area must also comply with any limitations that may be imposed by the State as part of its water quality certification pursuant to CWA Section 401, 33 U.S.C. § 1341. See also Section 5 of this Fact Sheet.

[9] As previously noted, concurrent with the public comment period for this Moscow MS4 Permit, the EPA has sent an initial designation document to the University requesting submittal of an MS4 permit application. Upon receipt of such application, the EPA will develop a draft MS4 permit for the University of Idaho MS4 discharges

IDEQ has classified these waterbodies as fresh water with designated beneficial uses as listed in Table 1.

NPDES permit conditions must also meet the applicable water quality requirements of affected States other than the State in which the discharge originates, which may include downstream States.[10] Paradise Creek and South Fork Palouse River both originate in Idaho and flow west into Washington. Therefore, in addition to meeting Idaho water quality requirements, the permit conditions must also meet the applicable State of Washington water quality standards. Table 1 includes the applicable water quality standards for Washington.

Table 1. *Designated Beneficial Uses for Waters Receiving Regulated MS4 Discharges*

Receiving Water	Citation from IDAPA or WAC	Designated Beneficial Uses*
Paradise Creek *(including Hog Creek, a tributary to Paradise Creek)*	58.01.02.120.01	Coldwater aquatic life and secondary contact recreation.
	WAC 173-201A-600	Salmonid spawning, rearing, & migration; primary contact recreation; domestic, industrial, & agricultural water supply; stock watering; wildlife habitat; harvesting; commerce and navigation; boating; and aesthetic values.
South Fork Palouse River	58.01.02.120.01	Coldwater aquatic life, salmonid spawning, secondary contact recreation.
	WAC 173-201A-600	Salmonid spawning, rearing, & migration; primary contact recreation; domestic, industrial, & agricultural water supply; stock watering; wildlife habitat; harvesting; commerce and navigation; boating; and aesthetic values.

**Note: All waters in Idaho must also be protected for industrial and agricultural water supply, wildlife habitats, and aesthetics.*

1.7.1. Anti-degradation

The IDEQ has completed an antidegradation review which is included in the draft 401 certification for this permit. The EPA has reviewed this antidegradation analysis and finds that it is consistent with the State's water quality standards and the State's antidegradation implementation procedures. Comments on the 401 Certification, including the antidegradation review, can be submitted to the IDEQ as set forth above (see State Certification on Page 1 of this Fact Sheet).

1.7.2. Water Quality and Total Maximum Daily Loads

Any water body that does not, and/or is not, expected to meet the applicable State water quality standards is described as "impaired" or as a "water quality-limited segment." Section 303(d) of the CWA requires States to identify impaired water bodies in the State and develop TMDL management plans for those impaired water bodies. TMDLs define both wasteload allocations (WLAs) for point sources and load allocations (LAs) for non-point sources that specify how much of a particular pollutant can be discharged from

[10] See 40 CFR §122.44(d).

both regulated and unregulated sources, respectively, such that the waterbody will again meet State water quality standards.

IDEQ's 2014 *Integrated Section 303(d)/Section 305(b) Report* (2014 Integrated Report) contains the list of impaired water bodies in Idaho required by CWA Section 303(d).[11] Similarly, WDOE's 2012 Water Quality Assessment Report lists impaired water bodies in Washington. Table 2 (below) summarizes the status of waters receiving the MS4 discharges covered by the Permit; waterbody assessment units, or segments, that IDEQ and WDOE consider impaired; and any applicable TMDL(s) for those segments.

Table 2. *Status of Waters Receiving Regulated MS4 Discharges*

Receiving Water	Waterbody Assessment Unit	Impairment Pollutants	TMDL Status
Paradise Creek (*including Hog Creek, a tributary to Paradise Creek*)	ID17060108CL005_02 *Paradise Creek - Urban boundary to Idaho/Washington border*	Ammonia (Un-ionized) *E.* coli Fecal Coliform Nutrient/Eutrophication Biological Indicators Sedimentation/Siltation Temperature	*Paradise Creek TMDL Water Body Assessment and Total Maximum Daily Load* *Paradise Creek Total Maximum Daily Load Implementation Plan* December 1999. Approved 2000. *Paradise Creek TMDL 2015 Bacteria Addendum,* October 2015. Approved November 2016.
Paradise Creek (WA portion)	Paradise Creek 10443, 10439, and 10444 (WA-34-1025)	Fecal Coliform Bacteria	*South Fork Palouse River Fecal Coliform Bacteria Total Maximum Daily Load - Water Quality Improvement Report* WDOE Publication No. 09-10-060. October 2009. Approved 2009.
South Fork Palouse River	ID17060108CL002_03 *South Fork Palouse River-Gnat Cr. to Idaho/Washington border*	Nutrient/Eutrophication; Biological Indicators; Sedimentation/Siltation Temperature	*South Fork Palouse River Watershed Assessment and TMDLs*, February 2007. Approved October 2007. *Palouse River Subbasin 2017 Temperature TMDL*. June 2017. Approved August 2017.
South Fork Palouse River (WA portion)	South Fork Palouse River 6712, 6711, 6710, and 6707 (WA-34-1020)	Fecal coliform bacteria, Polychlorinated Biphenyls (PCBs)	*South Fork Palouse River Fecal Coliform Bacteria TMDL - Water Quality Improvement Report* WDOE Publication No. 09-10-060 October 2009. Approved 2009. *Palouse River Chlorinated Pesticide and PCB TMDL, Water Quality Improvement Report and Implementation Plan;* Publication No. 07-03-018 *July 2007.* Approved November 2007.

Paradise Creek is a tributary of the South Fork (SF) Palouse River; see Appendix 3.2 of this Fact Sheet for a map of the Palouse River watershed.

Both IDEQ and WDOE established load allocations and pollutant reduction targets for bacteria (*E.coli* and fecal coliform, respectively) in the Paradise Creek portion of the watershed. Additional discussion is provided in Appendix 5 of this Fact Sheet.

NPDES permit terms and conditions for regulated stormwater discharges must be consistent with the assumptions and requirements of applicable WLAs or LAs in the TMDLs.[12] In general, the EPA's guidance recommends that the NPDES permitting

[11] The IDEQ's 2014 Integrated Report is available online at: https://www.deq.idaho.gov/water-quality/surface-water/monitoring-assessment/integrated-report.aspx.

[12] See: 40 C.F.R. §§ 122.34(c)(1) and 122.44(d)(1)(vii)(B).

authority use best management practices (BMPs) to implement WLAs and load reduction targets for MS4 discharges in a NPDES permit. When using BMPs as narrative permit limitations to implement a WLA or load reduction target, the NPDES permit must include a monitoring mechanism to assess compliance.[13]

In order to address the pollutants of concern consistent with the TMDLs for Paradise Creek and the SF Palouse River, the Permit requires the City to conduct at least two (2) pollutant reduction activities, and appropriate monitoring/assessment activities. The City must develop and submit descriptions of their pollutant reduction and monitoring/assessment activities within 180 days of the Permit effective date. Upon EPA and IDEQ review, the EPA will modify the Permit to incorporate the specific activities. Additional discussion of the EPA's rationale for these provisions is provided in Section 2.5 and Appendix 5 of this Fact Sheet.

In the event that the EPA approves other TMDLs for the receiving waters listed above, and those TMDL(s) contain WLA(s) for one or more regulated MS4s, the EPA may, after consultation with IDEQ, choose to modify the Permit to incorporate additional provisions if needed. Permit Part 8.1 addresses such a permit modification, consistent with the NPDES regulations at 40 CFR §§ 122.62, 122.64 and 124.5.

[13] See: EPA 1996; EPA 2002; EPA 2014a; EPA 2014b; and EPA 2016b.

2. BASIS FOR PERMIT CONDITIONS

2.1. General Information

NPDES permits for regulated small MS4s must include terms and conditions to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements under the CWA. At a minimum, MS4 permit terms and conditions must satisfy the requirements set forth in 40 CFR § 122.34(a) through (e).

MEP is the statutory standard that describes the level of pollutant reduction that MS4 operators must achieve. What constitutes MEP "should continually adapt to current (*water quality*) conditions and BMP effectiveness and should strive to attain water quality standards."[14] Neither the CWA nor the stormwater regulations provide a precise definition of MEP, which provides for maximum flexibility in MS4 permitting.

The EPA has described the iterative process of imposing the MS4 standard, including what is necessary to reduce pollutants to the MEP, over consecutive (future) permit terms as: (1) the NPDES permitting authority defining clear, specific, and measurable NPDES permit requirements; (2) the MS4 Permittee implementing the required actions as part of a comprehensive program; and (3) the NPDES permitting authority and MS4 Permittee evaluating the effectiveness of BMPs used to date, current water quality conditions, and other relevant information.[15]

All MS4 permits must include terms and conditions that are "clear, specific, and measurable," and consist of narrative, numeric, and/or other types of requirements. Examples include: implementation of specific tasks or practices; BMP design requirements; performance requirements; adaptive management requirements; schedules for implementation, maintenance, and/or frequency of actions.[16]

As discussed in Section 1.4 of this Fact Sheet, since this is the first permit for the City, the Permit allows the Permittee to work towards compliance with the required terms and conditions during the first 4.5 years (5-year permit term) to establish compliance with the terms and conditions. In order for the Permittee to comply with the MS4 standard, the EPA has defined the stormwater management control measures and evaluation requirements that the Permittee must implement. To reduce the discharge of pollutants from the MS4 to the MEP, the Permittee must implement and enforce the stormwater management (or SWMP) control measures outlined in Permit Part 3 (*SWMP Control Measures*). To protect water quality, the Permittee must conduct monitoring and/or assessment activities targeted at reducing the impairment pollutants of concern in Permit Part 4 (*Special Conditions for Discharges to Impaired Waters*). Where the Permittee's MS4 discharge(s) may be contributing to an ongoing excursion above an applicable water quality standard, and a long-term solution is needed to address the MS4 contribution, the Permit establishes an adaptive management process in Permit Part 5 (*Required Response to Excursions of Idaho Water Quality Standards*). Evaluation and reporting requirements are outlined in Permit Part 6 (*Monitoring, Recordkeeping and Reporting*).

[14] EPA 1999, pages 68753-68734/
[15] EPA 2016 pages 89338.-89339; 40 CFR 122.34(a)(2)
[16] See 40 CFR 122.34(a).

2.2. Discharges Authorized by the Permit

Permit Part 1.2 conditionally authorizes municipal stormwater discharges, and certain types of non-stormwater discharges, from the Permittee's MS4 within the Permit Area, provided that the Permittee complies with the Permit's terms and conditions. Where monitoring or other information shows that a pollutant in a Permittee's MS4 discharge is causing or contributing to an ongoing excursion above the applicable Idaho water quality standard, the Permittee must comply with the notification and other adaptive management requirements in Permit Part 5 (*Required Response to Excursions of Idaho Water Quality Standards*). See also Section 2.6 of this Fact Sheet.

The Permit outlines conditions and prohibitions related to snow disposal (Permit Part 2.2); stormwater discharges associated with industrial and construction activities (Permit Part 2.3); and discharges unrelated to precipitation events (i.e., "non-stormwater discharges;" Permit Part 2.4) that are consistent with the requirements found in other MS4 NPDES Permits issued by the EPA in Idaho.

The EPA acknowledges that, in some urban Idaho watersheds, non-stormwater sources (in the form of landscape irrigation, springs, rising ground waters, and/or groundwater infiltration) are routinely present during dry weather discharges from the MS4(s). The Permit requires the Permittee to determine whether a detected dry weather MS4 discharge is an "allowable" discharge. Section 2.4.2 of this Fact Sheet discusses the related dry weather outfall screening requirements included as Permit Parts 3.2.5 and 3.2.6.

2.3. Permittee Responsibilities

Permit Part 2.5 outlines Permittee responsibilities. In general, the Permittee is responsible for Permit compliance related to its MS4 and associated discharges.[17]

Permit Part 2.5.1 allows the Permittee to implement one or more of the control measures by sharing responsibility with an entity other than another MS4 Permittee. The Permittee must enter into a written agreement with the outside party, in order to minimize any uncertainty about the other entity's responsibilities to the Permittee. The Permittee remains responsible for compliance with the Permit obligations in the event the other entity fails to implement the control measure (or any component thereof).[18]

Permit Part 2.5.2 requires the Permittee to maintain adequate legal authority to implement and enforce the required SWMP control measures as allowed and authorized pursuant to applicable Idaho law.[19] Without adequate legal authority or other mechanisms that allow control over what enters or discharges from the MS4, the Permittee cannot perform vital stormwater management functions, such as conducting inspections, requiring installation and proper operation of pollutant control measures within its jurisdiction, and/or enforcing such requirements.

[17] Federal regulations at 40 CFR § 122.33(b)(2)(iii) allow two or more regulated MS4 entities to jointly apply as a group to obtain discharge authorization under an individual permit. Once a permit is issued to the group, each entity is responsible for compliance with the Permit's terms and conditions. In the future, after the EPA's designation process has been finalized for both the City and the University of Idaho, the EPA encourages the City and University to consider working together as co-Permittees under the same NPDES permit.
[18] See 40 CFR §122.35.
[19] See EPA 2010.

In the event that such legal authority does not currently exist, the EPA provides the Permittee with a compliance deadline of 4.5 years to establish the necessary authority to comply with the Permit. The Permittee is expected to summarize its legal authorities to impose and enforce the required control measure components in the SWMP Document required by Permit Part 2.5.3. An updated SWMP Document must be submitted as part of the Permit Renewal Application required by Permit Part 8.2, no later than 180 days before the Permit expiration date.

Permit Part 2.5.3 requires the Permittee to develop, and update as necessary, a written SWMP Document.[20] The SWMP Document summarizes the physical characteristics of the MS4 and describes how the Permittee conducts the required SWMP control measures in its jurisdiction. The EPA has provided a suggested format for the SWMP Document as an appendix to the Permit, and notes that other MS4 Permittees have already developed such documents that can be used as examples.[21] The SWMP Document addresses three audiences and purposes:

1. General Public – The SWMP Document serves to inform and involve the public in implementation of the local stormwater management program;
2. EPA and IDEQ - The SWMP Document provides the permitting authority a single document to review to understand how the MS4 Permittee will implement its stormwater management program and comply with Permit requirements and; and
3. Elected officials and local staff - The SWMP Document can potentially be used by the Permittee as an internal planning or briefing document.

The SWMP Document should also describe the Permittee's unique implementation issues such as cooperative or shared responsibilities with other entities.

The requirement for the Permittee to develop a SWMP Document is an enforceable condition of the Permit. However, the contents of the SWMP Document are not directly enforceable as requirements of the Permit. As a result, the Permittee may create and subsequently revise the SWMP Document, as necessary, to describe how the stormwater management activities are implemented in compliance with the Permit. Therefore, updates to the SWMP Document may occur without the EPA or IDEQ review and approval.

The first iteration of the Permittee's SWMP Document must be available to the EPA, IDEQ, and the public on a publicly available website (required by Permit Part 3.1.8) no later than the due date of the 1st Year Annual Report. If applicable, the SWMP Document must be updated to include any waterbody specific requirements pursuant to Permit Part 4, no later than the due date of the 2nd Year Annual Report. Finally, the SWMP Document must be updated to reflect the Permittee's current implementation of their control measures and submitted with the Permit Renewal Application, as required by Permit Part 8.2, no later than 180 days prior to the expiration date of the Permit.

Permit Part 2.5.4 requires the Permittee to track indicator statistics and information to document and report on SWMP implementation progress.

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[20] See 40 CFR §122.34(b) and discussion of the relationship between the SWMP and required permit terms and conditions in *EPA 2016b* at pages 89339-89341. In contrast, the purpose of the Annual Report is to summarize the Permittee's activities during the previous reporting period, and to provide an assessment or review of the Permittee's compliance with the Permit.

[21] See, for example, SWMP plan documents authored by the City of Coeur d'Alene (http://www.cdaid.org/files/Engineering/StormwaterManagementPlan.pdf); City of Nampa (http://www.cityofnampa.us/DocumentCenter/View/1513); and Boise State University (http://www.partnersforcleanwater.org/media/182277/2014_boise_state_university_swmp.pdf). Other examples include the Cities of Bellevue, WA; Tacoma, WA; and/or available through the Permit's Administrative Record.

Permit Part 2.5.5 requires the Permittee to provide adequate financial support, staffing, equipment, and other support capabilities to implement the SWMP control measures and other Permit requirements. The Permittee demonstrates compliance with this provision by fully implementing the requirements of the Permit. The Permittee is not required to keep track of, or report, their implementation costs, though it might be appropriate and helpful for the Permittees to track their program investment in some manner. The Permit does not require specific staffing or funding levels, thus providing flexibility and incentive for Permittees to adopt the most efficient methods to comply with Permit requirements. The EPA encourages the Permittee to establish stable funding sources for ongoing SWMP implementation and enter cooperative working relationships with other regulated small MS4s. Technical resources, such as the *Water Finance Clearinghouse* developed by EPA's Water Infrastructure and Resiliency Finance Center,[22] are available to help Permittees identify sustainable funding solutions. The EPA supports comprehensive long-term planning to identify investments in stormwater infrastructure and system management that complement other community development initiatives and promote economic vitality.

Permit Part 2.5.6 requires the Permittee to extend its stormwater control measures to all areas under their direct control when new areas served by the MS4 are annexed, or when areas previously served by the MS4 are transferred to another entity. The Permittee must report changes in ownership or operational authority to the EPA and IDEQ through the SWMP Document and Annual Reports. The Permittee is reminded to make associated revisions to MS4 system maps or other records as soon as possible.

2.3.1. Alternative Control Measure Requests

The Permit requires the implementation of stormwater management (or SWMP) control measures, or control measure components. Where a Permittee must revise or update SWMP control measures, or control measure components, full implementation must be accomplished no later than 180 days prior to the Permit expiration date. To provide implementation flexibility, the Permit allows the Permittee the discretion to submit requests to implement one or more Alternative Control Measures (ACM).

As outlined in Permit Part 2.6.1, the Permittee may submit supplemental or individualized documents, plans, or programs that are deemed equivalent to a comparable SWMP control measure, or control measure component, in Permit Part 3, along with supporting rationale and information. Requests for ACM(s) must be submitted no later than 180 days after the Permit effective date to ensure that the EPA and IDEQ have adequate time to review the request(s).[23] Upon determining that the ACM request(s) is equivalent to a comparable Permit SWMP control measure, or control measure component, and results in a modification of the Permit terms and conditions, the EPA will provide opportunity for public comment and, if requested, a public hearing. The EPA will consider all comments received on the ACM and resulting change in permit terms and conditions before issuing a final agency decision.[24]

The opportunity for ACM(s) relative to any SWMP control measure, or control measure component, in Permit Part 3 offers the Permittee maximum flexibility for SWMP implementation. For example, the Permittee may request the EPA and IDEQ to consider an alternative means of implementing a SWMP control measure as a whole (such as the

[22] See: https://www.epa.gov/waterfinancecenter
[23] Pursuant to Permit Part 8.1, no provision is stayed until the modification process to recognize the ACM is complete.
[24] EPA 2016b.

Construction Site Runoff control measure specified by Part 3.3); or, the Permittee may request EPA consider an alternative SWMP control measure component, such as the specific requirement in Part 3.3.3 (*Construction Site Runoff Control Specifications*).

Pursuant to Permit Part 2.6.2, an ACM also includes the Permittee's individual or collective plans or programs to address discharges to impaired waters, as specified by Permit Part 4 (Special Conditions for Discharges to Impaired Waters). The opportunity to modify the Permit to incorporate specific monitoring/assessment and pollutant reduction activities offers flexibility for Permittee to specify how they intend to make continued progress toward applicable TMDL targets for their watershed. A Permittee may work independently, or with others, to conduct reasonable, meaningful, and necessary actions that reduce pollutants from the MS4 and protect water quality.

2.4. SWMP Requirements

Permit Part 3 contains clear, specific, and measurable requirements to address the minimum control measures in 40 CFR § 122.34(a) and (b) that serve to reduce pollutants in MS4 discharges to the MEP. For each control measure, the EPA has outlined specific tasks, BMPs, design requirements, performance requirements, adaptive management requirements, schedules for implementation and maintenance, and/or frequency of actions. Each minimum control measure is comprised of actions and activities that the EPA refers to as SWMP control measure components.

The EPA considered the 2009 application submitted by the City, and the existing SWMP programs implemented by other MS4 Permittees in Idaho, during development of the Permit terms and conditions. The Permit establishes expectations for the level of effort necessary to reduce pollutants in MS4 discharges and therefore defines the MS4 permit standard for the City.

The EPA recognizes that each regulated MS4 is unique, and that each operator has different circumstances that guides their approach to stormwater management and pollutant control. To address these unique circumstances, the Permit allows implementation flexibility, while setting consistent expectations through clear, specific, and measurable permit requirements.

2.4.1. Public Education, Outreach, and Involvement

Permit Part 3.1 addresses the required SWMP control measures for public education, outreach, and involvement requirements consistent with 40 CFR §§ 122.34(b)(1) and (b)(2). Public education, outreach, and involvement are essential parts of any plan to reduce stormwater pollutants, because the daily activities of people contribute significantly to the types and sources of pollutants in urban settings. As citizens learn about the impacts of their actions on local water resources, they are more likely to change their behaviors.

The City's 2009 application refers to a variety of public education, outreach, and involvement activities that support the City's SWMP implementation, including: (1) the development of an education campaign for the general public focused on topics including, but not limited to, use and disposal of landscaping chemicals, toxic chemicals, and household hazardous waste; (2) engaging the construction and development community during the process to update local BMP standards; (3) consulting with the City's Sustainable Environment Commission to advise the Engineering Department regarding appropriate BMPs to be considered for adoption; and (4) promoting public participation/public comment on the SWMP and code development through press

releases, advertisements. The EPA strongly encourages the Permittee to work cooperatively with others within the Paradise Creek/SF Palouse River watershed, and within the State, to choose education and public involvement activities that are both meaningful and relevant to their local needs.

When scoping their intended activities, the EPA also recommends that Permittees consider the recommendations found in the EPA document, *Promising Practices for Permit Applicants Seeking EPA-Issued Permits: Ways to Engage Neighboring Communities*. See also Section 3.1 of this Fact Sheet.

The Permit contains the following Public Education, Outreach, and Involvement SWMP control measure components:

- Permit Part 3.1.1 establishes a compliance deadline of one year from the Permit effective date for the Permittee to begin, or update and continue, their public education, outreach, and involvement activities in the Permit Area. This provision also establishes a deadline of 180 days after the effective date of the permit for the submission of any ACM Request under this provision.
- Permit Part 3.1.2 specifies requirements for the Public Education, Outreach and Involvement Program. To the extent allowable pursuant to the authority granted the Permittee under Idaho law, the Permittee must work to educate and engage interested stakeholders in the development and implementation of the SWMP control measures.
- Permit Part 3.1.3 requires the Permittee to distribute and/or offer a minimum of eight educational messages to at least one of the four audiences listed in Part 3.1.4 during the Permit term.
- Permit Part 3.1.4 identifies target audiences (i.e., General Public; Business/Industrial/Commercial/Institutions; Construction/Development Professionals; and Elected Officials, Land Use Policy and Planning Staff). For each audience, the Permit includes a non-exclusive list of suggested topics for the Permittee to consider as its focus during the Permit term.
- Permit Part 3.1.5 requires the Permittee to assess, or to participate in an effort to assess, the understanding and adoption of behaviors by the target audience(s). A vital, yet challenging, component of a successful education program is the assessment of whether the Permittee's efforts are achieving the goals of increasing public awareness and behavior change to improve water quality. The EPA recognizes and encourages the long-term nature of such assessment activities, and notes that there may be opportunities for the Permittee to work together within the State, or with other watershed organizations, on specific MS4 topics if they choose to do so.
- Permit Part 3.1.6 requires the Permittee to maintain records of its education, outreach, and public involvement activities.
- Permit Part 3.1.7 requires the Permittee to provide educational opportunities related to certain SWMP control measures at least twice during the Permit term. The Permittee may plan opportunities in a manner such that the relative success of their educational efforts can be articulated as required by Permit Part 3.1.5.
- Permit Part 3.1.8 requires the Permittee to maintain and promote at least one publicly-accessible website to provide relevant SWMP information to the public. Relevant SWMP information includes the Permittee’s SWMP Document, links to relevant public education material, and easily identifiable (and up to date) Permittee

contact information such that members of the public may easily call or email to report spills or illicit discharges, and/or ask questions, etc.

2.4.2. Illicit Discharge Detection and Elimination

Permit Part 3.2 contains requirements for the Permittee to address illicit discharges and spill response within their jurisdiction. At a minimum, the EPA requires the Permittee to maintain the ability to prohibit, detect, and eliminate illicit discharges from their MS4s.

The purpose of this SWMP control measure is to require the Permittee to provide ongoing surveillance and deterrence to prevent pollutant loadings caused by illicit discharges into the Permittee's MS4. Illicit discharges can enter the MS4 through direct connections (e.g., wastewater piping mistakenly or deliberately connected to the storm drains), or through indirect connections (e.g., infiltration into the MS4 from cracked sanitary systems, spills collected by drain inlets, or discarded paint or used oil dumped directly into a drain). Both types of illicit discharge can contribute excessive pollutants into the MS4, and as a result, can negatively affect water quality. Investigating for and eliminating such illicit discharges from entering the MS4 improves water quality.

The Permittee is responsible for the quality of the discharges from their MS4 and, therefore, has an interest in locating and discontinuing any uncontrolled non-stormwater discharges into and from their MS4.

The Illicit Discharge Detection and Elimination (IDDE) SWMP control measure required by 40 CFR § 122.34(b)(3) directs the Permittee to manage illicit discharges to the MS4 by:

- Maintaining a map of the MS4 showing the location of all outfalls and names of the receiving waters;
- Effectively prohibiting discharges of non-stormwater to the MS4 through the use of an ordinance or other regulatory mechanism, and provide for enforcement of that prohibition as needed;
- Implementing a program to detect and address non-stormwater discharges, including procedures to identify problem areas in the community, determine sources of the problem(s), remove the source if one is identified, and document the actions taken; and
- Informing public employees, businesses, and the general public of the hazards associated with illegal discharges and improper disposal of waste and publicize appropriate public reporting of illicit discharges when they occur.

In its application, the City identified a schedule for implementing each of the activities listed above. The Permit allows the City to review and update its existing program over the course of the Permit term to accomplish the SWMP control measure components described below. Full implementation of a comprehensive IDDE program can effectively reduce as yet unknown discharges containing bacteria, sediment, and nutrients through the MS4, consistent with the pollutant load reduction goals of the Paradise Creek and South Fork Palouse TMDLs.

- Permit Part 3.2.1 establishes a compliance deadline of 180 days before the Permit expiration date for the Permittee to update their existing IDDE program activities, and/or to fully impose any new SWMP control measure components outlined in this Part. The EPA believes this timeframe is justified to allow the Permittee adequate opportunity to adjust its existing programs, as necessary, to ensure all the SWMP control measure components are sufficiently addressed in the Permit Area. This

provision also coincides with the date by which any ACM Request must be submitted.

- Permit Part 3.2.2 requires the Permittee to maintain a current MS4 map and an accompanying inventory of the features that comprise the MS4 system. The Permit requires an updated MS4 Map and Outfall Inventory to be submitted as part of the Permit Renewal Application, pursuant to Permit Part 8.2. The purpose of the MS4 Map and Outfall Inventory is to record and verify MS4 outfall locations, including relevant descriptive system characteristics. The EPA expects the Permittee to know the locations and characteristics of all outfalls that it owns and/or operates through mapping their infrastructure and associated assets. The Permittee is encouraged to couple the outfall inventory with other SWMP control measures, such as the operation and maintenance requirements in Permit Part 3.5, to help inform their inspection and/or maintenance prioritization. The City submitted a detailed MS4 map as part of its 2009 permit application.

  Additionally, Permit Part 3.2.2 requires the Permittee to identify and characterize any MS4 outfall(s) with ongoing dry weather flows as a result of irrigation return flows and/or groundwater seepage. Knowing both the location and characteristics of such outfall(s) is an important data point in areas where the MS4 discharges to phosphorus- and/or nitrogen- impaired waters. The MS4 Map and Outfall Inventory can be collectively reassessed by the EPA, IDEQ, and the Permittee at the time of the Permit renewal to tailor future control measures in the next permit term in efforts to address potential non-stormwater discharges that may be contributing to the impairment.
- Permit Part 3.2.3 requires the Permittee to prohibit non-stormwater discharges into the MS4 through enforcement of an ordinance or other legal mechanism to the extent allowable under Idaho state law. Part 3.2.3 identifies minimum prohibitions that the EPA expects the Permittee to enforce within its jurisdiction. The EPA reviewed the local ordinances and regulatory mechanisms currently imposed by the Permittee as reflected in the 2009 permit application and as currently available through the City's website and believes the existing ordinances can fully prohibit the flows listed in Part 3.2.3. The ordinance is not required to cite all the individual prohibitions listed within the Permit provided that the Permittee's legal mechanism can be used to address such discharges if they are found discharging to the MS4. This provision provides a minimum expectation for the local ordinance/legal mechanism to prohibit the breadth of possible non-stormwater discharges that negatively impact water quality.
- Permit Part 3.2.4 describes the EPA's expectations for the Permittee's Illicit Discharge Complaint Reporting and Response Program. The Permittee must maintain and advertise a publicly accessible and available means to report illicit discharges. The Permittee must respond to reports within two (2) days and maintain records regarding actions taken. These programs can be promoted to the public in concert with the public education requirements in Permit Part 3.1. Staff assigned to handle calls should be trained in stormwater issues and emergency response in order to gather and transfer the right information to responders. Conducting an investigation as soon as possible after the initial complaint report is crucial to the success of this program.
- Permit Part 3.2.5 requires the Permittee to conduct a dry weather analytical and field screening monitoring program to identify non-stormwater flows from MS4 outfalls during dry weather. Additionally, this program must emphasize screening activities to

detect and identify illicit discharges and illegal connections, and to reinvestigate potentially problematic MS4 outfalls throughout the Permit Area. The EPA has added prescriptive requirements to (1) prioritize visual screening of at least 50 outfalls per year throughout the Permittee's jurisdiction (Permit Part 3.2.5.2); (2) use appropriate screening and monitoring protocols when flows are identified during dry weather (Permit Part 3.2.5.3); and (3) ensure proper recordkeeping/documentation (Permit Part 3.2.5.4).

Data collected through the Permittee's regular screening of its outfalls during dry weather, and through the public reporting of illicit discharges and connections, can reveal important trends in the types of pollutants generated within and transported into the MS4. Permit Part 3.2.2.6 requires the Permittee to locate and map the occurrences of illicit discharges in order to target appropriate response actions over time. The EPA recommends that samples taken during dry weather screening be analyzed for pH, total chlorine, detergents, total copper, total phenols, fecal coliform bacteria, and/or turbidity to assist in source identification.

Appropriate threshold limits for dry weather monitoring results are important to distinguish pollutant spikes from normal background conditions at a particular outfall. For example, through its Stormwater Investigation Manual, the Ada County Highway District established threshold levels that, when exceeded, result in retesting to determine whether the sample was an isolated event or an ongoing water quality issue. The Permittee should consider establishing a visual baseline for each outfall type to aid in determining what constitutes "normal" dry weather flows, and to distinguish between background conditions (uncontaminated ground water infiltration, for example) versus abnormal, non-stormwater flows that are prohibited by the Permit.

- Permit Part 3.2.6 requires mandatory follow-up actions for recurring illicit discharges (identified through complaint reports and/or Permittee screening activities). Response activities must begin within 30 days of identifying elevated concentrations of screening parameters and action must be taken to eliminate problem discharges within 60 days. Specific timelines are included to direct timely initiation of actions to reduce or fully eliminate a known or newly identified problem.

  Due to the diverse nature and sources of water quality impacts in urban settings in Idaho, both the EPA and IDEQ are concerned about inputs of irrigation return flows and/or groundwater seepage through MS4s. Permit Part 3.2.6 requires the Permittee to list identified MS4 outfall locations where irrigation return flows and/or groundwater seepage are present during dry weather (see also Permit Part 3.2.2.6.). This is a first, interim step towards an assessment of water quality impacts resulting from these specific non-stormwater discharges. For any MS4 outfall where ongoing dry weather discharges are identified by the Permittee as associated with irrigation return flows and/or groundwater seepage, the term "appropriate action" in Permit Part 3.2.6 means, at a minimum, documentation in the Annual Report of the MS4 outfall location, and the Permittee's determination of the source as either irrigation return flows or groundwater seepage. The EPA encourages the Permittee to take action to eliminate such flows if it is identified as a source of pollutants pursuant to Permit Part 2.4.5.2. At a minimum, a summary list of all such outfall locations must be submitted with the Permit Renewal Application. This information will be collectively reassessed by the EPA, IDEQ, and the Permittee at the time of the permit renewal to tailor future control measures to appropriately address non-

stormwater discharges that may be contributing excess nutrient loads to receiving waters.

- Permit Part 3.2.7 requires the Permittee to respond to spills and maintain appropriate spill prevention and response capabilities as appropriate within their jurisdiction. Through coordination with state and/or local agencies (under this provision, "agencies" refers to the organizations responsible for spill response), the goal is to provide maximum water quality protection at all times. The EPA has included an explicit requirement directing the Permittee to notify the appropriate IDEQ regional office, Idaho State Communications Center, and/or the National Response Center, as specified by IDEQ in its comments submitted on the EPA's 2017 draft MS4 General Permit.[25]
- Permit Part 3.2.8 requires coordination with appropriate agencies to ensure the proper disposal of used oil and toxic materials by employees and the public. The Permittee may comply with this requirement by continuing their outreach and public education efforts on proper recycling and disposal of used oil and household hazardous waste in their jurisdiction.
- Permit Part 3.2.9 requires the Permittee to appropriately train staff to respond to spills, complaints, and illicit discharges/connections to the MS4. Permittee staff can be the "eyes and ears" of the stormwater program if they are trained to identify illicit discharges and spills or evidence of illegal dumping.

2.4.3. Construction Site Stormwater Runoff Control

This SWMP control measure requires the Permittee to control construction site runoff discharges into their MS4s. 40 CFR § 122.34(b)(4) requires the Permittee to use an ordinance or regulatory mechanism to require proper construction site controls for sediment, erosion, and waste management at sites with land disturbance of one (1) or more acres. Additionally, construction activities disturbing less than one (1) acre are subject to this regulation if that activity is part of a common plan of development or sale that exceeds one (1) acre. Other mandatory control measure components are procedures for site plan review that considers potential water quality impacts; procedures for site inspection and enforcement; and procedures for the receipt and consideration of information submitted by the public.

Construction activities (such as clearing vegetation and excavating, moving, and compacting earth and rock) significantly change the land surface. The consequences of construction activities during rainfall events includes: reduced stormwater infiltration, increased runoff volume and intensity, and higher soil erosion rates. While sediment and other pollutants are readily mobilized by precipitation during land disturbance activity, such discharges can be effectively prevented through the use of reasonable and effective erosion and sedimentation controls. Examples include the use of construction sequencing, and vegetative- or non-vegetative stabilization techniques.[26]

Local ordinances and requirements are key to ensuring that construction site operators use appropriate techniques to prevent pollutant discharges to the MS4s. Although discharges from all construction sites disturbing one or more acres in Idaho are independently subject to the *NPDES General Permit for Storm Water Discharges from Construction Activity*, #IDR120000 (Construction General Permit or CGP), it is

[25] IDEQ 2017.
[26] EPA 1999, pages 68758-68759; EPA 2009a, pages 7-3 through 7-26.

appropriate for the MS4 operators to directly impose local construction site management requirements to prevent construction-related pollutants from entering the MS4s.

The City's 2009 NPDES permit application outlined its plan to review existing stormwater management erosion control codes and to include stormwater quantity (volume) control; update/modify existing codes/standard as needed to ensure enforceability related to installation and maintenance of BMPs and cessation of construction activities at the end of the construction season; publish updated BMP standards; implement a process to ensure that developers obtains CGP coverage as appropriate; and increase onsite inspections to confirm compliance with local requirements

The following summarizes the SWMP control measure components under Permit Part 3.3. (*Construction Site Stormwater Runoff Control)*:

- Permit Part 3.3.1 establishes a compliance deadline of 180 days before the Permit expiration date for the Permittee to update its existing programs, if needed, or to impose any new or revised control components in the Permit Area. This provision also defines the date by which any ACM Request must be submitted.
- Permit Part 3.3.2 outlines the expected scope of the Permittee's legal mechanism to reduce and prevent runoff from construction sites in its jurisdiction that disturb one (1) or more acres.
- Permit Part 3.3.3 requires written specifications to define appropriate site level controls for construction activities within the Permittee's jurisdiction. The EPA clarifies that the type and extent of site-level erosion, sediment, and waste management controls will likely be different depending on site size and location. Therefore, the Permittee has the discretion to determine how best to control sediment and other pollutants in runoff from different sized construction sites.
- Permit Part 3.3.4 requires a preconstruction site plan review process to address construction site activity that will result in land disturbance of one (1) or more acres and includes consideration of public input. This review can be conducted using a checklist or similar process to consider and address potential water quality impacts from the site activities.
- Permit Part 3.3.5 requires that the Permittee conduct prioritized construction site inspections and to enforce the applicable local requirements as needed. At a minimum, the Permittee must inspect and enforce their requirements at construction sites occurring in their jurisdictions that disturb one (1) or more acres.
- Permit Part 3.3.6 requires the Permittee to have a written enforcement response policy or plan to guide and prioritize their oversight, inspection, and enforcement efforts.
- Permit Part 3.3.7 requires the Permittee to provide proper training for construction staff conducting plan review and inspections.

Ensuring that construction sites use appropriate erosion and sedimentation controls through BMP specifications, site plan review, in field inspection and enforcement has been shown to significantly reduce sediment loadings to nearby water bodies. By reducing sediment discharges, the City will also commensurately reduce nutrients and other pollutants that bind to the sediment particles. Such control measures, when properly implemented, will reduce overall pollutant loading, and are consistent with the load allocation requirements of the Paradise Creek and South Fork Palouse River TMDLs. See Appendix 5 for a discussion of the TMDLs and associated WLAs and LAs.

2.4.4. Post-Construction Stormwater Management from New Development and Redevelopment

Permit Part 3.4 requires the Permittee to implement and enforce a program to control runoff from new development and redevelopment project sites, including projects involving streets and roads.

Pursuant to 40 CFR § 122.34(b)(5), these controls must be imposed, at a minimum, at new development and redevelopment sites disturbing one (1) or more acres and at sites less than one (1) acre, which are part of a common plan of development or sale that exceeds one (1) acre. The Permittee must address runoff from new development and redevelopment projects using a locally appropriate combination of structural and/or non-structural BMP requirements.[27] Further, the Permittee must enforce the requirements using an ordinance or other regulatory mechanism, to the extent allowable under state or local law, and ensure the adequate long-term operation and maintenance of these BMPs.[28]

The Permit uses the term "permanent stormwater controls" instead of "post-construction stormwater management controls" to mean those controls that will treat or control pollutants in stormwater runoff from the development site on a permanent basis after construction is complete. This terminology is consistent with other MS4 permits issued by EPA Region 10 since 2012.

The City stated in its 2009 NPDES permit application that it intends to review the existing ordinance related to stormwater quantity/volume and stormwater quality, and to modify the ordinance, as necessary, to ensure enforceability of requirements related to storm event standards, timing of facility installation, facility maintenance, and maintenance by property owners. In addition, the City indicated that it intends to publish Water Quantity and Quality BMP standards and Private Facility BMP standards; perform inspection of private stormwater control facilities to ensure proper operation and maintenance; and adopt riparian buffer protection standards along Paradise Creek and the South Fork Palouse River.

- Permit Part 3.4.1 establishes a compliance deadline of 180 days before the Permit expiration date for the Permittee to update their existing Post-Construction Stormwater Management control program and, if needed, to impose any new SWMP control measure components in the Permit Area. This timeframe is justified to allow the Permittee the flexibility to adjust their existing programs as necessary. This provision also defines the date by which any ACM Request(s) must be submitted.
- Permit Part 3.4.2 requires the Permittee to update their legal regulatory mechanism to incorporate an onsite stormwater retention standard or require a treatment equivalent to the onsite retention standard, for new development and redevelopment sites. The purpose of this requirement is to prevent the creation of excess stormwater discharges and pollutant loading- from the impervious surfaces associated with urban development. Use of onsite stormwater management controls will reduce pollutants in regulated MS4 discharges to the MEP and proactively protect Idaho receiving waters by ensuring that water quality protections continue

[27] "Non-structural requirements" include, but are not limited to, planning, zoning, and other local requirements such as buffer zones. "Structural controls" include, but are not limited to, the use of storage, infiltration basins, or vegetative practices such as rain gardens or artificial wetlands. *See*: 40 CFR§122.34(b)(5)(iii).

[28] See EPA 2012; EPA 2009; and 40 CFR §122.34(b)(5).

over the long term. Additional rationale for including this provision is provided in Appendix 4 of this Fact Sheet.

Permit Part 3.4.2 also allows for alternative mitigation in situations where complete on-site retention of the target runoff volume is infeasible. The Permittee may apply an alternative standard if it is deemed to be equally protective, or more protective, of the onsite stormwater management design standard as articulated in the Permit. For example, alternative local compliance with the Permittee's calculated stormwater management design standard could take the form of off-site mitigation or payment in lieu programs. The Permittee could consider creating an inventory of appropriate alternative stormwater management techniques, and/or using planning mechanisms (such as completed sub-watershed plans or other appropriate means) to identify priority areas within sub-watersheds of their jurisdiction(s) where off-site mitigation, and/or public stormwater mitigation projects, could be implemented.

- Permit Part 3.4.3 requires the Permittee to maintain written specifications for the permanent stormwater controls allowed by the Permittee at development sites within their jurisdiction. These specifications must be utilized at sites disturbing at least one (1) or more acres.
- Permit Part 3.4.4 requires the Permittee to review and approve site plans for permanent stormwater controls at sites resulting from land disturbance of one (1) or more acres. Specific standards are a critical component of the program, but even the best local requirements must be supported by a review component to ensure that the locally established performance standards are met. To comply with this requirement, the Permittee must have the authority to withhold approvals when it determines that the controls at a specific site are not designed to meet established standards for permanent stormwater control.
- Permit Part 3.4.5 outlines the requirement for the Permittee to inspect and enforce their requirements for permanent stormwater controls at sites resulting from land disturbance of one or more acres. Inspection of permanent control measures is key to ensuring water quality protection over the long term. Without periodic inspection or maintenance, the permanent controls can instead become pollutant sources, rather than a means of prevention. An effective local inspection process, combined with appropriate enforcement if necessary, ensures that onsite controls are built according to approved plans and specifications, and use proper materials and installation techniques. The EPA expects the Permittee to prioritize their inspection and enforcement to include any new permanent stormwater controls installed after the Permit effective date.
- Permit Part 3.4.6 requires the Permittee to ensure the long-term operation and maintenance (O&M) of permanent stormwater controls through the use of a database inventory to track and manage the operational condition of permanent stormwater controls within its jurisdiction. This database inventory can take the form of a computerized maintenance management system or asset management system that allows for the electronic logging of O&M tasks. Ongoing O&M is necessary to ensure that the BMPs will perform as designed over time. Inadequate maintenance of existing stormwater management controls is a primary shortcoming for most local SWMPs across the country. As with any infrastructure, deferred maintenance can increase costs and negatively affect receiving waters. Unmaintained BMPs will ultimately fail to perform their design functions, and can become a nuisance and/or

pose safety problems.[29] The Permittee must track those permanent controls which are known to them, or for which they accept ownership, beginning no later than the Permit effective date.

- Permit Part 3.4.7 requires the Permittee to ensure that their staff are sufficiently trained and/or qualified to review site plans for permanent stormwater controls, and/or for inspecting the installation and operation of permanent stormwater controls.

When fully implemented, this SWMP control measure will serve to reduce pollutants in MS4 discharges and, in combination with the other requirements of the Permit, are consistent with the provisions of the Paradise Creek and South Fork Palouse River TMDLs. See Appendix 5 for a discussion of the TMDLs and associated WLAs and LAs.

2.4.5. Pollution Prevention and Good Housekeeping for MS4 Operations

As noted above, O&M is an integral part of any SWMP, and, when coupled with good housekeeping and pollution prevention principles, reduces the risk of water quality problems from MS4 discharges. The minimum requirements for this control measure are set forth in 40 CFR § 122.34(b)(6), which includes the implementation of an O&M program "intended to prevent or reduce pollutant runoff from municipal operations" and an employee training program. The EPA has also included requirements for site-specific stormwater pollution prevention plans (SWPPPs) at the Permittee's own maintenance buildings and similar facilities that discharge stormwater into the MS4.

Permit Part 3.5 requires the Permittee to properly operate and maintain their MS4s, actively manage runoff from Permittee owned and/or operated facilities and conduct their municipal activities to prevent or reduce the discharge of pollutants from the MS4.

The Permittee must focus on maintenance of their MS4s to protect water quality. Due to the diverse nature of MS4 facilities, ensuring appropriate inspection and maintenance schedules are in place for all types of infrastructure/facility is both relevant and necessary. O&M procedures should include some manner or protocol for testing and safely disposing of waste materials and any associated decant water collected from catch basins or other MS4 infrastructure.

Individual SWMP control measure components under the Pollution Prevention/Good Housekeeping control measure in Part 3.5 are reasonable, practicable, and consistent with other MS4 permits issued by the EPA Region 10 since 2012. The specific requirements are summarized below:

- Permit Part 3.5.1 establishes a compliance deadline of 180 days before the Permit expiration date for the Permittee to update its existing program(s), and/or to impose any new program components, in the Permit Area. The EPA believes this timeframe is justified to allow the Permittee adequate opportunity to adjust its existing programs, as necessary, and ensure the required actions are sufficiently addressed in the Permit Area. This provision also defines the date by which any ACM Request(s) must be submitted.
- Permit Part 3.5.2 outlines requirements for the inspection of all Permittee catch basins and inlets within the MS4 service area at least once every five years, and requires appropriate cleaning and/or maintenance activities based on the findings of those inspections.

[29] NRC 2008; Shaver, et al 2007.

Because roads and streets function as an integral part of the drainage conveyance systems within the Permit Area, and other Urbanized Areas of Idaho, the EPA has included explicit provisions for appropriate stormwater management through O&M activities for roads, streets, highways and parking lots.

- Permit Part 3.5.3 requires the Permittee to review and update their O&M procedures for streets, roads, highways, and parking lots that are owned, operated, and/or maintained by the Permittee to ensure procedures are protective of water quality and reduce the discharge of pollutants through the MS4.

  Permit Part 3.5.3.3 also requires the Permittee to consider using water conservation measures for all landscaped areas associated with streets, roads, highways, and parking lots to prevent landscape irrigation water from discharging through the MS4. Excessive landscape watering can contain fertilizers and other compounds that, when discharged through the MS4, can increase nitrogen and phosphorus loading to impaired waters. Landscape irrigation can be considered an allowable non-stormwater discharge only when it is not a source of pollution under the Idaho WQS. See Permit Part 2.4. Permit.

- Part 3.5.4 requires the Permittee with street maintenance responsibilities to ensure that road material stockpiles (such as sand, salt, or sand with salt stockpiles) are managed in a manner that prevents pollutants from discharging to the MS4 or into any receiving water. An inventory of all such street materials must be maintained. No later than 180 days prior to the Permit expiration date, as part of the Permit Renewal Application required by Permit Part 8.2, the Permittee must assess their Material Storage Locations for water quality impacts and must describe any structural or non-structural improvements made by the Permittee to prevent runoff from discharging to the MS4 or directly to a receiving water. A Permittee without street maintenance responsibilities does not have an obligation to comply with this provision.

- Permit Part 3.5.5 requires a Permittee with street, road, highway and parking lot responsibilities to document the adequacy of their sweeping activities through a sweeping management plan. A Permittee without street maintenance responsibilities does not have an obligation to comply with this provision.

- Permit Part 3.5.6 requires the Permittee to review and update their O&M procedures for a variety of other typical municipal activities to ensure procedures protect water quality and reduce the discharge of pollutants through the MS4.

- Permit Part 3.5.7 requires the Permittee to ensure that their staff, and others operating in public areas owned and/or operated by the Permittee, are appropriately handling and/or using pesticides, herbicides, and fertilizers used within the Permit Area. This provision is consistent with the *NPDES General Permit for Discharges from The Application of Pesticides, for the State of Idaho,* NPDES Permit No. IDG870000.

- Permit Part 3.5.8 requires the Permittee to manage onsite materials at their maintenance yards and to prevent pollutants in runoff through use of SWPPPs. Plans developed for such locations can use the basic SWPPP framework identified in various EPA guidance materials and may follow a “template plan” to establish basic requirements that can be tailored to the location/responsible staff.

- Permit Part 3.5.9 requires the Permittee to work cooperatively to reduce litter in their jurisdictions to prevent the conveyance of trash and other material through the MS4.

- Permit Part 3.5.10 requires the Permittee to ensure appropriate training for responsible staff such that O&M activities are conducted properly and with attention to prevent potential water quality impacts.

2.5. Requirements for Discharges to Water Quality-Impaired Receiving Waters

Consistent with 40 CFR § 122.34(c), Permit Part 4 requires the Permittee to define and conduct quantitative monitoring/assessment and pollutant reduction activities to address the pollutants of concern in MS4 discharges, consistent with the WLAs and pollutant reduction targets for MS4 discharges in the Paradise Creek and South Fork Palouse River TMDLs. For the purposes of the Permit, the phrase "pollutant(s) of concern" means any pollutant identified by the EPA or IDEQ as a cause of impairment of any water body that receives MS4 discharges authorized under the Permit. Appendix 5 of this Fact Sheet contains a detailed discussion of these TMDLs, and rationale for any monitoring/assessment and pollutant reduction activities included in Permit Part 4.

The EPA has included requirements in Permit Part 4 for the Permittee to submit, within 180 days of the Permit effective date, a written description of at least two pollutant reduction activities, and a specific monitoring/assessment plan, to be conducted during the remainder of the Permit term. At least one pollutant reduction activity must be identified for Paradise Creek, and at least one pollutant reduction activity must be identified for the South Fork Palouse River. The EPA, in consultation with IDEQ, will review the submitted materials, and the EPA will modify the Permit to incorporate the pollutant reduction activities and monitoring/assessment plan.

The Permittee may choose to implement new activities, or to continue ongoing efforts designed to meet the WLAs and pollutant reduction goals of these TMDLs. The Permittee may conduct activities that are independent of the SWMP control measures or actions that enhance one or more of the existing SWMP control measures. Acceptable activities must be linked to the goal of reducing pollutants of concern into Paradise Creek and South Fork Palouse River and must be designed to measure the relative success or failure of such actions over time.

The EPA believes it is appropriate to allow the Permittee the opportunity to recommend pollutant reduction and monitoring/assessment activities needed to address the receiving water impairments. This process will allow the Permittee flexibility in defining what and how they will address impairments consistent with the goals of the applicable TMDLs and associated watershed advisory group(s). Through the Permit modification process, this approach also provides information and transparency to interested members of the public.

2.6. Requirements for Excursions above the Idaho Water Quality Standards

Permit Part 5 sets forth requirements for the Permittee to report and address excursions above the Idaho water quality standards as directed by Permit Part 2.1. The EPA has outlined an adaptive management approach for use when there are ongoing discharges from the MS4 that cause or contribute to excursions above the applicable Idaho water quality standards and are not being addressed by other SWMP control measure requirements.

Permit Part 5 provides the Permittee with the opportunity to use adaptive management principles to scope corrective action steps to address ongoing, prolific pollutant source(s). Where such solutions may involve structural controls, require capital expenditures, and/or that necessitate long-range planning and implementation

schedules, Permit Part 5 provides opportunity for the Permittee to define and articulate such long-range investment plans.

The EPA supports robust long-term planning for stormwater management by MS4 communities and recognizes that the most successful stormwater planning uses multi-benefit approaches to solve stormwater pollution control challenges. It also recognizes that for a plan to be more affordable, communities need to make financial investments over a time horizon of sufficient length to allow for cost efficiencies through working with other municipal programs.[30]

Any information that the Permittee submits pursuant to Permit Part 5 will prompt them to report on the incremental progress made towards the identified milestones in both the Annual Report and as part of their Permit Renewal Application.

2.7. Monitoring, Recordkeeping and Reporting Requirements

Consistent with 40 CFR § 122.34(d), Permit Part 6 requires that the Permittees evaluate program compliance, keep records, and submit Annual Reports. Furthermore, Section 308 of the CWA, federal regulation 40 CFR § 122.44(i), and subsequent EPA guidance requires monitoring to determine compliance with terms and conditions of a NPDES permit.

2.7.1. Compliance Evaluation

Permit Part 6.1 requires the Permittee to assess their compliance with the Permit requirements annually and to document the evaluation through the submittal of an Annual Report. The EPA has provided a concise "fillable PDF" Annual Report format for use during the Permit term. The five-year permit term will coincide with the EPA's national transition to online reporting for MS4 permits; this transition is expected to be accomplished no later than December 2020. Once primacy for the NPDES stormwater permit program is transferred to IDEQ, the Permittee may negotiate different reporting frequencies in the subsequent MS4 permit, pursuant to 40 CFR § 122.34(d)(3).[31]

2.7.2. Monitoring and/or Assessment Activities

Permit Part 6.2. requires the Permittee to evaluate the effectiveness of their SWMP at protecting water quality by quantifying their stormwater pollutant reductions. Implementing monitoring and/or assessment activities allows the Permittee to assess the effectiveness of stormwater management actions, aides in determining whether pollutant reduction goals in applicable TMDLs are met, and to justify budgets that support stormwater programs. While many MS4 program goals are output-based (e.g. number of stormwater treatment practices installed, number of educational brochures distributed), which can be useful from a program accounting standpoint, such measurements often cannot be used to quantify changes in water quality resulting from MS4 program activities.[32]

The EPA proposes that the Permittee collect objective data that can be used to evaluate the relative success of SWMP control measures and can be used to assess whether MS4 discharges cause or contribute to violations of Idaho water quality standards. Permit Part 6.2 requires the Permittee to submit a monitoring/assessment plan that supports the terms and conditions of Permit Part 4 and meets the quality assurance

[30] EPA 2016g.
[31] See EPA 2015c.
[32] CWP 2009.

objectives at Permit Part 6.2.7 no later than 180 days after the Permit effective date. Standard NPDES permit conditions are included in Part 6.2 related to representative sampling, additional monitoring, and use of sufficiently sensitive testing methods. If the Permittee elects to monitor MS4 discharges, Part 6.2.5 summarizes the basic components of any wet weather stormwater monitoring.

The EPA recognizes that the MS4 permits in Idaho should not impose a "one size fits all" monitoring and assessment approach. The guidelines at Permit Part 6.2. provide the Permittee the flexibility to develop and implement monitoring/assessment activities that are appropriate for their MS4. The EPA will modify the Permit to incorporate the Permittee's intended plan. MS4 stakeholders around the country have found that relevant watershed-level questions must drive a Permittee's monitoring and assessment choices. Because water quality benefits will only be realized over the long-term, it is important for MS4 Permittees to invest their time and energy into long-term implementation mechanisms that are linked to appropriate monitoring and assessment actions. Monitoring and assessment data contributes to new knowledge, and resulting data should then be made broadly available.[33]

Monitoring/assessment activities that the Permittee may consider include:

- Conducting biological or macroinvertebrate sampling, instream monitoring, or other means to assess certain parameters or watershed outcomes.
- Focused efforts to influence human behavior through outreach and educational efforts.
- Working collaboratively with other entities within a watershed or across the state to accomplish the SWMP goals.

Based on the downstream impairment of the South Fork Palouse River for polychlorinated biphenyls (PCBs), Part 6.2.6 contains options for the Permittee to consider and select from to accomplish PCB monitoring/assessment activities for their MS4 discharges to the River. The Permit specifies monitoring/assessment of PCB loading in either stormwater discharges, or in sediment collected from catch basins. The Permittee must use either EPA Methods 1668C for discharge sampling, or Method 8082, for assessing catch basin solids. Alternatively, the Permittee may identify and propose some other means of assessing the amount of PCB loading that may be conveyed through their MS4 discharges.

Permit Part 6.2.7 requires Permittee to create, or revise any existing, Quality Assurance Project Plans (QAPP) to guide the intended monitoring/assessment activities.

2.7.3. Recordkeeping and Reporting

Permit Part 6.3 requires the Permittee to keep all records associated with the Permit for a period of at least five years and submit such records only when requested by the EPA. The Permittee must ensure that SWMP materials are available to the public, and they may charge a reasonable fee for copies and/or require a member of the public to provide advance notice of their request. As previously noted, Permit Part 3.1 requires the Permittee to provide their SWMP Document to the public electronically via one or more dedicated websites.

Permit Part 6.4 describes the overall reporting requirements, including and the schedule and required content for the Annual Reports, the final monitoring/assessment reports,

[33] Stein 2013; EPA 2016g; NRC 2008.

and the pollutant reduction activity reports. At a minimum, Permittee must submit Annual Reports of progress to both the EPA and IDEQ using the recommended Annual Report format provided in the Permit Appendix no later than 60 days after the close of relevant reporting period. The Annual Report format will prompt the Permittee for appropriate information according to compliance dates specified in the final Permit.

No later than December 21, 2020, all NPDES reports submitted in compliance with an applicable permit must be submitted electronically through the EPA's national electronic reporting system. However, the MS4 Permit program is one of the last types of NPDES permits to be accommodated by this new system.[34] Until the electronic system is available, the Permittee must submit signed versions of their Annual Reports to the EPA and IDEQ addresses provided in the Permit.

2.8. Standard Permit Conditions

Permit Parts 7 and 8 contain standard regulatory language that must be included in all NPDES permits. The standard regulatory language addresses compliance responsibilities, and other general requirements. Although certain provisions may not strictly apply to MS4 facilities (for example, the upset or bypass provisions), it is mandatory that each of the standard provisions be included in a NPDES permit. Such provisions have been included in other Idaho MS4 NPDES permits issued by the EPA since 2012. The EPA notes that if a particular provision in Permit Parts 7 or 8 does not apply to the Permittee's MS4 discharges or facilities, the Permittee does not need to comply with that provision.

2.8.1. Duty to Reapply

In accordance with 40 CFR § 122.46(a), NPDES permits are in effect for a fixed term not to exceed five (5) years. Permit Part 8.2 requires the Permittee to submit an NPDES permit renewal application no later than 180 days before the Permit expiration date it it intends to continue operational control and management of MS4 discharges after the Permit expiration date.

Because there are no NPDES application forms for the MS4 permit program, Permit Part 8.2.1 describes the expected content of a complete Permit Renewal Application. The deadline for the Permit Renewal Application (180 days before the permit expiration date) corresponds to the Permit's implementation/compliance dates; therefore, as part of any request for continued permit coverage, the Permittee must submit the attachments listed in Permit Part 8.2.1 to demonstrate how they have complied with the current Permit requirements. The Permittee must submit a 5th Year Annual Report, by the Permit expiration date, using the format provided in the Permit. In the event that a new permit is not issued on or before the Permit expiration date, any Permittee that has submitted a Permit Renewal Application in accordance with Part 8.2, may be authorized to continue discharging under an administrative extension of the Permit. If the Permittee is granted an administrative extension, they must continue to adhere to the terms and conditions of the Permit, which includes submitting the Annual Report(s) by the anniversary of the Permit expiration date, until coverage under a reissued or replacement Permit is available.

[34] EPA 2015c.

3. OTHER LEGAL REQUIREMENTS

3.1. Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs each federal agency to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high, and adverse human health or environmental effects of its programs, policies, and activities." The EPA strives to enhance the ability of overburdened communities to participate fully and meaningfully in the permitting process for EPA-issued permits, including NPDES permits. "Overburdened" communities can include minority, low-income, tribal, and indigenous populations, or communities that potentially experience disproportionate environmental harms and risks. As part of an agency-wide effort, the EPA Region 10 will prioritize enhanced public involvement opportunities for EPA-issued permits that may involve activities with significant public health or environmental impacts on already overburdened communities. For more information, please visit https://www.epa.gov/environmentaljustice/learn-about-environmental-justice

As part of the permit development process, the EPA Region 10 conducted a screening analysis to determine whether the Permit action could affect overburdened communities. The EPA uses a nationally consistent geospatial tool that contains demographic and environmental data for the United States at the Census block group level. This tool is used to identify permits for which enhanced outreach may be warranted.

Based on this screening, Moscow, Idaho, is identified as an area where potentially overburdened communities reside. In order to ensure that individuals in this area are able to participate meaningfully in the NPDES permit process, the EPA will work to ensure that interested stakeholders in the area, and throughout the state, are informed and able to provide their input on appropriate local stormwater management activities.

The EPA encourages all MS4 Permittees to review (and to consider adopting, where appropriate) *Promising Practices for Permit Applicants Seeking EPA-Issued Permits: Ways To Engage Neighboring Communities* as described in the EPA document available at https://www.federalregister.gov/articles/2013/05/09/2013-10945/epa-activities-to-promote-environmental-justice-in-the-permit-application-process#p-104.

3.2. Endangered Species Act

The Endangered Species Act (ESA) Section 7(a)(2) requires federal agencies to consult with the National Oceanic and Atmospheric Administration – National Marine Fisheries Service (NOAA Fisheries) and the U.S. Fish and Wildlife Service (USFWS) regarding potential effects an action may have on listed endangered species.

The EPA reviewed current endangered and threatened species maps, species lists, and other available information from both NOAA Fisheries and USFWS, and determined that issuance of the Permit for discharges from the City of Moscow MS4 will have no effect on any listed endangered or threatened species or designated critical habitat; therefore, for this Permit action, consultation is not required. EPA reached this conclusion based on the following information:

1. There are no anadromous fish in the Palouse River system because the Palouse

River Falls (located in Washington) blocks fish migration.[35] Based on location of the MS4 discharges, the EPA determines that consultation with NOAA Fisheries is not required, because issuance of the Permit in the Moscow area will have no effect on any threatened or endangered species under NOAA Fisheries jurisdiction.

2. Species lists from USFWS indicate that Spalding's Catchfly (*Silene spaldingii)* and Water Howellia (*Howellia aquatilis)* are two threatened species that may occur within the City of Moscow boundary, however, no critical habitat is designated for either species near the City of Moscow.

Spalding's catchfly *(Silene spaldingii*) is an herbaceous perennial plant. It is a regional endemic found predominantly in bunchgrass grasslands and sagebrush-steppe, and occasionally in open pine communities in eastern Washington, northeastern Oregon, west-central Idaho, western Montana, and barely extending into British Columbia, Canada.[36] There are two areas with identified populations of Spalding's catchfly, namely, the *Canyon Grasslands* along the Snake, Salmon, Clearwater, Grande Ronde, and Imnaha Rivers in Idaho, Oregon, and Washington; and the *Palouse Grasslands* in southeastern Washington and adjacent west central Idaho.

Spalding's catchfly within the Palouse Grasslands is restricted to small fragmented populations ("eyebrows," field corners, cemeteries, rocky areas, and steptoes) on private lands, and in larger remnant habitats such as research lands owned by Washington State University. Elevations occupied by Spalding's catchfly within the Palouse Grasslands range from 700 to 1,340 meters (2,300 to 4,400 feet).[37] In general populations of Spalding's catchfly are restricted to small, remnant patches of native habitat, predominately located on private land and/or federal land managed by Bureau of Land Management and U.S. Forest Service. [38]

Elevation of the Moscow city center is approximately 786 meters (2,579 feet) above sea level.[39] In general, MS4 discharges to be authorized by the Permit may have limited impact on species that live in the aquatic environment. However, EPA finds no information indicating that any remaining populations of Spalding's Catchfly currently occur within the Moscow city boundary.

Based on this information, the EPA determines that issuance of the Permit will have no effect on the Spalding's Catchfly.

3. Water howellia (*Howellia aquatilis*) is a winter annual aquatic plant that grows 4-24 inches high. The plant grows in areas that were once associated with glacial potholes and former river oxbows that flood in the spring, but usually dry at least partially by late summer. It is often found in shallow water and on the edges of deep ponds partially surrounded by deciduous trees such as aspen or cottonwood.[40]

In Idaho, the only known Water howellia site is on the flood plain of the Palouse River, in ponds formed by the gradual migration of the river channel. Three ponds, each less than 0.1 hectare (0.25 ac) in area occur on a parcel of private land

[35] Tetra Tech 2011.
[36] USFWS 2007. At http://ecos.fws.gov/docs/recovery_plan/071012.pdf
[37] USFWS 2007 http://ecos.fws.gov/docs/recovery_plan/071012.pdf, pages 21 and 24.
[38] USFWS 1999. pages 67815 and 67819, at https://www.gpo.gov/fdsys/pkg/FR-1999-12-03/pdf/99-31387.pdf
[39] See: https://en.wikipedia.org/wiki/Moscow,_Idaho
[40] USFWS Species Profile at https://ecos.fws.gov/ecp0/profile/speciesProfile.action?spcode=Q2RM

occasionally used for pasture. The site is tracked by the Idaho Conservation Data Center (IDCDC) as the Harvard-Palouse River Flood Plain Conservation Site.[41]

The EPA finds no information indicating that any Water howellia populations currently occur within the boundary of the City of Moscow. Based on this information, the EPA determines that issuance of the Permit will have no effect on Water howellia.

3.3. Essential Fish Habitat

Essential Fish Habitat (EFH) is the waters and substrate (sediments, etc.) necessary for fish spawning, breeding, feeding, or growing to maturity. The Magnuson-Stevens Fishery Conservation and Management Act requires the EPA to consult with the NOAA-Fisheries if a proposed action has the potential to adversely affect (by reducing the quality and/or quantity of) EFH. Based on City of Moscow's location, the EPA has determined that the issuance of the Permit will have no effect on any EFH species in the vicinity of the MS4 discharges; therefore, consultation is not required for this action.

3.4. National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of federal undertakings on historic properties listed on, or eligible for listing on, the National Register of Historic Places. The term federal "undertaking" in NHPA regulations to include a project, activity, or program of a federal agency that can result on changes in the character or use of historic properties, if any historic properties are located in the area of potential effects for that project, activity or program. See 36 CFR § 802(o). Historic Properties include prehistoric or historic districts, sites, buildings, structures, or objects that are included in, or are eligible for inclusion in, the National Register of Historic Places. See 36 CFR § 802(e). Federal undertakings include the EPA's issuance of a NPDES permit.

The EPA has determined that the reduction of pollutants in runoff through compliance with a MS4 discharge permit will not result in the disturbance of any site listed or eligible for listing in the National Historic Register. Therefore, the EPA believes that the actions associated with the Permit are also in compliance with the terms and conditions of the National Historic Preservation Act.

Pursuant to Permit Part 8.10, the Permittee is reminded that they must comply with applicable state, Tribal and local laws, including those concerning protection of historic properties. If any permitted entity engages in any activity which meets all of the following criteria, then they must consult with and obtain approval from the State Historic Preservation Office prior to initiating the activity:

- The permitted entity is conducting the activity in order to facilitate compliance with the MS4 Permit;
- The activity includes excavation and/or construction; and
- The activity disturbs previously undisturbed land.

Examples of actions that may meet the above criteria include but are not limited to: retention/detention basin construction; storm drain line construction; infiltration basin construction; dredging; and stabilization projects (*e.g.*, retaining walls, gabions). The

[41] Litchardt & Gray 2003. At https://www.idfg.idaho.gov/ifwis/idnhp/cdc_pdf/u03lic04.pdf .

requirement to submit information on plans for future earth disturbing is not intended for activities such as maintenance and private development construction projects.

3.5. National Environmental Policy Act and Other Federal Requirements

40 CFR § 122.49 lists the federal laws that may apply to the issuance of permits i.e., ESA, NHPA, the Coastal Zone Act Reauthorization Amendments (CZARA), NEPA, and Executive Orders, among others. The NEPA compliance program requires analysis of information regarding potential impacts, development, and analysis of options to avoid or minimize impacts; and development and analysis of measures to mitigate adverse impacts.

The EPA has not promulgated effluent limitation guidelines or new source performance standards specific to MS4 discharges. Therefore, MS4 permits are not subject the NEPA.

Idaho is not located in the U.S. coastal zone, so CZARA does not apply to the issuance of the Permit. In addition, the Permit will not authorize the construction of any water resources facility or the impoundment of any water body. No regulated small MS4s are located in areas with Wild and Scenic River designations. Therefore, the EPA determines that the Fish and Wildlife Coordination Act, 16 USC § 661 et seq., and the Wild and Scenic Rivers Act, 16 USC § 470 et seq., does not apply to the issuance of the Permit.

3.6. Permit Dates

The Permit will expire five years from the effective date. As proposed, the Permit assumes an effective date of December 31, 2018. Compliance dates for SWMP control measure implementation, Annual Report submittals, etc., are tentatively identified in the Permit (in the upfront Schedule and in pertinent text) based on the final Permit's effective date.

During discussions Idaho stakeholders in late 2016 and early 2017 regarding preliminary draft MS4 documents, the EPA was reminded to remain cognizant of local government budget planning cycles (based on a fiscal year calendar October – September) when establishing implementation deadlines in the Permit. In response, the EPA previously considered calculating MS4 Permit compliance dates assuming an effective date of October 1.

3.7. State Certification of the Draft Permit

Section 401 of the CWA requires the EPA to seek State certification before issuing a final permit. As a result of the certification, the State may require more stringent permit conditions or additionally monitoring requirements to ensure that the permit complies with water quality standards, or treatment standards established pursuant to any State law or regulation. A copy of the draft 401 certification is provided in Appendix 1 of this Fact Sheet.

4. REFERENCES USED IN THIS PERMITTING DECISION

The following is a partial list of references supporting the development of the Permit; additional references are available in the Administrative Record for the permit action.

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Appendix 1. CORRESPONDENCE FROM IDEQ REGARDING CWA §401 CERTIFICATION

Appendix 2. STATUTORY AND REGULATORY OVERVIEW

Pollutants Typically Found in Urban Runoff

Stormwater is the surface runoff that results from rain and snow melt. Urban development alters the landscape's natural infiltration, and human activity generates pollutants that accumulate on paved or impervious surfaces. Uncontrolled pollutants and flow associated with stormwater discharges from urban areas can negatively affect water quality. Contaminants enter stormwater from a variety of sources in the urban landscape. Urban stormwater is often a contributing factor where there is a water quality standard impairment in a particular water body. Stormwater or urban runoff typically contains a mixture of pollutants, including the following major constituents:

- Sediment;
- Nutrients (nitrogen and phosphorus);
- Chlorides;
- Trace metals;
- Petroleum hydrocarbons;
- Microbial pollution;
- Organic chemicals (pesticides, herbicides, and industrial); and
- Temperature.[42]

An increase in impervious surface cover will increase the amount of runoff. Effects of runoff generally take one of two forms. First, an increase in the type and quantity of pollutants in stormwater runoff, where these pollutants become suspended in runoff and are carried to receiving waters, and can impair the aquatic life uses of these waters. The second kind of runoff effect occurs by increasing the quantity of water delivered to the water body as a result of storms. Increased impervious surface area (such as, parking lots, driveways, and rooftops) interrupts the natural process of gradual percolation of water through vegetation and soil, and the water that would percolate under natural conditions may instead be discharged through the MS4. The effects of this alteration include streambank scouring and downstream flooding, which can affect aquatic life and damage property.[43]

Statutory and Regulatory Background for the MS4 Permit Program

The federal Clean Water Act (CWA) Section 402(p), 33 U.S.C. § 1342(p) and the National Pollutant Discharge Elimination System (NPDES) stormwater regulations establish permit requirements for regulated MS4 discharges. Section 402(p)(3)(B) of the CWA, 33 U.S.C. §1342(p)(3)(B) requires any NPDES permit for MS4 discharges to effectively prohibit non-precipitation related flows from entering the MS4, and require controls to reduce the discharge of pollutants to the maximum extent practicable (MEP), including management practices, control

[42] Shaver, Horner, et al. 2007; EPA 1990; EPA 1999a, and EPA 1999b.

[43] USGS and EPA, 2015, page 61.

techniques, and system design and engineering methods, and such other provisions determined to be appropriate by the NPDES permitting authority.

Definitions of relevant terms, such as "*municipal separate storm sewer*," and "*small MS4*," are found at 40 CFR §122.26(b). In general, a *municipal separate storm sewer* includes any publicly -owned conveyance or system of conveyances that discharges to waters of the United States, is designed or used for collecting and conveying stormwater, is not a combined sewer, and is not part of a publicly owned treatment works. A *municipal separate storm sewer system*, or MS4, includes roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man- made channels, and/or storm drains.[44]

In 1990, the EPA developed the first phase of federal stormwater regulations as directed by the CWA. The "Phase I" regulations established NPDES permit application and related requirements for discharges from large MS4s and medium MS4s. The Phase I regulation identified the large- and medium MS4s nationally based on the 1990 Census population. Based on the 1990 Census in Idaho, the Phase I stormwater regulations automatically designated MS4 operators discharging within the boundaries of Garden City and Boise as medium MS4s.[45]

In 1999, the EPA developed the "Phase II" stormwater regulations, and designated additional small MS4s as needing NPDES permits. Regulated small MS4s include any MS4 discharge not already covered by Phase I that is located (partially or wholly) within an Urbanized Area (UA) as defined by the latest decennial Census. Regulated small MS4s in Idaho are located in Census-defined UAs of Coeur d'Alene; Lewiston; Nampa; Boise; Pocatello; and Idaho Falls. The Phase II regulation also defines regulated small MS4s as those systems with a UA that serve military bases or other properties owned by the United States; colleges and universities; large hospital or prison complexes; and highway systems.[46] In Idaho, various public entities own and/or operate regulated small MS4s within UAs, including, but not limited to: cities and counties; local highway districts; ITD; and state or community colleges and universities.

The Phase II regulation includes authority for the EPA (or states that administer the NPDES program as the permitting authority) to require NPDES permits for other unregulated stormwater discharges by a designation process.[47]

Permits for small MS4 discharges must include terms and conditions to reduce the discharge of pollutants from the MS4 to the MEP, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act.[48] The MS4 permittee must control pollutants in their MS4 discharges to the MEP by addressing the six "minimum control measures," i.e., public

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[44] *See*: 40 CFR §122.26(b); 122.32(a); and EPA 1990.
[45] In December 2000, EPA issued a single individual NPDES permit (#IDS027561) for the Phase I MS4 discharges owned/operated by six co-permittees operating in Garden City and Boise, ID; EPA reissued Permit #IDS027561 effective January 2013 -January 2018.
[46] *See*: 40 CFR §§ 122.26(b)(16) and 122.30 through 37; and EPA 1999. U.S. Census maps for the Coeur d'Alene, Lewiston (ID)-Clarkston (WA), Nampa, Boise, Pocatello, and Idaho Falls UAs are available at http://www2.census.gov/geo/maps/dc10map/UAUC_RefMap/ua/.
[47] *See:* 40 CFR § 122.26(a)(9)(i)(C) and (D)
[48] *See*: CWA Section 402(p)(3); 40 CFR §122.34(a); EPA 2016a and 2016b. EPA now refers to this phrase as the *MS4 permit standard*.

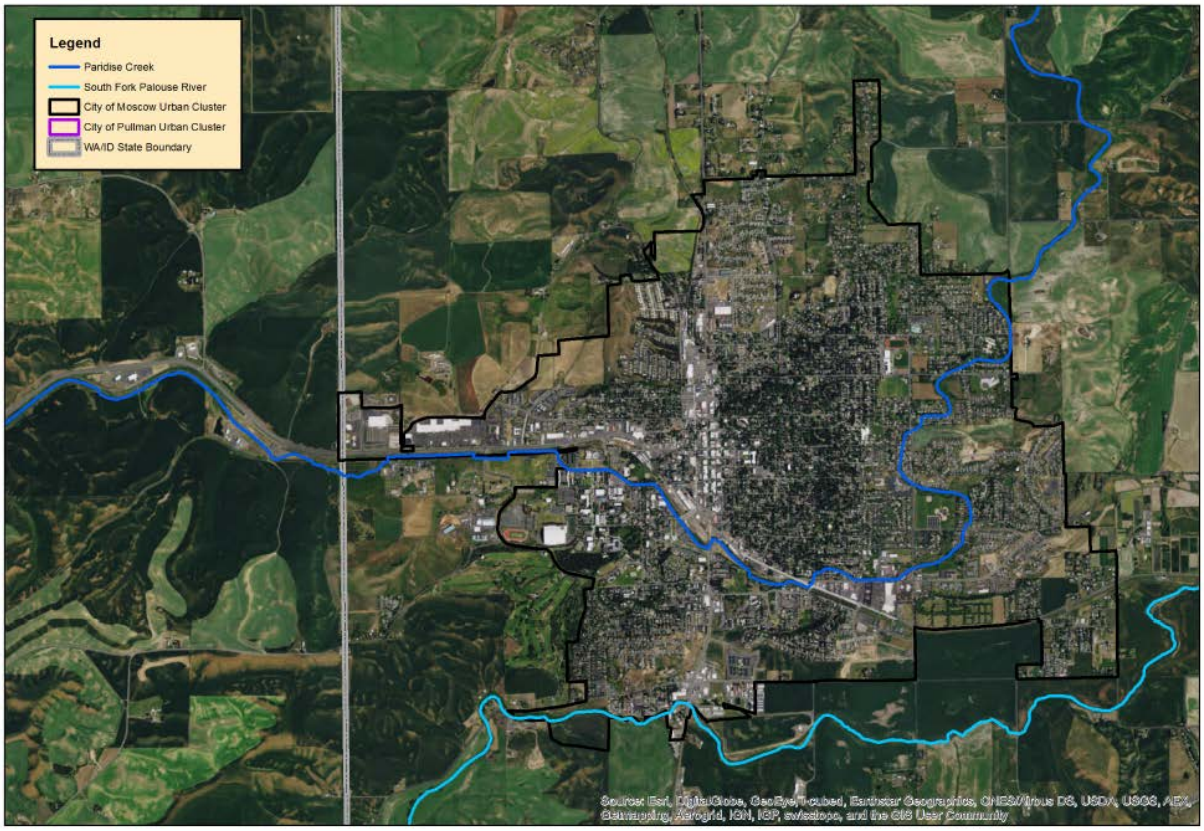
education and outreach, public participation and involvement, illicit discharge detection and elimination, construction site runoff control, post construction runoff control, and pollution prevention and good housekeeping. A regulated small MS4 operator may seek NPDES permit coverage under an available general permit, or the operator may apply for an individual permit.[49]

[49] *See:* 40 CFR § 122.34(b) and additional discussion in Section III of this Fact Sheet.

APPENDIX 3. PERMIT AREA MAPS: CITY OF MOSCOW

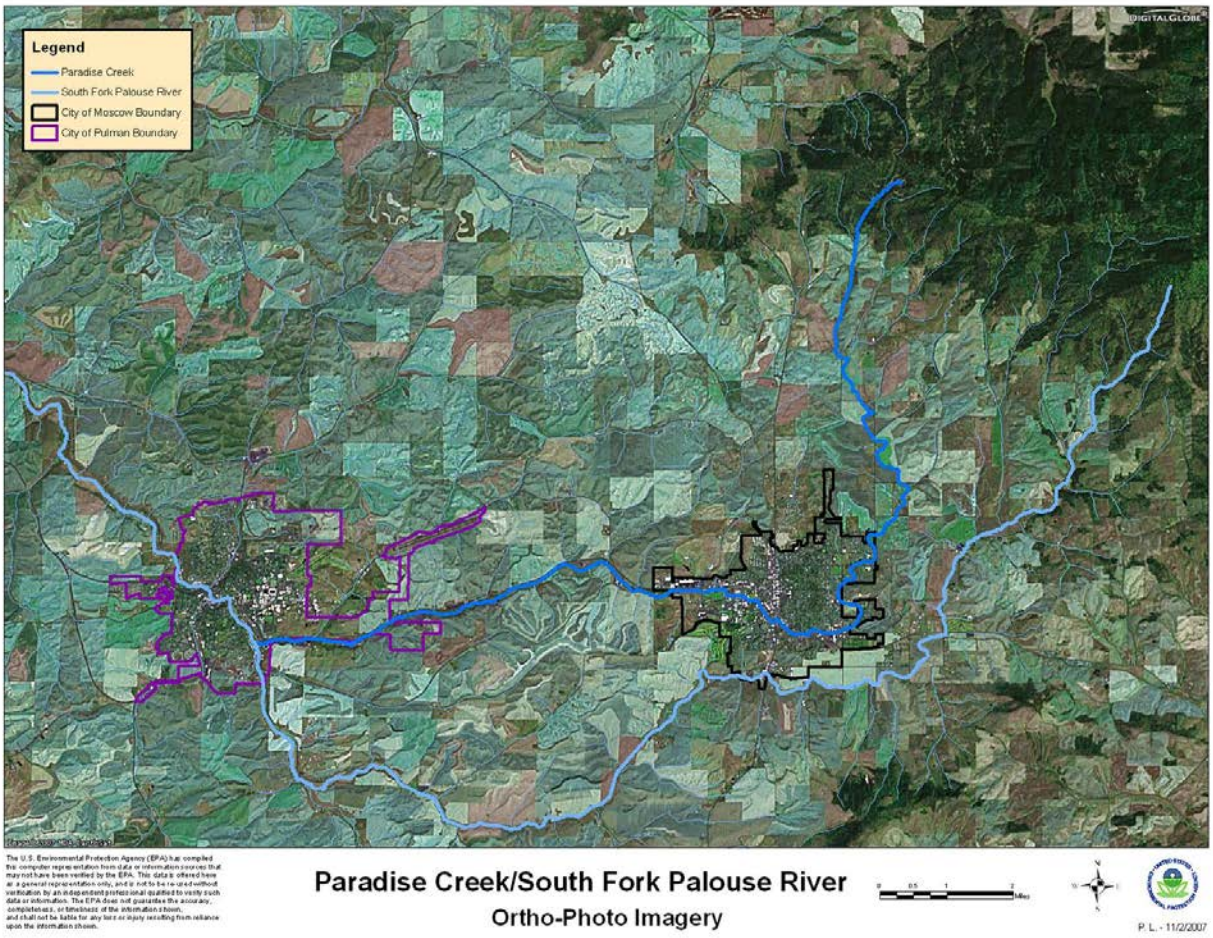
City of Moscow Census Maps	Census 2010	http://www2.census.gov/geo/maps/dc10map/GUBlock/st16_id/place/p1654550_moscow/

Map 1 of 2



City of Moscow Urban Cluster
Ortho-Photo Imagery

Map 2 of 2


Legend
Paradise Creek
South Fork Palouse River
City of Moscow Boundary
City of Pullman Boundary
DIGITALGLOBE
Paradise Creek/South Fork Palouse River
Ortho-Photo Imagery
P.L. - 11/2/2007

Appendix 4. RATIONALE FOR THE ONSITE STORMWATER RETENTION STANDARD OR TREATMENT EQUIVALENT IN PERMIT PART 3.4

The requirements in Permit Part 3.4 will improve upon the site design specifications, guidelines, and other policy documents that are currently required by MS4 Permittee jurisdictions in Idaho. The purpose of requiring an onsite stormwater design standard in this and other Idaho MS4 permits is to reduce pollutants in regulated MS4 discharges to the MEP, and improve upon the protection of water quality in Urbanized Areas of Idaho by helping to maintain or restore stable hydrology in adjacent receiving waters.

The following discussion provides additional background on the EPA's rationale for including this requirement being necessary to meet the MS4 permit standard for Idaho.

It is well understood nationally that uncontrolled runoff from new development and redeveloped areas negatively affects receiving water bodies.[50] Pavement and other impervious surfaces in urban settings prevent infiltration of precipitation, and the resulting runoff increases both in volume and velocity, which in turn causes the erosion of stream banks and scouring of streambeds. Fine sediments and pollutants from automobiles, landscape pesticides, and fertilizers enter waterbodies, and can damage fish spawning areas and other aquatic habitat. Where traditional stormwater management practices typically employ engineered, end-of-pipe practices, (that tend to control only peak flow rates and total suspended solids concentrations), such conventional practices typically fail to address widespread and cumulative hydrologic modifications within a watershed that increase runoff volumes and rates, causing excessive erosion and stream channel degradation. Traditional practices also fail to treat runoff for nutrients, pathogens, and metals pollutants typically found in urban settings.[51]

Permanent stormwater control measures that involve prevention- such as product substitution, better site design, downspout disconnection, and conservation of natural areas - as well as watershed and land use planning, can dramatically reduce both the volume of runoff and pollutant loads from new development and redevelopment. In particular, site-level stormwater control measures that harvest, infiltrate, and evapotranspire stormwater runoff are critical to reducing the volume and pollutant loading associated with smaller storms.[52]

"Green Infrastructure" (GI) or "green stormwater infrastructure" (GSI), are terms used to describe the type of permanent stormwater management techniques that are cost-effective, sustainable, and environmentally friendly. Such techniques, including site level "Low Impact Development" (LID) practices, at new development or redevelopment projects involve both stormwater management and land development strategies emphasizing conservation and integration of natural features with small scale engineered hydrologic controls to more closely mimic predevelopment hydrologic function. A comprehensive approach to long-term stormwater management using GI/GSI, and LID seeks to:

[50] EPA 1983; EPA 1999.
[51] Shaver, et al., 2007. Holz, 2008; and Horner, 2008.
[52] NRC 2008.

- Preserve, protect and enhance natural landscape features, such as undisturbed forests, meadows, wetlands, and other undisturbed areas that provide natural stormwater management;
- Reduce overall land consumption, and use land efficiently, to reduce total watershed or regional impervious cover;
- Recycle land by directing new development to already degraded land, e.g., parking lots, vacant buildings, abandoned malls; and
- Direct stormwater into the ground near where it fell through infiltration, prevent rainfall from falling to the ground through interception, return water back to the atmosphere through evapotranspiration, and/or otherwise manage stormwater through reuse techniques.[53]

Since 2008, the EPA has encouraged MS4 jurisdictions to employ a volume-based approach to stormwater management at new development and redevelopment sites. This approach includes requirements for the design, construction, and maintenance of permanent stormwater practices that manage rainfall on-site, to generally prevent the off-site discharge of precipitation from all rainfall events below a certain size. The EPA considers a volume-based stormwater management approach to be appropriate in this and other MS4 permits in Idaho because such techniques are widely acknowledged as a means of preventing pollutants from entering the receiving water; further, such techniques directly address the need to maintain and, where necessary, restore predevelopment hydrology for duration, rate, and volume of stormwater flows.

Many GSI/LID strategies involve bioretention, or infiltrating runoff through soil. Bioretention practices include use of porous pavements, green roofs, bioswales, and rain gardens. Various studies confirm the effectiveness of GSI/LID practices to reduce contaminants, restore hydrology, and protect the health of aquatic species. Research and on-the-ground experience suggests that all LID practices can perform effectively in a wide variety of geographic areas as long as procedures for proper design, implementation, and maintenance are established and followed.[54]

Many MS4 Permittees in Idaho currently require onsite retention and infiltration practices at development sites in their jurisdictions, and integrate aspects of a GSI/LID approach for such new development and redevelopment sites. Based on evidence that such GSI/LID approaches are indeed practicable for use in Idaho communities, the EPA is now requiring such site design approaches in this and other MS4 permits in Idaho to better address post-construction stormwater discharges.

The Permit requires the Permittee to use local ordinances or regulatory mechanisms to require the volume of water from storms $\leq$ 95th percentile event to be managed entirely onsite, and not discharged to surface waters, in order to fully protect Idaho receiving waters. The *95th percentile rainfall event* is the rainfall event that is greater than 95% of all rainfall events over a period of record (typically using a minimum 30-year period of record). In general, this calculation excludes

[53] See: American Rivers 2013; EPA 2006; EPA 1999, at pages 68725 – 68728 and 68759; EPA 2008; and EPA 2009.
[54] For example, see Ahiablame, et al, 2012; Spromberg, J.A. et al. 2016; and McIntyre, J.K, et al. 2016; and other references in the Administrative Record.

extremely small rain events that are ≤0.1 of an inch of rainfall or less (because such small rainfall events typically do not result in any measurable runoff due to absorption, interception, and evaporation by permeable, impermeable, and vegetated surfaces).[55]

The EPA has previously calculated example target design storm volumes, as illustrated below. Using available 24-hour precipitation data through 2012 from the National Oceanic and Atmospheric Administration, the EPA analyzed the average rainfall depth occurring in the Idaho MS4 Permit Areas. See Table A below. In the Urbanized Areas of Idaho, approximately 95% of all storms result in rainfall volumes of approximately 0.82 inches or less, ranging between 0.57 inches to 0.82 inches.

Table A: ***Analysis of the 95th Percentile Storm Runoff Volumes for Idaho MS4 Permit Areas***

Urbanized Area/ Permit Area	Rainfall Depth (in)	NOAA Station Location; Period of Record
	95th	
Coeur d' Alene	0.81888	*COEUR D ALENE, ID (GHCND:USC00101956);1895-2012*
Moscow	0.8188	*MOSCOW U OF I, ID (GHCND:USC00106152);1893-2012*
Caldwell	0.6102	*BOISE AIR TERMINAL, ID (GHCND:USW00024131); 1940-2012*
Nampa	0.5708	*NAMPA 2 NW, ID US ZIP:83687; 1948-2012*
Boise	0.6102	*BOISE AIR TERMINAL, ID (GHCND:USW00024131); 1940-2012*
Lewiston	0.6299	*LEWISTON NEZ PERCE CO AIRPORT, ID (GHCND:USW00024149); 1940-2012*
Pocatello	0.6495	*POCATELLO REGIONAL AIRPORT, ID (GHCND:USW00024156); 1939-2012*
Idaho Falls	0.688	*IDAHO FALLS, ID 83402 ZIP:83402; 1913-2012*

The EPA recommends the 95th percentile storm volume be calculated for the Moscow area at the start of the Permit term and revisited at the time of permit renewal so that a consistent standard is applied for the duration of the Permit term.

Including a stormwater design standard for onsite stormwater retention in this and other MS4 Permits, expressed as a calculated runoff volume, serves to acknowledge the predicted, incremental increase in storm event volumes in Moscow and other areas of Idaho. The EPA believes such a design standard is preferable to using a single, static statewide rainfall amount

[55] See: Hirschman and Kosco, 2008.

(e.g, "0.6 inches total rain"), or a volume calculated from a statistical storm frequency return interval using historic rainfall data.

The EPA has evaluated the potential extreme storm event return interval for 24-hour storm events in each of the MS4 Permit Areas in Idaho.[56] The evaluation reflects estimated changes in rainfall patterns over 30-year averages, centered around the years 2035 and 2060, as compared to historical or present-day conditions. Under all evaluated scenarios, the predicted trends in Idaho MS4 Permit Areas show a general increase in ambient temperatures throughout the calendar year, and increased storm magnitude for all return frequencies (i.e., the 5 year, 10 year, …, and 100 year events). The evaluation also suggests significantly decreased summer precipitation statewide, balanced by increased precipitation during other seasons. Expressing the stormwater design standard for onsite stormwater retention in Permit Part 3.4 as a calculated runoff volume therefore defines a practicable and feasible performance standard for permanent stormwater control at new development and redevelopment that will protect Idaho water quality over the long term.

[56] EPA Region 10's analysis of the extreme storm event return interval for the Idaho MS4 Permit Areas is available as part of the Administrative Record. EPA used a risk assessment application designed to help water utilities in adapting to extreme weather events through a better understanding of current and long-term weather conditions; it is available online at https://www.epa.gov/crwu/build-resilience-your-utility.

APPENDIX 5. RATIONALE SUPPORTING REQUIREMENTS IN PERMIT PART 4 FOR MS4 DISCHARGES TO IMPAIRED WATERS

Water quality impairments within and downstream of the City of Moscow MS4 Permit Area require that the EPA include permit terms and conditions to reflect appropriate requirements that address impairment parameters consistent with the approved TMDLs in this watershed. See 40 CFR § 122.44 (d)(4) & (d)(5). See Appendix 3, Map 2, for a representation of the watershed area.

Background: Paradise Creek and the South Fork Palouse River are located in Latah County, Idaho, and Whitman County, Washington, part of the Palouse Subbasin [Hydrologic Unit Code (HUC) 17060108]. Paradise Creek flows from its headwaters on Moscow Mountain in the Palouse Range, through the City of Moscow, across the Idaho/Washington State line, and enters the South Fork of the Palouse River near the eastern boundary of the City of Pullman, Washington. The South Fork of the Palouse River drains from the southern slope of Moscow Mountain, along the southern edge of the City of Moscow, and enters Washington State upstream of the City of Pullman.

The segment of Paradise Creek that flows through the City of Moscow, from the eastern urban boundary to Idaho/Washington border, Assessment Unit ID 17060108CL005_02 is listed on the CWA Section 303(d) list as impaired for ammonia, fecal coliform, *E. coli*, nutrient/Eutrophication, biological indicators, sedimentation/siltation and temperature. The South Fork of the Palouse River that flows along the southern border of the City of Moscow, Assessment Unit ID 17060108CL002_03, is listed on the CWA Section 303(d) list as impaired for sediment, nutrients, bacteria and temperature.[57] See Appendix 5.1 and 5.2 below for additional discussion of these impaired segments and associated TMDLs.

WDOE's *2015 Water Quality Assessment 305(b) Report and 303(d) list* includes the portion of Paradise Creek in Washington State as being impaired for fecal coliform, ammonia, and nutrients. In addition, WDOE lists the Washington segment of the SF Palouse River in Washington State as being impaired for bacteria, dissolved oxygen, temperature, and polychlorinated biphenyls (PCBs).[58] See Appendix 5.3 and 5.4 below for additional discussion of these impaired segments and associated TMDLs.

[57] IDEQ previously listed Paradise Creek as impaired for fecal coliform; *E. coli* is currently listed as the impairment due to a change in Idaho's water quality standards regarding contact recreation criteria from a criterion associated with fecal coliform to a more specific criterion for *E. coli*. Note that Paradise Creek and South Fork Palouse River have been listed as impaired by IDEQ in its 1994, 2002, 2010, and 2012 Integrated Reports.
[58] See the WDOE *2015 Water Quality Assessment 305(b) Report and 303(d) list*, http://www.ecy.wa.gov/programs/wq/303d/index.html. Note that these waters were also listed as impaired in the WDOE 2004 CWA Section 303(d) report, http://www.ecy.wa.gov/programs/wq/303d/2002/2002-index.html

Appendix 5.1 Paradise Creek in Idaho

Summary: There are no WLAs established by the EPA-approved TMDL for the Idaho portion of Paradise Creek. Implementation of the comprehensive SWMP pursuant to Permit Part 3 by the City of Moscow MS4 is consistent with the EPA-approved TMDL for the Idaho portion of Paradise Creek.

City	Receiving Water	Waterbody Assessment Unit	Impairment Pollutants	TMDL Status
Moscow	Paradise Creek	ID17060108CL005_02 *Paradise Creek - Urban boundary to Idaho/Washington border*	Ammonia (Un-ionized) *E.* coli Fecal Coliform Nutrient/ Eutrophication Biological Indicators Sedimentation/ Siltation Temperature	*Paradise Creek TMDL Water Body Assessment and Total Maximum Daily Load, December 1997.* Approved February 1998. *Paradise Creek Total Maximum Daily Load Implementation Plan* December 1999. *Paradise Creek TMDL 2015 Bacteria Addendum,* October 2015. EPA approved November 2016.

Discussion: The EPA designates MS4 discharges to Paradise Creek located in the boundary of the City of Moscow as requiring NPDES permit coverage.

The EPA approved IDEQ's *Paradise Creek Water Body Assessment and TMDL* (Paradise Creek TMDL) in 1998. The TMDL addresses ammonia, nutrients, sediment, bacteria, and temperature. The TMDL establishes load allocations (LAs) as in-stream targets for fecal coliform, TSS, and total phosphorus. IDEQ subsequently developed the *Paradise Creek TMDL 2015 Bacteria Addendum (Paradise Creek 2015 Addendum*), to update the bacteria indicator from fecal coliform to *E. coli* based on the current Idaho water quality standards criterion for secondary contact recreation. The combined instream targets for *E. coli* at 126 cfu/100 mL (collected as a 5-sample geometric mean over 30 days); total phosphorus, at 0.136 mg/l during the summer months; and TSS, at 50 mg/l over background for 10 consecutive days. The TMDL(s) identify land development, urban stormwater systems, resident and business activities, roadways, and parking lots as the primary nonpoint sources of bacteria, TSS, and total phosphorus in the Paradise Creek watershed.[59]

[59] See *Paradise Creek TMDL*, pages 24 and 45; and *Paradise Creek 2015 Addendum,* page 13.

The TMDL states that regulated small MS4 operators must "obtain an NPDES permit from EPA, implement a comprehensive municipal stormwater management program, and use BMPs to control pollutants in stormwater discharges to the maximum extent practicable."[60]

Conclusion for MS4 Discharges in the Moscow, Idaho area: The EPA determines that implementation of the comprehensive SWMP control measures, pursuant to Permit Part 3, by the City is consistent with the assumptions of the WLAs and LAs in this EPA approved TMDL for Paradise Creek, and that additional requirements, in the form of targeted actions to address the pollutants of concern, are not necessary to ensure compliance with the Paradise Creek TMDL's bacteria, TSS, and total phosphorus targets for the portion of Paradise Creek in Idaho**.**

[60] See *Paradise Creek 2015 Addendum,* page 29.

Appendix 5.2 Paradise Creek, downstream of Idaho/Washington border

Summary: Consistent with the WLAs established in the EPA-approved TMDL by WDOE, additional requirements such as monitoring/assessment of potential pollutant loading from MS4 discharges, combined with targeted pollutant reduction activities, are necessary and appropriate to reduce pollutants in regulated small MS4 discharges to Paradise Creek downstream of the Idaho/Washington border.

Urbanized Area/City	Receiving Water	Waterbody Assessment Unit	Impairment Pollutants	TMDL Status
Moscow	Paradise Creek (WA portion)	Paradise Creek 10443 (WA-34-1025) Paradise Creek 10439 (WA-34-1025) Paradise Creek 10444 (WA-34-1025)	Fecal Coliform Bacteria	*South Fork Palouse River Fecal Coliform Bacteria Total Maximum Daily Load - Water Quality Improvement Report* WDOE Publication No. 09-10-060 October 2009. Approved 2009.

Discussion: Water quality impairments downstream of the City of Moscow MS4 Permit Area require the EPA to include terms and conditions in the Permit to reflect appropriate requirements to address impairment parameters. See 40 CFR § 122.44 (d)(4) & (d)(5).

Although IDEQ revised its water quality standards for bacteria indicators from fecal coliform to *E.coli* in 2000, WDOE's water quality standards use fecal coliform (FC) bacteria as "indicator bacteria" for the state's freshwaters (e.g., lakes and streams). WDOE considers the Washington portion of the South Fork Palouse River and its tributaries, including Paradise Creek, as designated for primary contact use; and the associated WQS states that "*FC bacteria organism levels must not exceed a geometric mean value of 100 colonies/100 mL, with not more than 10% of all samples (or any single sample when less than ten sample points exist) obtained for calculating the geometric mean value exceeding 200/colonies mL.*" [WAC 173-201A-200(2)(b), 2003 edition].

WDOE's *2012 Water Quality Assessment Report* lists the South Fork Palouse River, downstream of the ID/WA border, as not meeting the Washington water quality standards for fecal coliform. In 2009, the EPA approved WDOE's *South Fork Palouse River Fecal Coliform Bacteria Total Maximum Daily Load - Water Quality Improvement Report (SF Palouse River FC Bacteria TMDL).* WDOE conducted wet and dry season sampling in Paradise Creek at the ID/WA border as part of their assessment study, and found a large average pollutant load at the state line-monitoring site during the dry season. The TMDL requires that discharges meet the Washington fecal coliform standards in Paradise Creek at the state border so that sufficient

capacity remains in the river for other Washington sources in the South Fork Palouse River watershed.

The TMDL establishes wasteload allocations expressed as target percent reductions needed to meet water quality standards for selected stormwater outfalls within Washington.[61] Based on the unexplained fecal coliform loading to Paradise Creek upstream of the Washington-Idaho state line, the TMDL states that, …"*the City of Moscow should investigate Paradise Creek to determine if the loading is occurring within the city limits. If the load is entering Paradise Creek upstream of the city of Moscow, sources in the county should be investigated and remedied."*

With regard to urban stormwater management, the TMDL acknowledges that the EPA would issue a permit for the City's MS4 discharges, and further states that, "…*If stormwater pollution is contributing bacteria to Paradise Creek, the NPDES permit should include activities to address this source. Stormwater management in the City of Moscow will help protect Paradise Creek from fecal coliform bacteria."*[62]

Conclusion: The EPA determines that implementation of the comprehensive SWMP by the City (as directed in Permit Part 3) is consistent with the LAs set forth in Ecology's SF Palouse River FC Bacteria TMDL.

To address fecal coliform reduction targets established by the SF Palouse River FC Bacteria TMDL, Permit Part 4, requires the Permittee to conduct monitoring/assessment and at least one pollutant reduction activity to characterize and address bacteria loading discharged through the MS4 discharging to Paradise Creek. The Permittee may identify activities to augment existing stormwater control measures, or may target new actions, as deemed appropriate by the Permittee.

[61] WDOE separately designated both City of Pullman and Washington State University as regulated small MS4s in 2007; as a result, the 2009 *SF Palouse River FC Bacteria TMDL established WLAs for point sources and load allocations for other sources within the watershed.*
[62] See WDOE 2009, pages 100 and 108.

Appendix 5.3 South Fork Palouse River in Idaho

Summary: There are no WLAs established by the EPA-approved TMDL for the portion of the South Fork Palouse River within Idaho. The EPA has determined that the City must implement comprehensive SWMP control measures (as directed in Permit Part 3) to be consistent with the assumptions of the WLA/LA in the EPA-approved TMDL.

Urbanized Area/City	Receiving Water	Waterbody Assessment Unit	Impairment Pollutants	TMDL Status
Moscow	South Fork Palouse River	ID17060108CL002_03 *South Fork Palouse River-Gnat Cr. to Idaho/Washington border*	*E. coli* Nutrient/ Eutrophication Biological Indicators Sedimentation/ Siltation Temperature	*South Fork Palouse River Watershed Assessment and TMDLs*, February 2007. Approved October 2007. *Palouse River Subbasin 2017 Temperature TMDL.* June 2017. Approved August 2017.

Discussion: The City's 2009 MS4 map shows only one outfall discharging to the South Fork Palouse River.

In 2007, IDEQ established instream targets for *E. coli*, nutrients, temperature, and sediment for the impaired segment of the South Fork Palouse River in Idaho as part of its *South Fork Palouse River Watershed Assessment and TMDLs* (Idaho SF Palouse TMDL). The TMDL was approved by the EPA in October 2007. The TMDL does not establish WLAs for urban stormwater sources. Instead, IDEQ established a 41% reduction target for *E.Coli* that applies year round for all point and non-point sources discharging into this segment of the SF Palouse River.

In 2017, IDEQ promulgated and the EPA approved the Palouse River Subbasin Temperature TMDL (Temperature TMDL). The TMDL does not include any WLAs specific to urban stormwater sources. However, IDEQ generally acknowledges potential NPDES-regulated stormwater discharges, and the TMDL states that any MS4 discharges should be covered by a NPDES permit that requires implementation of a SWMP. [63]

Conclusion: The City's implementation of the comprehensive SWMP control measures, pursuant to Permit Part 3, is fully consistent with the assumptions made in the Idaho SF Palouse TMDL and the Idaho Temperature TMDL; no additional requirements are needed to ensure compliance with the Idaho TMDLs' targets for *E. coli*, nutrient, temperature and sediment.

[63] See IDEQ 2017, Section 5.4.4.6, page 35.

Appendix 5.4 South Fork of the Palouse River, downstream of ID/WA border

Summary: The EPA has imposed additional requirements in Permit Part 4 for the City to ensure that the permit is consistent with the assumptions of the WLAs/LAs in the EPA-approved TMDLs established by WDOE for bacteria and PCBs. Discussion of each TMDL is provided below.

Urbanized Area/City	Receiving Water	Waterbody Assessment Unit	Impairment Pollutants	TMDL Status
Moscow	South Fork Palouse River (WA portion)	South Fork (SF) Palouse River 6712 (WA-34-1020) SF Palouse River 6711 (WA-34-1020) SF Palouse River 6710 (WA-34-1020) SF Palouse River 6707 (WA-34-1020)	Fecal coliform bacteria Chlorinated Pesticides Polychlorinated Biphenyls (PCBs)	*South Fork Palouse River Fecal Coliform Bacteria Total Maximum Daily Load - Water Quality Improvement Report* WDOE Publication No. 09-10-060 October 2009. Approved *Palouse River Chlorinated Pesticide and PCB Total Maximum Daily Load, Water Quality Improvement Report and Implementation Plan;* Publication No. 07-03-018 *July 2007.* Approved November 2007.

Discussion regarding Bacteria: The SF Palouse River, downstream of the ID/WA border, is impaired for fecal coliform. EPA approved WDOE's *South Fork Palouse River Fecal Coliform Bacteria Total Maximum Daily Load - Water Quality Improvement Report (SF Palouse River FC Bacteria TMDL),* in 2009. Sampling conducted by WDOE in the Washington portion of the upper SF Palouse River (between the ID/WA state line to the boundary limits of the City of Pullman, above Paradise Creek) demonstrates that the majority of bacteria loading to the upper SF Palouse River during both the wet season (56%) and dry season (67%) was from upstream sources in Idaho. WDOE states there is a "*linear relationship between TSS concentrations and FC bacteria concentrations in the upper SF Palouse River, indicating that the control of runoff processes (soil-erosion control) could result in lower FC concentrations*." WDOE then concludes that, "*While the bacteria counts at the Idaho border were within standards, the average wet-season FC bacteria load appears to use up most of the downstream load capacity in the upper SF Palouse*." [64] WDOE notes that because the EPA intends to designate the City and other MS4s upstream of the state line as needing coverage under a MS4 permit, such a permit should include specific actions to reduce wet and dry season bacteria loads.[65]

Conclusion regarding Bacteria: See also the discussion and conclusion in Appendix 5.2 for Paradise Creek. In order to be consistent with the SF Palouse River FC Bacteria TMDL's

[64] SF Palouse River FC Bacteria TMDL, page 36-39, and page 83.
[65] SF Palouse River FC Bacteria TMDL, page 100.

instream pollutant reduction target for dry weather and wet weather flows in both the SF Palouse River at the WA/ID state line (which specify an 86% and 41% fecal coliform reduction, respectively), and dry weather/wet weather flows in Paradise Creek immediately downstream of the WA/ID border (an 84% and 39% fecal coliform reduction, respectively) , the EPA has included requirements in Permit Part 4 for the City to define and conduct monitoring/assessment of bacteria sources, and to submit descriptions of at least one pollutant reduction activity that will target and reduce sources of bacteria from discharging through the MS4. Such activities may augment existing control measures, or may target new actions, as deemed appropriate by the Permittee. For example, the City could consider focusing illicit discharge investigations of the MS4 in areas draining to the SF Palouse River.

Permit Part 4 requires the Permittee to submit Monitoring/Assessment Plan and pollutant reduction activity description for review and specific incorporation into the Permit no later than ***180 days from Permit effective date***. The EPA will review and consider modifying Permit Part 4 to incorporate the Permittee's pollutant monitoring/assessment and pollutant reduction activities.

Discussion regarding PCBs: The SF Palouse River, downstream of the ID/WA border, does not meet the Washington WQS for polychlorinated biphenyls (PCBs). WDOE's current water quality criterion for total PCBs is 170 picograms per liter (pg/L). In January 2015, WDOE proposed revisions to its water quality criteria established to protect human health; including a generally applicable narrative water quality criterion that "[*all waters shall maintain a level of water quality when entering downstream waters that provides for the attainment and maintenance of the water quality standards of those downstream waters, including the waters of another state.*"

The *Palouse River Chlorinated Pesticide and PCB Total Maximum Daily Load, Water Quality Improvement Report and Implementation Plan* (Palouse River PCB TMDL) established numeric targets based on the WDOE fish tissue criteria that WDOE used in 2007 to identify waterbodies that exceed WDOE standards. Between 2004 and 2006, WDOE conducted field studies of chlorinated pesticides, and PCBs in water samples, fish fillet samples and stormwater runoff in the City of Pullman, Washington. While the water samples showed moderate PCB and dieldrin exceedances in the SF Palouse River, and the fish fillet analysis showed no exceedances of the human health criterion in all samples, the stormwater runoff analysis detected the presence of dieldrin and PCBs in all stormwater samples, had the highest concentrations, and exceeded the human health criteria.

The TMDL establishes WLAs applicable to the City of Pullman MS4 discharges but expresses these WLAs simply as "BMPs." The TMDL's implementation plan recommends the following: "*In light of elevated concentrations of dieldrin and PCBs in Pullman stormwater and the potential for adverse water quality impacts, [WDOE], the City of Pullman, and Washington State University should work cooperatively to identify and clean up sources of these chemicals to the storm drain system…..*" The TMDL further suggests that, because dieldrin and PCBs attach to sediment particles, the best stormwater BMPs to reduce these pollutants are measures that reduce the amount of sediment discharged to streams. The TMDL states that municipal SWMP activities in the urban boundary of the City of Pullman (conducted by Pullman and by Washington State University) are necessary to reduce both dieldrin and PCB loading to the SF Palouse River; such SWMP activities include requiring erosion and sediment control plans for land disturbance;

revising the City's design standards to reference the WDOE stormwater management manual; completing the map(s) of the storm drain systems; continuing the illicit discharge detection program activities; inspecting and repairing all storm sewer lines; and increased sweeping of streets and parking lots.[66] Although this TMDL does not mention other MS4 discharges in the watershed, the EPA believes it is reasonable for the City of Moscow, as an upstream contributor of MS4 discharges to the South Fork Palouse River and its tributary Paradise Creek, to conduct similar SWMP actions through compliance with the MS4 Permit.

Conclusion regarding PCBs: To ensure that the permit conditions are consistent with the assumptions of the WLAs/LAs in the Palouse River PCB TMDL, Permit Part 4 requires the City to submit a description of at least one pollutant reduction activity to address whether legacy PCBs are discharged through their MS4 into the South Fork Palouse River. Such BMP activities may augment existing SWMP control measures, or may focus on completely new actions, as may be deemed appropriate by the Permittee. Examples of BMPs used by other regulated MS4 operators to address PCB loading are available in the Administrative Record for the Permit.

Because the Permit requires the City to conduct similar SWMP activities as has been required for City of Pullman to reduce both dieldrin and PCBs, the Permit is consistent with the implementation plan for the Palouse River PCB TMDL

Permit Part 4 also requires monitoring/assessment of PCBs from regulated MS4 discharges into the South Fork Palouse River. As discussed in Part 2.7 of this Fact Sheet, the Permittee may choose how and what monitoring or assessment activities occur to comply with this requirement. Permit Part 4 and Part 6.2.6.1 provide the Permittee with options for monitoring/assessing for PCBs, offering maximum implementation flexibility to address potential PCB loading from their MS4 discharges.

The Permittee must submit a Monitoring/Assessment Plan and at least one pollutant reduction activity description to address PCBs for the EPA and IDEQ review no later than ***180 days from Permit effective date***. The EPA will review and consider modifying Permit Part 4 to incorporate the Permittee's monitoring/assessment and pollutant reduction activities.

Regarding appropriate analytical methods to monitor/assess for PCBs: In prior MS4 permits issued by the EPA in the Spokane River watershed, certain Permittees were required to use the EPA-approved analytical Method 608 to measure PCBs in MS4 discharges; all such sampling of MS4 discharges conducted to date using EPA Method 608 have found non-detectable levels of PCBs.

However, in 2015, the EPA recognized that there are limitations to the EPA-approved analytical methods for PCBs, specifically noting that current EPA approved methods are not sufficiently sensitive to assess PCBs in water at the levels needed to compare with the downstream WQS in Washington. The EPA noted that, because actual discharges from point sources [in the Spokane River watershed] have been orders of magnitude below the quantification limits of the approved methods, the EPA approved analytical methods for PCBs provide no quantitative data on the

[66] See WDOE 2007

actual loading of PCBs from point sources, no incentive for point sources to reduce discharges, nor any means to determine whether the discharges are increasing or decreasing. [67]

The EPA is therefore using its authority to specify in the City of Moscow MS4 Permit Area that, if the Permittee elects to monitor/assess MS4 discharges, the City must use EPA Method 1668C for monitoring of PCBs in water. Alternatively, in order to assess regulated MS4 discharges as possible source(s) of PCBs into the South Fork Palouse River, and to quantify any estimated pollutant removed or prevented from discharging through the MS4, the Permittee may instead select to monitor/assess PCBs in accumulated sediment removed from the MS4's catch basins. In such situations, EPA Method 8082 continues to be an appropriate method for sampling PCBs in catch basin solids.

[67] See *EPA's Plan for Addressing PCBs in the Spokane River, Defendants' Response to the Remand by the Court, Sierra Club, et al. v. McLerran, No. C11-1759-BJR (July 14, 2015)* Appendix B pages. 2-8.

APPENDIX 6. EPA'S 2008 DESIGNATION OF THE MS4 OWNED AND/OR OPERATED BY THE CITY OF MOSCOW, IDAHO AS A REGULATED SMALL MS4.

This Appendix contains the EPA's initial designation document as sent to the City in 2008. The information in the designation document, plus the additional information set forth in Section 1.1 of this Fact Sheet, provides the basis for finalizing the designation of the City as a regulated MS4.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

AUG 2 7 2008

The Honorable Nancy Chaney
Mayor of Moscow
206 East Third Street
Moscow, Idaho 83843

Re: U.S. Environmental Protection Agency's Designation of City of Moscow as a Regulated Entity under the Federal Storm Water Permitting Requirements

Dear Mayor Chaney:

The U.S. Environmental Protection Agency Region 10 has determined that discharges from the City of Moscow's (City) Municipal Separate Storm Sewer System (MS4) contribute to a violation of the water quality standard in Paradise Creek.

Therefore, pursuant to the Clean Water Act, Natural Pollutant Discharge Elimination System (NPDES) regulations at 40 C.F.R. §122.26(a)(v), EPA is exercising its authority to designate the discharges from the City of Moscow MS4 as a "regulated small MS4" for municipal storm water discharges to waters of the United States, and therefore needing a NPDES permit. The enclosed document details our decision. We request that the City develop a comprehensive storm water management program, and submit an application for NPDES permit coverage no later than September 15, 2009.

Over the last year, we have discussed the basis of this designation with Les MacDonald and Tom Scallorn of your staff. We have previously provided your staff with the necessary requirements and instructions for preparing a storm water management program and NPDES permit application. We remain available to work with you and your staff at any time. If you have questions, please contact Misha Vakoc of my staff at 206-553-6650.

Sincerely,

Elin D. Miller
Regional Administrator

Enclosure

cc: Mr. Les MacDonald
Director, Public Works, City of Moscow

Designation of the City of Moscow
As A Regulated Small Municipal Separate Storm Sewer System
August 2008

I. Summary of Designation.

Pursuant to 40 C.F.R. § 122.26(a)(v), the U.S. Environmental Protection Agency (EPA) has evaluated available information and determined that the City of Moscow (City) owns and operates a municipal separate storm sewer system (MS4) which discharges to Paradise Creek in Latah County, Idaho. Discharges from this MS4 contribute to violations of a water quality standard for Paradise Creek.

Therefore, EPA designates the MS4 owned and operated by the City as a "regulated small MS4." As such, the City's MS4 is a point source as defined in section 502(14) of the Clean Water Act, 33 U.S.C. § 1362(14) which requires a National Pollutant Discharge Elimination System (NPDES) permit issued by EPA in accordance with section 402 of the Clean Water Act, 33 U.S.C. § 1342. The City must develop and implement a Storm Water Management Program in accordance with 40 CFR § 122.34 and submit an NPDES permit application to EPA no later than September 15, 2009.

II. Receiving Water.

Paradise Creek flows from its headwaters on Moscow Mountain in the Palouse Range through the City of Moscow, across the Idaho/Washington State line and enters the South Fork of the Palouse River near Pullman, Washington. The South Fork of the Palouse River drains from the southern slope of Moscow Mountain, along the southern edge of the City of Moscow, and enters Washington State upstream of the City of Pullman. See Appendix A for a map of the watershed area.

Paradise Creek is located within the Palouse Subbasin, Hydrologic Unit Code (HUC) 17060108. Idaho water quality standards at IDAPA 58.01.02.120.01 establish beneficial uses for Paradise Creek as cold water aquatic life and secondary contact recreation. The Idaho Department of Environmental Quality (IDEQ) includes the portion of Paradise Creek, from its headwaters to the Washington State line, on its list of impaired waters (i.e., those waters which do not meet state water quality standards) for the following pollutants: ammonia, nutrients, sediment, habitat modification, pathogens, flow alteration, and temperature. Further, IDEQ also includes the South Fork of the Palouse River within Idaho as being impaired for sediment, nutrients, bacteria and temperature. [1]

The Washington Department of Ecology (Ecology) lists the portion of Paradise Creek within Washington State as being water quality impaired for fecal coliform, ammonia and nutrients. In addition, Ecology lists the South Fork of the Palouse River within Washington State as being impaired for fecal coliform, dissolved oxygen and temperature.[2]

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[1] See the IDEQ 2002 Integrated Report, http://www.deq.state.id.us/water/data_reports/surface_water/monitoring/integrated_report.cfm

[2] See the Ecology 2004 CWA Section 303(d) report, http://www.ecy.wa.gov/programs/wq/303d/2002/2002-index.html

III. Background on EPA's Decision.

Consistent with the requirements at 40 CFR § 123.35, EPA Region 10 previously evaluated jurisdictions in Idaho which:

- own and operate a MS4, as defined in 40 CFR § 122.26(b)(18);
- are not located in Urbanized Areas defined by the Year 2000 Census; and
- serve a jurisdiction with a population of 10,000 or greater, and population density of at least 1,000 people per square mile.

Using its draft Designation Criteria and Year 2000 Census statistics, EPA Region 10 evaluated the Cities of Moscow, Rexburg, Mountain Home, Twin Falls and Blackfoot. See Appendix E for a description of this evaluation process. In early 2003, EPA chose to defer all final MS4 designation decisions, in order to focus its resources on issuing NPDES permits for existing regulated small MS4s within Idaho and Alaska.

EPA renewed its evaluation of the City in early 2007, based upon inquiries from representatives of the Washington State University and Ecology.

On June 29, 2007, EPA notified the City of its preliminary determination to designate the City's MS4 as a "regulated small MS4s" under 40 CFR § 123.35. In September 2007, the City responded to EPA's preliminary determinations.

Ecology subsequently provided EPA with preliminary water quality data collected by Ecology staff in Paradise Creek at the Idaho/Washington border during 2006 and 2007. See Appendix B.

Through the authority provided EPA in accordance with 40 CFR §122.26(a)(v), and based upon the water quality data available at this time, EPA determines that storm water discharges from the MS4 owned and operated by the City of Moscow likely contributes to violations of the water quality standard for fecal coliform in the State of Washington; EPA therefore designates the City of Moscow as a "regulated small MS4" in accordance with 40 CFR §122.26(a)(v).

IV. Basis for Designation.

EPA's regulation at 40 CFR § 122.26(a)(v) states:

> "(a) Permit requirement. (1) Prior to October 1, 1994, discharges composed entirely of storm water shall not be required to obtain a NPDES permit except:
>
> > ……. (v) A discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This designation may include a discharge from any conveyance or system of conveyances used for collecting and conveying storm water runoff or a system of discharges from municipal separate storm sewers,

except for those discharges from conveyances which do not require a permit under paragraph (a)(2) of this section or agricultural storm water runoff which is exempted from the definition of point source at §122.2.

The Director may designate discharges from municipal separate storm sewers on a system-wide or jurisdiction-wide basis. In making this determination the Director may consider the following factors:

(A) The location of the discharge with respect to waters of the United States as defined at 40 CFR 122.2.

(B) The size of the discharge;

(C) The quantity and nature of the pollutants discharged to waters of the United States; and

(D) Other relevant factors."

"Relevant factors" for the purposes of this decision include the specific criteria outlined in EPA's "Phase II" stormwater requirements at 40 CFR 123.35(b) and which EPA Region 10 identified in its draft Designation Criteria.[3] EPA makes the following findings:

A. Discharges Which Contribute to a Violation of Water Quality Standards and/or Are a Significant Contributor of Pollutants to Waters of the United States

Urban storm water runoff is a leading contributor of pollutants to receiving water bodies. Urban development adds pavement and other impervious surfaces to the landscape, which prevents infiltration and increases the quantity of runoff to receiving waters during storm events. Human activities occur within urban settings that can add pollutants to the impervious areas and decrease the quality of the urban storm runoff, these activities include illicit discharges and spills; construction activities; operation and maintenance activities; vehicle traffic; and other land use activities.[4]

IDEQ developed a Water Body Assessment and Total Maximum Daily Load (TMDL) analysis for Paradise Creek to address elevated levels of ammonia, nutrients, sediment, pathogens (bacteria), and temperature, which was approved by EPA in February 1998. The TMDL identifies urban runoff discharged from at least 77 identified street storm drains within the City of Moscow area as contributing sources of pollutants to Paradise Creek. The western boundary of the Moscow city limits abuts the Idaho/Washington border. See Appendix B, Figure B-2. IDEQ specified that compliance with the pollutant allocations established by this TMDL is to be determined by water quality monitoring in Paradise Creek at the Idaho/Washington border.[5]

The Paradise Creek Watershed Advisory Group in Idaho developed a TMDL

3 See Appendix E for more information.

[4] EPA Phase II Storm Water Regulations, December 8, 1999.

[5] See *Paradise Creek TMDL: Waterbody Assessment and Total Maximum Daily Load*, IDEQ, December 1997, and Paradise Creek Total Maximum Daily Load Implementation Plan, December 1999.

Implementation Plan in December 1999. Both the City of Moscow and the University of Idaho (University) developed the portion of the implementation plan to reduce pollutant loading due to runoff from urban lands to the section of Paradise Creek within the Moscow city limits. Both the City and University implemented water quality and flow improvement projects designed to address urban runoff, including: capital improvements designed to reduce pollutant loading from the storm sewer system; adoption of an ordinance requiring erosion and sediment control at construction sites; and enhanced storm sewer system maintenance.

Idaho water quality standards for bacteria indicators were revised from fecal coliform to *E.coli* in 2000. IDEQ now uses *E.coli* sampling to review progress toward meeting TMDL allocation for bacteria in Paradise Creek and other water bodies where TMDLs were previously developed using fecal coliform data. The Idaho water quality standard for *E.coli* is a geometric mean of one hundred twenty-six (126) *E. coli* organisms per one hundred (100) ml, based on a minimum of five (5) samples taken every three (3) to seven (7) days over a thirty (30) day period. Limited *E.coli* data collected by IDEQ in Paradise Creek in early 2007 do not appear to exceed the current Idaho water quality standard for *E.coli*. IDEQ intends to revisit the Paradise Creek TMDL in 2010.

However, Ecology conducts water quality monitoring in Paradise Creek at the Idaho/Washington border as part of its water body assessment efforts to develop a TMDL for the South Fork Palouse River. Fecal coliform data collected through 2007 shows that Paradise Creek exceeds Washington's water quality standard for fecal coliform[6] established as <100 cfu/100 mL geometric mean and upper 10 percentile of samples < 200 cfu/100mL . The data collected by Ecology reflects in-stream water quality during both "dry" season (July – October) and "wet" season (November – June). See Appendix B. In-stream concentrations of fecal coliform near the Idaho/Washington border exceed the Washington state water quality standard.

Urban runoff from the City of Moscow to Paradise Creek contributes to violations of the water quality standard for fecal coliform in the State of Washington. The TMDL for the portion of Paradise Creek in Idaho as developed by IDEQ determines compliance with pollutant load targets based upon meeting the Washington water quality standards at the ID/WA border; urban runoff discharged from the City's MS4 was previously identified in the Idaho TMDL as a likely source of bacteria to Paradise Creek. Recent monitoring data collected by Ecology at that ID/WA border indicates that instream concentrations of fecal coliform exceed the Washington standards.

B. Location of the Discharge with Respect to Waters of the United States

As previously noted, Paradise Creek is considered impaired, or not meeting water quality standards, by both the States of Idaho and Washington, and therefore is subject to TMDL water quality improvement plans in both states. Based on its impairment status, EPA considers Paradise Creek to be a sensitive water body. EPA therefore determines that the

[6] See March 27, 2008, Memorandum from Elaine Snouwaert, Department of Ecology to Misha Vakoc, EPA. Also see Ecology website at http://www.ecy.wa.gov/apps/watersheds/riv/station.asp?theyear=&tab=exc&scrolly=450&wria=34&sta=34C100

City of Moscow discharges urban storm water runoff through their MS4 to a sensitive water body.

C. Size, Quantity and Nature of the Discharge

Population density is related to the level of human activity within an urban setting. Urbanization is directly linked to the amount of total impervious land surfaces within the area. Urbanization alters the natural infiltration capacity of the land, and associated human activity generates a host of pollutants. Impervious land cover causes increasing volumes of storm water runoff to receiving waters; receiving water quality is negatively affected by increased pollutant loadings from the urban land. Various studies indicate that the amount of imperviousness within an area strongly correlates with adverse water quality impacts of nearby receiving waters.[7]

The population of the City of Moscow grew from 21,324 in Year 2000 to 22,352 in 2006. This represents a 5% change in population between 2000 and 2006. Moscow is the 12th largest city in the state, and the City's population growth rate was greater than 142 of 200 cities statewide during the same period. The City's population density was recorded by the Year 2000 U.S. Census as 3,460 persons per square mile.[8]

EPA's analysis of images from the National Landcover Dataset,[9] as contained in Appendix C of this document, illustrates that the average percent of impervious surface condition within the Moscow city limits is approximately 31%. This average is slightly greater than the impervious surface condition estimated for the City of Pullman (24%). Average impervious surface upstream of the City is approximately 1% and the area between Moscow and Pullman averages approximately 12% impervious surfaces. Compared to upstream conditions, impervious surface conditions increase dramatically within a 100 meter buffer surrounding Paradise Creek within the Moscow city limits.

EPA's authority under 40 CFR § 122.26(a)(v) allows EPA to consider the size of the discharge, as well as the quantity and nature of the pollutants discharged to waters of the United States, when making a determination to designate a MS4 as requiring an NPDES permit to discharge storm water. The increasing population within the greater Moscow area, coupled with the relative amount of impervious surfaces which accompanies Moscow's population, are both strong indicators of increased pollutant loading to Paradise Creek from urban storm water runoff through the City's MS4.

D. Other Relevant Factors, Including Implementation of Other Water Quality Control Programs

As previously mentioned, both the City of Moscow and the University of Idaho identified actions through the Paradise Creek TMDL Implementation Plan to reduce pollutant loading to the section of Paradise Creek within the Moscow city limits. Since 1999, both the City and University have invested in a number of water quality and flow improvement projects

[7] EPA's Phase II NPDES Storm Water Program, 64 FR 68725, December 8, 1999.
[8] Data available from the U.S. Census Bureau, Population Division, released June 28, 2007.
[9] Multi-Resolution Land Characteristics (MRLC) Consortium, http://www.mrlc.gov/

designed to address urban runoff, including: capital improvements designed to reduce pollutant loading from the storm sewer system; adoption of an ordinance requiring erosion and sediment control at construction sites; and enhanced storm sewer system maintenance. EPA commends the City and University for accomplishing these projects; these efforts form a foundation for an effective storm water management program.

However, in light of the elevated levels of fecal coliform which exceed the Washington water quality standard in Paradise Creek, EPA does not consider these activities to replace an ongoing, comprehensive Storm Water Management Program designed to address water quality impacts associated with urban runoff throughout the City's jurisdiction.

Specifically, in 40 CFR § 122.34, EPA has outlined six minimum measures required to be addressed by MS4 operators through a comprehensive Storm Water Management Program, including: public education; public involvement; illicit discharge detection and elimination; construction site runoff control; post construction storm water management; and pollution prevention /good housekeeping associated with municipal operations.

While the City appears to have implemented controls which target construction site runoff and good housekeeping for municipal operations, other components associated with effective management of urban runoff must also be addressed throughout the City's jurisdiction.

V. Conclusion

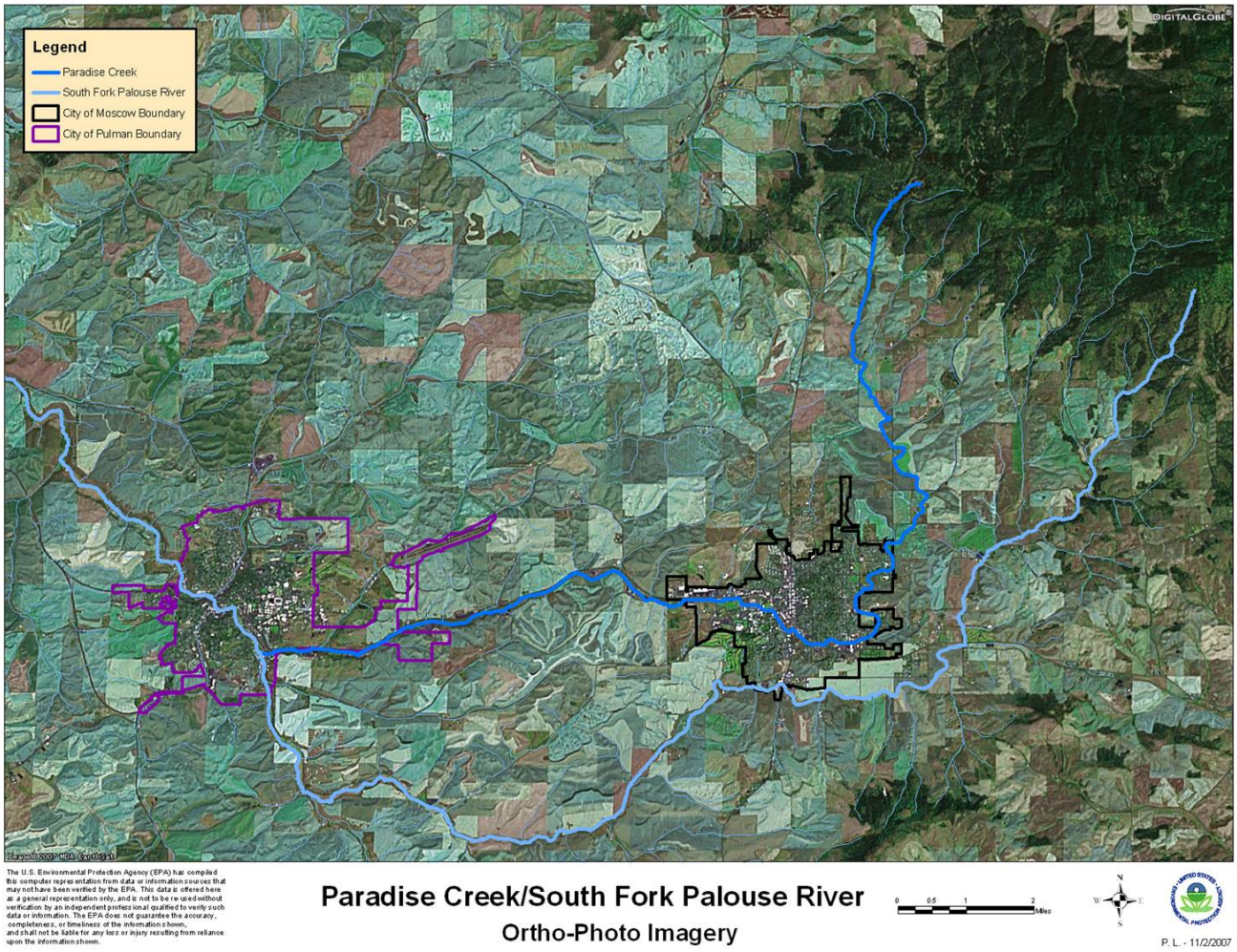
As described above, and pursuant to 40 C.F.R. §§ 122.26(a)(v) and 122.26(a)(9)(iii), EPA determines that:

1) the City of Moscow owns and operates a municipal separate storm sewer system (MS4) that discharges to Paradise Creek, a water of the United States; and

2) discharges from the City's MS4 contribute to violations of the Washington water quality standard for fecal coliform in Paradise Creek.

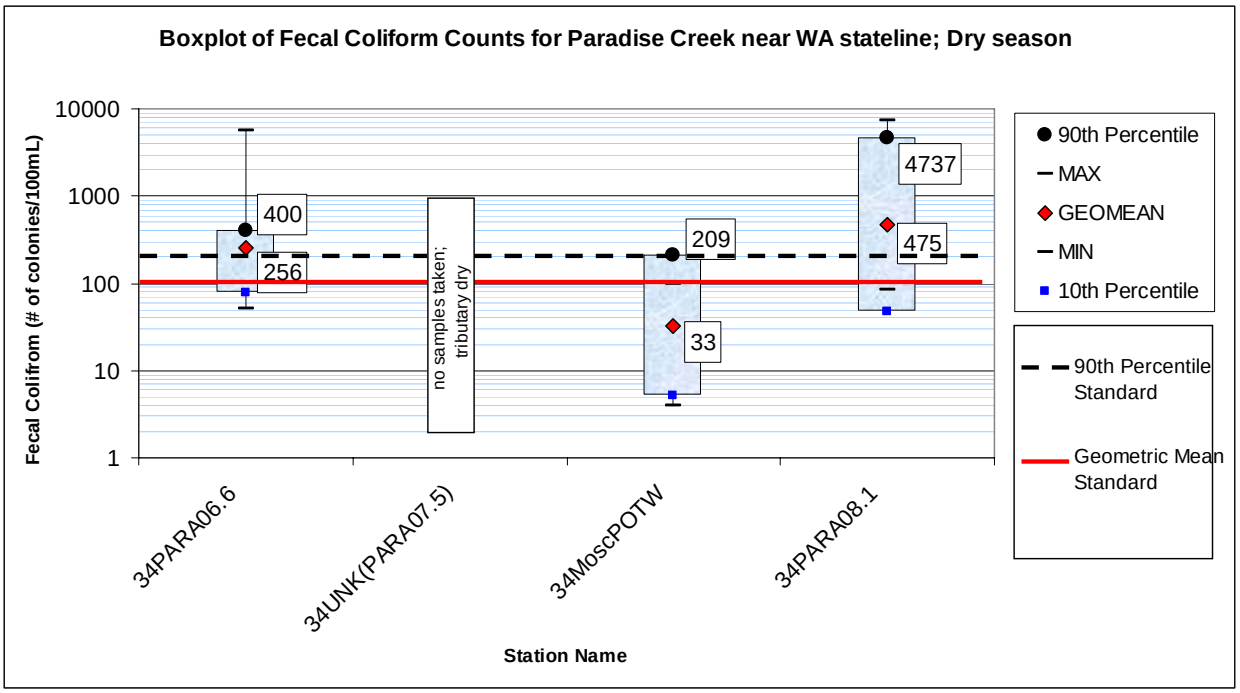
Therefore, EPA designates the MS4 owned and operated by the City as a "regulated small MS4." As a regulated small MS4, the City's MS4 is a point source as defined in section 502(14) of the Clean Water Act, 33 U.S.C. § 1362(14) which requires a National Pollutant Discharge Elimination System (NPDES) permit issued by EPA in accordance with section 402 of the Clean Water Act, 33 U.S.C. § 1342. The City must develop and implement a Storm Water Management Program in accordance with 40 CFR § 122.34 and submit an NPDES permit application to EPA no later than September 15, 2009.

Appendix A: Map of the Paradise Creek/South Fork Palouse Watershed



Note: The WA/ID state line extends north/south and is generally indicated on this map by the western edge of the Moscow city limits.

Appendix B: Preliminary Fecal Coliform Data from Washington Department of Ecology



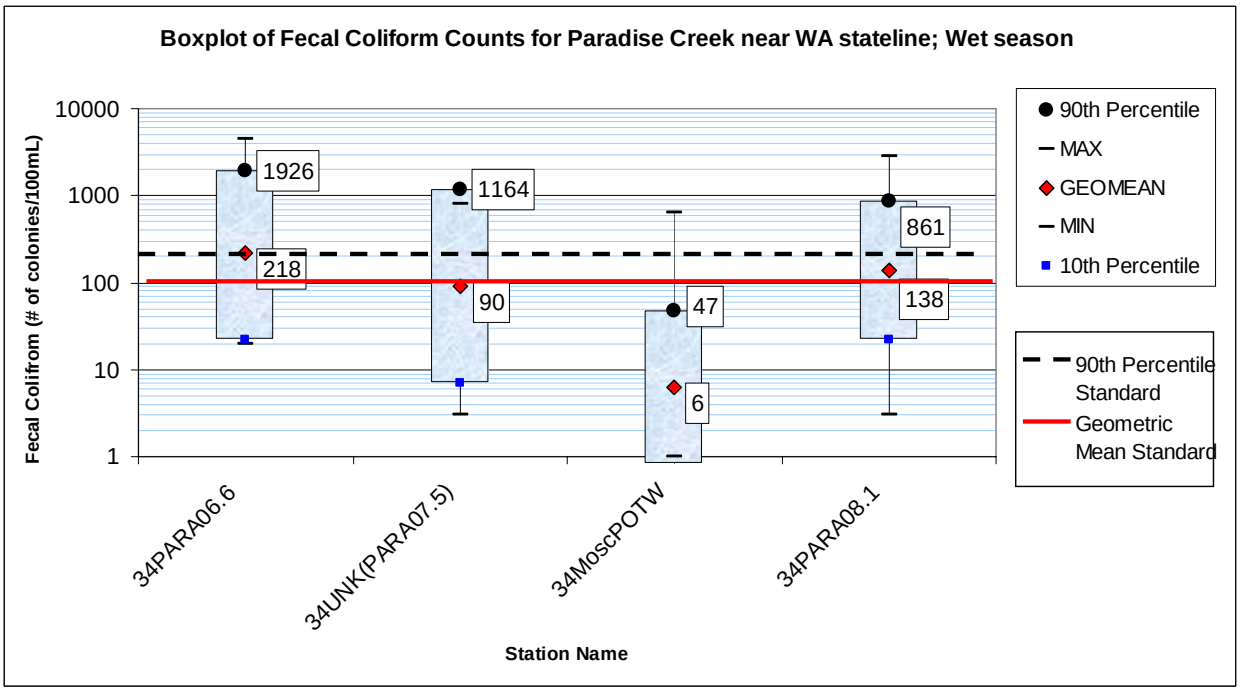
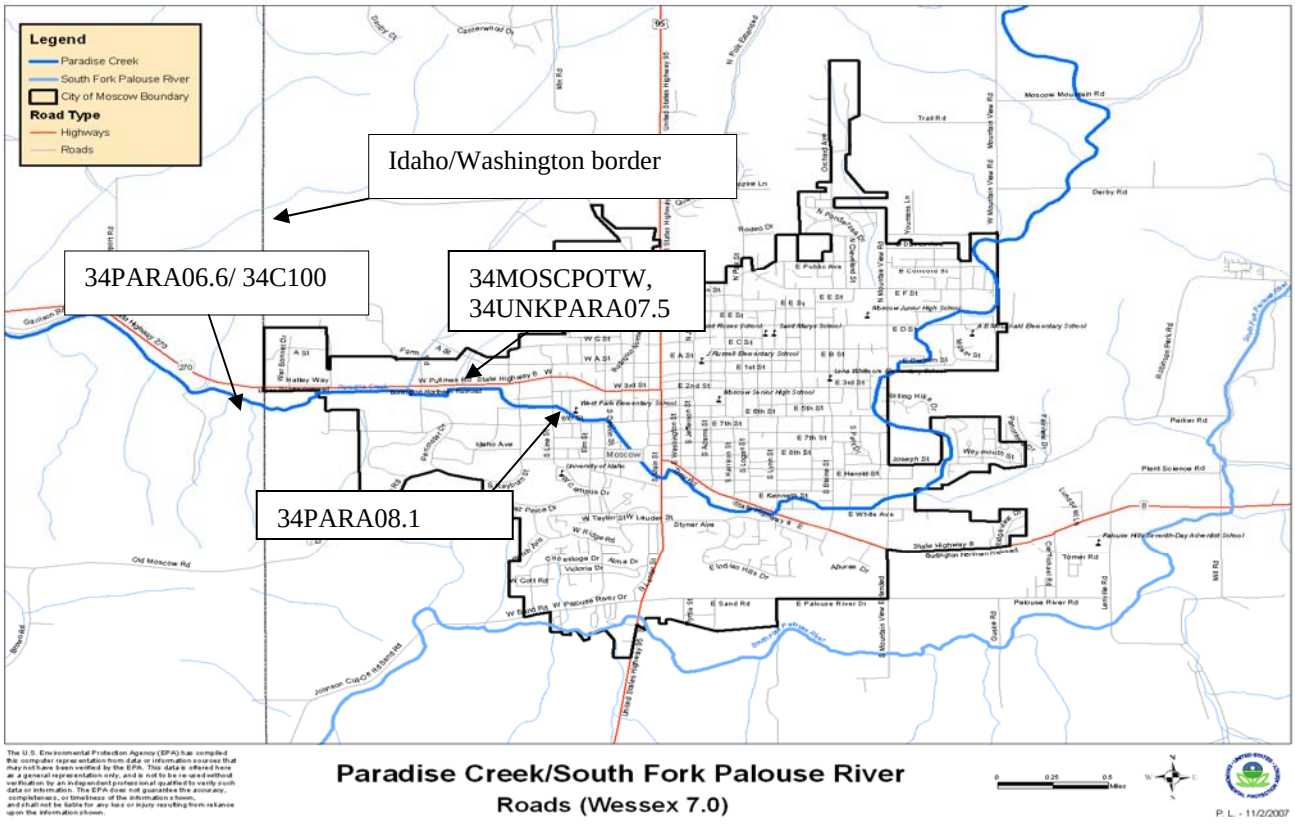


Figure B-1. Dry season (July-October) and wet season (November – June) boxplots of fecal coliform counts at four stations associated with Paradise Creek near the WA/ID stateline; compared to the WA state water quality criteria of <100 cfu/100 mL geomean and upper 10 percentile of samples < 200 cfu/100mL. Approximate monitoring locations are indicated in **Figure B-2.** Station 34PARA06.6 (also referred to as 34C100) is located within Washington very near to stateline, and represents the point of compliance for the Idaho Department of Environmental Quality TMDL prepared for the Idaho portion of Paradise Creek. Other sites, including storm outfall (34UNKPARA07.5), the Moscow POTW (34MoscPOTW), and Paradise Creek above the Moscow POTW (34PARA08.1) are located within Idaho. Wet season n = 8 to 22; dry season n = 4 to 8. All data is preliminary until published by Ecology.

Figure B-2. Map of the City of Moscow and approximate monitoring locations



Appendix C: Images from the National Landcover Dataset, Multi-Resolution Land Characteristics (MRLC) Consortium, http://www.mrlc.gov/

The following images reflect impervious cover associated with different land uses within the Paradise Creek watershed.

Figure C-1: Relative comparison of impervious surface conditions within City of Pullman, WA, and City of Moscow, ID

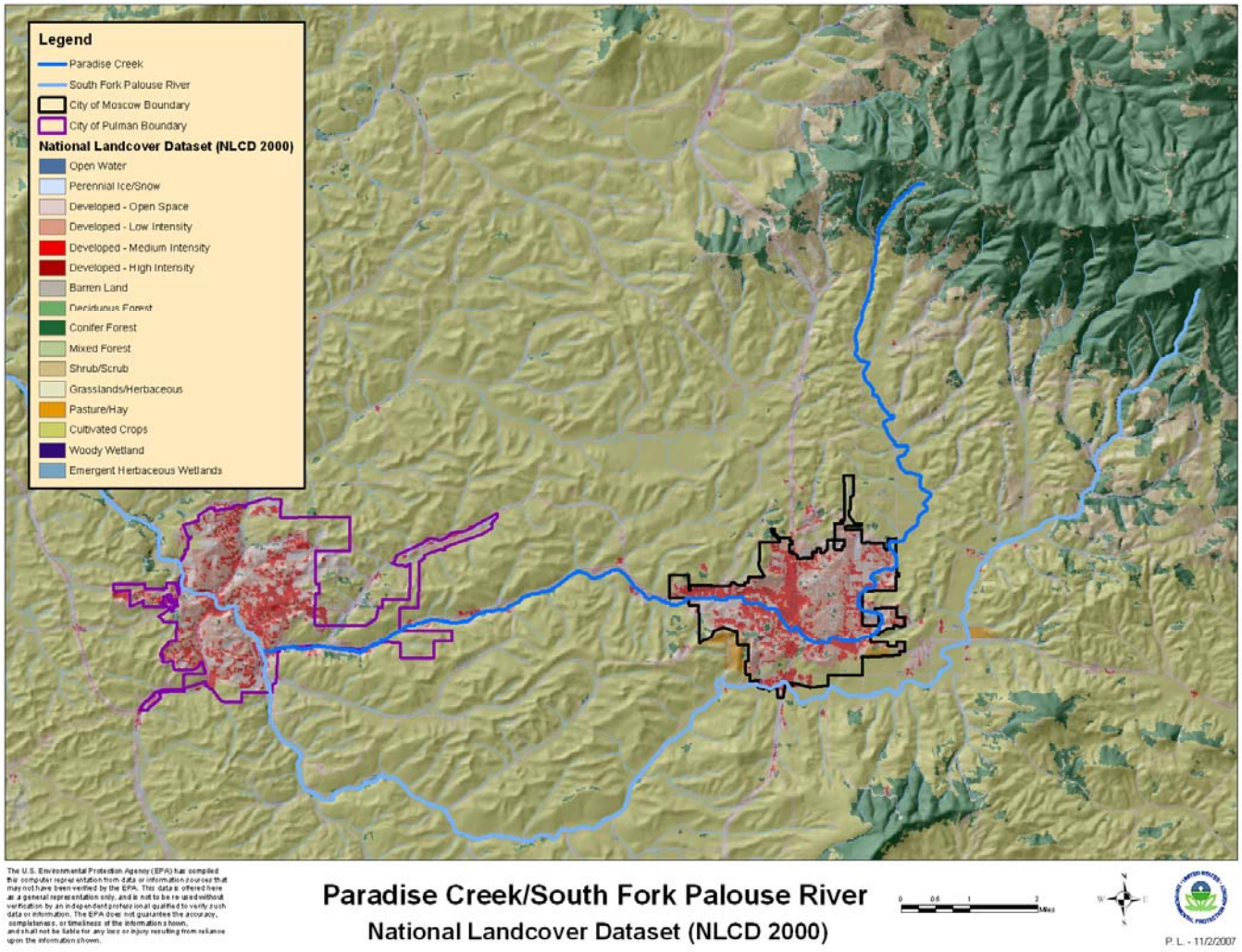


Figure C-2. Impervious surface conditions within the City of Moscow.

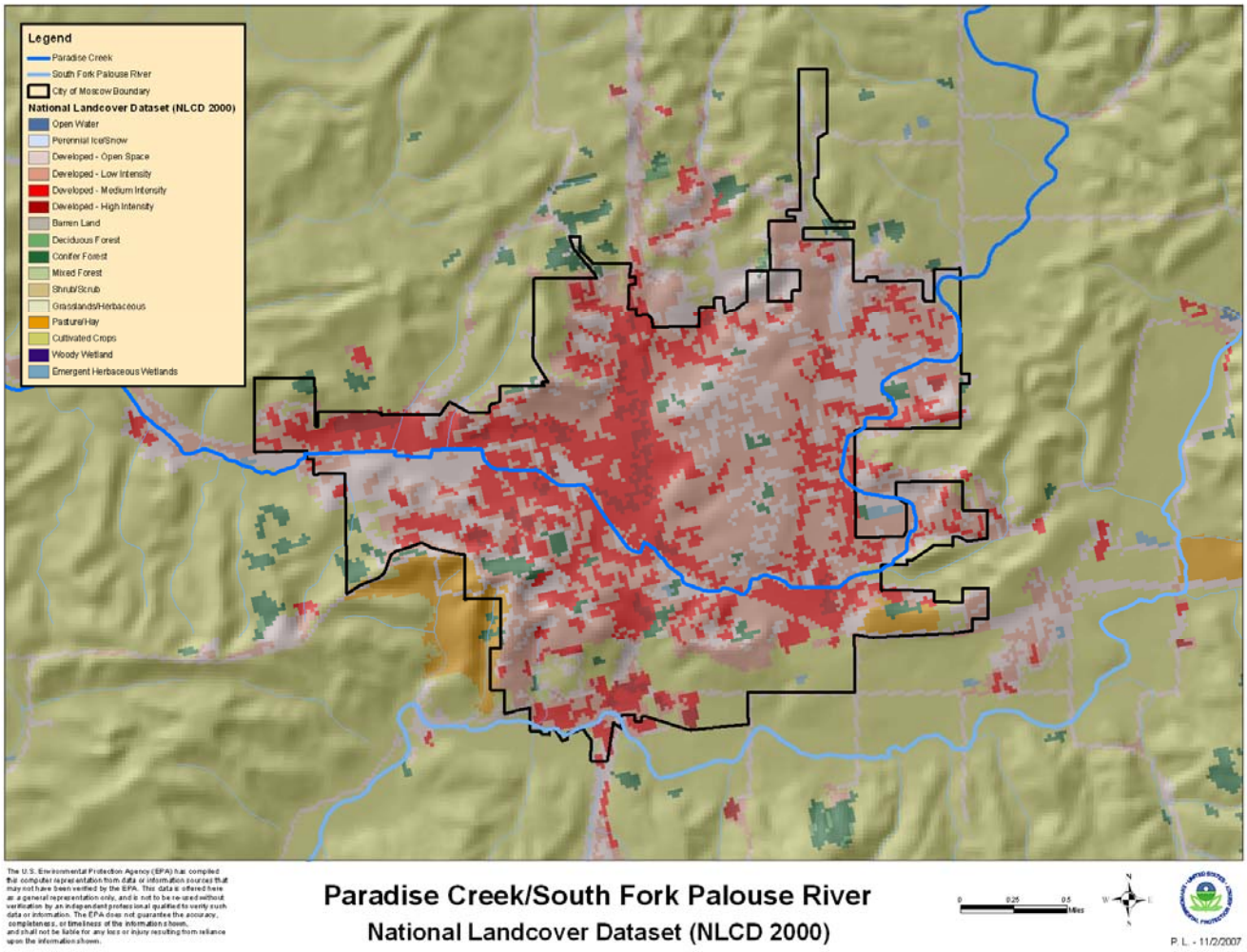
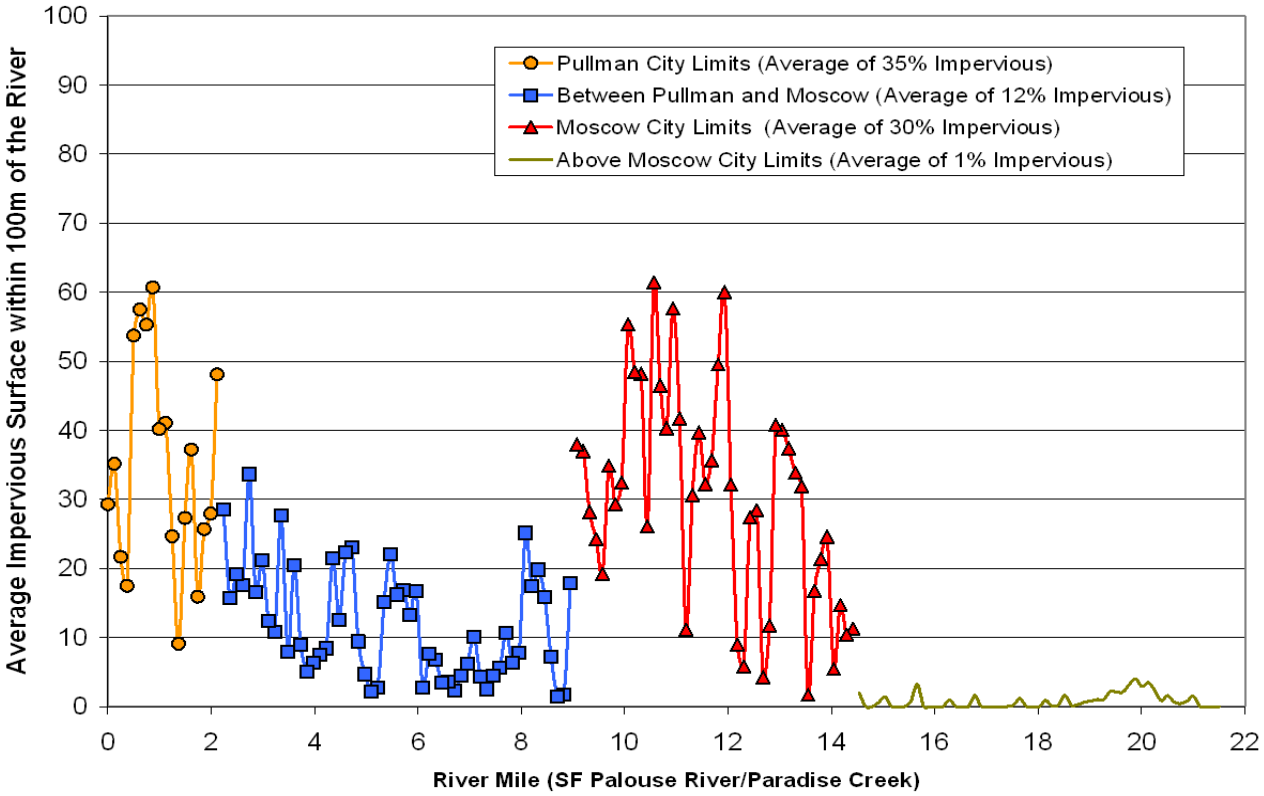


Figure C-3: Estimated impervious surface conditions along Paradise Creek and South Fork Palouse River.



Appendix D: Additional References

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Appendix E:
Regulated MS4s and the Requirement to Evaluate MS4s Not Automatically Designated to Obtain a NPDES Permit

EPA published the NPDES Storm Water "Phase II" Final Rule on December 8, 1999 (64 FR 68722 - 68852). One component of the rule applies to operators of certain municipal separate storm sewer systems (MS4s) which discharge to waters of the United States.

Automatic Designation: Those MS4s located within the boundaries of a Census Bureau-defined Urbanized Area (based on the latest decennial census) are automatically designated as "regulated small MS4s;" all operators of regulated small MS4s must develop Storm Water Management Programs and obtain NPDES permits for their municipal stormwater discharges. See 40 CFR §§ 122.32, 122.33 and 122.34.

Evaluate Other MS4s for Designation: The Phase II rule requires NPDES Permitting Authorities to develop designation criteria and evaluate any MS4 located outside of Urbanized Areas, serving a jurisdiction with a population of at least 10,000 people, and a population density of at least 1,000 people per square mile. The criteria should include a balanced consideration of the following elements: discharge to sensitive waters; high population growth or growth potential; high population density; contiguity to an urbanized area; significant contributor of pollutants; and ineffective protection of water quality by other programs. Any MS4 meeting the Permitting Authority's criteria must be designated as a "regulated small MS4" and is thereafter required to obtain a NPDES permit. In addition, any small MS4 located outside of Urbanized Area which contributes substantially to pollutant loadings of a physically interconnected regulated MS4 must be designated as needing a storm water discharge permit. See 40 CFR §123.35(b).

Designation Based on Water Quality Concerns: Regulations at 40 CFR 122.26(a)(v) also allow the NPDES Permitting Authority to designate other storm water discharges as needing to obtain a NPDES permit, based upon a determination by the Director that the discharge contributes to a violation of a water quality standard, or that the discharge is a significant contributor of pollutants to waters of the United States.

As the NPDES Permitting Authority for Idaho, EPA Region 10 drafted its Designation Criteria[10] in 2002 to evaluate whether a municipal storm water discharge results, or has the potential to result, in a violation of water quality standards including impairment of designated uses or other significant water quality impacts. EPA Region 10 used this Designation Criteria to initially evaluate City of Moscow and other Idaho cities in 2002. However, because EPA Region 10 did not finalize the draft Designation Criteria, EPA now elects to this Designation Criteria as a guide when considering whether to designate a MS4 discharge for inclusion in the NPDES storm water permitting program under 40 CFR 122.26(a)(v).

[10] *EPA Region 10's Designation Criteria for Small Municipal Separate Storm Sewer Systems, 2nd Draft - June 2002*