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# Permit Evaluation Report

## National Pollutant Discharge Elimination System

### Municipal Separate Storm Sewer Systems

### Phase II General Permit

### Public Notice Draft

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### Permit Category

MS4 Phase II General Permit, per Oregon Administrative Rule 340-045-0027, Category III.

### Activities Covered Under the Permit

The permit covers small regulated MS4s throughout Oregon that discharge stormwater to rivers, streams and other surface waters of the state. It includes 25 small MS4s currently registered under this permit.

### Source Location

Statewide

### Coverage and Eligibility

The effective date of the permit is October 1, 2025. This general permit was issued in accordance with Oregon Administrative Rule 340-045-0033 for activities that involve similar types of operations, similar types of wastes and similar monitoring conditions. The permit covers small municipal separate storm sewer system discharges that have a potential to discharge pollutants to waters of the state, or conveyance systems that eventually discharge to waters of the state. All permit registrants must submit a renewal application 180 days before this permit's expiration date to maintain coverage under this permit.

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## Public Notice Summary

DEQ took public comments on the draft permit from XXX to XXX, and hosted a public hearing on XXX XX, XXXX. DEQ received XX unique written letters and X oral comments on the draft permit.

DEQ made minor changes throughout the permit and this document's text for clarity, grammar and formatting. Additionally, changes were also made to ensure that the Permit Evaluation Report is consistent with the final permit.

## Summary of Key Changes

The previous iteration of this permit was the March 12, 2021, permit modification of the November 30, 2018 MS4 Phase II general permit, which was also the first issued by Oregon after EPA's revision to the Phase II Stormwater Rule in 2016. The permit utilizes the Comprehensive General Permit Approach, meets the MS4 Permit Standard or the requirement "to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, to protect water quality, and to satisfy the water quality requirements of the Clean Water Act."

DEQ's goal in the final permit was to write clear, specific and measurable conditions aimed at consistent implementation throughout the state. The following are the key changes to the most recent final permit modification:

- **Permit Coverage Area** – DEQ has added language to provide clarity on the minimum area in which registrants are required to implement permit conditions. This language should resolve questions about the different areas encompassed by the 2010 Census-designated Urbanized Area, the 2020 Census-designated Urban Area, and the State of Oregon Urban Growth Boundary. See Applicability & Notification Requirements section 2 in the permit and Section 3.2 of this document.
- **Existing and New Registrants** – All permit registrants listed under the previous iteration of the permit are now equally regarded as registrants under this renewal, and there is no distinction in this permit between entities that had previously had coverage and those that had not (labeled "Existing Registrants" and "New Registrants" under the previous permit). There has been no addition of new registrants. See Applicability & Notification Requirements section 3 in the permit and Section 3.3 of this document.
- **Construction** – This renewal has modified language for clarity in this section, and increased the requirement for post-construction inspections and plan review by permit registrants. The previous permit only required the permit registrant to review plans on sites resulting in land disturbance of one or more acres (or that disturb less than one acre, if it is part of a "common plan of development or sale" disturbing one or more acres). The previous permit also only required the permit registrant to inspect "at least once" unless sediment is visible in stormwater discharge or if a complaint or report is received for that construction site, with an expectation that permit registrants would use their discretion to prioritize and scale their applicable site plan review procedures, site inspections, and enforcement activities appropriately. The new minimum number of inspections is twice unless sediment is visible in stormwater discharge or if a complaint or report is received for that construction site, and plan review has been expanded to match the registrant's assigned threshold for construction regulations rather than be limited to sites at or exceeding an acre. Additionally, for existing "large communities" as defined by the permit DEQ has increased the requirement that the permit registrant inspect at least 25 percent of sites that disturb less than one acre at least once during the permit term to 50% of such sites.
- **Post-Construction** – DEQ has added to this permit an option similar to the 2021 Phase I MS4 permits' Alternative Site Performance Standards in the Post-Construction Stormwater Management Requirements and reorganized the text of that section for readability and clarity without substantively changing any major requirements. This non-numerical alternative site

performance standard option will bring the Phase II permits into line with the Phase I permits by adding flexibility in implementation options available to registrant, but registrants already in compliance with the previous permit's post-construction standards will not be required to revisit their local code or ordinances. See Schedule A.3.e.iii of the permit and Section 4.3.5.3 of this document.

- **Winter Maintenance** – In order to bring the Phase II permits in line with what has become standard practice under the Phase I permits, this renewal includes the addition of text in the Pollution Prevention and Good Housekeeping for Municipal Operations section, Schedule A.3.f, to address the water quality concerns associated with winter road maintenance activities and materials. See Schedule A.3.f.vi., and Section 4.3.6.5 of this document.
- **Industrial Screening** – DEQ has added a one-time screening exercise for permit-registrants to determine whether industrial sites in their jurisdiction may either require a DEQ-issued 1200-Z industrial stormwater NPDES general permit or may otherwise discharge significant pollutants to the MS4, and to refer those sites to DEQ for permit coverage. See Schedule A.3.g. and Section 4.3.7 of this document.
- **Adaptive Management** – A new addition to the text supporting the purpose and need for the SWMP Document was included and explicitly requires use of the SWMP Document and the data collected throughout a reporting year in an adaptive management process to be described in annual reporting. Adaptive Management is a structured, iterative process designed to refine and improve stormwater programs over time by evaluating results and adjusting actions based on what has been learned. Adaptive management in MS4 permits is supported by EPA guidance. See Schedule B.1, or Section 5.1 of this document.
- **TMDL and 303(d) considerations** – DEQ has added a condition at Schedule D.1.b. to require registrants to evaluate the effectiveness of their control measures and BMPs for effectiveness against the pollutants of concern in their TMDLs and the impairments listed in the most recent Integrated Report's 303(d) list. Further, per Schedule A.3.e.iii.(B) (Post Construction Stormwater Management Requirements – Stormwater Treatment Performance Standard) the registrants must complete a technical memorandum that links the specifications and application of allowable structural controls described in the registrants' treatment standard specifications to the expected pollutant removal efficiency for TMDL and impairment pollutants. Both of these TMDL and 303(d) reports are one-time submittals. See Sections 7.1.2 and 4.3.5.4.2 of this documents for more information on these requirements, respectively.
- **Emerging and Legacy Contaminants** – The developing understanding of emerging contaminants can pose a challenge in permit writing, given the lack of documented guidance from EPA, testing methods approved by EPA, thoroughly vetted fate & transport models, or enforceable water quality standards. Similarly, legacy contaminants are defined as such because of the difficulties of stabilizing their distribution once they've been dispersed or removing them from the environment. The BMPs required in this permit already address such concerns in a number of ways by requiring stormwater volume reduction (e.g., infiltration) and stormwater treatment to limit pollutant spread, among other approaches.

There are significant data gaps slowly being addressed by developing science around the tire wear particle degradant N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine (AKA 6PPD-quinone or 6PPD-q), for example. Though 6PPD-q is not directly addressed in this permit, a number of BMPs required by the control measures of this permit are already known to mitigate its harms, including stormwater infiltration and treatment/filtration methods common in Low Impact Development & Green Infrastructure (LID/GI) practices and Green Stormwater Infrastructure (GSI), that are incorporated into this permit. DEQ continues to stress the importance of infiltration and other treatment mechanisms shown by early research to be effective for 6PPD-q

and will incorporate more information as new science emerges or new EPA guidance is promulgated.

PCBs, while less recently identified as a concern for water quality, are also newly addressed in this permit with a condition adding consideration of possible PCB contaminant sources in wash water and demolition materials coming from registrant-owned buildings constructed or renovated between 1950 and 1980. This permit condition is located in Schedule A.3.f.iv.

Finally, though perhaps not best defined as either an emerging or legacy contaminant, concern over trash in Oregon waterways is significant, and the presence of trash in the Willamette was recently quantified by the efforts of Willamette Riverkeeper and others with sufficient stringency to document it as a water quality concern and impairment for the purposes of DEQ's Integrated Report. Similar to the situation with 6PPD-q, trash is already addressed by a number of BMPs required by the control measures in this permit. DEQ has improved permit language in a number of places to strengthen adaptive management and improve the removal of trash from MS4s before it reaches waterways.

- **Definitions** – In order to improve consistency between Oregon MS4 permits, several definitions have been updated, including those of “Chronic Illicit Discharges,” and “Green Infrastructure.” A definition has also been added for “Major Municipal Outfalls,” and definitions for various types of stormwater controls have been updated for clarity and consistency with how permit language is applied.

## 1. Introduction

This Permit Evaluation Report explains DEQ's rationale for the permit conditions in the MS4 Phase II General Permit.

DEQ issued this NPDES general permit for stormwater discharges from small regulated MS4s to waters of the state. In order to reduce pollutants from urban runoff entering waters, the permit establishes conditions, prohibitions, and management practices applicable to discharges of stormwater from permit registrants. Specifically, operators of regulated small MS4s must implement a comprehensive stormwater management program to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act.

The MS4 permit program is an important element of DEQ's water quality program. The requirements are based on Section 402(p) of the Clean Water Act, 33.U.S.C. §1342(p), and the U.S. Environmental Protection Agency's regulations permitting municipal stormwater discharges (40 CFR § 122.28, 122.30-35, and 123.35; see also 64 FR 68722 [Dec. 8, 1999] and 81 FR 89320 [Dec. 9, 2016]).

This permit covers all existing and new stormwater discharges from small regulated MS4s located within Urban Areas of Oregon as defined by the latest Decennial Census.<sup>1</sup>

***Definition of a municipal separate storm sewer system or MS4<sup>2</sup> means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):***

- (i) *Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage,*

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<sup>1</sup> The Decennial Census, a census taken in a year ending in “0”; such as 1990, 2000, 2010, is conducted by the U.S. Bureau of Census

<sup>2</sup> Municipal Separate Storm Sewer System (MS4) is defined in 40 CFR § 122.26(b)

- industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the Clean Water Act (CWA) that discharges to waters of the United States;*
- (ii) *Designed or used for collecting or conveying storm water;*
  - (iii) *Which is not a combined sewer; and*
  - (iv) *Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR § 122.2.*

**Small MS4** is defined in 40 CFR § 122.26(b)(16), a small MS4 is a municipal separate storm sewer that is not defined as a medium or large MS4.

**Large MS4** is defined in 40 CFR § 122.26(b)(4).

**Medium MS4** is defined in 40 CFR § 122.26(b)(7).

**Definition of Urban Area or UA** - Urban Areas represent densely developed territory, and encompass residential, commercial, and other nonresidential urban land uses. Each urban area must encompass at least 2,000 housing units or at least 5,000 people. This is a change from the previous minimum of 2,500 people which had been in place since 1910.

Urban areas are defined primarily based on housing unit density measured at the census block level. Three housing unit densities are applied during the delineation process:

- *Initial urban core: at least 425 housing units per square mile. Based on the national average of 2.5 persons per housing unit, this density threshold is similar to the 1,000 persons per square mile used in 2000 and 2010 when delineating initial urban cores.*
- *Remainder of urban area: at least 200 housing units per square mile. This is similar to the 500 persons per square mile density used in 2000 and 2010, based on the national average of 2.5 persons per housing unit.*
- *At least one high density nucleus of at least 1,275 housing units per square mile required for qualification. This ensures that each urban area contains a high-density nucleus typical of what one would expect to find within an urban area.*

*In addition to the change in minimum thresholds for qualification and the change to use of housing unit density, the Census Bureau also no longer distinguishes between urbanized areas of 50,000 or more people and urban clusters of less than 50,000 people.<sup>3</sup>*

In 2020, the Census Bureau changed its terminology such that the Urbanized Areas and Urban Clusters defined in the 2010 Census are now collectively referred to as Urban Areas, as indicated above. The definition of Urban Area for the 2020 Census along with clarifications and additional information regarding the criteria for defining Urban Areas were published in the **Federal Register** on March 24, 2022, *Urban Area Criteria for the 2020 Census—Final Criteria* ([87 FR 16706](https://www.federalregister.gov/documents/2022/03/24/2022-06706/urban-area-criteria-for-the-2020-census-final-criteria)). The final list of Urban Areas with additional clarifications on defining criteria was published in the Federal Register on December 29, 2022, *2020 Census Qualifying Urban Areas and Final Criteria Clarifications* ([87 FR 80114](https://www.federalregister.gov/documents/2022/12/29/2022-24114/2020-census-qualifying-urban-areas-and-final-criteria-clarifications)). As the *Census Clarifications* (87 FR 80114) stated that “Agencies using the [urban/rural] classification for their programs are responsible for ensuring that the classification is

<sup>3</sup> From 2020 Census Urban Areas FAQs, US Environmental Protection Agency: <https://www.regulations.gov/document/EPA-HQ-OW-2022-0834-0008>



*appropriate for their use,”* the EPA later published a Rule change, effective March 2, 2023, to accommodate the change in terminology from the use of Urbanized Areas to Urban Areas (87 FR 73965).

## 1.1 Engagement with Potentially Interested Parties

In 2023 DEQ initiated engagement with potentially interested parties in the form of surveys, phone calls, meetings, and presentations. This outreach was a continuation of the relationships established during previous engagement efforts from 2013 onward to the issuance of the previous iteration of the permit, and further through permit modification and the overall permit term in the form of technical assistance, review of and feedback on annual reports, and inspections. This engagement provided DEQ with insight on permit conditions and implementation challenges related to permit language from various interested parties. This final permit reflects DEQ’s consideration of this input, in order to improve the implementability and effectiveness of the permit as a whole while meeting legal responsibilities, including the MS4 permit standard.

## 1.2 Regulatory Overview

The Clean Water Act, Section 402(p), 33 U.S.C. § 1342(p) and the NPDES stormwater regulations establish the permit requirements for regulated MS4 discharges. Section 402(p)(3)(B) of the CWA, 33 U.S.C. § 1342(p)(3)(B) of the Code of Laws for the United States of America requires a 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, including management practices, control techniques, and system design and engineering methods, and such other provisions determined to be appropriate by the NPDES permitting authority.

Stormwater is surface runoff from rain and snowmelt or the portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels, or pipes into a defined surface water channel or a constructed infiltration facility. Urbanization or urban development has an impact on receiving streams by altering natural hydraulic conditions and generating an increased concentration of pollutants to a receiving stream from activities such as paving, decreased impervious areas, and increased peak discharges (compared to predevelopment levels). These pollutants can negatively impact water quality. Urban stormwater runoff is often a contributing factor where there is a water quality standard impairment in a particular waterbody.

In 1990, EPA developed the first phase or Phase I of federal stormwater regulations as directed by the CWA. These regulations established the NPDES permit application and related requirements for discharges from large MS4s and medium MS4s. The Phase I regulations identified the large and medium MS4s nationally based on the 1990 Census population. Based on the 1990 Census, the Phase I stormwater regulations automatically designated 35 municipalities, two special districts, and the Oregon Department of Transportation.<sup>4</sup>

*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 storm water, 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.<sup>5</sup>*

In 1999, 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 as defined by the latest Decennial Census. DEQ issued 15 individual MS4 Phase II permits in 2007. The Phase II stormwater regulations require that permits for small MS4

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<sup>4</sup> DEQ’s first issued Phase I permit was to the Portland Group in 1995. In 2000 ODOT elected to become a sole permittee rather than share responsibility as a co-permittee with several of the other Phase I communities.

<sup>5</sup> 40 CFR § 122.26(b); 122.34(a); and *NPDES Storm Water Phase I Regulations Final Rule* (55 FR 47990, November 16, 1990).

discharges must include terms and conditions to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act.<sup>6</sup> The permit registrant must control pollutants in their MS4 discharges to the maximum extent practicable by addressing the six “minimum control measures”, (i.e., public 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).

In 2016, EPA revised the Phase II regulations in response to a 2003 court case. These revisions are referred to as the *Small MS4 General Permit Remand Rule*, or the Remand Rule. A summary of the findings are provided below:<sup>7</sup>

*...the court determined that the regulations for providing coverage under small MS4 general permits did not provide for adequate public notice and opportunity to request a hearing. Additionally, the court found that EPA failed to require permitting authority review of the best management practices (BMPs) to be used at a particular MS4 to ensure that the small MS4 permittee reduces pollutants in the discharge from their systems to the “maximum extent practicable” (MEP), the standard established by the Clean Water Act (CWA) for such permits. The final rule establishes two alternative approaches a permitting authority can use to issue National Pollutant Discharge Elimination System (NPDES) general permits for small MS4s and meet the requirements of the court remand. The **first option is to establish all necessary permit terms and conditions to require the MS4 operator to reduce the discharge of pollutants from its MS4 to the MEP, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act (“MS4 permit standard”) upfront in one comprehensive permit. The second option allows the permitting authority to establish the necessary permit terms and conditions in two steps: A first step to issue a base general permit that contains terms and conditions applicable to all small MS4s covered by the permit and a second step to establish necessary permit terms and conditions for individual MS4s that are not in the base general permit. Public notice and comment and opportunity to request a hearing would be necessary for both steps of this two-step general permit. This final rule does not establish any new substantive requirements for small MS4 permits.***<sup>8</sup>

The Remand Rule establishes the compliance standard for the MS4 Phase II general permit, known as the MS4 permit standard. The MS4 permit standard is the requirement “to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, to protect water quality, and to satisfy the water quality requirements of the Clean Water Act.”<sup>9</sup> The rule revisions outline procedures regarding how the NPDES permitting authority must establish the required permit conditions in a small MS4 general permit, and how small MS4s obtain coverage under an available general permit. In addition, the rule revisions clarify that the permit requirements established by the permitting authority must be expressed in clear, specific, and measurable terms. The rule revisions require permitting authorities to determine necessary requirements to meet the MS4 permit standard with each new permit based on factors such as receiving water quality, compliance history, technological developments in stormwater control measures, and other relevant factors. The Remand Rule stated that changes and updates to the SWMP are “fundamental part of the Phase II program, which has always emphasized the need for adaptive management to make iterative progress toward water quality goals.” The ultimate goal is to make incremental improvements until compliance with water quality standards are attained.

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<sup>6</sup> CWA Section 402(p)(3); 40 CFR §§ 122.34(a); *NPDES Municipal Separate Storm Sewer System General Permit Remand, Proposed Rule* (81 FR 415, January 6, 2016).

<sup>7</sup> These revisions are referred to as the Small MS4 General Permit Remand Rule, or the “Remand Rule”. Various groups challenged EPA’s 1999 Phase II storm water rule in federal courts, resulting in the rule’s partial remand back to EPA in *Environmental Defense Center v. U.S. Environmental Protection Agency*, 344 F.3d. 832 (9th Cir. 2003). Specifically, the U.S. Court of Appeals for the Ninth Circuit remanded the Phase II rule’s provisions for small MS4 NPDES general permits because they lacked procedures for permitting authority review and public notice, and for the opportunity to request, a hearing on NOIs submitted under general MS4 permits.

<sup>8</sup> *NPDES Municipal Separate Storm Sewer System General Permit Remand, Final Rule* (81 FR 89320, Dec. 9, 2016).

<sup>9</sup> *NPDES Municipal Separate Storm Sewer System General Permit Remand, Final Rule* (81 FR 89320, Dec. 9, 2016).

DEQ determined that the Comprehensive General Permit Approach (the first option described in the Remand Rule) is appropriate for Oregon, therefore DEQ has included all the terms and conditions in the permit, which is fully consistent with the federal Phase II stormwater regulatory requirements and the recent Remand Rule. The permit establishes all the necessary permit terms and conditions required to reduce the discharge of pollutants from the permit registrant's MS4 to protect water quality and establishes the MS4 permit standard. In some cases, this may mean that permit conditions are expressed in more specific terms than in the previous MS4 individual permits. These modifications are necessary to comply with the Remand Rule's requirement to use terms and conditions that are clear, specific, and measurable.

***Comprehensive General Permit Approach*** - Permitting authorities opting to issue Comprehensive General Permits must establish the full set of requirements that are deemed necessary to meet the MS4 permit standard in § 122.34. (See § 122.28(d)(1), which requires that “the Director includes all required permit terms and conditions in the general permit.”) The permit must therefore include terms and conditions that define what is required to meet the MS4 permit standard for the minimum control measures (§ 122.34(b)), additional permit terms and conditions based on an approved total maximum daily load (TMDL) or other appropriate requirements to protect water quality (§ 122.34(c)), and requirements to evaluate and report on compliance with the permit (§ 122.34(d)). As a result, the Comprehensive General Permit is no different than other general permits in that all applicable effluent limitations and other conditions are included within the permit itself, and the NOI [Notice of Intent or Application] is used primarily to determine whether a specific MS4 is eligible and to secure coverage for that MS4 under the permit subject to its limits and conditions.<sup>10</sup>

***“Clear, Specific, and Measurable” Permit Requirements*** - the permit requirements must be enforceable, and must provide a set of performance expectations and schedules that are readily understood by the permittee, the public, and the permitting authority alike.<sup>11</sup>

This permit expresses this as narrative and numeric requirements for each SWMP control measure in the form of specific tasks, BMPs, design requirements, performance requirements, schedules for implementation and maintenance, and/or frequency of required actions.

### 1.3 Permit History

In 2007, DEQ issued individual NPDES permits to all regulated small MS4s required to obtain coverage based on the 2000 Census. In May 2012, all of these individual permits expired. Each then-existing registrant<sup>12</sup> submitted a complete permit renewal application prior to their respective permit's expiration date, and, thus, their permit coverage was administratively extended by DEQ, in accordance with OAR 340-045-0040(2) and pursuant to 40 CFR § 122.6. On Nov. 30, 2018, DEQ issued a NPDES general permit for discharges from small MS4s. This permit was Oregon's first MS4 Phase II general permit issued after EPA's revision to the Phase II Stormwater Rule in 2016. The permit became effective on March 1, 2019, and then a permit modification was issued on March 12, 2021. The current renewal from the 2021 permit modification maintains the broad strokes of the model and approach established in the 2019/2021 permit to allow the newly established programs time to collect data on their effectiveness.

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<sup>10</sup> NPDES Municipal Separate Storm Sewer System General Permit Remand, Final Rule (81 FR 89320, Dec. 9, 2016).

<sup>11</sup> NPDES Municipal Separate Storm Sewer System General Permit Remand, Final Rule (81 FR 89320, Dec. 9, 2016).

<sup>12</sup> Existing Registrants under the previous permit were those entities that previously had individual NPDES permit coverage

## 1.4 NPDES General Permit vs. Individual Permit Approach

Federal regulations<sup>13</sup> and OAR 340-045-0033 allow DEQ to issue a general permit to regulate discharges from numerous facilities (such as regulated small MS4s) under one NPDES permit when those facilities:

- Involve the same or substantially similar types of operations
- Discharge the same types of wastes
- Require the same effluent limits or operating conditions
- Require the same or similar monitoring requirements

Regulated small MS4s in Oregon represent substantially similar public drainage facilities that discharge stormwater runoff from densely populated urban areas. All small MS4s subject to the MS4 Phase II General Permit are required to implement the same or similar narrative effluent limits and requirements. For administrative efficiency and consistency, DEQ has determined that a general permit is an appropriate mechanism to address the discharges from identified small MS4s.

As previously stated, DEQ (i.e., the permitting authority in Oregon)<sup>14</sup> identified that the Comprehensive General Permit approach described in 40 CFR § 122.28(d)(1) is appropriate for small MS4s in Oregon. This permit establishes the stormwater management control requirements to meet the MS4 Permit Standard.

*The final rule provides permitting authorities with full discretion to choose which option is best suited for its permitting needs and specific circumstances.*<sup>15</sup>

This approach only requires one public notice period. The Stormwater Management Program Document, which describes in detail how the permit registrant intends to comply with the required control measures in this permit, is not part of the permit's public notice process.

## 1.5 Permit Development

DEQ did not include requirements for major programmatic updates in this permit so that additional data could be collected regarding program effectiveness resulting from the expansive additional permit conditions included in the previous permit iteration. However, DEQ could not simply reissue the same permit conditions for subsequent five-year permit terms without considering whether additional or modified conditions should be required in improving permit language to further facilitate meeting water quality objectives, especially in areas where the receiving waters are not attaining the applicable water quality standards.<sup>16</sup> In doing so, DEQ developed the permit terms and conditions in the permit to address the MS4 control measure requirements specified in 40 CFR § 122.34. DEQ also considered various informational sources and submittals by Registrants in the selection of the Comprehensive General Permit approach, including the following:

- Review of the individual MS4 Phase I and II permits in Oregon
- Review of the existing Stormwater Management Program control measures implemented by MS4 Phase I and II permit registrants in Oregon
- Review of Annual Reports submitted by Phase I and II permit registrants

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<sup>13</sup> 40 CFR § 122.28 and 122.33(b)

<sup>14</sup> The NPDES permitting authority must select between two alternative permitting approaches as outlined in 40 CFR § 122.28(d) (referred to as either the "Comprehensive General Permit" or the "Two-Step General Permit"), then include the minimum requirements and procedures associated with the selected approach.

<sup>15</sup> *NPDES Municipal Separate Storm Sewer System General Permit Remand, Final Rule* (81 FR 89320, Dec. 9, 2016).

<sup>16</sup> *NPDES Municipal Separate Storm Sewer System General Permit Remand, Final Rule* (81 FR 89320, Dec. 9, 2016), pages 89337-89338.

- Review of TMDL requirements and listed impaired pollutants in waterbodies without an established TMDL
- Review of MS4 permits issued by EPA and other states (e.g., Washington, California, Colorado)
- Recommendations from DEQ staff in multiple water quality groups as well as EPA staff, listening session meetings, and several informal and formal meetings
- Comments received during the public notice of the MS4 Phase II general permit ([DATE])

The permit contains the narrative requirements applicable to all small MS4 permit registrants to address the minimum measures required by 40 CFR § 122.34(a) and (b); where the receiving waterbody is subject to a TMD and/or listed on DEQ's 303(d) list, the permit also includes water quality based requirements for individual MS4 permit registrants, as required by 40 CFR § 122.34(c) and 122.44(d)(1); and the permit also includes evaluation and assessment requirements, as required by 40 CFR § 122.34(d).

## 1.6 MS4 Permit Standard and Maximum Extent Practicable

In accordance with the Remand Rule, 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, to protect water quality, and to satisfy the appropriate water quality requirements under the Clean Water Act. At a minimum, MS4 permit terms and conditions must satisfy the requirements set forth in the federal regulations at 40 CFR § 122.34(a) through (e).<sup>17</sup>

Maximum extent practicable (or MEP) is the statutory standard that describes the level of pollutant reduction that small MS4 operators must achieve, and what constitutes maximum extent practicable must continually adapt to current conditions and understanding of BMP effectiveness. Neither the CWA nor the stormwater regulations provide a specific definition of maximum extent practicable. The lack of a detailed definition allows for flexibility in MS4 permitting.

The iterative process of imposing the maximum extent practicable standard over successive permit terms consists of the NPDES permitting authority defining clear, specific, and measurable NPDES permit requirements; permit registrants implementing the required actions as part of a comprehensive program; and the permit registrants and NPDES permitting authority evaluating the effectiveness of best management practices used to date. This iterative permitting process continues, permit term to permit term, until water quality standards are attained.<sup>18</sup>

DEQ has defined the required stormwater management control measures, and evaluation and assessment requirements, that small MS4 operator must implement in order to comply with the MS4 Permit Standard in the permit. While maximum extent practicable was considered when establishing permit conditions, the Remand Rule clarifies that the standard that MS4 Phase II permits must establish and meet is the MS4 Permit Standard, not only the maximum extent practicable standard.

*A final change to § 122.34(a) that EPA proposed was to reflect the iterative nature of the MS4 permit standard and require that what is considered adequate to meet the MS4 permit standard, including what constitutes "maximum extent practicable" ...<sup>19</sup>*

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<sup>17</sup> NPDES Municipal Separate Storm Sewer System General Permit Remand, Final Rule (81 FR 89320, Dec. 9, 2016).

<sup>18</sup> NPDES Municipal Separate Storm Sewer System General Permit Remand, Final Rule (81 FR 89320, Dec. 9, 2016); Also, MS4 Permit Improvement Guide, April 2010. EPA 833-R-10-001 for EPA's discussion of MEP

<sup>19</sup> NPDES Municipal Separate Storm Sewer System General Permit Remand, Final Rule (81 FR 89320, Dec. 9, 2016).

*...permit requirements are needed to reduce pollutants from each permitted small MS4 “to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act”<sup>20</sup>*

## 1.7 Effluent Limitations

The terms and conditions of MS4 permits are effluent limitations, and may consist of narrative, numeric, and/or other types of requirements. Examples include implementation of specific tasks or practices, best management practice design requirements, performance requirements, adaptive management requirements, schedules for implementation and maintenance, and frequency of actions.

*EPA intends that terms and conditions are a type of effluent limitations and that they are interchangeable and both mean permit requirements. As defined in the Clean Water Act, “effluent limitation” means “any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance.” See CWA section 502(11). The Clean Water Act also authorizes inclusion of permit conditions. See CWA section 402(a)(1) and (2). Both “effluent limitations or other limitations” under section 301 of the Act and “any permit or condition thereof” are an enforceable “effluent standard or limitation” under the citizen suit provision, section 505(f) of the Clean Water Act, and the general enforcement provisions, section 309 of the Act. EPA uses these terms interchangeably when referring to actions designed to reduce pollutant discharges. For the purposes of this final rule, changing the small MS4 regulations to refer instead to “terms and conditions” is intended to be read as consistent with the meaning of “effluent limitations” in the regulations and CWA.<sup>21</sup>*

This permit requires all permit registrants to control pollutants in their MS4 discharges through the development and implementation of a suite of BMPs and other stormwater controls. Implementation of these BMPs, as part of a Stormwater Management Program, is the primary mechanism to achieve the required pollutant reduction. In its broadest sense, a BMP means any type of structural or non-structural control measure or activity undertaken by the permit registrants in the course of implementing its SWMP.<sup>22</sup> In order to establish permit terms and conditions that are “clear, specific and measurable,” (consistent with the Remand Rule) the permit describes BMPs and other requirements in more detail than was previously required in the administratively extended MS4 permits.

A permit registrant’s implementation of the SWMP control measures in Schedule A.3 constitutes progress towards reducing or eliminating the pollutants in MS4 discharges that contribute to water quality standards exceedances. However, the control measures in Schedule A.3 alone may be insufficient to fully eliminate the MS4 operator’s contribution to the specific water quality impairment. As a result, in the MS4 Phase II General Permit, where the MS4 discharges into waters of the state that are “impaired” (i.e., not meeting applicable water quality standards), the permit registrant must meet the MS4 Permit Standard by complying with all MS4 Phase II General Permit requirements, including applicable water quality-based requirements as directed in Schedule D.

## 1.8 Antibacksliding Review

The Phase II MS4 General Permit requires permit registrants to control pollutants discharged through their MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. The MS4 Phase II General Permit requires permit registrants to implement

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<sup>20</sup> NPDES Municipal Separate Storm Sewer System General Permit Remand, Final Rule (81 FR 89320, Dec. 9, 2016).

<sup>21</sup> NPDES Municipal Separate Storm Sewer System General Permit Remand, Final Rule (81 FR 89320, Dec. 9, 2016).

<sup>22</sup> See 40 CFR § 122.34(a), 40 CFR § 122.44(k), and NPDES Municipal Separate Storm Sewer System General Permit Remand, Final Rule (81 FR 89320, Dec. 9, 2016).

a comprehensive SWMP as the primary mechanism to achieve the maximum extent practicable standard required to reduce pollutants in their MS4 discharges.<sup>23</sup>

The SWMP requirements in the permit reflect DEQ's decision to identify the "*controls necessary to reduce the discharge of pollutants from the MS4 to the MEP*" within the permit itself. Accordingly, the permit contains clear, specific, and measurable provisions to prescribe the continued implementation of specific tasks, BMPs, BMP design requirements, performance requirements, adaptive management requirements, schedules for implementation, as well as maintenance, and frequency of actions as required minimum control measures that must be met. Although such provisions are expressed differently in some places than the comparable provisions in DEQ's previously issued MS4 permits, DEQ has determined that the provisions in this permit are, in all cases, at least as stringent as those established in the previous permits.

## 1.9 Antidegradation Review

Under Oregon's antidegradation policy found at OAR 340-041-0004, DEQ is required to demonstrate that, when issuing a permit, the discharge will not result in a lowering of water quality from the ambient condition and that it protects existing and designated uses. DEQ is required to make this demonstration as required under Oregon's Antidegradation Policy for Surface Waters found in OAR 340-041-0004.

### 1.9.1 Protection of Existing and Designated Uses

The stormwater controls required in the MS4 Phase II general permit are expected to result in discharges that will comply with Oregon's water quality standards. Therefore, in waters where existing uses are more sensitive than the uses specifically designated for the waterbody, the permit limits and requirements will protect the more sensitive existing beneficial uses, as well as other designated uses.

### 1.9.2 Protection of Existing Water Quality

DEQ determined that existing water quality will not be degraded by the issuance of this permit. The stormwater discharges authorized by this permit have been ongoing since the federal regulations requiring an NPDES permit were adopted. This permit is expected to reduce the current level of pollution discharged from small MS4s. DEQ expects the pollution reduction measures implemented by permitted small MS4s to offset any expansion of stormwater conveyance systems and outfalls. These permit requirements to implement a broad range of pollution reduction measures, including measures to address impacts from new development and significant redevelopment are expected to reduce the amount of pollution discharged. The permit does not set numeric discharge limits. The law recognizes that stormwater discharges are highly variable in nature and difficult to control due to topography, land use and weather differences (e.g., intensity and duration of storms). The goal of the permit is a net reduction in pollutant loading over the five-year permit term. Over the five-year permit term, the permit registrant will implement and/or enhance an identified range of stormwater management control programs to minimize stormwater pollution discharges from existing residential, commercial, and industrial developments. Therefore, the issuance of this permit will protect and improve existing water quality and is consistent with DEQ's antidegradation policy.

### 1.9.3 Outstanding Resource Waters

Under the state's antidegradation policy, where high quality waters constitute an outstanding state or national resource, such waters may be classified as Outstanding Resource Waters of Oregon. Currently, Crater Lake and Waldo Lake and their associated wetlands, and the North Fork Smith River and its tributaries and associated wetlands are the only Outstanding Resource Waters of Oregon. In accordance with the policies established for

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<sup>23</sup> See 40 CFR § 122.44(k).

these Outstanding Resource Waters, DEQ will not issue any permit discharging to these waters, except for emergency or restoration purposes.

## 1.10 Water Quality Limited Waters and Total Maximum Daily Loads

Any waterbody 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 waterbodies within the state and develop Total Maximum Daily Load management plans for those impaired waterbodies. TMDLs define both waste load 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 both regulated and unregulated sources, respectively, such that the waterbody will again meet state water quality standards. Oregon’s [2022 Integrated Report and 303\(d\) list](#) contains the water quality limited waterbodies with and without a TMDL.<sup>24</sup> (The Oregon Department of Environmental Quality submitted its 2024 Integrated Report to the U.S. Environmental Protection Agency on March 12, 2025. The report is now considered “state final” and is awaiting EPA approval. The 2022 Integrated Report remains in effect until EPA approves the 2024 report.)

For MS4 discharges to waterbodies subject to a TMDL and/or listed on DEQ’s 303(d) list, the permit registrant must comply with the more stringent requirements in the *Special Conditions in Schedule D* in accordance with 40 CFR § 122.34(e)(1) and 122.44(d)(1)(vii)(A)-(B).

## 1.11 State Statutory Permit Requirements

All water quality permits must meet the requirements of state law. Oregon statutes in general give the Environmental Quality Commission and DEQ broad authority to impose permit requirements needed to prevent, abate, or control water pollution (See ORS 468B.010, 468B.015, 468B.020, and 468B.110). However, direct statutory requirements applicable to discharge permits are more limited. ORS 468B.020 (2)(b) directs DEQ to require the use of all available and reasonable methods necessary to protect water quality and beneficial uses. At a minimum, NPDES permits for regulated MS4s must require the operator to develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements under the Clean Water Act. The SWMP must include, at a minimum, the stormwater control measures set forth in the federal regulations at 40 CFR § 122.26(d)(2)(iv) and 122.34(a) and (b), and program elements must be documented, described, or referenced in the SWMP Document as described in Schedule A.2 of the permit.

## 2. Permit Coverage and Exclusions

This section of the permit identifies the permit registrant, receiving streams, Waste Load Allocations or Load Allocations, if applicable, sources covered, and permitted activities.

### 2.1 Cover Page

The cover page provides information about the permit registrant, description of the stormwater eligible for coverage, major receiving stream information, permit approval authority, and a description of permitted activities. As described, the permit covers existing and new discharges of stormwater from the MS4. The permit does not cover any stormwater discharges to underground injection control systems. Discharges to underground injection control systems are regulated under a separate set of rules derived from the federal Safe Drinking Water Act. With

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<sup>24</sup> Oregon DEQ’s 2022 Integrated Report, available in the form of a [webmap, online searchable database, or ArcGIS Assessment Geodatabase](https://www.oregon.gov/deq/wq/pages/epaapprovedir.aspx), is available online at: <https://www.oregon.gov/deq/wq/pages/epaapprovedir.aspx>



the exception of the allowable non-stormwater discharges identified, the permit prohibits all non-stormwater discharges.

In accordance with state and federal law, NPDES permits will be effective for a fixed term not to exceed five years. This permit will be effective **May 1, 2025**, was reissued on XXXX and expires on April 30, 2030.

### **2.1.1 Receiving Water Information**

The cover page also includes information about the receiving waters to which the permit registrant's MS4 discharges stormwater. In addition, a reference is made to the TMDL and Waste Load Allocations (WLA) or Load Allocations (LA) for urban stormwater in receiving waters within the permit registrant's jurisdiction. This reference is designed to acknowledge the existence of the TMDL as a WLA or LA. The methods by which the permit registrant is required to address TMDL WLAs and other allocations such as LA benchmarks identified for MS4s are described in Schedule D of the permit.

DEQ authorizes municipal stormwater discharges to surface waters of the state from regulated small MS4s owned and/or operated by the permit registrants listed in Applicability and Notification Requirements section of the permit.

Section 301(b)(1)(C) of the Clean Water Act and regulations at 40 CFR § 122.44 require the NPDES permitting authority to develop limitations in permits necessary to meet water quality standards. A state's water quality standards are composed of use classifications, numeric and/or narrative water quality criteria, and an anti-degradation policy. The use classification system designates the beneficial uses for each waterbody, such as drinking water supply, contact recreation, and aquatic life. The numeric and narrative water quality criteria are the amount of any pollutant deemed necessary by the state to support the beneficial use classification of each waterbody. The anti-degradation policy represents a three-tiered approach to maintain and protect various levels of water quality and uses.

## **2.2 Sources Covered by the Permit**

The permit covers small regulated MS4s throughout Oregon that discharge stormwater to rivers, streams and other surface waters of the state. It includes 26 Registrants, previously separated into categories defining them as "Existing Registrants" and "New Registrants". This permit renewal dispenses with that distinction and the separate timelines/schedules required of the separate categories that existed in the previous iteration of this permit. All registrants are currently to proceed on the same compliance schedule/timeline, though this permit does maintain a pre-existing distinction between small and large communities for certain permit conditions. The permit covers small MS4s throughout Oregon that discharge stormwater to rivers, streams and other surface waters.

## **2.3 Permitted Activities**

See cover page.

## **3. Applicability and Notification Requirements**

This section of the permit describes permit eligibility, coverage area, application and notification procedures, and outlines criteria for obtaining a conditional exclusion from permit coverage.

### **3.1 Condition 1 – Entities Eligible for Coverage**

The MS4 Phase II general permit authorizes stormwater discharges only from small MS4s meeting the definitions at 40 CFR § 122.26(b)(16) and are located in an Urbanized/Urban Area as determined by a Decennial Census.

This permit also authorizes discharges from small MS4s designated by DEQ as needing a permit, pursuant to 40 CFR § 122.32(a) (2) or 40 CFR § 122.26(f).

The NPDES regulations require a MS4 Phase II community to implement its program, at a minimum, for discharges occurring within the Urbanized/Urban Area. The 2018 issuance of this permit identified “New Registrant” and “Existing Registrant” communities per the 2010 Census, all of which are included in this renewal, and no new entities identified in the 2020 Census are included in this permit at this time. There is no longer a distinction between Existing and New Registrants for the purposes of this renewal.

All previously covered Phase II MS4s subject to permitting based on the 2000 and 2010 Census Urbanized Area remain obligated to comply with the NPDES stormwater regulations. Any regulated small MS4 designated into the NPDES program based on an Urbanized Area or Urban Area calculation for any given Census year remains a regulated small MS4, unless the MS4 requests and DEQ grants a waiver pursuant to 40 CFR § 122.32.30.

### 3.2 Condition 2 – Permit Coverage Area

The permit has defined the minimum permit coverage area for small MS4s as the area under the entity’s jurisdictional control within the Urbanized or Urban Area as defined by any U.S. Census and within the Oregon Urban Growth Boundary. Though the Urbanized and Urban Areas differ from Census to Census, if an area or parcel has ever been identified as either by the US Census Bureau and was covered as part of an MS4, it remains part of the MS4. Because there are places where such boundaries cut across parcels, it is left to a registrant’s discretion whether to apply permit conditions to whole parcels in which only a portion of the area is designated for permit coverage.

The language of this permit condition clarifies the intent of the previous permit with regard to changes in Urban Area definition, and continuity of coverage for areas designated as such from one Decennial Census to another. Per the Federal Register Vol. 64, No. 235, dated Wednesday, December 8, 1999, focusing on 40 CFR Parts 9, 122, 123, and 124:

*Additional designations based on subsequent census years will be governed by the Bureau of the Census’ definition of an urbanized area in effect for that year. Based on historical trends, EPA expects that any area determined by the Bureau of the Census to be included within an urbanized area as of the 1990 Census will not later be excluded from the urbanized area as of the 2000 Census. However, it is important to note that even if this situation were to occur, for example, due to a possible change in the Bureau of the Census’ urbanized area definition, a small MS4 that is automatically designated into the NPDES program for storm water under an urbanized area calculation for any given Census year will remain regulated regardless of the results of subsequent urbanized area calculations.*

Further, in 87 FR 74069 (Dec 2, 2022) states:

*“For those small MS4s already regulated because of their location in an ‘urbanized area’ designated by a previous census, the Phase II regulatory history indicates that a subsequent Census Bureau change to the designation criteria for urbanized areas does not affect their regulatory status. EPA stated in the Phase II rule preamble that even if the Census Bureau were to change its ‘urbanized area’ definition, ‘a small MS4 that is automatically designated into the NPDES program for storm water under an urbanized area calculation for any given Census year will remain regulated regardless of the results of subsequent urbanized area calculations.’” 64 FR 68722, 68751 (December 8, 1999).<sup>3</sup> EPA’s regulations, therefore, require continued regulation of previously designated small MS4s despite the Census Bureau’s change. EPA notes that this does not prevent the operator of a qualifying MS4 so designated from requesting consideration of an NPDES waiver under 40 CFR 122.32(c).”*

DEQ interprets this to mean areas covered in 2010 or earlier Census designations remain covered in the present and into the future, along with areas designated in 2020, and extrapolates this down to the parcel level. DEQ is consistent with national policy in this matter. However, DEQ clarifies that if there are no MS4 conveyances under a registrant's control within a designated area that discharge to Waters of the United States and no chance of development that would require oversight by an MS4 permit registrant (as in wildlife refuges), the registrant has discretion on how to implement permit requirements there.

The reason that the UGB area is also included as of this renewal is that the UGB a line drawn on planning maps to designate where a city expects to grow over a 20-year period. While the Census-designated Urbanized and Urban areas are based on an evaluation of where populations and urban development are currently located as of the decennial Census, the UGB defines areas where development will happen. It is important that development in these areas, which may or may not occur before incorporation into City boundaries, are protecting water quality in terms of construction oversight and post-construction design standards at the least.

All mapping of the Census-designated areas is available from the EPA, and DEQ is prepared to provide technical assistance as needed.

### **3.3 Condition 3 – Eligibility Requirements**

DEQ has eliminated the previous two categories of permit registrants eligible for permit coverage, “Existing Registrants” and “New Registrants,” and consolidated them into a single category for this renewal. After the permit effective date, any New Registrants seeking coverage under this permit must complete and submit a complete DEQ’s New NPDES MS4 Phase II General Permit application in accordance with *Condition 6 – Application Requirements*.

### **3.4 Condition 4 – Individual Permit**

In accordance with federal regulations and OAR 340-045-0033, if an otherwise eligible small MS4 decides that an individual permit is desired or a small MS4 is unable to meet the terms and conditions of this permit, the small MS4 operator may request to be excluded from this permit and apply for an individual NPDES MS4 stormwater permit. Any small MS4 operator requesting coverage under an individual permit must submit an individual NPDES MS4 permit application to DEQ within 30 days of the effective date of the permit modification. Any request for an individual NPDES permit will be reviewed and processed in accordance with OAR 340-045-0033 and 40 CFR § 124. DEQ may grant the request for an individual NPDES permit if the small MS4 operator clearly demonstrates that inclusion under the general permit is inappropriate.

In accordance with OAR 340-045-0033(10), DEQ may determine that providing coverage under the general permit is inappropriate for particular MS4s and may require such facilities to apply for an individual NPDES permit. The applicability of the general permit is automatically terminated on the effective date of the individual permit.

### **3.5 Condition 5 - Discharge Authorization**

MS4s will be authorized to discharge under the MS4 Phase II General Permit upon receipt of DEQ’s written notification that coverage has been granted.

### **3.6 Condition 6 - Application Requirements**

For each small MS4 operator listed as a Registrant in Condition 3 above (*Eligibility Requirements*), DEQ received a MS4 permit renewal application and therefore will not require the submittal of an application for coverage under this permit. All other dischargers seeking discharge authorization under the general permit, the permit applicant

must submit an application in accordance with OAR 340-045-0033(6). Per 40 CFR 122.28(b)(2)(ii), DEQ is required to specify the requirements for an application for coverage under this permit, so a printout of the form required to be completed in YDO is presented as an example in Appendix A.

After the permit effective date, any New Registrant seeking authorization to discharge under this permit must submit an application for New NPDES MS4 Phase II Permit no later than 60 days after the date of DEQ's notification, unless DEQ notifies the applicant of a later application deadline.

Where more than one public entity owns or operates an MS4 within a geographic area, the operators may participate in a joint permit application as co-applicants.

### **3.7 Condition 7 - Renewal Requirements**

To continue permit coverage, the permit registrant must submit a permit renewal application 180 days prior to the permit expiration date. If this permit is not reissued or replaced prior to the permit expiration date, and if a completed renewal application has been submitted to DEQ, the permit will be administratively continued and remain in full force and effect for discharges that were authorized prior to the permit expiration.

Applications for permit coverage and renewal applications must be signed in accordance with the signatory requirements of Schedule F.

### **3.8 Condition 8 – Electronic System Use Requirement**

Permit registrants must submit all required documents and payments using DEQ's electronic reporting system (Your DEQ Online) when directed to do so.

## **4. Schedule A - Effluent Limitations, Conditions, & Stormwater Management Program**

**4.1 Condition A.1 - Authorized Discharges** The MS4 Phase II General Permit conditionally authorizes municipal stormwater discharges, and certain types of non-stormwater discharges, provided the MS4 operator complies with the terms and conditions of the MS4 Phase II General Permit.

### **4.1.1 Condition A.1.a – Requirement to Reduce the Discharge of Pollutants**

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. Permit registrants must control pollutants in their MS4 discharges to the MEP by addressing the following “minimum control measures” outlined in the permit: public 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. The one-time screening for industrial facilities that may be subject to DEQ's 1200-Z industrial stormwater NPDES permit is a further control measure new to this renewal. Implementation of the SWMP Document, which will outline the details of how the registrants will meet the requirements of the permit, will establish compliance with the MEP standard.

### **4.1.2 Condition A.1.b - Water Quality Standards**

This permit is designed to meet the MS4 permit standard, and does not require compliance with water quality standards. Compliance with all permit requirements is deemed compliance with applicable water quality standards

as established in OAR 340-041. The permit includes a framework for documenting, communicating, developing and submitting a plan with corrective actions for circumstances when DEQ or the permit registrant determine that a pollutant in the MS4 discharge is causing or contributing to an exceedance of an applicable water quality standard not already addressed by the illicit discharge and elimination (IDDE) program or covered by activities described in TMDL Implementation Plan(s). This framework is appropriate to ensure any MS4 discharges that are causing or contributing to an exceedance of an applicable water quality standard are documented, investigated and managed appropriately. The actions implemented by the permit registrant will be based on the specifics of each situation that causes the exceedance. This framework is appropriate to ensure any MS4 discharges that are causing or contributing to an exceedance of an applicable water quality standard are documented, investigated, and managed appropriately. However, DEQ retains authority to require compliance with water quality standards in future permits.

#### **4.1.3 Condition A.1.c - Limitations of Coverage**

The permit limits the permit registrant's authorization to discharge stormwater associated with industrial or construction activity (as defined in 40 CFR § 122.26(b)(14) and (15)) by allowing such discharges only when they are separately authorized by the appropriate general NPDES permit, or a separate individual permit (as necessary).

DEQ encourages infiltration of stormwater. There is no conflict between this permit or the rules governing it and the rules governing underground injection control (UIC) systems. Though UIC systems may be used as stormwater controls, this permit does not authorize the discharge of stormwater to an UIC system. Any owner or operator of any type of Class V underground injection control system must permit through Rule Authorization, a General Permit, or through a Water Pollution Control Facility individual permit, and must comply with 40 CFR § 144-146, and other measures required in Oregon's UIC rules (see OAR 340-044).

#### **4.1.4 Condition A.1.d – Allowable Non-Stormwater Discharges**

Certain types of discharges unrelated to precipitation events (i.e., non-stormwater discharges), listed in permit Schedule A.1d, are conditionally allowed to enter into and thus discharge from the MS4s. Such allowable non-stormwater discharges cannot be sources of pollution to the waters of the state. Permit registrants are responsible for the quality of the discharge from their MS4 and therefore have an interest in locating and discontinuing any uncontrolled non-stormwater discharges into their MS4. As described later in this evaluation report (permit Schedule A.3.c.iii), all permit registrants must prohibit, through ordinance or other enforceable means, all other non-stormwater discharges into the MS4(s).

DEQ acknowledges that in some urban watersheds, non-stormwater sources (in the form of landscape irrigation, springs, rising ground waters, and/or groundwater infiltration) may be routinely present as discharges from the MS4. The permit registrant should refer to *Schedule A.3.c.vi* for further description of how a permit registrant can determine whether a detected dry weather discharge from the MS4 is an allowable discharge. Where the registrant wishes to rely on DEQ's determination of a discharge as de minimis, the registrant must communicate with DEQ municipal stormwater staff, who will coordinate internally with other water quality staff as needed for the determination and communicate the decision.

### **4.2 Condition A.2 – Permit Registrant's Responsibilities**

#### **4.2.1 Condition A.2.a - Coordination Among Registrants and Joint Agreements**

Each permit registrant is independently responsible for compliance with the terms and conditions outlined in the MS4 Phase II General Permit related to their MS4 and associated discharges. Implementation of the permit can be shared with other entities. For instance, a county government responsible for a portion of the Urban Area adjacent to a city may develop an agreement with this city to implement certain minimum measures within the county's

jurisdiction. Similarly, registrants may coordinate and/or pool resources with regional partners on stormwater education and outreach messaging to meet relevant requirements of Schedule A.3.a.

The MS4 relinquishing implementation responsibility to another entity must ensure that the minimum measures (or portions thereof) are at least as stringent as required by the permit. Additionally, the MS4 must maintain a written record of the agreement with the other entity as a record of accountability. The permit registrant remains ultimately responsible for compliance with the permit obligations in the event the other entity fails to implement the control measure (or any component thereof).

#### **4.2.2 Condition A.2.b - Maintain Adequate Legal Authority**

The permit requires each registrant to maintain adequate legal authority to implement and enforce the required SWMP control measures as allowed and authorized pursuant to applicable state law.<sup>27</sup> Without adequate legal authority or other mechanisms to control what enters or discharges from the MS4, the permit registrants cannot perform vital stormwater management functions, such as performing inspections, requiring installation and proper operation of pollutant control measures within its jurisdiction, and/or enforcing such requirements. If their permit registrant does not have formal ordinance authority under state law, the permit registrant must utilize all relevant regulatory mechanisms available to it pursuant to applicable state and federal laws to control pollutants into and from the MS4, to the MEP.

DEQ expects the permit registrants to exercise their legal authority in six specific ways:

1. The permit registrants must effectively prohibit and eliminate pollutants to the MS4 from illicit discharges and connections.
2. The permit registrants must effectively control spills, dumping or disposal of non-stormwater materials into the MS4.
3. The permit registrants must have the ability to control pollutants discharged into the MS4 from land disturbance and development activities occurring within their jurisdiction.
4. The permit registrant must control the contribution of pollutants from one MS4 into another, through interagency agreements as necessary or appropriate.
5. The permit registrant must require compliance with applicable rules within their jurisdiction.
6. The permit registrant must have authority to carry out inspections, surveillance, and monitoring procedures necessary to determine compliance with the permit.

Since permit registrants may have different types of legal authority, each permit registrant must summarize their legal authorities to control pollutants in their SWMP Document as required by *Schedule A.2.c*. The SWMP Document must describe how they impose their requirements, and/or use cooperative agreements with neighboring jurisdictions or other entities, to implement the required stormwater control measures based on their unique legal powers under state law.

#### **4.2.3 Condition A.2.c - SWMP Documents**

NPDES permits for MS4 discharges require the operator to implement and enforce a SWMP designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act.

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<sup>27</sup> 40 CFR § 122.34(b)(3)(ii)(B), (b)(4)(ii)(A), and (b)(5)(ii)(B)); *MS4 Permit Improvement Guide*, April 2010. EPA 833-R-10-001.

Each permit registrant is required to maintain, and update as necessary, a written Stormwater Management Program (SWMP) Document.<sup>28</sup> The SWMP Document summarizes the physical characteristics of the MS4 and describes how the small MS4 operator conducts the required SWMP control measures within its jurisdiction. The SWMP Document should also describe the permit registrant's unique implementation issues such as cooperative or shared responsibilities with other entities. Supporting documents and strategies required under various elements of this permit, to the extent practicable, must be accessible to the public and clearly referenced or cited in the SWMP Document. The intent of this requirement is to provide DEQ and the public with access to documentation of detailed strategies and guidance documents describing how co-permittees will meet permit conditions. DEQ recognizes that Standard Operating Procedures (SOPs) may change more frequently than Ordinance, or Code, or documents like a Stormwater Manual. Where SOPs are important to the SWMP Document, they should at a minimum be summarized and be available upon request. The SWMP Document is intended to address three audiences:

***General Public** – The SWMP Document serves to inform and involve the public in implementation of the local stormwater management program.*

***Elected officials and local staff** - The SWMP Document can potentially be used by the permit registrant as an internal planning or briefing document.*

***DEQ** - The SWMP Document provides DEQ with a discrete document to review to understand how the permit registrant will comply with permit requirements and implement its stormwater management program.*

The requirement for the permit registrant to develop a SWMP Document is an enforceable condition of the permit. The contents of the SWMP Document are not directly enforceable as effluent limitations of the permit. In general, because the details within a SWMP Document are not enforceable permit terms, the permit registrant may create and revise the SWMP Document as necessary to describe how the permit registrant meets any permit requirements during the permit term. Updates to the SWMP Document may therefore occur without DEQ review and approval of each change as a permit modification.<sup>29</sup> As clarified in this renewal of the permit, however, the SWMP Document should be maintained and updated as part of an adaptive management process, and include, cite, link, or refer to supporting documentation including agreements or contracts with outside parties.

The SWMP Document must be reviewed and, if necessary, updated annually.

#### **4.2.4 Condition A.2.d,e - SWMP Information, Metrics and Resources**

Each permit registrant is required to track indicator metrics and information to document and report on SWMP implementation progress. Additionally, the permit requires registrants to establish financial support and staff capabilities to implement the SWMP control measures and other permit requirements. Permit registrants must demonstrate compliance with *Schedule A.2.d* by fully implementing the requirements of this permit. Not every tracking measure must be reported annually in its entirety, but records must be maintained for audits, inspections and/or evaluation by DEQ. The specific tracking measures that are required to be reported annually have been described in the relevant sections.

The permit does not specify staffing or funding levels, thus providing flexibility and incentive for the permit registrant to adopt the most efficient methods to comply with the permit requirements. DEQ encourages permit

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<sup>28</sup> 40 CFR § 122.34(b) and NPDES Municipal Separate Storm Sewer System General Permit Remand, Final Rule (81 FR 89320, Dec. 9, 2016). The final rule at § 122.34(b) requires each permit to require the permittee to develop a "written storm water management program document or documents that, at a minimum, describes in detail how the permittee intends to comply with the permit's requirements for each minimum control measure."

<sup>29</sup> NPDES Municipal Separate Storm Sewer System General Permit Remand, Final Rule (81 FR 89320, Dec. 9, 2016).

registrants to establish stable funding sources to support ongoing SWMP implementation and enter into cooperative working relationships with other permit registrant and non-permitted small MS4s.

### 4.3 Condition A.3 - Stormwater Management Program Control Measures

*Schedule A.3* of the permit contains the clear, specific, and measurable requirements to address the required minimum control measures in 40 CFR § 122.34(a) and (b). For each minimum control measure, specific tasks, BMPs, design requirements, performance requirements, adaptive management requirements, schedules for implementation and maintenance, and/or frequency of actions are outlined. The specific actions and ongoing activities that comprise the minimum control measures are referred to as SWMP program components.

The permit establishes the MS4 Permit Standard through appropriate stormwater management expectations necessary to reduce pollutants from regulated small MS4s. DEQ recognizes that each small MS4 is unique, and that each MS4 operator has different circumstances for stormwater management and pollutant control. To address these unique circumstances, the permit allows implementation flexibility while establishing clear, specific, and measurable permit requirements.

Permit registrants must demonstrate that they have met the respective compliance dates through the submittal of the *Annual Reports* (see *Schedule B*), and through submittal of the permit renewal application.

For each individual control measure subsequently identified in *Schedule A.3.a-g*, DEQ has identified the implementation deadlines. NPDES regulations allow small MS4 operators covered by a NPDES permit for the first time (referred to by DEQ as New Registrants) up to five years to fully implement the required SWMP control measures (i.e., the duration of the first full permit term).<sup>31</sup>

*For permits providing coverage to any small MS4s for the first time, the NPDES permitting authority may specify a time period of up to 5 years from the date of permit issuance for the permittee to fully comply with the conditions of the permit and to implement necessary BMPs.*<sup>32</sup>

**Table 1: Summarizes program implementation schedule for all Registrants' SWMP Control Measures Implementation Schedule**

SWMP Control Measures	Implementation Schedule
Public Education and Outreach	Survey a priority audience once in the permit term for adaptive management per Schedule A.3.a.vi
Public Involvement and Participation	No new permit conditions
Illicit Discharge Detection and Elimination	No new permit conditions
Construction Site Runoff Control	Update to enforcement procedures by November 1, 2027, if necessary
Post-Construction Site Runoff for New Development and Redevelopment	Technical memorandum per Schedule A.3.e.iii by November 1, 2027
Pollution Prevention and Good Housekeeping for Municipal Operations	Winter Operations & Maintenance Program by November 1, 2027

<sup>31</sup>40 CFR §§122.34(a)(1) and 123.35(e).

<sup>32</sup> NPDES Municipal Separate Storm Sewer System General Permit Remand, Final Rule (81 FR 89320, Dec. 9, 2016.), page 89349



SWMP Control Measures	Implementation Schedule
Industrial Site Screening	Program implementation by November 1, 2028

All registrants must continue to implement their current SWMP controls. Upon the permit effective date, all registrants are expected to begin to integrate/develop the conditions of the permit. All registrants must fully comply with this permit no later than 180 days prior to the permit expiration date, or, by November 1, 2029.

The mandatory SWMP control measures are:

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Site Runoff Control
- Pollution Prevention and Good Housekeeping for Municipal Operations

DEQ defined the components of each SWMP control measure in order to clarify DEQ's expectations of what constitutes an adequate level of effort necessary to reduce pollutants from small regulated MS4s and meet the MS4 permit standard. Through the permit, DEQ has established consistent and appropriate stormwater management expectations for all small regulated MS4s throughout Oregon.

The narrative descriptions for individual SWMP control measures and control measure components may require permit registrants to review, and revise or adjust the existing SWMP control measures already in-place.

#### 4.3.1 Condition A.3.a – Public Education and Outreach

Permit registrants are required to address the public education and outreach requirements consistent with 40 CFR § 122.34(b)(1).

All Registrants have conducted public education and outreach programs as part of their compliance efforts with the previous permit. Registrants have developed mature public education and outreach programs, often through shared working arrangements with or on behalf of other registrants. DEQ encourages such cooperative outreach efforts to continue and intends for the terms and conditions of the permit to inspire additional cross-area or collaborative outreach and education efforts to reach constituents within their coverage area. The stormwater issues of significance within the permit registrant's community that should be addressed with this program will vary according to TMDLs and other water body impairments, as well as local priorities as defined by elected bodies, environmental justice communities of concern, stormwater advisory committees, public advocacy groups, and other water quality interests.

##### 4.3.1.1 Condition A.3.a.i - Implementation Dates

Once the permit is effective, all registrants must continue their existing public education and outreach program, and once within the permit term before expiration, the registrant must survey a priority audience for adaptive management purposes according to Schedule A.3.a.vi.

#### **4.3.1.2 Condition A.3.a.ii,iii - Conduct an Education and Outreach Program & Stormwater Education Activities**

The public education program should inform individuals and households about the steps they can take to reduce stormwater pollution, such as ensuring proper septic system maintenance, the proper handling, use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes.

The permit registrant is required to distribute and/or offer a minimum of two educational messages or activities each year of permit coverage. The education activities should focus on the priority audiences and the 10 priority topics.

Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs focused on school age children, and conducting community-based projects such as storm drain stenciling, and watershed and beach cleanups.

DEQ also encourages registrants to require construction projects to post signage with information on how to report erosion or other construction-related pollutant concerns to local authorities. Such signage has been added as a requirement to the draft 1200-C Construction Stormwater General Permit for larger construction projects, so the effort would increase consistency across construction oversight efforts as well as educate the public and help the registrants target construction inspections more effectively.

#### **4.3.1.3 Condition A.3.a.v - Education on Construction and Post-Construction Site Control Measures**

The permit registrant is required to provide educational opportunities related to the Construction Site Runoff SWMP control measures at least twice during the permit term. The permit registrant must focus these education events or activities on construction site operators pertaining to the required construction site control measures, such as the appropriate selection, design, installation, use and maintenance of construction site control measures. Some MS4 jurisdictions in Oregon have partnered with community colleges to provide construction stormwater training events, while others have partnered with each other, as in the trainings at the annual Erosion Control and Stormwater Management Summit hosted by the Mid-Willamette Outreach Group (a partnership of the City of Keizer, City of Salem, Marion County, and Marion Soil & Water Conservation District), offering continuing education credits for home builders, developers, engineers, architects, landscapers, construction contractors and municipal staff and crew. DEQ encourages such partnerships to grow and be replicated.

#### **4.3.1.4 Condition A.3.a.vi - Tracking and Assessment**

The permit does not require permit registrants to conduct a formal effectiveness evaluation to measure the success of public education activities during the permit term. However, the annual report form outlines an assessment section to document whether the desired changes in specific behaviors occurred due to the education and outreach programs and should provides information that can be incorporated in the permit registrant's future events. Further, DEQ acknowledges that conducting an evaluation may be difficult, particularly when considering the factors that may influence the effectiveness of an education and outreach program, and that is why the new specific requirement for an evaluation of a priority audience and topic is narrowly defined.

The intent for the survey is not all-encompassing of a priority audience group, nor to be comprehensive with regards to a priority topic and should not require contracting with a public relations or advertising firm. The survey is to be designed as information gathering for the purpose of refinement of a program element, to better meet the needs of the registrant and the goals of the program, not to assess behavior change in the population of the registrant's jurisdiction. Questions in the survey might include "how would you improve our outreach

program?"; "where do you get your news for local environmental issues?"; "have you heard about <issues of local relevance like TMDL pollutants, the latest fish passage project, or 6PPD-quinone>?"; "have you heard about <some relevant subset of the MS4 jurisdiction's stormwater programs>?"; "where did you hear about <the public involvement event where the survey is being issued>?"; and "how do you connect to our local waterways?" It is a requirement for the staff conducting the outreach to ask questions of what might be an already engaged audience group (e.g., attendees at a public meeting on stormwater issues or native plants hosted by the local soil & water conservation district, ratepayers more broadly, business groups responding to pretreatment questionnaires, purchasers of pesticides at a local hardware store, volunteers at a public involvement event) that will allow registrants to refine and improve the program according to local feedback. The intent of this clear, specific, and measurable goal is to document and evaluate the success of the program, by both the permit registrant and by DEQ, to better focus future education and outreach in subsequent permits.

The permit registrant is also required to maintain records of their education and outreach activities.

### **4.3.2 Condition A.3.b - Public Involvement and Participation**

This section of the permit addresses the public involvement and participation requirements consistent with 40 CFR § 122.34(b)(2).

Federal regulations require that small MS4 permit registrants comply with State, Tribal and local public notice requirements when implementing a public involvement/participation program.<sup>35</sup> However, there is no explicit public involvement requirement in the federal regulations regarding the ongoing implementation and evaluation of the stormwater management program.

#### **4.3.2.1 Condition A.3.b.i - Implementation Dates**

This condition establishes that the registrants must be implementing their complete programs from the permit effective date onward. All registrants must continue their existing public involvement and participation programs to meet the requirements of this control measure. No major new program elements have been added to this control measure. Aside from the stewardship and website access specifically required in this section, opportunities for the public to effectively participate in the development of the SWMP control measures may also include surveys of the community's priorities, public advisory groups or hearings, or participation in volunteer monitoring efforts, but none of these is required. The program must, however, adhere to applicable state and local public notice requirements.

#### **4.3.2.2 Condition A.3.b.ii - Publicly Accessible Website**

Each permit registrant is required to maintain and promote at least one publicly accessible website to provide relevant SWMP information to the public. Relevant SWMP information includes the permit registrant's SWMP Document, links to relevant public education material, annual reports, and easily identifiable (and up to date) contact information such that members of the public may easily call or email to report spills or illicit discharges, and/or ask questions, etc.

#### **4.3.2.3 Condition A.3.b.iii – Stewardship Opportunity**

Permit registrants must continue to create a stewardship opportunity at least once during the permit. Permit registrants may partner with one or more locally relevant agencies/groups to fulfill this requirement.

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<sup>35</sup> 40 CFR § 122.34 (b)(2)

#### 4.3.2.4 Condition A.3.b.iv - Tracking and Assessment

The permit registrant is also required to maintain records of their public involvement participation activities.

#### 4.3.3 Condition A.3.c - Illicit Discharge Detection and Elimination

This section of the permit addresses the Illicit Discharge Detection and Elimination requirements consistent with 40 CFR § 122.34(b)(3) and spill response within the MS4 Coverage Area. At a minimum, the permit requires the registrants to maintain the ability to prohibit, detect, and eliminate illicit discharges from the MS4.

Stormwater discharges are different from illicit discharges. Stormwater discharges include all pollutants that stormwater picks up while flowing to the MS4. Illicit discharges are not from precipitation events. Illicit discharges are the addition of pollutants to the MS4 because of anthropogenic activities.<sup>38</sup>

All permit registrants have implemented an Illicit Discharge Detection and Elimination program since at least the previous permit term, and in some cases since receiving coverage under individual permits in 2007.

The permit prohibits the discharge of non-precipitation flows (“illicit” or “non-stormwater” flows) to the MS4s. Permit registrants must conduct aggressive, thorough, and systematic illicit discharge investigations and removal of illicit connections. Permit registrants are required to develop a written Illicit Discharge Detection and Elimination protocol that includes specific procedures for implementation of the IDDE program. Examples of these requirements are a detailed map, a written prioritization of areas with a potential of illicit discharges, conducting dry weather screening and record keeping.

This permit condition continues with the following four requirements in the 1999 Phase II Rule for this minimum control measure:

- Develop a storm sewer system map showing the location of all outfalls, conveyance system, control measures, and the names of all waters receiving.
- Prohibit through ordinance or other regulatory mechanism unauthorized non-stormwater discharges into the permit registrant’s MS4.
- Develop and implement a plan to detect and address unauthorized non-stormwater discharges including illegal dumping into the permit registrant’s MS4.
- Inform 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.

##### 4.3.3.1 Condition A.3.c.i - Implementation Dates

This condition establishes that the registrants must be implementing their complete programs from the permit effective date onward. . No major new program elements have been added to this control measure.

##### 4.3.3.2 Condition A.3.c.ii - Mapping of the MS4

Permit registrants are required to continue to maintain a current MS4 map(s), with updates as necessary for newly discovered/developed infrastructure or any new components that must be included in the MS4 map and digital inventory. The MS4 map and digital inventory includes the outfall inventory, conveyance system and stormwater control locations, and the locations of any identified chronic illicit discharges for which sources have not yet been

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<sup>38</sup> From <http://www.ecy.wa.gov/programs/wq/stormwater/municipal/phaseIIww/5YR/2014mod/WWAPhaseII-Permit-2014Final.pdf>

determined, or which have not yet been fully addressed. This purpose of this MS4 map and digital inventory is to record and verify descriptive characteristics of the MS4 system. DEQ expects that each permit registrant knows the locations and characteristics of all outfalls that it owns/operates through mapping their infrastructure and associated assets.

The permit contains a single MS4 map requirement for all permit registrants. The MS4 map(s) and digital inventory must be current and made available to DEQ upon request. The associated inventory must be in a digitized format, with a tabulation of the attributes identified in Schedule A.3.c.ii.A-C. While the permit registrant must maintain a current MS4 map and a digital inventory, the permit does not specify their required format. DEQ encourages permit registrants to utilize a digital MS4 mapping system, such as an electronic geographic information system (GIS) format.

Permit registrants are encouraged to couple this mapping requirement with other control measures, such as the Dry Weather Screening Program and associated investigative requirements in the *Schedule A.3.c.vi*.

Additionally, the MS4 map must include the location of any chronic illicit discharges. If the permit registrant performs on-site or septic system investigations, DEQ recommends that permit registrants map this investigation and use the Center for Watershed Protection Manual to guide their on-site and/or septic system investigations.<sup>42</sup>

All maps (including GIS data layers) must be shared with DEQ upon request.

#### **4.3.3.3 Condition A.3.c.iii - Ordinance and/or Other Regulatory Mechanisms Legal Authority**

Permit registrants must effectively prohibit non-stormwater discharges into their MS4 through enforcement of an ordinance or other legal mechanism to the extent allowable under state law. This section identifies the minimum prohibitions that DEQ expects each permit registrant to be able to enforce within its jurisdiction, if necessary.

The ordinance/legal mechanism does not need to cite each individual prohibition, provided the permit registrant's legal mechanism would or could address non-stormwater discharging into the MS4. This provision provides a minimum expectation for the local ordinance/legal mechanism to fully prohibit the breadth of possible non-stormwater discharges that could negatively impact water.

For cost savings, DEQ anticipates permit registrants will leverage their existing activities such as building inspections for sanitary cross-connections, on-going stormwater and sanitary conveyance system maintenance programs, and stormwater and wastewater capital improvement programs when complying with this condition. An IDDE Program, including enforcement of such program, is necessary to avoid illicit discharges and improper disposal of waste into waters of the state.

#### **4.3.3.4 Condition A.3.c.iv – Enforcement Procedures**

This permit condition requires registrants to develop a written enforcement response policy or plan to support their IDDE Program efforts to detect and eliminate illicit discharges into the MS4. The enforcement program must be able to obtain compliance from chronic violators that repeatedly violate the IDDE Program requirements. The program must also include sanctions adequate to obtain compliance from recalcitrant violators. All of these elements are essential for an effective enforcement program.

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<sup>42</sup> The permit registrant must respond to, contain, investigate and clean up any spill of sewage into the MS4 from any source, including private laterals and/or failing septic systems.

#### 4.3.3.5 Condition A.3.c.v - Illicit Discharge Complaint Response

This condition establishes DEQ's expectations for a permit registrant's minimum requirements related to their Program to Detect and Eliminate Illicit Discharges. The permit registrant must maintain, and advertise, a publicly accessible and available means for the public to report illicit discharges, such as a phone number, webpage, and/or other communication channel. The permit registrant must respond to all complaints or reports of illicit discharges to the permitted MS4, as soon as possible, or within an average of two working days from the initial time of the permit registrant's knowledge of the complaint or report, unless there is a threat to human health, welfare, or the environment. For discharges, including spills, which constitute a threat to human health, welfare, or the environment, the permit registrant must respond within 24 hours of the permit registrant's knowledge of the threat. For spills of oil and hazardous materials, the permit registrant's obligations under this permit do not supersede the responsible party's reporting and cleanup responsibilities under Oregon law. This condition also establishes timelines for permit registrants when responding to complaints and illicit discharges identified through field investigations. DEQ recognizes the difference between initial complaint response (e.g., calling back the complainant to gather more information and ascertain the severity of the situation) and field investigation in which staff visit and address the situation, and that different situations will call for different levels of response, and that different agencies use different terminology for different and similar types of activities (e.g., "complaint response" vs. "pollution report investigation"), and has determined that the intent of the permit language is adequately clear despite these varying terminologies. If further clarity is sought, DEQ staff will provide technical assistance. The timelines identified in this condition are based, in part, in the NPDES MS4 Phase I Clackamas County permit, as this permit group includes several smaller municipalities such as Cities of Happy Valley, Rivergrove, Johnson City, and Gladstone. Compliance with these timelines are crucial to ensure illicit discharges are addressed in an expeditious manner.

Sources of illicit discharges are often intermittent or mobile, yet the frequency or severity of such discharges can have lasting effects on water quality. The nature, extent, and conclusions of each inspection should be recorded with the original complaint to provide a full picture of each incident. This record provides detailed information about the types and locations of discharges, their possible sources, and other information pertinent to targeting future inspection, outreach, and education activities. Additionally, accurate and complete documentation of an incident will provide better evidence to support potential citation or civil penalty cases when needed.

The permit establishes mandatory follow-up actions and timelines for recurring illicit discharges (identified by complaints or through a permit registrant's screening activities). Specific timelines are needed to prioritize swift investigation of actions to reduce or fully eliminate a known or newly identified problem. Not all illicit discharges require reporting to OERS, but details can be found in Oregon Administrative Rules at Chapter 104, Division 040.

Permit registrants are required to respond to spills and maintain all appropriate spill prevention and response capabilities, as appropriate to their jurisdiction and overall responsibilities. This may require coordination with other entities to provide maximum water quality protection.

All registrants currently have systems and protocols in place to track calls from the public, and to direct reports of discharges/dumping to appropriate staff and/or emergency response authorities. Staff assigned to handle calls should be trained in stormwater issues and emergency response to gather and transfer accurate information to responders. Conducting an investigation as soon as possible after the initial complaint report is crucial to the success of this program.

#### 4.3.3.6 Condition A.3.vi - Dry Weather Screening Program

The permit establishes a minimum system evaluation and dry screening requirement to comply with this section of the permit.

Permit registrants are required to conduct dry weather outfall screening to identify non-stormwater flows. Registrants must screen 20 percent of their outfalls each year. In the previous permit term, all registrants screened 65 percent or more of their outfalls, so there will come a time in this permit term when all outfalls have been screened, which will allow priority locations to be identified based on observations recorded at every outfall in the inventory.

The permit includes the permit condition to identify or develop dry-weather field screening pollutant parameter ‘action levels’ that, if exceeded, will trigger the permit registrants to conduct further investigation to identify sources of illicit discharges. In identifying or developing the ‘action levels’, DEQ suggests the permit registrants review illicit discharge detection and elimination program guidance developed by the Center for Watershed Protection and referenced by the United States Environmental Protection Agency ([http://www.epa.gov/npdes/pubs/idde\\_chapter-12.pdf](http://www.epa.gov/npdes/pubs/idde_chapter-12.pdf)).

Data collected through public reporting of illicit discharges and connections, as well as through the permit registrant’s regular screening during dry weather, can reveal important trends in the types of pollutants generated and transported into the MS4. The permit also includes a requirement that the permit registrants locate and map the occurrences of chronic illicit discharges on their MS4 map(s).

All registrants are required to develop procedures for conducting investigations, source tracking, field screening and characterizing illicit discharges such as described in the Center for Watershed Protection Manual. DEQ has also established the minimum documentation, screening and laboratory analysis procedure for identifying the illicit discharge, when it is not known. Suspected sources of discharge include, but are not limited to, sanitary cross-connections or leaks, spills, seepage from storage containers, non-stormwater discharges or other residential, commercial, industrial or transportation-related activities.

The permit includes the requirement that the dry weather screening inspection activities take place annually at identified priority locations documented by the permit registrant. Priority locations must, where possible, be located at an accessible location downstream of any source of suspected illegal or illicit activity or other location as identified by the permit registrants. Priority locations must be based on an equitable consideration of factors relating to potential for illicit discharge(s), which may include: hydrological conditions, total drainage area of the location, population density of the location, traffic density, age of the structures or buildings in the area, history of the area, land use types, personnel safety, accessibility, historical complaints or other appropriate factors as identified by the permit registrant. The assessment to determine priority locations need not be a detailed GIS assessment of all factors for all outfall locations but should balance the above factors to the extent that information sources for them available. Priority field screening locations should also be identified on the MS4 mapping and digital inventory when the assessment is complete and may change based on the above criteria if new information comes to light or if a new analysis is conducted.

Additionally, permit registrants must develop or identify pollutant parameter action levels that will be used as part of the field screening. The action levels will identify concentrations for identified pollutants that, if exceeded, will require further investigation, including laboratory sample analyses, to identify the source of the illicit discharge.

#### **4.3.3.7 Condition A.3.c.vii - IDDE Training and Education**

This permit condition requires the permit registrant to train appropriate staff who are involved in evaluating compliance with the IDDE program. All staff must receive training at least once during the permit term. Staff involved in field inspections or investigations and those responding to complaints of illicit discharges must receive training within 30 days of being assigned this responsibility. Training for complaint response must include training in spill response procedures. Follow-up training is required when there is a change in procedures and/or technology for investigating, searching, and responding to complaints for illicit discharges. The registrant is strongly encouraged to extend at least basic pollution prevention and MS4 awareness training to other municipal staff that may also work in proximity to MS4 assets or resources; it has been reported from multiple MS4

registrants in Oregon that a number of IDDE reports, for example, are called in by patrolling law enforcement staff, as they can often be out in the community as frequently as public works staff. Documentation of training related to implementing the permit registrant's IDDE Program must be maintained.

#### 4.3.3.8 Condition A.3.c.viii - Tracking and Assessment

The permit registrant is also required to maintain records of its IDDE program and summarize activities in the annual report.

#### 4.3.4 Condition A.3.d - Construction Site Runoff

This SWMP control measure requires the regulated small MS4 operator to control construction site runoff discharges into their MS4s. See 40 CFR § 122.34(b)(4).

All registrants have implemented a Construction Site Runoff Program since receiving coverage under previous MS4 permits. Previously, permit registrants were required to develop a program to control stormwater runoff from construction activity through ordinances or other mechanisms at construction sites with land disturbance of one or more acres. As cited in 40 CFR § 122.34(b)(4), the minimum control measures must also include 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. These basic requirements continue as mandatory components under this permit. However, requiring preventative construction site runoff controls only at sites that will result in land disturbance of one or more acres (or that disturb less than one acre, if it is part of a "common plan of development or sale" disturbing one or more acres) is insufficient to protect water quality.

The permit requires that the permit registrants specify erosion, sediment, and water management controls for active construction sites that result in land disturbance of less than one acre. The permit establishes separate thresholds for Large and Small Communities:

- For Large Communities: 7,000 square feet or more <sup>46</sup>
- For Small Communities: 10,890 square feet or more (one quarter of an acre) <sup>47</sup>

**Table 2: Identification of Large and Small Communities**

Large Communities	Small Communities
City of Albany	City of Millersburg
City of Ashland	City of Philomath
City of Corvallis	City of Rogue River
City of Grants Pass	City of Turner
City of Keizer	City of Wood Village
City of Medford	Benton County

<sup>46</sup> Large Communities are defined as any permit registrant not defined as a Small Community.

<sup>47</sup> Small Communities are defined as any permit registrant that has a population of less than 10,000 people or a county that is the sole permit registrant/applicant. If a city or county is a co-implementer at the time of permit coverage or becomes a co-implementer at any time of permit coverage under this permit, it does not meet this definition and is classified as a Large Community.



Large Communities	Small Communities
City of Springfield	Josephine County
City of Troutdale	Lane County
City of Central Point	Linn County
Rogue Valley Sewer Services – (with Co-Registrants, City of Eagle Point, City of Phoenix, City of Talent, Jackson County, Rogue Valley Sewer Services)	Marion County
	Polk County

The permit further defines minimum expectations for the permit registrant to inspect and enforce such requirements at qualifying sites, by requiring ESCP review, inspection, and enforcement of controls at construction sites that will result in land disturbance of one or more acres (or that disturb less than one acre, if it is part of a “common plan of development or sale” disturbing one or more acres).

DEQ is using its discretion to require specifications for construction site runoff controls at sites disturbing less than one acre to reduce pollutants and protect water quality in Urban Areas for the following reasons:

- DEQ identified receiving waters in all Urban Areas as being impaired for a variety of pollutants. The construction site runoff control measures are consistent with applicable TMDLs in calling for the control of erosion and the pollutants associated with sediment such as mercury, bacteria and nutrients. Controlling runoff from smaller construction sites within the MS4 will prevent sediment-laden runoff from a larger number of construction activities, and will contribute to the overall improvement of water quality in each of the impaired receiving waters. Establishing reasonable erosion, sediment and onsite waste management control expectations at most active construction sites within these urban areas is an effective way to prevent these pollutants from reaching receiving waters via discharge through the MS4.
- Preventing the discharge of sediment, and other pollutants, from smaller sized construction sites increases water quality protection and is more cost-effective than treating runoff from the MS4.<sup>49</sup> It is widely acknowledged that nutrients bind to sediment particles and are transported into the water column via erosion and sedimentation. Effective erosion and sedimentation controls, (such as techniques for construction sequencing, and vegetative or non-vegetative stabilization) at smaller-sized construction projects that disturb less than one acre and discharge through the MS4 will help control pollutant loading, maintain consistency with applicable TMDLs and/or pollution prevention principles for discharges to surface waters.
- It is reasonable for the registrant to recognize differences between the different types of construction activity occurring in its jurisdiction, and tailor its recommended pollutant control specifications for their geography and weather patterns. Each registrant is unique and therefore can be allowed the flexibility to determine the scope and extent of erosion, sediment, and onsite

<sup>49</sup> NPDES Storm Water Phase II Regulations Final Rule (64 FR 68722, Dec. 8, 1999), pages 68758-68759; *Development Document For Final Effluent Guidelines And Standards For The Construction & Development Category*, November 2009. [https://www.epa.gov/sites/production/files/2015-06/documents/construction\\_development\\_dd\\_2009\\_chapters\\_1-11.pdf](https://www.epa.gov/sites/production/files/2015-06/documents/construction_development_dd_2009_chapters_1-11.pdf), pages 7-3 through 7-26.

waste management controls based on site size, type of construction, location/distance from the MS4, and/or other relevant factors.

- The federally required minimum site size threshold of one or more acres triggering the construction site runoff is insufficient to ensure the adequate control of pollutant sources from the numerous small construction sites from MS4s within Urban Areas. Given the average lot size within more densely populated Urban Areas, comparatively few construction sites are likely to disturb one or more acres. To prevent sediment-laden construction discharges and to ensure greater pollutant reductions in impaired watersheds, DEQ has determined that permit registrants must impose their local requirements on sites disturbing less than one acre.
- DEQ's intent in revising the site size threshold triggering local MS4 program requirements will also address an existing MS4 program discrepancy between the Phase I and Phase II permit programs. Urban runoff from both Phase I and Phase II's has similar adverse impacts on receiving streams from urbanization, including increased peak discharges compared to predevelopment levels, increased volume of urban runoff produced by each storm in comparison to predevelopment conditions, decreased time needed for runoff to reach the stream, increased frequency and severity of flooding, reduced streamflow during prolonged periods of dry weather, greater runoff velocity during storms due to the combined effects of higher peak discharges, rapid time of concentration, and the smoother hydraulic surfaces that occur as a result of development.
- An increase in imperviousness, often associated with urbanization, can also significantly decrease the amount of water infiltration, reducing groundwater recharge. Additionally, urban development creates new pollution sources as population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, pet waste, litter, pesticides, and household hazardous wastes, which may be washed into receiving waters by stormwater or dumped directly into storm drains designed to discharge to receiving waters. More people in less space results in a greater concentration of pollutants that can be mobilized by, or disposed into, stormwater discharges from municipal separate storm sewer systems.
- Using only a "one or more acres" site size threshold to trigger a permit registrant's erosion, sediment and waste management controls results in pollutant controls at relatively few individual construction sites in the permit coverage area. However, U.S Census data reflects that between 41 and 46 percent of the single-family residential lots in the Western United States are 7,000 square feet or less.<sup>50</sup> Census data also confirms that proportionally more local building permits are issued to construction projects on small lots in urban areas.<sup>51</sup>
- Uncontrolled stormwater discharges from urban development and construction activity negatively impacts receiving waters. EPA has previously stated that water quality impacts from small construction sites are as high as or higher than the impact from larger sites on a per acre basis, and the concentration of pollutants in the runoff from smaller sites is similar to the concentrations in the runoff from larger sites. The proportion of sediment that makes it from the construction site to surface waters is likely the same for larger and smaller construction sites in urban areas because the runoff from either site is usually delivered directly to the storm drain network where there is no opportunity for the sediment to be filtered out. Further, active construction sites contribute up to 75 times more sediment than a similarly sized site either before or after

<sup>50</sup> U.S. Census: <http://www.census.gov/construction/chars/pdf/lotsize>.

<sup>51</sup> U.S. Census: Building Permits Survey, Permits by Metropolitan Area, <https://www.census.gov/construction/bps/msamonthly.html>

construction.<sup>52</sup> In order to comprehensively prevent pollutants from the wide variety of construction activities occurring within the permit coverage areas, it is necessary that permit registrants specify the use of reasonable erosion, sediment, and waste management controls at a greater number of construction sites in the urban setting.

The previous version of the permit required that the permit registrant must implement and enforce a program to reduce discharges from construction sites, and this language has been updated to use “prevent” in place of “reduce.” This word choice was updated to reflect that construction sites are pollutant sources for which there are well understood and implementable actions that can be taken to prevent sediment and construction-related pollutant runoff.

#### **4.3.4.1 Condition A.3.d.i - Implementation Dates**

This condition establishes the implementation deadline at November 1, 2027 to update their existing enforcement program, if needed. All other construction program elements should be operating from the permit issuance date onward.

Many Existing Registrants already impose appropriately scaled erosion and sediment control requirements on construction sites that disturb less than one acre. If the permit registrant must revise their existing program to specify an appropriate level of erosion and sediment control requirements for smaller disturbance areas, DEQ recognizes that different levels of effort will likely be necessary. Cities, counties, and special districts may need differing amounts of time to revise a local ordinance. If possible, DEQ recommends that MS4s within the same Urban Area work together in a cooperative manner to define appropriately scaled and reasonable construction site control requirements to find efficiencies, and to speed implementation.

#### **4.3.4.2 Condition A.3.d.ii - Ordinance and/or Other Regulatory Mechanism**

This permit condition outlines the expected scope of the permit registrant’s legal mechanism to reduce and prevent the discharge of pollutants from construction sites in its jurisdiction that disturb at least 7,000 ft<sup>2</sup> for Large Communities or 10,890 ft<sup>2</sup> (one quarter of an acre) for Small Communities; the legal mechanism must allow the permit registrant to review site plans and enforce the requirements at construction sites that will result in land disturbance of one or more acres (or that disturb less than one acre, if it is part of a “common plan of development or sale” disturbing one or more acres). It is generally advisable that such ordinance or other regulatory mechanism require not just controls for erosion and sediment from construction sites but also controls for other construction-related sources of pollution such as storage & disposal, sanitary wastes, and dewatering.

#### **4.3.4.3 Condition A.3.d.iii – Compliance with Other NPDES Permit Requirements**

This permit condition ensures that the construction site owner/operator is informed of additional permitting requirements. There is no responsibility by the permit registrant to administer any part of the conditions of other NPDES permits, but neither does the additional layer of a DEQ construction stormwater permit relieve the registrant of any of their responsibilities under the MS4 permit. As the permit registrant is responsible for all discharges from their MS4, it is in the best interest for all entities to share permitting information. This is an example of where DEQ and the permit registrants can work together to minimize the discharge of pollutants from construction sites.

This condition requires the permit registrant to refer construction projects to DEQ or the appropriate DEQ agent that disturb one or more acres (or that disturb less than one acre, if it is part of a “common plan of development or

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<sup>52</sup> NPDES Storm Water Phase II Regulations Final Rule (64 FR 68722, Dec. 8, 1999), page 68728 - 68731; *Environmental Impact and Benefits Assessment for Final Effluent Guidelines and Standards for the Construction and Development Category*, November 2009.

[https://www.epa.gov/sites/production/files/2015-06/documents/cd\\_envir-benefits-assessment\\_2009.pdf](https://www.epa.gov/sites/production/files/2015-06/documents/cd_envir-benefits-assessment_2009.pdf).

sale” disturbing one or more acres), to obtain NPDES Construction Stormwater Permit coverage. Registrants may choose to refuse to issue their local permit unless a site that clearly requires a 1200-C permit has obtained one, but this is not required. The referral required by this permit is simply informational, and it is not the registrant’s responsibility to administer the 1200-C or Small Lot Permits in any way nor to verify every property that may possibly be under a common plan of development, just to refer to DEQ where it is known or easily determined based on available information.

Under EPA’s Stormwater Phase II Final Rule, states have explicit authority to rely on qualifying local programs to provide compliance oversight of construction projects under 5 acres. This approach avoids duplicative permitting while maintaining strong oversight. As such, operators of small lot project sites (or projects on sites that are “common plan of development or sale” sites disturbing one or more acres) located within 1200-CN jurisdictions are not required to obtain small lot permit coverage if they obtain a local erosion and sediment control permit. These jurisdictions operate qualifying local programs, which DEQ reviews every 5 years as part of the 1200-CN permit renewal process. All 1200-CN jurisdictions are also regulated MS4s, whose construction stormwater programs are subject to additional audits under the MS4 permit requirements.

Where only a small portion of the original common plan of development remains undeveloped and there has been a period of time where there are no ongoing construction activities (i.e., all areas are either undisturbed or have undergone final stabilization), the registrant may re-evaluate an individual project based on the acreage remaining undeveloped from the original common plan. Circumstances may dictate differently, but DEQ generally recognizes 10 years as an appropriate period of time beyond which “common plan of development” no longer applies. If less than one acre remains to build out the original common plan of recent development, then a permit may still be required, but the registrant may treat the project as part of a “small” construction activity. If the lot is less than one acre and located in an established development (e.g., over ten years) the individual project could be treated as part of a less than one acre development and no permit would be required. Operators of small lot project sites located within 1200-CN jurisdictions are not required to obtain small lot permit coverage if they obtain a local erosion and sediment control permit.

#### 4.3.4.4 Condition A.3.d.iv - Erosion and Sediment Control Plans

This permit condition outlines written specifications to define the appropriate site level controls for construction activities within the permit registrant’s coverage area. DEQ also establishes the requirement that the permit registrant develop or adopt a template or worksheet and provide the template/worksheet or similar document to construction site operators prior to the beginning of construction activities (i.e., land disturbance) for sites that disturb at least 7,000 ft<sup>2</sup> for Large Communities or 10,890 ft<sup>2</sup> for Small Communities.<sup>56</sup>

Permit registrants are required to develop/modify a written specification, including an Erosion and Sediment Control Plan. The ESCP and written specification may include a template, worksheet or similar document to be used by construction site operators to document how erosion, sediment, and waste material management controls are managed at the site but should include a map of the site defining the layout of which BMPs will be placed where on the site. Registrants may use DEQ’s ESCP templates as models.<sup>57</sup>

The ESCP template must be provided to and completed by the construction site operator before construction/land disturbance occurs. It is important that the ESCP address all phases of construction activity to be protective of

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<sup>56</sup> Examples of communities that have established appropriate controls for small sized construction sites include the City of Lincoln, Nebraska (provides options for scaled erosion and sediment controls appropriate for smaller single lots- See: <http://www.lincoln.ne.gov/city/pworks/watershed/erosion/loi-swppp-lot.htm>) and City of Bozeman, Montana, (also specifies cost effective BMPs for different construction sites types and sizes, including single family residential sites: see: <https://www.bozeman.net/home/showdocument?id=4739>). See also EPA 2015b. Additional references are available in the Administrative Record.

<sup>57</sup> See the 1200-C Single Family Lot ESCP Template (<https://www.oregon.gov/deq/wq/Documents/swSingleFamilyESCP.pdf>), and the 1200-C ESCP Template (<https://www.oregon.gov/deq/wq/Documents/wqp1200cESCPtemp.pdf>)

water quality, as different phases require different BMP placement, and the renewed permit's language clarifies this, as it was already the expectation under the previous permit. It must be updated as site conditions change, must be kept on site and must be made available for review by the permit registrant, DEQ, or another administrating entity. DEQ expects 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 permit registrant has the discretion to determine how best to control sediment and other pollutants in runoff from these small sites.

#### **4.3.4.5 Condition A.3.d.v - Erosion and Sediment Control Plan Review**

The previous permit required ESCP review of sites over an acre in size, at a minimum. This permit condition expands on that by requiring a preconstruction ESCP review process to address construction project site activity, at a minimum, at sites that will result in land disturbance of greater than the assigned threshold in Schedule A.3.d.ii (including those that are part of a "common plan of development or sale" disturbing one or more acres). This increase in oversight will improve water quality by improving rates of voluntary compliance and interrupting noncompliance more frequently and rapidly. This review can be conducted using a checklist or similar process to consider and address potential water quality impacts from the site activities. Allowing permit registrants to limit their review and enforcement of such requirements to larger sites represents DEQ's consideration of the permit registrants' investment of time and cost associated with such oversight activities.

#### **4.3.4.6 Condition A.3.d.vi - Construction Site Inspections**

At a minimum, the permit registrant must inspect and enforce their requirements at construction sites occurring in their permit coverage area that will result in land disturbance of one or more acres (or that disturb less than one acre, if it is part of a "common plan of development or sale" disturbing one or more acres) at least twice, or more if sediment is visible in stormwater discharge or if a complaint or report is received. The increase in required inspections with this permit renewal from a single inspection to at least two will improve water quality by improving rates of voluntary compliance and interrupting noncompliance more frequently and rapidly.

The "initial inspection" would ideally verify that the ESCP is being implemented and BMPs are in place prior to commencement of construction activities, but DEQ recognizes that this timing may not always be possible. Inspections must also be conducted in response to complaints from the public, reports of sediment visible in stormwater or dewatering activities from construction sites. DEQ encourages registrants to also conduct inspections during precipitation events, when erosion and sediment control problems are most likely to be evident. If the site is not in compliance or appears to be posing a risk of polluted discharges, inspectors should ask the operator for any available self-inspection reports to ensure inspectors are adequately assessing BMP efficacy.

Additionally, for existing large communities DEQ has established the requirement that the permit registrant inspect at least 50 percent of sites that disturb less than one acre at least once during the permit term.

#### **4.3.4.7 Condition A.3.d.vii - Enforcement Procedures**

This permit condition requires registrants to develop a written enforcement response policy or plan to guide and prioritize such oversight, inspection, and enforcement efforts for construction sites of any size. The enforcement program must be able to obtain proactive compliance from chronic violators of the construction site's program requirements. The program must also include sanctions adequate to obtain compliance from recalcitrant violators. It is also important that if registrants are unable to obtain compliance, the site be referred to DEQ. All of these elements are essential to effectively enforcing and ensuring that erosion and sediment controls are implemented and maintained.

#### **4.3.4.8 Condition A.3.d.viii - Construction Runoff Control Training and Education**

This condition requires registrants to train appropriate staff who are involved in evaluating compliance with the Construction Site Runoff program. Staff involved in pre-construction ESCP review, site inspections, and/or enforcement must receive training within 90 days of being assigned this responsibility. Training for complaint response for illicit discharges and spill response procedures is recommended for all field staff, but the permit requirement is specific to MS4 permit requirements and local code or ordinance relating to construction and the escalating enforcement procedures. All staff must receive training at least once during the permit term. Follow-up training is required when there is a change in procedures and/or technology. This condition also requires documentation of training related to implementing the permit registrant's Construction Site Runoff program.

#### **4.3.4.9 Condition A.3.d.ix - Tracking and Assessment**

The permit registrant is also required to maintain records of their Construction Site Runoff program and summarized activities in the Annual Report.

#### **4.3.5 Condition A.3.e – Post-Construction Site Runoff Control**

This SWMP control measure requires permit registrants to control post-construction stormwater pollutant discharges into their MS4s. See 40 CFR § 122.34(b)(5).

On March 12, 2021, the permit was modified and re-issued. The post-construction language in the permit was modified for clarity with the intention of creating a clear process for implementation, and registrants had until the end of the permit term, February 2024, to develop programs that fully met the requirements of this section. With this renewal, the post-construction language has again been clarified and simplified with the intention of maintaining all existing program elements and adding very little in the way of new requirements, in order to allow the registrants' newly established ordinances and newly implemented design standards and other program elements to establish, mature, and demonstrate their results for at least a permit term before any major elements of these programs are added or modified. As before, the priority is retention of stormwater onsite, to prevent pollutants from leaving in the first place. If for some reason the appropriate volume of stormwater cannot be retained onsite, whatever portion of it cannot be retained must be treated before discharge. If it cannot be retained or treated, offsite alternative compliance is allowed under certain conditions.

This permit condition maintains the existing requirements of identifying specific minimum performance requirements. The basis of the permit's performance standards includes the following:

- Review of the post-construction stormwater requirements of Phase II permits in other states
- Oregon's approach for managing post-construction stormwater in the TMDL and Coastal Nonpoint Pollution Control Programs
- The approaches used in Oregon's Phase I permittees
- The approaches used by small municipalities without permit coverage
- EPA's guidance provided in the 1999 NPDES MS4 Phase II rules
- EPA's guidance for improving MS4 Permits and its compendium of NPDES permit examples
- Scientific literature

The information below presents the rationale for the post-construction site runoff management requirements presented in this permit condition and highlights the information used in formulating this condition.

Permit registrants have implemented a Post-Construction Site Runoff Control program since receiving coverage under previous iterations of this permit and earlier individual permits.

The Post-Construction Site Runoff Control program permit language was drafted with the goal of providing clear, specific and measurable permit conditions. As such, the permit includes enforceable narrative and numeric effluent limitations. One example is the site performance standard and treatment requirement.

This site performance standard establishes an objective and verifiable means for reducing pollutant discharges contributing to water quality problems to the MS4 Permit Standard. The permit registrant must establish a site performance standard with a retention requirement to target natural surface or predevelopment hydrologic function to retain rainfall on-site and minimize the offsite discharge of precipitation utilizing structural stormwater controls that infiltrate, capture and/or evapotranspire stormwater. This condition requires permit registrants to use standards consistent with a Low Impact Development approach to stormwater management prioritizing non-structural stormwater controls to minimize the creation of impervious surfaces and minimize stormwater volume. This condition requires registrants to prioritize green infrastructure when structural stormwater controls are needed to remove pollutants from stormwater or to further reduce stormwater volume prior to discharging and allows for the use of regional stormwater management facilities to treat runoff from a site in situations suitable to such facilities.

***Structural Stormwater Controls*** or BMPs are stormwater controls that are physically designed, installed, and maintained to prevent or reduce the discharge of pollutants in stormwater to minimize the impacts of stormwater on waterbodies. As noted in the 64 Federal Register 68760 (December 9, 1999), examples of structural stormwater controls or BMPs include: (1) storage practices such as wet ponds and extended-detention outlet structures; (2) filtration practices such as grassed swales, sand filters and filter strips; and, (3) infiltration practices such as infiltration basins, appropriately authorized UICs, and infiltration trenches.

***Non-structural Stormwater Controls*** or BMPs are stormwater controls in the form of development standards or other regulatory mechanisms intended to minimize and treat stormwater by minimizing impervious surfaces and by using soil infiltration, evaporation, and transpiration. These controls may also take the form of procedural practices to prevent pollutants from contaminating stormwater. The use of this term in this Permit is consistent with the discussion of non-structural stormwater BMPs in 64 Federal Register 68760 (December 9, 1999) which encompasses preventative actions that involve management and source controls such as: (1) policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive waterbodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; (2) policies or ordinances that encourage infill development in higher density urban areas, and areas with existing storm sewer infrastructure; (3) education programs for developers and the public about project designs that minimize water quality impacts; and (4) other measures such as minimization of the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, and source control measures often thought of as good housekeeping, preventive maintenance and spill prevention.

***Regional Stormwater Management Facility*** means a stormwater control that is designed, constructed, operated, and maintained to accept stormwater from multiple parcels and projects within the drainage area served by or contributing to the regional facility, though only portions of the area may experience development. Such facilities may be a part of a treatment train that begins at the individual development parcels draining to them, may be designed for multiple benefits such as recreation and wildlife as a "stormwater park," and may be actively managed for flow control or flood protection as well as pollutant removal. Regional Stormwater Management Facilities are often designed with consideration of available development area within the subbasin, the grade and slope of the available area, and the projected development patterns within the subbasin, and also tend to be placed at the downstream portion of a given subbasin to allow for gravity flow to the facility. To the extent possible, it is also beneficial for such facilities to be located adjacent to natural resource areas (i.e., vegetated corridors) to provide additional



*habitat value and integration with the natural landscape. For the purposes of Schedule A.3.e (Post-Construction Site Runoff for New Development and Redevelopment), stormwater treatment by a regional stormwater management facility, when onsite retention is infeasible, is not considered “offsite” as an alternative compliance option, provided that the anticipated pollution reduction per design specifications meets the treatment standard requirements for onsite treatment and that the stormwater volume directed from the new development does not exceed the design capacity of the facility.*

This permit condition requires that permit registrants maintain a lower threshold for post-construction site runoff controls in new development and redevelopment than is required in 1999 Phase II Rules, as established in the previous permit. This more protective threshold is similar to the current permit condition in the Clackamas County Group MS4 permit.<sup>58</sup> Many of the Co-Permittees under the Clackamas Group permit are smaller than most of the Phase II permit registrants, yet they have demonstrated the capacity to administer this requirement. Specifically, DEQ requires permit registrants to establish a regulatory trigger for post-construction site runoff when a development or redevelopment creates 5,000 square feet or more of new impervious surfaces in most cases.

The intent of this threshold is to prevent the further degradation of water quality in waterbodies receiving the permit registrant’s stormwater discharge. As noted in this document, all of the waterbodies that the permit registrants’ discharge to are under at least one TMDL.<sup>59</sup> Moreover, these same waterbodies are on DEQ’s 303(d) list for other water quality impairments. The TMDL and water quality impairments are summarized in DEQ’s Integrated Report (accessible via its webmap, online searchable database, or ArcGIS Assessment Geodatabase). DEQ has established the lower threshold for post-construction stormwater controls to reduce stormwater volume and to treat stormwater discharges to ensure permit registrant’s stormwater management efforts will contribute significantly to collective efforts to attain water quality standards as a permit registrant’s community experiences further urbanization.

Urbanization’s impact on water quality with its creation of impervious surfaces is well established.<sup>60</sup> EPA’s research shows a linkage between low total or effective impervious surface area and changes in stream biotic assemblages. Moreover, through an Endangered Species Act Section 7 biological opinion, the National Marine Fisheries Service requires post-construction site runoff controls when the Army Corps of Engineer’s issues permits for stormwater, transportation, and utility projects which result in the creation of new impervious surfaces.<sup>61</sup> Although this condition’s threshold is not as protective as the National Marine Fisheries Services’ threshold, this permit has a more comprehensive approach to controlling stormwater pollutants that involves six minimum control measures addressing a variety of stormwater pollutant sources and includes requirements to look for opportunities that include both non-structural and structural stormwater controls in existing development.

DEQ recognizes that time and resources will be necessary to update, refine, and enact post-construction site requirements within a permit registrant’s jurisdictional boundaries in response to this permit condition. As a result, this condition requires permit registrants to continue implementing current requirements until the new requirements can be reflected and incorporated into their post-construction program in accordance with this permit schedule.

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<sup>58</sup> The Clackamas County Co-Permittees are a Phase I permittee.

<sup>59</sup> Many of the permit registrants have more than one applicable TMDL in place for urban land uses or urban stormwater.

<sup>60</sup> U.S. EPA. The Causal Analysis/Diagnosis Decision Information System Volume 2: Sources, Stressors and Responses. Urban Module. [https://www.epa.gov/sites/default/files/2017-05/documents/caddis\\_urban\\_module\\_final.pdf](https://www.epa.gov/sites/default/files/2017-05/documents/caddis_urban_module_final.pdf)

<sup>61</sup> U.S. National Oceanic and Atmospheric Administration. Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Continued Operation and Maintenance of the Willamette Valley System. [https://www.nwp.usace.army.mil/Portals/24/docs/regulatory/NMFS/2014\\_03-14\\_SLOPES\\_STU\\_Transportation\\_NWR-2013-10411.pdf](https://www.nwp.usace.army.mil/Portals/24/docs/regulatory/NMFS/2014_03-14_SLOPES_STU_Transportation_NWR-2013-10411.pdf)



#### 4.3.5.1 Condition A.3.e.i - Implementation Deadline

This condition establishes the implementation deadline of November 1, 2027 for all registrants to issue the technical memorandum required per Schedule A.3.e.iii. All registrants must fully meet all other requirements of this section upon permit issuance. As described above, the only new requirement in Schedule A.3.e is the technical memorandum as described in Schedule A.3.e.iii.

When possible, DEQ recommends that MS4s within the same Urban Area work together in a cooperative manner to define appropriately scaled and reasonable post-construction site control requirements to find efficiencies, and to speed implementation.

#### 4.3.5.2 Condition A.3.e.ii - Ordinance and/or Other Regulatory Mechanism

This permit condition outlines the expected scope of the permit registrant's legal mechanism to reduce discharges of pollutants and address stormwater runoff from new development and redevelopment sites within its jurisdiction that create or replace impervious area equal to or surpassing permit registrant's assigned threshold area. The assigned threshold area is 10,890 square feet (a quarter of an acre) for "small community" County registrants (i.e., County Registrants not also listed as co-implementers with other entities), and 5,000 square feet for all other permit registrants.

Within the Urban Growth Boundary, where city code will eventually be the rule, DEQ strongly encourages Counties to enter into cooperative agreements with the municipal MS4s with which they overlap. Given that the Urban Growth Boundary in Oregon is mapped as the designated area where a city expects to grow over a 20-year period, it would be beneficial to water quality for infrastructure in such areas to be built to a consistent standard with water quality in mind. Cooperative intergovernmental agreements between MS4 County governments and municipal MS4 entities have been established and proven successful for example in Multnomah, Clackamas, and Lane Counties. These agreements are a valuable cost-saving measure that ensures a higher standard can be met in areas over which the municipality will one day assume responsibility, without solely depending on the County Road funds to support plan review, site inspection, and other elements of the County post-construction programs. However, as these intergovernmental agreements take time to develop and have not yet been established in many areas, DEQ has not made this a requirement or elected to set the assigned threshold area for all Urban Growth Boundary development at the 5,000 square feet required inside city MS4 jurisdictions as of this renewal, though DEQ may consider such measures for a future renewal.

The specific language of this permit condition includes the phrase "within the MS4 area" because of course a jurisdiction may not impose development restrictions outside its own boundaries. However, the registrant remains responsible for the operation and maintenance of the municipal separate storm sewer system and for discharges from it. If a development outside the boundary may discharge into the registrant's MS4, the registrant should take action, seek consultation, or pursue legal remedies to ensure pollutants are being controlled to avoid or minimize the risk of illicit discharge scenarios.

#### 4.3.5.3 Condition A.3.e.iii - Post-Construction Stormwater Management Requirements

The site performance standard used in this permit condition has its origins, in part, in the 1993 federal guidance referenced in both the preamble of the 1999 NPDES Phase II rules as well as the regulatory guidance provided in the minimum control measure for post-construction stormwater management in new development and redevelopment in this rule.<sup>70</sup> The Phase II rule preamble notes that EPA's 1993 *Guidance for Specifying Management Measures for Sources of Nonpoint Source Pollution in Coastal Waters* identifies a management measure to reflect the greatest degree of pollutant reduction that is economically achievable for urban runoff. This

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<sup>70</sup> 68722 Federal Register/Vol. 64, No. 235/Wednesday, December 8, 1999

guidance was developed to assist with compliance with the Coastal Zone Act Reauthorization Amendments. Specifically, this 1993 management measure for new development requires:

*(1) that by design or performance the average annual total suspended solid loadings be reduced by 80 percent and (2) to the extent practicable, that the predevelopment peak runoff rate and average volume be maintained.*

In this 1993 EPA guidance, the application of these two criteria is based on the 2-year, 24-hour storm for design purposes. The design storm volume has evolved since 1993 to include other acceptable methods consistent with this site performance standard. As a result, DEQ has opted to provide permit registrants with more flexibility when developing the numeric requirement for stormwater retention in order to implement this site performance standard.

DEQ adopted the 1993 management measure, noting that stormwater permits and TMDL Implementation Plans could include the practices and that it would finalize guidance to implement this performance standard in expanded TMDL Implementation Plans addressing post-construction elements for stormwater management.<sup>71, 72</sup> Given the TMDLs issued and 303(d) listings for waterbodies receiving a permit registrant's stormwater discharge, this condition includes numeric requirements consistent with the site performance standard in EPA's 1993 guidance.

DEQ's analyses of requirements for other MS4 permits also include the requirement to target predevelopment hydrologic function as noted in EPA's 1993 guidance. In issuing these individual permits, DEQ stated in the Permit Evaluation Reports that other post-construction requirements in the individual permit such as optimizing on-site retention (i.e., infiltration, evapotranspiration, and water capture and reuse), targeting natural surface or predevelopment hydrologic functions, and minimizing hydrological and water quality impacts from stormwater runoff from impervious surfaces, will be substantially addressed with an Low Impact Development approach. For example, the Permit Evaluation Report for the post-construction site runoff condition from the City of Salem's NPDES MS4 Phase I Permit goes on to stress:

*...the importance of stormwater runoff prevention first, followed by site-specific runoff reduction, and finally the capture and treatment of pollutants, as highlighted in the 2008 National Research Council report.<sup>73</sup>*

This Phase I Permit, as well as others, required a numerical site performance standard to "capture and treat 80 percent of annual average runoff volume, based on a documented local or regional rainfall frequency and intensity." DEQ's expectation for the Phase I Permittees, as expressed in the Permit Evaluation Reports, was that ultimately, most development sites would achieve this numerical standard by using site design methods and approaches that mitigate the volume, duration, time of concentration and rate of stormwater runoff using LID and green infrastructure. For example, permit conditions include requirements and incorporate site-specific management practices to target predevelopment hydrologic function and note "the site-specific management practices should optimize on-site retention based on the site conditions".

Although Phase I permits were required for medium and large municipalities, the Phase I permits also provide coverage for several small municipalities in Oregon. These small Oregon municipalities are currently implementing the post-construction site runoff requirements, highlighted above. Similarly, the City of Springfield

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<sup>71</sup> Oregon's Submittal for Remaining Management Measures for Approval of Oregon's Coastal Nonpoint Pollution Control Program. July 1, 2013. In its submittal for approval of Oregon's Coastal Nonpoint Pollution Control Program as part of a settlement agreement for Northwest Environmental Advocates v. Locke, et al., DEQ and the Oregon Department of Land Conservation and Development adopted this management measure.<sup>71</sup>

<sup>72</sup> Oregon DEQ. TMDL Implementation Guidance: Guidance for Including Post-Construction Elements in TMDL Implementation Plans. March 20, 2014

<sup>73</sup> City of Salem NPDES MS4 Permit Evaluation Report & Fact Sheet. December 30, 2010.

currently uses portions of the City of Eugene's Phase I permit requirements relating to the construction and maintenance of stormwater treatment facilities as modified for conditions specific to Springfield. In addition, the City of Florence, a rural coastal municipality not required to have NPDES MS4 Permit, has adapted a modified version of the City of Portland requirements.

Additionally, the Willamette Basin Bacteria and Mercury TMDLs require the City of Springfield to establish post-construction design features to reduce bacteria and mercury in all new development and public work projects to reduce the loadings of these TMDL pollutants. These design features include surface infiltration, treatment and/or filtering of surface water runoff and LID techniques such as rain gardens, infiltration swales, and rainwater harvesting. The City of Springfield provides criteria to use when designing stormwater systems using LID approaches. These criteria include maximizing the amount of runoff infiltrated to the greatest extent practicable, utilizing riparian setbacks and other landscaped areas on the development site for stormwater treatment and infiltration where practical, and using public open space areas with sufficient capacity to infiltrate additional runoff to accommodate development sites adjacent to public open space. These criteria are consistent with this condition's requirement to prioritize LID using non-structural stormwater controls first to reduce stormwater volume as noted below.

#### **4.3.5.3.1 Condition A.3.e.iii.A – Stormwater Retention Performance Standard**

Permit condition A.3.e.iii.A outlines the options for developing site performance standards. The first option, maintaining the approach established in the previous Phase I and II permits, requires that the registrants establish a numeric site performance standard with an on-site stormwater retention requirement, referred to in Schedule A.3.e.iv.A of the permit as the retention requirement. Three options are presented for how to establish this standard. This condition strives to be more clear, specific, and measurable in its requirement for the retention of stormwater on-site and the treatment of stormwater discharged off-site when, due to site constraints, full compliance with this retention requirement is not practicable. The intent is to establish an appropriate retention requirement methodology, so that the registrants may add a compatible and practicable retention requirement to their existing post-construction program if one is not already in place, tailor their program to better accommodate local conditions and watershed priorities and reduce discharges of pollutants and control stormwater runoff from new development and redevelopment project sites.

Along with the three options presented for numeric standards, a fourth option is offered for registrants to establish their own narrative site performance standards, to bring this permit in line with the more recently renewed Phase I MS4 permits in Oregon. This is because, given the history of stormwater management in Oregon, the establishment of numerical site performance standards may represent technical challenges conflicting with existing design and construction standards and practices. If this option is selected, the registrant must demonstrate how equivalent benefits are achieved, how LID/GI practices and BMPs are still prioritized, how treatment is achieved to remove pollutants before stormwater is discharged, and how pre-development site hydrology is achieved. GI approaches to treating stormwater under this option must infiltrate where soils allow and may discharge after extended filtration where infiltration is infeasible. Site design optimization measures under this option may include:

- Defining development and protected areas, identifying areas that are most suitable for development and areas to be left undisturbed.
- Concentrating development on portions of the site with less permeable soils and preserving areas that can promote infiltration.
- Limiting overall impervious coverage of the site with paving and roofs.
- Setting back development from creeks, wetlands, and riparian habitats.
- Preservation of significant trees.
- Conforming the site layout along natural landform.
- Avoiding excessive grading and disturbance of vegetation and soils.
- Replicating the site's natural drainage patterns.

- Detaining and retaining runoff throughout the site.

Registrants may include evapotranspiration and reuse of stormwater in accounting for retention volumes but are not required to exhaust those options prior to allowing treatment or offsite options. UICs are an allowable form of retention, provided they are properly operated, maintained, and authorized under Oregon's UIC rules (see OAR 340-044), because they retain stormwater onsite and thereby prevent it from carrying pollutants offsite. The registrants may collaborate with other entities to implement this condition to leverage their collective resources and establish uniform requirements in a region for the regional development community. Further guidance for leveraging limited resources to develop post-construction site runoff requirements in compliance with this condition may also be found in the *Western Oregon Low Impact Development Guidance Manual*, in the EPA publication of the Center for Watershed Protection's *Managing Stormwater in Your Community; a Guide for Building an Effective Post-Construction Program*, and in sources cited on the previous page.<sup>74 75</sup>

When site constraints prevent the on-site retention of the stormwater volume specified in the retention requirement, the registrants should treat the runoff volume up to a specified water quality design storm prior to its discharge off-site using one or more structural stormwater controls. Discharge offsite should target natural surface or predevelopment hydrologic function as much as practical using one of several methods. The use of treatment trains of post-construction stormwater controls should be encouraged where appropriate for treating stormwater runoff that is managed offsite before discharging to receiving waters, to improve stormwater runoff quality and reduce discharge quantity. Given the requirement to retain a portion of the stormwater from a rain event on-site, the size of the treatment structural stormwater control(s) will be reduced, generating cost savings in material and the space needed for this control, but more stringent requirements may be used at the permit registrant's discretion, and/or certain requirements may be tailored to local circumstances through the use of sub-basin plans or other similar stormwater management planning efforts. On its webpage for the Cost-Benefit of Green Infrastructure, EPA has compiled several studies analyzing the costs as well as presenting cost-benefit analyses of green infrastructure and a design approach using better site design early in the process of planning for stormwater management.<sup>76</sup>

#### **4.3.5.3.2 Condition A.3.e.iii.B – Performance Standard Technical Feasibility and Site Constraint Exclusions**

This permit condition requires the permit registrant to identify and document the review criteria and factors used to determine technical infeasibility and/or site constraints, and to review site specific information in order for the registrant to permit treatment instead of retention for a project, or to allow offsite alternative compliance for a project where treatment is also infeasible. This should also include documenting conditions where the implementation of Green Infrastructure or equivalent approaches may be impracticable.

Inability of a project site to meet the standard requirements of A.3.e.iii.A and B must be supported by documentation provided by qualified professionals and reviewed by qualified registrant staff. For the purposes of this section, that means documentation provided by the project applicant must include a site specific hydrologic or design analysis conducted and endorsed by an Oregon registered Professional Engineer or Oregon Certified Engineering Geologist.

If the applicant is able to so demonstrate technical infeasibility of retention, treatment is permitted. If the applicant is able to demonstrate the technical infeasibility of retention and treatment as well, the registrant may provide

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<sup>74</sup> <https://www.oregon.gov/deq/wq/tmdls/Pages/TMDLs-LID.aspx>

<sup>75</sup> EPA. 2008. *Managing Stormwater in Your Community; a Guide for Building An Effective Post-Construction Program* (EPA 833-R-08-001)

<sup>76</sup> U.S. EPA Green Infrastructure Cost-Benefit Resources Webpage <https://www.epa.gov/green-infrastructure/green-infrastructure-cost-benefit-resources>

offsite alternative compliance as described in Schedule A.3.e.iv, provided that the registrant has established a program meeting the requirements of that section.

#### 4.3.5.3.3 Condition A.3.e.iii.C – Stormwater Treatment Performance Standard

As mentioned above in 4.3.5, this permit condition and others in Schedule A.3.e have been updated primarily for readability and to clarify expectations. The new elements in this permit condition are described and explained below.

Compliance with the stormwater treatment requirement is necessary when designing a structural stormwater control to treat the stormwater runoff volume specified in the registrant's design standards prior to its discharge off-site. Specifically, this condition requires that the registrants establish treatment standards for structural stormwater controls in order to ensure effective removal of total suspended solids (TSS) prior to discharge, and the registrants may include an upper and lower bound to their treatment requirements that reflect the practical limitation of an engineered control (e.g., 80% removal of TSS for typical influent concentrations ranging from 100 mg/L to greater than 200 mg/L). The permit registrant should establish treatment requirements that target the equivalent water quality benefits as onsite retention of stormwater from new development or redevelopment sites using a model, such as a continuous simulation model or other evaluation tool. The permit registrant should encourage the use of treatment trains of structural post-construction stormwater controls where appropriate for treating stormwater runoff that is managed offsite before discharging to receiving waters to improve stormwater runoff quality and reduce discharge quantity, and must give priority to implementing green infrastructure before considering hardscaped structural stormwater controls (such as concrete vaults and piping, certain proprietary technologies, or other static non-GI facilities) for stormwater treatment. Treating the volume of water that cannot otherwise be retained under the retention requirement satisfies the retention requirement.

The runoff discharged off-site should target predevelopment hydrologic function in terms of rate, duration, and volume in order to minimize the potential for hydromodification impacts off-site. The registrants may adopt treatment standards for other targeted pollutants such as a TMDL or 303(d) listed pollutant but, at minimum, TSS is the required design pollutant for structural stormwater controls because it serves as a surrogate for other pollutants. Pollutants such as mercury and nutrients will likely be captured when using the TSS treatment standard.<sup>77</sup> More importantly, when evaluating options for a structural stormwater control, this condition requires the permit registrants to prioritize the use of green infrastructure (GI), because research emphasizes the value to urban stream ecology of treatment, even with simple and inexpensive soil columns, especially in terms of the survivability of salmon and invertebrate populations in urban streams.<sup>78 79</sup> In addition, the unit processes typically associated with GI, with its focus on bioretention-involving processes such as sedimentation, adsorption, filtration, and plant uptake, are effective for reducing the loading of a variety of stormwater pollutants including those causing impairment of waterbodies receiving the permit registrants' discharge<sup>80 81</sup>. For example, in the Lower Columbia Slough TMDL for lead, PCBs, Dieldrin, DDE/DDT, and dioxin, DEQ required Wood Village and other Designated Management Agencies to use TSS as a surrogate to estimate the effectiveness of stormwater controls.

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<sup>77</sup> National Research Council. 2009. Urban Stormwater Management in the United States. The National Academies Press, Washington, D.C.

<sup>78</sup> McIntyre, J. K., Edmunds, R. C., Redig, M. G., Mudrock, E. M., Davis, J. W., Incardona, J. P., Stark, J. D., and Scholz, N. L. (2016). Confirmation of Stormwater Bioretention Treatment Effectiveness Using Molecular Indicators of Cardiovascular Toxicity in Developing Fish. *Environmental Science & Technology*, 50(3), 1561–1569. <https://doi.org/10.1021/acs.est.5b04786>

<sup>79</sup> Spromberg, J. A., Baldwin, D. H., Damm, S. E., McIntyre, J. K., Huff, M., Sloan, C. A., Scholz, N. L. (2016). Coho salmon spawner mortality in western US urban watersheds: Bioinfiltration prevents lethal storm water impacts. *Journal of Applied Ecology*, 53(2), 398–407. <https://doi.org/10.1111/1365-2664.12534>

<sup>80</sup> Urban Waterways – Bioretention Performance, Design, Construction and Maintenance. North Carolina State and AT&T State University Cooperative Extension.

<sup>81</sup> EPA. 1999. Storm Water Technology Fact Sheet: Bioretention (EPA 832-F-99-012)

This permit condition's numeric site performance standard involving a retention and treatment requirement is consistent with national trends in post-construction stormwater management. In 2005, the State of Minnesota conducted a review of trends in stormwater management in the previous decade.<sup>82</sup> The Minnesota review noted shifts in statewide post-construction stormwater managements reflected in the stormwater requirements in Wisconsin, Pennsylvania, New York, Vermont, Maryland, and Washington. These shifts included increased emphasis for on-site runoff reduction using better site design practices and increased emphasis for runoff retention volume requirements for pollutant reduction. Moreover, the Association of Clean Water Administrators' post-construction workgroup indicated that 50 percent of the states in 2016 used a numeric retention standard, 28 percent use a narrative retention standard, and 22 percent used numeric treatment standards to address specific pollutants.<sup>83</sup> This is a 32 percent increase from the number of states using a numeric retention standard in 2014.<sup>84</sup> The site performance standard in this condition brings Oregon's permit in line with standards across the country and EPA's guidance.

The non-numeric alternative standard (option 4 in the permit text) was added for consistency with DEQ's 2021 Phase I MS4 permits in providing the registrants with the option of using a non-numeric alternative standard for retention and treatment. Though the narrative and permit language structure in this permit is slightly different from those Phase I permits, all the same elements are accounted for, and it is intended to function the same way for permit registrants, allowing an additional possible path for compliance, and Phase I communities already implementing such alternatives may serve as models for Phase II registrants under this permit.

For sites that utilize the treatment option to satisfy the retention requirement, this permit condition requires permit registrants to provide a description of all allowable structural stormwater controls, including site-specific design requirements that do not inhibit maintenance, conditions where each control applies, and operation and maintenance standards for each control. A permit registrant may adopt specifications created by another entity that complies with this requirement. As noted above, registrants under this permit may draw on the practices established by Phase I permittee communities such as Wilsonville and Oregon City, using their permits' Alternative Site Performance Standards under the post-construction control measure requirements.

The permit registrant must additionally complete a technical memorandum supporting the treatment performance standard that links the specifications and application of allowable structural controls described above to the expected pollutant removal efficiency for TMDL and impairment pollutants. This technical memorandum is to be submitted to DEQ no later than November 1, 2027, and must be thereafter cited or referred to in the SWMP Document with descriptions of other post-construction measures.

#### **4.3.5.4 Condition A.3.e.iv – Offsite Alternative Compliance**

The permit condition allows for offsite mitigation or for projects unable to fully meet the retention requirement and/or treatment standard alternative. For the purposes of this section, designing a site to utilize an existing or concurrently designed/constructed nearby regional stormwater management facility for treatment is not considered offsite alternative compliance and does not require a project to have documented infeasibility or site constraints preventing onsite retention or treatment, provided that the regional facility was designed with sufficient additional capacity to accommodate the development, and that the facility's anticipated pollution reduction per design specifications meets the requirements of the treatment performance standard.

The permit registrant may choose to allow offsite alternatives for projects based on factors of technical infeasibility or site constraints. The determination that the retention requirement and/or treatment standards cannot be achieved at the project site must be based on review criteria and cannot be based solely on increased

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<sup>82</sup> Minnesota Stormwater Manual. 2005. Issue Paper D: *Unified Stormwater Sizing Criteria for Minnesota* V.6 Final

<sup>83</sup> Association of Clean Water Administrators. March 21, 2016. *The Weekly Wrap*. Volume VII., Issue 10

<sup>84</sup> Sawyers, Andrew D. and Best-Wong, Benita. 2014. Memorandum: Revisions to the November 22, 2002 Memorandum *Establishing TMDL Wasteload Allocations (WLA) for Stormwater Sources and NPDES Permit Requirements Based on Those WLAs*. U.S. EPA

cost. The offsite alternatives must account for retention or treatment at least equal to the retention requirement volume not met onsite.

For project sites requesting alternative compliance, the permit registrant must require and subsequently evaluate the written technical justification documenting the infeasibility or site constraints, which prevent the onsite management of the runoff amount stipulated in the retention requirement. The written technical justification must be in the form of a site-specific hydrologic or design analysis conducted and endorsed by an Oregon registered Professional Engineer or Oregon Certified Engineering Geologist.

If the permit registrant agrees that alternative compliance with the retention requirement is necessary, meaning retention of or treatment up to the retention requirement volume is not feasible, the permit registrant must require that the site operator use one or more of the stormwater mitigation options outlined in the Offsite Stormwater Mitigation Options below for any portion of the retention requirement volume not retained or treated.

The permit allows for stormwater mitigation off-site (within the same watershed) when site-specific conditions make full compliance with the retention requirement infeasible, if development is to proceed. This condition requires that the unmet portion of the retention requirement noted above be addressed using an alternative compliance process referred to as stormwater mitigation. The intent of stormwater mitigation is to provide the permit registrant with multiple pathways to locally mitigate the water quality impacts associated with the increase in stormwater arising from urban development.

In this condition, permit registrants are allowed to offer offsite mitigation options to site operators, provided the operators can prove technical infeasibility of the standard retention and treatment methods. DEQ has concluded that providing more options will give the permit registrant and the development community greater flexibility to achieve permit compliance. The inclusion of stormwater mitigation options not only maximizes opportunities to mitigate water quality impacts but increases the flexibility in reducing pollutant loading. This approach is also consistent with trends in the Phase II post-construction stormwater requirements as demonstrated by other states such as West Virginia and Tennessee.<sup>85</sup> In considering stormwater mitigation options, permit registrants may want to consider the following two resources:

- *Guidance for Developing an Off-Site Stormwater Compliance Program in West Virginia – Local Stormwater Program Development in Accordance with the West Virginia General Permit for Stormwater Discharges from Small MS4s (WV0116025).*<sup>86</sup>
- *Creating Clean Water Cash Flows – Developing Private Market for Green Stormwater Infrastructure in Philadelphia.*<sup>87</sup>

Along with providing flexibility for permit compliance, this stormwater mitigation requirement supports the permit registrant's efforts to address TMDL wasteload and load allocations as well as 303(d) listings. This is achieved by placing emphasis on the more reliable and cost-effective approach to pollutant load reduction provided by measures reducing stormwater volume. Most permit registrants are discharging their stormwater to waterbodies under a TMDL, such as bacteria, where DEQ has identified urban land uses or stormwater as a source of the water quality impairment in receiving waterbodies. Stormwater mitigation will, therefore, better support permit registrant's efforts to comply with water quality standards.

There are two options to comply with alternative compliance when the retention standard cannot be met:

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<sup>85</sup> U.S. EPA. 2015. *MS4 General Permit and the Six Minimum Control Measures – A Compendium of Permit Requirements*. (Draft)

<sup>86</sup> West Virginia Department of Environmental Protection, Center for Watershed Protection, and Downstream Strategies. 2012. *Guidance for Developing Off-Site Stormwater Compliance Program in West Virginia*

<sup>87</sup> Natural Resources Defense Council, EKO Asset Management Partners, and The Nature Conservancy. 2013. *Creating Clean Water Cash Flows – Developing Private Markets for Green Stormwater Infrastructure in Philadelphia*

- Off-site mitigation
- Groundwater replenishment projects

The option of off-site mitigation at another site in the same subwatershed offers the permit registrant as well as the development community an alternative compliance approach when site constraints make compliance with the retention requirement infeasible. Stormwater mitigation may provide a more economical path toward compliance that is equally protective of water quality. To ensure appropriate sites or projects are ultimately selected, the option of off-site mitigation at another location requires the permit registrant to have an inventory of appropriate alternative projects or sites as well as standards and management systems to value, estimate, and account for how these projects or sites will meet the stormwater retention requirement in the site performance standard. This inventory serves as a preliminary assessment of opportunities for alternative compliance and should not preclude the pursuit of more effective opportunities that may arise unexpectedly.

This inventory of alternative sites may be provided by the development community or be generated by the permit registrant. Permit registrants can integrate or leverage compliance with this requirement using other inventories or assessments, such as a buildable lands inventory, a statewide planning Goal 5 inventory, or a statewide planning Goal 11 public facilities inventory for the permit registrant's stormwater system. Moreover, to minimize additional administrative costs, the O&M tracking mechanism should be used by the permit registrant to record performance mitigation projects and water quality impacts of development at another location.

This condition offers other off-site mitigation options that, if utilized by the permit registrant, require the establishment of a stormwater mitigation bank program or a stormwater payment-in-lieu program. The stormwater mitigation bank option may be an administrative burden on the permit registrant. The development of a stormwater mitigation bank necessitates an analysis of the market for off-site mitigation to evaluate the supply as well as demand for off-site mitigation credits to determine if there is a viable market to support this program. It also involves the establishment of a trade currency based on the unmet stormwater retention requirement at the development site. Given this, the larger permit registrants with their greater administrative capacity and greater pool of potential mitigation sites are more likely to pursue the development of this stormwater mitigation option. However, as noted below, the administrative burden in implementing a stormwater mitigation-banking program is likely to be offset by its future cost savings.

The cost savings from stormwater mitigation banking is typically achieved when the permit registrant or developer meets the retention requirement for a constrained property at another location where the stormwater can more cost-effectively be retained on-site. Stormwater mitigation banking generates savings using market forces to identify low-cost mitigation opportunities and, therefore, attracting limited resources to the most cost-effective mitigation opportunities within a subwatershed. Off-site mitigation credit can be derived on a site already owned by the permit registrant or by a developer by using existing resources as long as the mitigation site's existing capacity to retain stormwater is enhanced in the mitigation process.

This condition also includes, as an alternative for compliance, an off-site mitigation option involving a stormwater payment-in-lieu program. As with a stormwater mitigation bank program, this option will entail some administrative burden in establishing the currency or unit used to compare the unmet stormwater volume retention requirement with the future opportunity to meet this requirement at an off-site location. An in-lieu program involves establishing a rate based on this currency such as a dollar amount per volume of runoff retained. Additionally, if a permit registrant develops a payment-in-lieu program, the permit registrant will need to develop trading ratios and the scale of trading. The trading ratios establish the runoff reduction volume that a non-structural or a structural stormwater control such as an infiltration basin must be designed to infiltrate off-site. The scale of trading defines the geographic boundary linking the development or redevelopment site to eligible alternative locations for compliance with the retention requirement.

The payment-in-lieu option provides the site owner or operator with flexibility while leveraging the permit registrant's limited resources to strategically locate stormwater controls for greater environmental impact. This



compliance flexibility and additional funding provided by a payment-in-lieu program will likely, over time, offset the administrative costs of establishing the program.

More flexibility to find lower cost approaches to compliance is provided by the two additional categories of stormwater mitigation. These are the use of groundwater replenishment projects and the use of a treatment equivalent to the site performance standard.

The groundwater replenishment project condition allows the permit registrant to meet the unmet portion of the retention requirements in the site performance standard with groundwater replenishment. This opens up yet another opportunity to identify a lower cost compliance approach. The mitigation option can be combined with the permit registrant's stormwater mitigation bank program. In this example, commercial systems designed to efficiently infiltrate and store underground large volumes of stormwater within a small footprint lend themselves to creating opportunities to supply stormwater volume credits within the permit registrant's jurisdiction. The opportunity to generate these credits by maximizing the stormwater retained on a site, in turn, creates an incentive for the permit registrant or developer to pursue groundwater replenishment projects. This requirement will also help support permit registrants' efforts to implement a "one water" approach to municipal water management with its goal of integrating the management of stormwater, drinking water, and wastewater for not only cost efficiencies but better water resource management.<sup>88</sup>

#### **4.3.5.5 Condition A.3.e.v - Post-Construction Site Runoff Plan Review**

This condition requires the permit registrants to review and approve site plans to verify proper implementation of post-construction site runoff plans for all new development and redevelopment projects, at a minimum, at sites that result in land disturbance of one or more acres (or that disturb less than one acre, if it is part of a "common plan of development or sale" disturbing one or more acres) and sites that use alternative compliance to meet the retention requirement. Specific standards are a critical component of this 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 permit registrant must have the authority to deny projects when it determines that the controls at a specific site are not designed to meet the established standards for structural stormwater control.

The permit requires that the written technical justification be reviewed by either an Oregon registered Professional Engineer or Oregon Certified Engineering Geologist to ensure a qualified reviewer.

DEQ expects that permit registrants will establish submittal requirements for post-construction site runoff plans, providing clear submittal requirements for plans will also meet the education requirements for developers. At minimum, the permit registrant's post-construction site runoff plan submittal requirements should include as an initial step prioritizing non-structural controls for on-site management of stormwater such as the identification of natural site features that could be protected and integrated into the runoff plan. For example, site evaluation to retain landscape features that could be used to reduce the volume of stormwater generated when a site is developed.

Non-structural stormwater controls include features such as mature trees with canopies in or outside riparian areas. These areas, if delineated and protected, would reduce stormwater on a developed site through interception and evaporation of rainfall and subsequent transpiration while contributing organic matter via leaf fall to improve soil permeability by improving soil structure. Protecting trees and shrubs for stormwater management could be used to satisfy vegetation standards or a tree preservation and mitigation standard that was adopted or used to comply with any LID code-related requirements. Other significant features to consider in developing a runoff plan are natural swales, manmade drainage features, wetlands and streams as well as lakes and ponds with buffers to

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<sup>88</sup> Water Environment Research Foundation. 2015. *Pathways to One Water – A Guide for Institutional Innovation*

protect their water quality and hydrology, and natural depressions. After evaluating site features, the developer should establish in their site runoff plan the limits of development to protect landscape features to manage runoff from impervious surfaces and reduce stormwater volume using a technique in better site design referred to as site fingerprinting or minimal disturbance techniques during land development. This involves delineating and flagging the smallest site disturbance area possible to minimize the compaction of soils needed to infiltrate runoff and restricting the storage of construction equipment in these areas.<sup>89</sup>

#### **4.3.5.6 Condition A.3.e.vi - Long-Term Operation and Maintenance**

Permit registrants must ensure the long-term operation and maintenance of structural stormwater controls installed in compliance with this permit. In addition, permit registrants must implement a strategy that includes documented efforts to obtain legal authority allowing the permit registrant to inspect and require effective operation and maintenance of privately owned and operated structural stormwater controls that discharge to the MS4, to the extent allowable under state and federal law. Documented efforts to obtain legal authority may include legal opinions provided by counsel, site-specific easements allowing access, efforts to establish local code granting authorities, or other mechanisms.

The permit requires the permit registrant to use a database type inventory to track and manage the operational condition of structural stormwater controls within its coverage area. This 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 maintenance is necessary to ensure that the BMPs will perform as designed over time. Inadequate maintenance of existing structural stormwater controls is the primary shortcoming for most local stormwater management programs 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.<sup>90</sup> The permit registrant must track those permanent structural stormwater controls installed in compliance with this permit beginning no later than the permit effective date.

#### **4.3.5.7 Condition A.3.e.vii - Training and Education**

This permit condition requires the permit registrant to ensure that their staff are sufficiently educated regarding the selection, design, installation, operation, and maintenance of structural stormwater controls.

#### **4.3.5.8 Condition A.3.e.viii - Tracking and Assessment**

The permit registrant is also required to maintain records of Post-Construction Site Runoff program and summarized activities in the Annual Report.

### **4.3.6 Condition A.3.f - Pollution Prevention and Good Housekeeping for Municipal Operations**

The minimum requirements for this control measure are set forth in 40 CFR § 122.34(b)(6).

Municipal operation and maintenance are 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. These provisions require the implementation of an operation and maintenance program that includes a staff training component and articulates as its goal the prevention or reduction of pollutant runoff from municipal operations.

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<sup>89</sup> Prince George's County, Maryland. 1999. *Low-Impact Development-An Integrated Design Approach*

<sup>90</sup> Hirschman & Kosco 2008; see Chapter 9.

In this permit condition, DEQ has clarified the expectations for this minimum control measure by adding explicit provisions that address the operation and maintenance of specific activities.

#### **4.3.6.1 Condition A.3.f.i - Implementation Date**

This condition establishes the implementation deadline of November 1, 2027, for implementation of the Winter Maintenance program. This timeframe is justified to allow permit registrants adequate opportunity to adjust their existing programs, as necessary, and ensure the required actions are sufficiently addressed within the permit coverage area. All registrants must be fully implementing all other required elements of this section upon permit issuance.

#### **4.3.6.2 Condition A.3.f.ii - Operation and Maintenance Strategy for Existing Structural Stormwater Controls**

This permit condition outlines the requirements for the permit registrant to inventory, track and maintain both registrant-owned controls and controls owned and operated by other non-MS4 entities discharging to the permit registrant's MS4, with minor updates for clarity. The permit condition applies to existing structural stormwater controls installed or permitted by the permit registrant prior to the effective date of this permit. Additionally, the permit registrant must establish and implement maintenance schedules and inspection frequencies. The O&M strategy for existing structural stormwater controls must meet the long term O&M requirements in Schedule A.3.e.vi but not the site performance standards outlined in Schedule A.3.e.iv.

#### **4.3.6.3 Condition A.3.f.iii - Inspection and Cleaning of the MS4**

This permit condition was updated both for consistency with the Phase I permits and to optimize the removal of trash and floatables, in response to emerging concerns about MS4s as a vector for trash entering receiving waters. It requires the registrants to establish a program for the systematic inspection, maintenance, and cleaning of the MS4, designed to maximize debris and pollutant removal, and verify proper operation of all its municipal structural treatment controls designed to reduce pollutants (including floatables) in stormwater discharges to or from its MS4s and related drainage structures. An Asset Management strategy that supports registrant-determined cleaning frequencies, based on levels-of-service and other relevant factors, may be useful to include or reference in the SWMP. DEQ encourages the use of integrated asset management and field data collection software, such as GIS applications for use by field staff in phones and tablets that import field updates back to the permittee's database, for tracking and adaptive management purposes. Keeping accurate records of maintenance, cleaning, and inspection activities is a vital part of such a program, and many options exist to facilitate record keeping such as ESRI Collector, Survey123, and Explorer. Such recordkeeping allows for flexibility in adaptive management, such that the registrant may change the inspection process every year to complement or reflect the findings of the previous year's inspections or long-term trends observed. The registrant may establish an inspection prioritization system for catch basins and other structural MS4 elements, and establish alternate inspection frequency every year, provided the permittee describes all relevant factors it uses to target and prioritize its inspections to specific areas of its MS4 in the SWMP Document or another document cited/referenced therein. DEQ recognizes that it may not be feasible to inspect all catch basins in a system within the permit term, which is why the permit requires the registrant to inspect at least 50 percent the permit registrant-owned or operated catch basins and inlets within the MS4 in a permit term and allows for the permittee to prioritize based on appropriate levels of service, which may consider a multitude of factors (e.g., "hot spots," land use, equity metrics, age of infrastructure, etc.), so long as the permittee describes or includes by reference its rationale in the SWMP Document. Because this permit condition is expanded for clarity and specificity, though the implementation of the current existing program is adequate upon permit issuance, if improvements need to be made to the inspection and cleaning program and SWMP Document, the deadline for full compliance is set at November 1, 2028.

#### **4.3.6.4 Condition A.3.f.iv,v - Pollution Prevention in Facilities and Operations and Registrant-owned NPDES Industrial Stormwater Permit**

This condition requires permit registrants to review and update their operation and maintenance procedures for other municipal activities it conducts, to ensure such procedures protect water quality and reduce the discharge of pollutants through the MS4. Permit registrant-owned facilities discharging stormwater associated with industrial activity, as defined in 40 CFR § 122.26(b)(14), must obtain separate NPDES permit coverage pursuant to Schedule A.1.c. As discussed earlier in this document, certain provisions in this condition have been expanded upon slightly to address contaminants of emerging concern.

#### **4.3.6.5 Condition A.3.f.vi, vii, viii, ix - Requirements for Winter Operations & Maintenance Programs, Pesticide and Fertilizer Applications, Litter Control, and Materials Disposal**

The condition on winter operations and maintenance requires controls for winter maintenance activities. As climate conditions continue to change, so must the approaches taken to ensure the safety and security of people and the environment. The registrants must continue to implement whatever existing winter maintenance program is in place to provide safe roadways for commuters. DEQ is establishing reporting requirements for winter maintenance material use and storage, as a way to begin to understand if, how and where they impact water resources in Oregon. The permit registrants must ensure that materials used for winter maintenance activities in municipal operations are stored and used appropriately and must develop a Winter Maintenance Strategy specifically for maintenance of roads and streets if one does not already exist. Where the permit refers to current required and generally accepted practices, this refers to manufacturers instructions as well as guidance from such sources as the Oregon Department of Transportation “Blue Book,” American Association of State Highway & Transportation Officials’ Highway Safety Manual, Pacific Northwest Snowfighters, American Public Works Association, US Department of Transportation’s Winter Maintenance Virtual Clearinghouse Technical Briefs, the Institute of Highway Engineers’ Winter Maintenance Handbook, and other guidance. This will prevent overuse of products that may impair water quality and ensure their effective use for public safety purposes.

DEQ recognizes that the use of de-icers and anti-icing materials is not restricted to municipalities, and that as with pesticides, private use of de-icing and anti-icing materials may outweigh the amounts used by MS4 permit registrants. The goal of the winter maintenance condition in the permit is to document how the co-permittees use and store materials for winter management. As more information is available, DEQ will be able to analyze trends and impacts as it relates to road maintenance programs. DEQ will use that information to make future policy decisions about this activity and/or assess related impacts to surface waters. The Winter Operations & Maintenance Program must be fully implemented by November 1, 2028.

Permit registrants are required to ensure that their staff, and others operating in public areas owned or operated by the permit registrant, are appropriately handling and/or using pesticides and fertilizers used within the permit coverage area. This provision is consistent with the *NPDES General Permit for Discharges from The Application of Pesticides*.

Permit registrants are required to implement methods to reduce litter within their permit coverage area. This part further allows permit registrants to work cooperatively towards the sufficient control of trash and litter within the permit coverage area, to prevent the conveyance of material through the MS4. Additionally, permit registrant must manage and dispose of all collected material in accordance with federal, state, and local requirements.

#### 4.3.6.6 Condition A.3.f.x - Municipal Operations Staff Training

This permit condition requires permit registrants to ensure that their staff has received appropriate training, such that operation and maintenance activities are conducted properly and with attention to potential water quality impacts. This MS4 orientation training need not include in-depth training on the MS4 system and the MS4 permit but is not limited to staff with work focused on MS4 operations. Training should include pollution prevention instruction (including, for example, reporting of illicit discharges, job-specific pollution risks, the function of the MS4 in conveying stormwater to receiving waters and the likelihood for pollutants to be conveyed with it) for all operations staff that might interact with the MS4 or possible pollutant materials in the course of their duties (for example, parks & recreation, drinking water, fleet maintenance, etc.). At a minimum, it should include operations and field staff in public works, environmental services, road crews, parks departments, and water departments. The registrant is strongly encouraged to extend at least basic pollution prevention and MS4 awareness training to other municipal staff that may also work in proximity to MS4 assets or resources; it has been reported from multiple MS4 registrants in Oregon that a number of IDDE reports, for example, are called in by patrolling law enforcement staff.

#### 4.3.6.7 Condition A.3.f.xi – Tracking and Assessment

This permit condition requires that the permit registrant maintain records of their Pollution Prevention and Good Housekeeping for Municipal Operations program and summarized activities in the Annual Report.

#### 4.3.7 Condition A.3.g – Industrial Site Screening

Federal stormwater regulations envision states and municipal permittees cooperating in addressing pollutants in stormwater discharges to municipal storm sewers from industrial facilities.

Pollution prevention from industrial sources is a control measure that is largely managed by DEQ via the 1200-Z Industrial Stormwater General Permit, in some communities with the aid of an MS4 jurisdiction acting as DEQ's Agent (Portland, Eugene, and Clean Water Services)<sup>93</sup>. Outside of these specific Agent agreements, administration of the permit and enforcement of the permit conditions is not the responsibility of MS4 permit registrants, but there may be many industrial sites operating in the permit registrant's jurisdiction without 1200-Z Industrial Stormwater General Permit coverage that should be registered in order to be fully compliant with the law, and such sites may pose a pollution risk via the registrant's MS4. Permit registrants have responsibility and interest in making sure that what goes into their MS4 pipes are properly controlled or otherwise appropriately permitted.

This permit condition establishes a requirement for MS4 permit registrants to conduct a one-time screening process to identify facilities within their jurisdiction that may require 1200-Z permit coverage, and to refer them to DEQ. Similar requirements exist in MS4 permits in other states, including in permits written by the EPA. Industrial activities that are subject to permitting requirements are determined by SIC codes listed in the federal regulations and by the location of the discharge. This requirement assists DEQ in identifying businesses that need NPDES permit coverage and will assist the permittee in evaluating industrial stormwater discharges within their jurisdictions.

Permit registrants may be aware of or have information relating to potential 1200-Z sites through business licensure or registry information, wastewater pretreatment Industrial User Surveys, firefighting hazard documentation, a simple web search, or other sources, that DEQ may not know about. A list of potential sites generated by information sources such as these and a survey of industrial-zoned lands with an internet search of the businesses to confirm their activities fall within the SIC code list is all that is required for compliance with this permit condition. The requirement is that the registrant review the list of SIC codes against what is known or

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<sup>93</sup> Information on the 1200-Z Permit is available at <https://www.oregon.gov/deq/wq/wqpermits/pages/stormwater-industrial.aspx>

easily discoverable of the facilities' commercial activity and identify the facility to DEQ through the YDO system, and DEQ can provide technical assistance in how to evaluate sites for inclusion. The registrant is encouraged to contact the likely/potential 1200-Z facilities to inform them they may be subject to the 1200-Z permit, but this is not a requirement.

#### **4.3.7.1 Condition A.3.g.i - Implementation Date**

This permit condition establishes the implementation deadline of November 1, 2028, to establish the required industrial site screening program. This timeframe is justified to allow permit registrants adequate opportunity to meet the requirements of Schedule A.3.g.

#### **4.3.7.2 Condition A.3.g.ii - Screening**

Permit registrants must conduct a one-time screening of the industrial facilities in their jurisdiction to search for entities that are required to have coverage under the 1200-Z Industrial Stormwater permit. The permit registrant must evaluate available sources of information including but not limited to the SIC codes qualifying entities for coverage, business license information, wastewater pretreatment information, company websites, industrial lands inventories, firefighting hazard mapping information, and Google Maps.

#### **4.3.7.3 Condition A.3.g.iii – Notification**

The permit registrant must notify DEQ of all facilities identified during the screening process through YDO with the annual report following the screening. DEQ encourages MS4 jurisdictions to notify all potential 1200-Z facilities of the potential need for MS4 coverage, but it is not required.

### **5. SCHEDULE B - Monitoring and Reporting Requirements**

#### **5.1 Condition B.1 and 2 – Compliance & Adaptive Management Evaluation and Annual Report**

The permit registrants are required to assess their compliance on an annual basis, to conduct an adaptive management evaluation of portions of at least two SWMP control measures, and to document such evaluations through the submittal of an Annual Report. DEQ will provide an Annual Report template for permit registrants to use for this compliance evaluation. The requirement for evaluation is not intended to encompass the entire set of work required under the given minimum control measures (e.g., all of the work conducted under the Post-Construction and Construction sections of the permit) but may be focused to one or more sub-tasks within those measures. Such evaluations may include review of tracking metrics and associating data with program changes, such as by evaluating increase or decrease in attendance by construction personnel at erosion trainings and reviewing outreach practices across years to draw conclusions about the public outreach impacts on that priority audience (see Schedule A.3.d.iv), or collection of new data by, for example, enclosing a survey with public education & outreach materials. The evaluations may be at the level of a larger component of one of the minimum control measures (MS4 system mapping within IDDE, for example), or examine smaller tasks or SOPs such as the checklist for construction inspections. This adaptive management process is consistent with the requirement in other DEQ stormwater general permits for self-assessment, correction, and reporting to DEQ, such as the 1200-Z industrial permit's Tier-1 and Tier-2 corrective actions and the living ESCP document require in the 1200-C.

As an example, the registrant may satisfy this requirement for the Pollution Prevention and Good Housekeeping for Municipal Operations Measures by conducting an in-depth review of pollution control efforts at a single maintenance yard and then taking the lessons learned there to other facilities and updating the SWMP, or for the Public Outreach & Education effort by reviewing social media analytics or engagement with one particular form of outreach (business engagement or lawn care informational materials) and improving the program accordingly

with concurrent SWMP Document modifications. The intent of this evaluation is to formalize the practices of adaptive management across the elements of the stormwater management programs, in a clear, specific, and measurable permit condition. The Public Education & Outreach survey of a priority audience and topic required of Large Communities in Schedule A.3.a.iv may partially satisfy this requirement for the reporting year in which it is conducted, provided any updates to procedures and/or the SWMP Document resulting from the survey are also documented appropriately.

At a minimum, the permit registrant must submit all reports and/or documents required by this permit to DEQ in an electronic PDF that is saved and stored on a compact disc or other portable electronic storage device. Such submittals must be sent to the addresses listed in Schedule B.4.a, and must include a hard copy cover letter that identifies the permit registrant name, unique permit identification number, staff contact information, content of the submittal, and the permit registrant's certification and signature as required by Schedule F.D.8 (Signatory Requirements).

The permit will allow the permit registrant the option to submit Annual Reports and other materials or data electronically using the Your DEQ Online (YDO) system. Additionally, this permit condition established the Annual Report submission deadlines.

DEQ may extend the due date for the annual report or any other required submittals in the event of extraordinary circumstances including, but not limited to, pandemic, wildfire, earthquake, flood, or other natural disaster provided the permit registrant requests an extension in writing and provides all documentation available regarding the specific impacts as to why the November 1 deadline cannot be met. In that circumstance, DEQ will respond to the extension request in writing and will document any revised annual report due date when applicable.

## **5.2 Condition B.3 - Monitoring Requirements**

Monitoring programs can be used to evaluate the effectiveness of the stormwater management program goal of reducing the discharge of pollutants to the maximum extent practicable. Although knowledge of stormwater management is continually increasing, significant knowledge gaps remain.

The federal regulations governing the NPDES permit program for small MS4s do not require monitoring of effluent from stormwater outfalls or ambient water quality monitoring of receiving streams. However, this type of monitoring is one method an MS4 can use to evaluate its SWMP and determine progress in achieving measurable goals. This condition of the permit describes the minimum requirements for conducting water quality or effluent monitoring if an MS4 chooses to pursue this method of program evaluation. DEQ now provides a template for electronic submittal of monitoring data for MS4s, which allows for consistency between reporting parties. The three templates are for biological monitoring of benthic macroinvertebrates, for grab sampling in streams or at outfalls, and for continuous water quality monitoring. Each template includes a help page and an email address, so that DEQ can provide technical assistance as needed, but the data in the completed templates is to be submitted through YDO.

## **5.3 Condition B.4,5 - Submissions and Recordkeeping**

The permit registrant must submit all required permit components to DEQ at the address and e-mail address provided in the permit. All submittals required to be signed and certified must be provided to DEQ as a paper copy with a wet signature, until e-reporting is implemented through DEQ's YDO system.

Permit registrants are required to keep all records required by the permit for a period of at least five years from the start of the permit compliance action date or for the term of this permit, whichever is longer. This period may be extended at the request of DEQ at any time. Registrants must submit such records only when requested by DEQ. The permit registrant's SWMP materials must also be available to the public; MS4 operators may charge a reasonable fee for copies and may require a member of the public to provide advance notice of their request. As

previously described, *Condition A.3.b* also requires the permit registrant to maintain and promote their SWMP materials to the public electronically via a dedicated website.

## 6. SCHEDULE C - Compliance Conditions and Dates

Compliance dates and conditions have not been included.

## 7. SCHEDULE D - Special Conditions

### 7.1 Condition D.1 - Requirements for CWA Section 303(d) Listed Pollutants and TMDLs Condition D.1.a - Applicability

DEQ developed the 303(d) list for pollutants causing the designation of a waterbody as being “water quality limited”. The designation of a waterbody as water quality limited for a pollutant means this water does not meet the narrative or numeric criteria of a water quality standard for that pollutant.<sup>94</sup> For some of the waterbodies placed on the 303(d) list, DEQ developed Total Maximum Daily Loads identifying pollutant sources and their estimated pollutant loads. Oregon Administrative Rule 340-041-0001(2) requires DEQ to:

*...continue to manage water quality by evaluating discharges and activities, whether existing or a new proposal, on a case-by-case basis, based on the best information currently available and with the limiting framework of minimum standards, treatment criteria policies set forth in this plan.*

DEQ must manage water quality to protect the beneficial uses associated with water quality standards in conformity with the basin-specific water quality criteria in the following:

- OAR 340-041-0101 (Columbia Basin-Specific Criteria)
- OAR 340-041-0340 (Willamette Basin-Specific Criteria)
- OAR 340-041-0286 (Sandy Basin-Specific Criteria)
- OAR 340-041-0130 (Deschutes Basin-Specific Criteria)
- OAR 340-041-0271 (Rogue Basin-Specific Criteria)

### 7.2 Conditions D.1.b, and D.1.c – TMDL and 303(d) Evaluation; Performance Measures

In the Phase II Permit issued in 2007, DEQ required that permittees establish pollutant load reduction benchmarks to evaluate, in the future, their progress toward meeting the WLA in TMDLs. DEQ will review and, if appropriate, approve the benchmarks established by the existing permittees for use in a future evaluation of progress towards meeting load and wasteload allocations. DEQ will not require permit registrants to evaluate progress towards load and wasteload allocation during this permit term, however it is necessary to consider and evaluate effectiveness of efforts to address TMDL and impairment pollutants in order to comply with the EPA’s permit standard.

It is entirely appropriate that DEQ impose requirements related to TMDL WLAs and 303(d) List impairments in an MS4 permit. OAR 340-042-0080(1) states clearly that “Management strategies identified in a WQMP to achieve wasteload and load allocations in a TMDL will be implemented through water quality permits for those sources subject to permit requirements in ORS 468B.050 and through sector-specific or source-specific implementation plans for other sources...” Similarly well-established is the use of permit conditions related to 303(d) impairments in MS4 permits. Precedent exists in MS4 permits written by EPA in other states, by other

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<sup>94</sup> Oregon Administrative Rule 340-041-0002(70)



states acting as the MS4 regulating agencies, and by DEQ in other MS4 permits in Oregon. The following are examples drawn from the EPA’s Compendium of MS4 Permitting Approaches<sup>95</sup>

- In Georgia, permit registrants must put together an “Impaired Waters Plan” with mapping and specific BMPs and are required to annually check whether an impaired water within its permitted area has been added to the latest 305(b)/303(d) list. Newly listed waters must be addressed in the plan and the SWMP must be revised accordingly.
- In Massachusetts, the EPA required that if there is a discharge from the MS4 to a water quality limited waterbody where the cause(s) of the impairment are pollutants typically found in stormwater (that is, nutrients [Total Nitrogen or Total Phosphorus], solids [TSS or Turbidity], bacteria/pathogens [E. Coli, Enterococcus or Fecal Coliform], chloride [Chloride], metals [Cadmium, Copper, Iron, Lead or Zinc], and oil and grease [Petroleum Hydrocarbons or Oil and Grease]) and the permittee is not subject to certain other requirements or objections, the permittee shall comply with the applicable provisions in Appendix H. These Appendix H requirements include source identification reporting, mapping of MS4 area draining to the impaired water, specific additional seasonal public education effort requirements (like how to dispose of leaf litter), lists of BMPs to prioritize in those areas, specific requirements for “demonstration project” CIPs, inventory of BMPs and structural source control measures in those areas, or other requirements.
- In Baton Rouge, Louisiana, the permit requires the MS4 to develop an Interim Pollutant Reduction Plan for discharges of a pollutant on a 303(d) list prior to completion of a TMDL. Specific activities and dates are specified when the pollutant is a nutrient constituent, bacteria, or another pollutant (for example, identify potential sources of nutrient pollutant within 1 year, develop a public education program for residential/commercial uses of fertilizers within 2 years, develop a program to reduce discharge of nutrients from municipal facilities within 2 years, etc.).

Assessment of controls is consistent with the adaptive management focus of MS4 permits and does not constitute a requirement to meet numeric water quality standards. Schedule D.1.b is an evaluation derived from Phase I permits in Oregon as well as the Bend Phase II Individual Permit that will focus on 303(d) and TMDL pollutants. It differs from the recurring Phase I requirement of wasteload allocation attainment analyses in that it is not focused on determining the time to attainment of water quality goals and does not tie to or establish quantitative benchmarks or goals for the coming permit term but is similar to the pollutant load reduction evaluations in that it requires pollutant-specific reviews of control measures. Effectiveness at reducing pollutant loads must be evaluated by the registrant through the use of a pollutant load reduction empirical model, evaluation of the known effectiveness of BMPs in comparison to their proliferation through the various land uses in the MS4, water quality status and trend analysis, and/or other appropriate qualitative or quantitative evaluation approaches identified by the registrant. There are many resources available to assist in determining the effectiveness of programs for specific pollutants, including the international BMP database, the EPA’s Pollutant Load Estimation Tool, EPA’s Storm Water Management Model, and others. The intent is for the registrant to compile information relating the design of their system and pollutant reduction programs to the needs of the TMDLs and impaired waterbodies, as a basis for adaptive management to improve the rate of pollution reduction in the future.

Schedule D.1.c is based on input from the MS4 Advisory Committee, after which DEQ integrated performance measures in the 2019 renewal. These performance measures are actions that DEQ determined to be important for reducing TMDL and/or 303(d) listed pollutant loads and chronic illicit discharges. These measures are critical to achieve the long-term goal of achieving the water quality standards in waterbodies receiving. These conditions require permit registrants to document the elimination of chronic illicit discharges containing 303(d) listed and/or TMDL pollutants and to remove these sources using their required IDDE Program.

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<sup>95</sup> U.S. EPA. 2017. *Compendium of MS4 Permitting Approaches; Part 3: Water Quality-Based Requirements*. EPA-830-S-17-001.

## 7.3 TMDLs Applied to Permit Registrant's Stormwater Discharge and 303(d) Listed Waters

### 7.3.1 Waterbodies Receiving Permit Registrants' Stormwater Discharge

The TMDLs that apply to permit registrants' MS4 discharges are summarized below. The TMDL documents relevant to permit registrant discharges are the Willamette Basin TMDLs approved by EPA during September 2006, the Molalla-Pudding TMDLs approved by EPA during December 31, 2008, the Sandy Basin TMDL approved by EPA during April 2005, the Lower Columbia Slough Watershed TMDL approved by EPA during November 1998, the Bear Creek Watershed TMDL approved by EPA during October 2007, the Rogue Basin TMDL approved by EPA during December 2008, and the Willamette Basin Mercury TMDL re/issued by the U.S. Environmental Protection Agency on Feb. 4, 2021.

The 303(d) pollutants that apply to permit registrants' MS4 discharges are available in DEQ's biennially updated Integrated Report, most recently updated in 2022. The [2022 Integrated Report](#) was approved by the U.S. Environmental Protection Agency on Sep. 1, 2022 and is now current and in effect (DEQ submitted its 2024 Integrated Report to the U.S. Environmental Protection Agency on March 12, 2025. The report is now considered "state final" and is awaiting EPA approval). The Integrated Report can be accessed in four ways:

- An interactive [story map](#) provides an overview of the water quality assessment process, displays assessment results and presents an overview of how DEQ's water quality programs are connected through monitoring, assessment and watershed protection.
- An interactive [web map](#) application that displays the Integrated Report by overall status of an assessment unit. The application also provides all applicable water quality standards. For assistance, see the [web map instructions](#).
- An [online searchable database](#) provides parameter specific categorical conclusions for all assessed units and raw data used for download.
- An [ArcGIS Assessment Geodatabase](#) spatially displays information from Oregon's 2022 Integrated Report. GIS data is also available through ArcGIS [online web services](#).

The various search and query functions available in each of these formats should allow permit registrants and other parties to easily find up-to-date information on 303(d) listed pollutants for assessment units relevant to any given MS4 permit registrant and their urban stormwater discharges. DEQ is also in the process of adding MS4 mapping data to facilitate permit registrant-specific searches for 303(d) listed pollutant information.

### 7.3.2 Bear Creek Watershed TMDL for Bacteria (Medford, Ashland, Jackson County, Central Point, Phoenix, and Talent)

The Cities of Medford, Ashland, Central Point, Phoenix, Talent and Jackson County were under their individual MS4 permits when DEQ was developing the [Bear Creek TMDL](#) for bacteria. As a result, the Bear Creek Watershed TMDL for bacteria provides WLAs that are applicable to these MS4s. The [Water Quality Management Plan](#) (WQMP) for this TMDL identifies these six permit registrants and links their actions involving storm sewer systems and the siting of housing, commercial, and industrial facilities in urban areas during land use planning/permitting as sources of bacteria loading. The WLA for the six permit registrants is expressed as a percent reduction in *E. coli* bacteria for Bear Creek and monitored tributaries of Bear Creek within their jurisdiction. These percent reductions are presented in the TMDL and reproductions of the TMDL's Table 7 and 8 are provided below for reference.

To achieve these WLAs, this TMDL identifies the six minimum control measures required in the 1999 NPDES Phase II Rules and is discussed in more detail in this Evaluation Report and Fact Sheet. The TMDL notes that DEQ may propose specific TMDL-related requirements in the NPDES MS4 Phase II Permit. This condition provides requirements to address this TMDL and, as noted above, discusses the rationale for these requirements as they relate to post-construction site runoff non-structural and structural stormwater controls and chronic sources of illicit discharges. Permit registrants operating their MS4 under these WLAs may use their actions to comply with this Permit as management strategies to meet the WLAs for stormwater.

**Table 7. Bear Creek at Medford: Load Allocations and Percent Reduction Targets (Fecal Coliform)**

Allocations	Range of Bear Creek Flow				
	High Flow (Above 266 cfs)	High Medium (71 to 256 cfs)	Mid-Range (39 to 70 cfs)	Low Medium (12 to 38 cfs)	Low Flow (Below 12 cfs)
Allowable Loading Capacity (Fecal Coliform Standard)	$8.51 \times 10^{13}$	$5.56 \times 10^{13}$	$1.41 \times 10^{13}$	$7.82 \times 10^{12}$	$5.38 \times 10^{10}$
Current Load (Fecal Coliform Org./day)	$2.15 \times 10^{14}$	$2.62 \times 10^{14}$	$9.17 \times 10^{13}$	$2.26 \times 10^{13}$	$6.46 \times 10^{10}$
Percent Reduction (Fecal Coliform) <sup>1</sup>	60.5%	78.8%	84.6%	65.4%	20.0%

**Table 8. Percent Reduction Surrogate Targets for Primary Tributaries (fecal coliform)**

Tributary Name	% Reduction Target <sup>1, 2</sup>
Walker (n=35)	61
Neil (n=47)	55
Ashland (n=41)	38
Butler (n=29)	69
Wagner (n=27)	41
Payne (n=48)	79
Coleman (n=31)	47
Larson (n=44)	64
Lone Pine (n=24)	73

### 7.3.3 Rogue Basin TMDL (Grants Pass, Josephine County, Rogue River, and Eagle Point)

The [Rogue Basin TMDL](#) for bacteria applies to all perennial and intermittent streams, rivers, and lakes within the Rogue Basin with the exception of those in Lobster Creek Watershed, Sucker Creek Watershed, Bear Creek Watershed, and Applegate River Subbasin. In these exceptions to the Rogue Basin Bacteria TMDL, TMDLs for these subbasins were completed and approved by EPA. When the Rogue Basin TMDL was approved, the stormwater discharges of the Cities of Grant Pass, Rogue River, and Eagle Point and Josephine County were not covered by a MS4 permit. However, their potential inputs to bacteria loading were considered similar to municipalities under the individual permits. In the TMDL, DEQ categorized these urban sources of bacteria as nonpoint sources. Therefore, the bacteria load allocation for this TMDL applies to their stormwater discharge as is allowable according to a November 22, 2002, EPA Memorandum on establishing WLAs for stormwater sources as noted above. This LA utilizes percent reduction targets for pollutant source loading as a guide to determine the degree of improvement needed to achieve Oregon's water quality criteria for bacteria at various locations on the Rogue River. These percent reduction targets in this TMDL are noted below and organized by season and by criterion (geometric mean and single sample maximum). Permit registrants operating their MS4 under these LAs may use their actions to comply with this Permit as management strategies to meet the applicable LA.

For Grants Pass, it is located approximately within River Mile 95 to 104 (Downstream Station: 10418). For Rogue River, it is located approximately within River Mile 110 to 112 (Downstream Stations: 10031, 10418, 10421, and 10423). For Josephine County, it is located approximately within River Mile 55-170 (Downstream Stations: 10031, 10418, 10421, and 10423).

**Table 3.10. Percent Reduction Targets by Season, Rogue Mainstem Watersheds RM 86.4-138**

Station name	Season and Station ID	Percent reduction to meet 126 criterion	Percent reduction to meet 406 criterion
Robertson Bridge (RM 86.4)	Summer* 10418	0	0
Gold Hill at HWY 234 (RM 117.0)	Summer* 10421	0	0
Tou Velle Boat Launch (RM 131.2)	Summer* 10031	0	0
Dodge Bridge (RM 138)	Summer* 10423	0	0
Robertson Bridge (RM 86.4)	Fall/Winter/Spring** 10418	0	66
Gold Hill at HWY 234 (RM 117.0)	Fall/Winter/Spring ** 10421	0	56
Tou Velle Boat Launch (RM 131.2)	Fall/Winter/Spring ** 10031	0	0
Dodge Bridge (RM 138)	Fall/Winter/Spring ** 10423	0	0

\*Summer season = June 1 – Sept 30

\*\* Fall/Winter/Spring season = Oct 1 – May 31

For Rogue River, it is located approximately within River Mile 0 to 1.11 (Downstream Stations: 11372, 11461).

**Table 3.17. Evans Creek percent reduction targets to reach 126 *E. coli* /100ml**

Applicable Criterion: 126 <i>E. coli</i> /100mL					
Station name	Station	Summer Loading*	Total % reduction	F/W/S Loading**	Total % reduction
Evans Creek at mouth (RM 0.0)	11372	608.9	79 (n=5)	61.9	0
Evans Creek at Palmerton Park (upstream of Pond-Rogue River) (RM 0.5)	11461	538.3	77 (n=6)	28.5	0
Evans Creek downstream of Wimer (RM 8.2)	11373	148	15 (n=6)	23.2	0
Evans Creek at Bridge #341 (RM 18)	11466	34.5	0	8.3	0
East Fork Evans Creek downstream of Spikenard (2.3 miles downstream of Mystery Creek) (RM 22)	30191	6.9	0	28.9	0

\*Summer season = June 1 – Sept 30

\*\* F/W/S = Fall/Winter/Spring = Oct 1 – May 31

Table 3.18. Evans Creek percent reduction targets to reach 406 *E. coli* /100ml

Applicable Criterion: 406 <i>E. coli</i> /100mL					
Station name	Station	Summer Loading*	Total % reduction	F/W/S Loading**	Total % reduction
Evans Creek at mouth (RM 0.0)	11372	1553	74 (n=5)	1550	74 (n=11)
Evans Creek at Palmerton Park (upstream of Pond-Rogue River) (RM 0.5)	11461	2419	83 (n=6)	73	0
Evans Creek downstream of Wimer (RM 8.2)	11373	275	0	108	0
Evans Creek at Bridge #341 (RM 18)	11466	93	0	58	0
East Fork Evans Creek downstream of Spikenard (2.3 miles downstream of Mystery Creek) (RM 22)	30191	36	0	96	0

\*Summer season = June 1 – Sept 30

\*\* F/W/S = Fall/Winter/Spring = Oct 1 – May 31

For Eagle Point, Little Butte Creek runs through its jurisdictional boundaries at approximately River Mile 3 to River Mile 6 (Downstream Stations: 10602; 25584).

Table 3.23. Upper Rogue River percent reduction targets to reach 126 *E. coli* /100ml

Applicable Criterion: 126 <i>E. coli</i> org/100mL					
Station name	LASAR Station Number	Summer Loading*	Summer Total % reduction	F/W/S Loading**	F/W/S Total % reduction
Little Butte Creek at Agate Rd	10602	291.0	57	100.9	0
Salt Creek at Hwy 140	23738	406.0	69	88.6	0
Nichols Branch Creek at Little Butte Creek	25591	1032.0	88	251.8	50
Lake Creek at Little Butte Creek	25594	849.3	85	139.8	10
North Fork Little Butte Creek at Little Butte Creek	25596	467.5	73	207.9	39
LickCr.@ Hwy. 140	25973	210.7	40	34.6	0
Lost Creek near mouth, park with covered bridge, Lost Creek Road (Rogue)	26634	35.5	0	17.0	0
Antelope Creek at Little Butte Creek, Antelope Creek at Hwy 62 (Little Butte, Rogue)	25584 & 26645	527.6	76	132.2	5
South Fork Little Butte Creek at Little Butte Creek	25595	246.8	49	60.1	0
Trail Creek	24477	10.3	0		

\*Summer season = June 1 – Sept 30

\*\* F/W/S = Fall/Winter/Spring = Oct 1 – May 31



Table 3.24. Upper Rogue River percent reduction targets to reach 406 *E. coli* org/100ml

Applicable Criterion: 406 <i>E. coli</i> org/100mL					
Station name	LASAR Station Number	Summer Loading*	Summer Total % reduction	F/W/S Loading**	F/W/S Total % reduction
Little Butte Creek at Agate Rd	10602	1269.5	68	1920.0	79
Salt Creek at Hwy 140	23738	1620.0	75	3683.0	89
Nichols Branch Creek at Little Butte Creek	25591	11612.4	97	3280.0	88
Lake Creek at Little Butte Creek	25594	5805.6	93	4813.0	92
North Fork Little Butte Creek at Little Butte Creek	25596	4350.0	91	3076.0	87
LickCr.@ Hwy. 140	25973	530.0	23	60.0***	0
Lost Creek near mouth, park with covered bridge, Lost Creek Road (Rogue)	26634	450.0	10	48.0***	0
Antelope Creek at Little Butte Creek, Antelope Creek at Hwy 62 (Little Butte, Rogue)	25584 & 26645	1800.0	77	733.0	45
South Fork Little Butte Creek at Little Butte Creek	25595	1310.0	69	259.0	0
Trail Creek	24477	1414.0	71.3		

\*Summer season = June 1 – Sept 30

\*\* F/W/S = Fall/Winter/Spring = Oct 1 – May 31

\*\*\*number of samples n = 2

In the [Rogue Basin Water Quality Management Plan](#), DEQ provides example management strategies to address bacteria arising from new construction and development as well as existing urban and rural development. To address post-construction runoff, DEQ identifies the development of LID ordinance, protection of riparian, wetland, and vegetation areas, and limiting the increase of impervious surfaces as effective strategies for addressing bacteria loading in stormwater. The protection of riparian, wetland, and other areas would be accomplished using non-structural stormwater controls required in the post-construction runoff section of this permit. The tracking of the application of these non-structural controls is a requirement of this permit section. Given this, these examples in the WQMP are consistent with the requirements in this condition of the permit, which draws on the post-construction site runoff condition. Specifically, for existing urban and rural development, DEQ identifies the implementation of watershed management programs to reduce runoff pollutant concentrations and volumes as well as the implementation of stormwater controls to promote infiltration, filtration, retention, and detention of stormwater. LID is a watershed management program as noted by the National Research Council in their report cited above. In addition, the post-construction site runoff conditions require permit registrants to prioritize the application of green infrastructure to promote infiltration, filtration, retention, and detention of stormwater. Moreover, in the WQMP, DEQ identifies the identification and elimination of illicit discharges and cross connections as an effective bacteria management strategy. This is a requirement of the IDDE section of this permit, and the tracking of actions to address chronic illicit discharges are part of this condition. These recommended TMDL management strategies are consistent with this condition.

### 7.3.4 Rogue Basin 303(d) Listings (Eagle Point)

Based on the [2022 Integrated Report](#) (accessible via its webmap, online searchable database, or ArcGIS Assessment Geodatabase), the Upper Rogue Subbasin in the Rogue Basin has several waterbodies that are listed as impaired for dissolved oxygen, pH, and sedimentation. Among these listed waterbodies is Little Butte Creek, which is within the jurisdictional boundary of the City of Eagle Point and is listed for dissolved oxygen and sedimentation. This condition and the post-construction requirements referenced in it requiring stormwater volume reduction will prevent the discharge of pollutants contributing to these water quality impairments. If the

standard for stormwater retention cannot be achieved completely on-site in a development or redevelopment, the requirement to prioritize the application of green infrastructure in the design of structural stormwater controls will help reduce the pollutant loads contributing to these impairments. As noted in the Evaluation Report for the post-construction site runoff requirements, the unit processes typically associated with green infrastructure with its focus on bioretention involves processes such as sedimentation, adsorption, filtration, and plant uptake, which will help, address low dissolved oxygen, moderate pH changes, and reduce sedimentation.

### 7.3.5 Willamette Basin TMDL for Bacteria

(Springfield, Lane County, Corvallis, Philomath, Benton County, Albany, Millersburg, Linn County, Turner, Keizer, Marion County, and Polk County)

The Willamette Basin TMDL for bacteria applies to urban stormwater discharged from the Cities of Albany, Corvallis, Keizer, Millersburg, Philomath, Turner, and Springfield and the Counties of Benton, Lane, Linn, Marion, and Polk. This TMDL has been developed for the mainstem of the Willamette River and the Lower Willamette, Middle Willamette, Upper Willamette, North Santiam, South Santiam, Middle Fork Willamette, Coast Fork Willamette, and McKenzie Subbasins. These TMDLs require reductions in loading from urban land uses along the mainstem and throughout these subbasins. As a result, DEQ has produced separate TMDL documents for bacteria loading. Information on the Willamette River Basin waterbodies listed as water quality limited due to bacteria is available by assessment unit in the [2022 Integrated Report](#) (accessible via its webmap, online searchable database, or ArcGIS Assessment Geodatabase). Bacteria reduction estimates for the North Santiam, South Santiam, Middle Fork Willamette, and McKenzie River Subbasins have been translated into ranges that should be used as planning targets by permit registrants working to improve water quality under these load allocations. DEQ developed these planning target ranges since this subbasin was not analyzed for basin-wide planning purposes. Therefore, a range of 80-94 percent reductions is appropriate for urban planning and permitting for the MS4s of Springfield and Lane County. This range was derived from taking the percent reductions from the highest load reductions for urban stormwater in the analyzed subbasins (Upper Willamette was 84 percent for Amazon Creek, Middle Willamette was 94 percent for Clark Creek, Lower Willamette was 80 percent for Springbrook Creek). City of Springfield and Lane County operating their MS4 under this LA may use their actions to comply with this Permit to address this LA.

When this Willamette Basin TMDL was issued as an order, the MS4s for the Cities of Springfield, Corvallis, Philomath, Turner, and Keizer and the Counties of Lane, Benton, and Marion were not covered under an MS4 permit. As a result, these MS4s were considered as nonpoint sources during the development of TMDL allocations. DEQ applied a LA to their discharge as is allowable according to a November 22, 2002 EPA Memorandum on establishing WLAs for stormwater sources noted above. In Chapter 2 of the Willamette Basin TMDL, the LA for bacteria is expressed as a percent reduction in bacteria loads for different land uses. The percentage reductions for bacteria for waterbodies in the Upper, Middle, and Lower Willamette Subbasins are presented in Table 3 below using data derived from the Willamette TMDL Chapters 2, 5, 7, and 10. Permit registrants operating their MS4 under these LAs may use their actions to comply with this permit to address these LAs.

**Table 3: TMDL Allocated percentage reductions for bacteria for waterbodies in the Upper, Middle, and Lower Willamette Subbasins (Data Derived from Willamette TMDL Chapters 2, 5, 6, and 10)**

Subbasin/Waterbody		Land Use	% Overall Reduction	% Reduction Urban	% Reduction Agriculture
<b>Upper Willamette (Chapter 10)</b>					
Lower Long Tom River		Agriculture	47%	47%	47%
Luckiamute River		Agriculture	61-63%	61%	63%
Calapooia River		Agriculture	65%	65%	65%
Coyote Creek		Agriculture	66%	66%	66%
Upper Long Tom River		Ag/Ur	77%	77%	77%
A-3 Drain		Ur/Ag	33%	33%	33%
Amazon Creek		Urban	84%	84%	NA
Fern Ridge Res		----	64%	----	----
Willamette River <sup>a</sup> and all other streams		----	NA	65% <sup>b</sup>	58%
<b>Middle Willamette (see Chapter 7)</b>					
Mill Creek	Summer Fall-Winter- Spring	Urban/Agri- culture	89% 81%	89% 81%	89% 83%
Pringle Creek	Summer Fall-Winter- Spring	Urban	90% 79%	90% 79%	90% 79%
All other Creeks in Pringle Creek	Summer Fall-Winter- Spring	Urban	----	92% 84%	----
Clark Creek	Summer Fall-Winter- Spring	Urban	94% 89%	94% 89%	----
Willamette River		----	NA	75% <sup>b</sup>	61%
Middle Willamette River all other streams		----	NA	88% <sup>b</sup>	75%
<b>Lower Willamette (see Chapter 5)</b>					
Johnson Creek		Urban/Agri- culture	78%	78%	78%
Fairview Creek		Urban	66%	66%	----
Springbrook Creek		Urban	80%	80%	----
Willamette River <sup>d</sup> and all other streams		-----	----	78% <sup>b</sup>	78%



Subbasin/Waterbody	Land Use	% Overall Reduction	% Reduction Urban	% Reduction Agriculture
Notes: a. based on average of subbasin reductions by land use - see Load Allocation Section in Chapter b. appropriate for use in MS4 permits and other planning documents. c. based on overall analysis of subbasin samples by land use. d. based on analysis of Johnson Creek as most urbanized waterbody, and only available agricultural reductions.				

### 7.3.6 Molalla-Pudding TMDLs for Bacteria and Other Pollutants (Marion County)

The Molalla-Pudding TMDL for bacteria applies to urban stormwater discharged from Marion County. This TMDL requires reductions in loading from applicable land uses throughout this basin. The LAs expressed in percent reductions for Molalla-Pudding Waterbodies are summarized in Table 4 below. These TMDLs require reductions in bacteria loads from urban land uses in the Pudding Subbasin. Marion County's actions to comply with this permit are designed to assist the County in meeting these percent load reductions. DEQ has listed other waterbodies as impaired for water quality. A TMDL has been developed by DEQ and approved by EPA to address the source of impairment. These are listed in Table 5 below. As noted in the Evaluation Report for the post-construction site runoff requirements, the unit processes typically associated with green infrastructure with its focus on bioretention involving processes such as sedimentation, adsorption, filtration, and plant uptake are effective for reducing the loading of a variety of stormwater pollutants. The percent reductions for iron and legacy pesticides in the LAs for this TMDL are presented in Table 6.

**Table 4: TMDL Allocated Bacteria Percentage Reductions for Waterbodies in the Molalla-Pudding Subbasin (Source: Molalla-Pudding TMDL – Chapter 3)**

Subbasin/ Waterbody	% Reduction Summer June 1 – Sept. 30	% Reduction Fall-Winter-Spring October 1 – May 31	Land Use
Pudding River at Hwy. 211 (river mile 21)	75	----	58% agriculture 34% forestry 5% urban 3% rural residential (<1% rural industrial)
Pudding River at 99E (river mile 7.3)	----	70	58% agriculture 34% forestry 5% urban 3% rural residential (<1% rural industrial)
West Fork Little Pudding River	----	92	77% agriculture 12% urban 8% rural residential 2% rural industrial/ public facility
Pudding Subbasin	87	92	Agriculture (including rural residential and industrial)

Subbasin/ Waterbody	% Reduction Summer June 1 – Sept. 30	% Reduction Fall-Winter-Spring October 1 – May 31	Land Use
Pudding Subbasin	86	86	Urban
Pudding Subbasin	86	86	MS4
Pudding Subbasin	0	0	Forestry

**Table 5: TMDLs for Other Pollutants in the Molalla-Pudding Subbasin**  
(Source: Molalla-Pudding TMDL – Chapter 3)

Waterbody	River Miles	Parameter	Season	Beneficial Uses	Status
Little Pudding River	0 to 19.1	DDE 4,4	Year Round	Human health	TMDL Approved
Little Pudding River	0 to 19.1	DDT 4,4	Year Round	Human health; Aquatic life	TMDL Approved
Little Pudding River	0 to 19.1	Dissolved Oxygen	Year Round (Non- spawning)	Aquatic life	TMDL Approved
Pudding River	0 to 35.4	DDT 4,4	Year Round	Drinking water; Aquatic life	TMDL Approved
Pudding River	0 to 35.4	Dieldrin	Year Round	Drinking water; Aquatic life	TMDL Approved
Pudding River	0 to 47.5	Dissolved Oxygen	Jan. 1 - May 15	Resident trout spawning	TMDL Approved
Pudding River	0 to 53.8	Dissolved Oxygen	Year Round (Non- spawning)	Cool-water aquatic life	TMDL Approved
Pudding River	0 to 35.4	Iron	Year Round	Aquatic life	TMDL Approved
West Fork Little Pudding River	0 to 5.1	Dissolved Oxygen	Year Round (Non- spawning)	Cool-water aquatic life	TMDL Approved

**Table 6: Percent reductions for waterbodies in the Pudding Subbasin  
(Molalla-Pudding TMDL – Chapter 3)**

Waterbody	% Reduction					Land Use
Iron						
	Highest Flows 0 - 10% Exceedance Probability	High Flows 10 - 40% Exceedance Probability	Transitional Flows 40 - 60% Exceedance Probability	Low Flows 60 – 90% Exceedance Probability	Lowest Flows 90 - 100% Exceedance Probability	
Pudding River	79%	79%	79%	78%	54%	All
Zollner Creek	19%	96%	75%	75%	75%	All
Legacy Pesticides						
Pudding River and Tributaries	30% DDT  90% Dieldrin  In stream total suspended solids targets (15 mg/L)					All

### 7.3.7 2021 Willamette Basin TMDL for Mercury

(Springfield, Lane County, Corvallis, Philomath, Benton County, Albany, Millersburg, Linn County, Turner, Keizer, Wood Village, Marion County, and Polk County)

The [2021 Willamette Basin TMDL](#) for mercury applies to the MS4s of the Cities of Albany, Corvallis, Keizer, Millersburg, Philomath, Wood Village, Turner, and Springfield and the Counties of Benton, Lane, Linn, Marion, and Polk. The Willamette Basin TMDL's objective for mercury is to reduce average fish tissue mercury concentrations in the Willamette River so the fish are safe for human consumption. To achieve this objective, DEQ has established interim water quality guidance values considering criteria and thresholds used by the Oregon Health Authority. OHA used these criteria and thresholds when issuing fish consumption advisories. These interim guidance values represent numeric targets that are protective of the beneficial use of fish consumption. More specifically, the TMDL calculated the concentration of mercury in water that will not bioaccumulate in aquatic life of wildlife to levels adversely affecting public health, safety, and welfare.

The interim guidance values are not considered site-specific numeric criteria but rather system-wide average annual concentrations allowing DEQ to use this TMDL to restore the beneficial use of fish consumption and the protection of public health. The restoration of the beneficial use of fishing applies to the entire mainstem Willamette River and its tributaries. However, in interpreting this narrative standard involving guidance values, DEQ does not expect permit registrants to manage their stormwater discharge such that it is below the interim guidance values. Rather, the goal of this TMDL is to have permit registrants implement broad, cross-sector mercury reductions to – over time – bring water column concentrations of mercury in the Willamette Basin to the guidance values.

EPA's 2021 Willamette Mercury TMDL assigned an aggregate WLA for NPDES permitted MS4 stormwater point source dischargers which includes MS4 Phase I, MS4 Phase II, 1200-A, 1200-Z, and 1200-C/CN/CA permit categories. Table 2 of the [EPA's 2021 TMDL](#) lists the Total Mercury Allocations for the Willamette River Basin and Subbasins in g/day, including the aggregates for NPDES Permitted Stormwater Point Source Discharges, of which MS4 is a subset.

Stormwater dischargers must implement mercury and erosion minimization measures, with quantifiable objectives, toward achieving an appropriate portion of the needed cumulative percent reduction of the estimated existing mercury load, from mixed atmospheric deposition and human-caused disturbance, transported in stormwater runoff to Willamette Basin Streams. The Middle and Lower Willamette subbasins area assigned a 97 percent reduction and the remaining subbasins are assigned a 75 percent reduction.

### **7.3.8 Upper Willamette Subbasin TMDL for Dissolved Oxygen (Lane County)**

The Upper Willamette Subbasin for dissolved oxygen applies to Lane County's MS4. The TMDL requires reductions in loads of biological oxygen demand, nutrients, and sediment oxygen demand causing volatile suspended solids. These volatile suspended solids reduce dissolved oxygen for Amazon Creek. The reductions apply to both urban and agricultural sources with urban comprising 59 percent of the land use coverage influencing Amazon Creek. A reduction of 40 percent in biochemical oxygen demand, nutrients, and sediment oxygen demand loads applies during both wet and dry weather conditions. As noted in the Evaluation Report for the post-construction site runoff requirements, the unit processes typically associated with green infrastructure with its focus on bioretention involving processes such as sedimentation, adsorption, filtration, and plant uptake are effective for reducing the loading of a variety of stormwater pollutants including impairments associated with nutrients and pollutant discharge increasing BOD and SOD.

### **7.3.9 Water Quality Management Plan for the Willamette Basin TMDLs for Bacteria and Mercury**

(Springfield, Lane County, Corvallis, Philomath, Benton County, Albany, Millersburg, Linn County, Turner, Keizer, Marion County, and Polk County)

The 2006 Willamette Basin Bacteria TMDL identifies stormwater discharges as a source of bacteria, mercury, other 303(d) listed, and non-listed pollutants found in surface waters. The [2021 Willamette Basin Mercury TMDL](#) identifies stormwater discharges as a significant source of mercury. DEQ describes TMDL implementation requirements for stormwater dischargers in the [2006 Willamette Basin Bacteria TMDL Water Quality Management Plan](#) and the 2019 Willamette Basin Mercury TMDL's Water Quality Management Plan ([Chapter 13 of the 2019 TMDL](#) that the [EPA reissued with modifications in 2021](#)). These WQMPs recognize a number of different stormwater measures as important implementation tools for reducing pollutant loading from stormwater, and the 2019 WQMP specifically identifies the six minimum control measures as TMDL implementation requirements for most designated management agencies. DEQ established stormwater management requirements in these WQMPs by mirroring the six minimum control measures in the 1999 NPDES Phase II rule for municipalities covered by a MS4 Permit and for those not covered by this permit. The specific requirements in this condition as well as in the condition for post-construction site runoff are designed to implement TMDL implementation requirements.

For example, in the listing of source categories in Appendix 14.B of the 2006 WQMP, DEQ provides management strategies permit registrants can use to fulfill OAR 340-042-0040 (4)(I)(C). This rule requires designated management agencies such as permit registrants to include strategies to meet WLA and LA in the TMDL. This requirement includes a categorization of sources, and a description of the strategy proposed for each source. Categories of sources in this WQMP applicable to the jurisdictional authority of permit registrants include for existing urban development: the implementation of programs to reduce runoff pollutant concentrations and volumes from existing development and redevelopment; the preparation of a stormwater management plan to ensure that runoff from existing development is treated prior to discharge to a receiving water using controls that promote infiltration, filtration, retention, and detention of runoff; maintenance or re-establishment of the natural hydrology by maintaining pre-development peak runoff rate and average volume; and, and the identification and elimination of illicit discharges and cross connections. These examples are consistent with and summarize the intent of this condition as well as the specific requirements in the post-construction site runoff and IDDE conditions of this permit.

Similarly, for new development, categories of sources applicable to the jurisdictional authority of permit registrants include: the development and implementation of non-structural controls to reduce or eliminate the discharge of pollutants in runoff; the establishment of requirements to ensure no net increase of off-site runoff; the establishment of treatment standards for post-construction stormwater prior to its discharge to receiving waters; the allowance for site designs that cluster homes into a smaller portion of a site; the allowance of site design techniques using existing open space and landscape areas for stormwater retention and treatment rather than the collection of stormwater; the development of an erosion and sediment control plan; the reduction of erosion and retention of sediment on-site during and after construction; limiting land disturbance of natural drainage features including buffers and vegetation; and, limiting land disturbance activities, such as clearing and grading and cut-and-fill. These examples are consistent with and summarize the intent of this condition as well as the specific requirements in the post-construction site runoff, construction site runoff, and IDDE conditions of this permit.

### **7.3.10 Pollutants Causing 303(d) Listings of Waterbodies in Subbasins of the Willamette Basin**

(Springfield, Lane County, Corvallis, Philomath, Benton County, Albany, Millersburg, Linn County, Turner, Keizer, Marion County, and Polk County)

In addition to the TMDLs noted above, several stormwater pollutants cause the water quality impairment of waterbodies in subbasins of the Willamette Basin. The MS4s of Springfield, Lane County, Corvallis, Philomath, Albany, Millersburg, Benton County, Turner, Keizer, Linn County, Marion County, and Polk County are located in subbasins with impairments of this nature. A search of the [2022 Integrated Report](#) (accessible via its webmap, online searchable database, or ArcGIS Assessment Geodatabase) will provide these permit registrants with detailed information to determine if a waterbody receiving their MS4 discharge is water quality impaired by urban stormwater pollutants. This condition and the post-construction and IDDE requirements referenced in it requiring stormwater volume reduction will also reduce the loading of pollutants contributing to these water quality impairments in these subbasins. In addition, the permit registrants' action to implement the other minimum control measures required in this permit will also reduce the loading of these 303(d) listed pollutants. If the standard for stormwater retention cannot be achieved completely on-site in a development, the requirement to prioritize the application of green infrastructure in the development of structural stormwater controls will help reduce these 303(d) listed pollutants and protect base flows important to water quality. As noted in this Evaluation Report for post-construction site runoff requirements, the unit processes typically associated with green infrastructure with its focus on bioretention involving processes such as sedimentation, adsorption, filtration, and plant uptake are effective for reducing the loading of a variety of stormwater pollutants.

### **7.3.11 Molalla-Pudding 303(d) Listings for Other Parameters (Marion County)**

The 303(d) listings in the Molalla-Pudding Subbasin that may apply to urban stormwater discharged from Marion County are available in the [2022 Integrated Report](#) (accessible via its webmap, online searchable database, or ArcGIS Assessment Geodatabase). As noted in the Evaluation Report for the post-construction site runoff requirements and referenced in this condition, the unit processes typically associated with green infrastructure with its focus on bioretention involving processes such as sedimentation, adsorption, filtration, and plant uptake are effective for reducing the loading of a variety of stormwater pollutants.

### **7.3.12 Sandy Basin TMDL for Bacteria (Troutdale)**

The [Sandy Basin TMDL](#) for bacteria applies to urban stormwater discharged from the City of Troutdale. Since the MS4 for Troutdale was not covered by the NPDES MS4 Phase II Permits when this TMDL was issued as an order, this MS4 was considered as a nonpoint source during the development of TMDL allocations, and a LA was applied to its discharge as is allowable according to a November 22, 2002 EPA Memorandum on establishing WLAs for stormwater sources noted above. This TMDL notes stormwater discharged to the lower portions of Beaver Creek partly via Troutdale's MS4 has the potential to discharge significant bacteria loads. This conclusion

is based, in part, on the load duration curves indicating violations of water quality standards during wintertime runoff events. As noted in this TMDL and discussed above, this corresponds to the fact that urban stormwater is known to contain high bacteria concentrations and to be a significant source of in-stream bacteria. Moreover, this TMDL notes that summer/dry period bacteria violations suggest other sources such as sanitary sewer cross connections creating illicit discharge of sanitary waste and failing septic tanks. The LA in this TMDL is calculated as a percent reduction in the bacteria loading from identified sources compared to levels measured in 2001 to 2003. The load allocation in this TMDL for all land uses including urban land uses is an 86 percent reduction in bacteria loading.

The TMDL Water Quality Management Plan chapter of the Sandy Basin TMDL identifies potential source categories with associated proposed management strategies. Implementing these strategies would help the City of Troutdale meet of this Permit condition as well as the post-construction site runoff and IDDE Permit conditions. For example, applicable management strategies for stormwater in the new development and construction category are planning procedures, permitting/design, and inspection as well as enforcement. For existing residential/commercial/urban development, applicable management strategies include management of storm drain systems and identification of illicit connections and illicit discharges.

### **7.3.13 Lower Columbia Slough TMDLs for Bacteria, Dissolved Oxygen, Phosphorus, Lead, DDE/DDT, PCBs, Dieldrin, and 2,3,7,8-TCDD (Dioxin) (Wood Village)**

The [Lower Columbia Slough TMDL for bacteria, dissolved oxygen, pH, phosphorus, DDE/DDT, PCBs, Pb, Dieldrin, and 2,3,7,8 TCDD](#) applies to the stormwater discharge from the City of Wood Village. Under the previous permit term, the City of Wood Village completed a summary evaluating the control strategies established to progress toward the WLAs established under the Lower Columbia Slough for Phosphate, Lead, and Bacteria TMDLs.

**Bacteria TMDL:** In developing the WLAs for this TMDL, stormwater pollutant sources were estimated to contribute 10 percent of the bacteria load. Sources such as the City of Wood Village's MS4 are required to develop a bacteria management plan identifying specific technologies and BMPs to limit bacteria loads. The WLAs for combined sewer overflows is zero at all flow levels noted except during storms greater than or equal to a storm with a ten-year return frequency from May 1 through Oct. 31. For point sources such as MS4s, the bacteria management plan will be implemented through designated management agencies' NPDES permits as noted in the TMDL. These bacteria management plans must include the detection and removal of illicit discharges, control of bacteria from stormwater, and removal of sources of raw human waste, and monitoring to demonstrate compliance with the bacteria criteria. Specifically, Wood Village's bacteria management plan must include the following three strategies: detect and eliminate illicit discharges to the Slough, establish adequate monitoring to demonstrate compliance with *E. coli* criteria including measuring *E. coli* concentrations and distributions, and implement BMPs to control anthropogenic sources of bacteria in stormwater. As noted in the Evaluation Report for the post-construction site runoff requirements referenced in this condition, the numeric stormwater retention standard and the unit processes typically associated with green infrastructure with its focus on bioretention involving processes such as sedimentation, adsorption, filtration, and plant uptake are effective for reducing the loading of a variety of stormwater pollutants including bacteria will assist Wood Village with meeting its WLA.

**Dissolved Oxygen TMDL:** When developing the WLAs for this TMDL, DEQ determined the loading capacity for DO using the loading of biological oxygen demanding materials. DEQ found that the dominant sources of BOD to be urban runoff and airport de-icing. As noted in the TMDL, the designated management agencies were to address the WLA when complying with their MS4 permits. Under this TMDL, DMAs were required to conduct monitoring of stormwater BOD5 loads and the instream response to these loads. The monitoring was used to calibrate a water quality model to simulate the Slough's response to stormwater and de-icing fluid. Additionally, all DMAs were required to implement a BOD Control Strategy involving two to five BMPs and to demonstrate these BMPs achieve the WLA. Specifically, Wood Village is required to implement the following BMPs: provide

DEQ with a description of the program designed to reduce BOD5 to the Slough and implement a program of BMPs that will reduce overall BOD5 load to achieve its WLAs. This Permit and specifically this condition are designed to assist Wood Village in meeting the WLA. As noted in the Evaluation Report for the post-construction site runoff requirements referenced in this condition, the numeric stormwater retention standard and the unit processes typically associated with green infrastructure with its focus on bioretention involving processes such as sedimentation, adsorption, filtration, and plant uptake are effective for reducing the loading of a variety of stormwater pollutants including oxygen to assist Wood Village with meeting its WLAs.

**Phosphate TMDL:** Although modeling indicated that a major source of nutrients to the upper slough, such as orthophosphate came from groundwater, the TMDL's loading capacity also included an allocation for stormwater. This TMDL requires the implementation of BMPs to control stormwater phosphate loading. The phosphate WLA for stormwater is dependent on flow. In this TMDL, DEQ has established a WLA of 7.7 kg/day for a flow of 1.98 m<sup>3</sup>/second, 11.1 kg/day for 2.83 m<sup>3</sup>/second, and 22.1 kg/day for 5.66 m<sup>3</sup>/second. To achieve these loads, DEQ requires Wood Village to monitor water quality and implement BMPs to control phosphate loading. Specifically, in this TMDL, DEQ requires Wood Village working with other DMAs to identify a representative site in Fairview Lake (Reach 4) and Fairview Creek (Reach 5) to characterize water quality in these waterbodies to determine the effectiveness of control strategies, to identify BMPs in MS4 permit which may reduce contributions of phosphate via stormwater, and to include phosphate in the assessment of BMP effectiveness by measurement of influent and effluent dissolved orthophosphate concentrations and total phosphate concentrations. As noted in the Evaluation Report for the post-construction site runoff requirements referenced in this condition, the numeric stormwater retention standard and the unit processes typically associated with green infrastructure with its focus on bioretention involving processes such as sedimentation, adsorption, filtration, and plant uptake are effective for reducing the loading of a variety of stormwater pollutants including phosphate to assist Wood Village with meeting its WLAs.

**Lead TMDL:** In the development of the WLAs for this TMDL, allocations to other sources such as CSOs, groundwater, St. John's landfill, NuWay Oil Site, and the margin of safety were subtracted from the loading capacity for lead to derive the remaining allocation that was partitioned between stormwater and future growth. As noted in the TMDL, the WLAs for lead are flow based and, for stormwater, are 0.065 kg/day for 1.98 m<sup>3</sup>/second, 0.114 kg/day for 2.83 m<sup>3</sup>/second, 0.2765 kg/day for 5.66 m<sup>3</sup>/second, and 0.4397 kg/day for 8.50 m<sup>3</sup>/second. To achieve these WLAs, ff requirements referenced in this condition, the numeric stormwater retention standard and the unit processes typically associated with green infrastructure with its focus on bioretention involving processes such as sedimentation, adsorption, filtration, and plant uptake are effective for reducing the loading of a variety of stormwater pollutants including lead to assist Wood Village with meeting its lead WLAs.

**Toxics TMDL:** DEQ determined the water quality impairment of the Slough using fish tissue screening values that are used as criteria for the water quality standard for PCB, DDT/DDE, dieldrin, and dioxin (2,3,7,8-TCDD). Exceedances of fish tissue screening levels lead to the placement of the Slough on the 303(d) list for impaired waterbodies. This, in turn, prompted DEQ to develop a TMDL to address these pollutants. In developing this TMDL, DEQ determined WLA for stormwater to achieve water quality standards is  $3.24 \times 10^{-6}$  kg/day for DDT/DDE,  $9.6 \times 10^{-6}$  kg/day for dieldrin,  $1.31 \times 10^{-9}$  kg/day for dioxin, and  $5.3 \times 10^{-6}$  kg/day for PCBs. Measures new to this renewal in the pollution prevention & municipal operations requirements will also be effective at additionally reducing PCB and other toxics loading.

## 7.4 Definitions

The definitions provided in this permit condition provide additional clarification related to MS4-related terms and generally reflect commonly understood and agreed upon descriptions to municipal stormwater concepts.

## **8. SCHEDULE F - General Conditions**

The general conditions that are applicable to all NPDES permits are included in this section. They address operation and maintenance, monitoring and record-keeping, and reporting requirements. DEQ recognizes that some of these conditions do not readily apply to municipal stormwater discharges. However, the stormwater permits are NPDES permits, and these conditions are required for all such permits. Where a conflict exists, the general conditions included in this section are superseded by the conditions in Schedules A and D.