



National Pollutant Discharge Elimination System (NPDES) Municipal Separate
Storm Sewer System (MS4) Permit #101315

Stormwater Management Plan (SWMP)

April 2011 Final

Adaptively managed with DEQ approval April 2013.

IND 2: Industrial Monitoring Program

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City of Gresham

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4.3 CITY OF GRESHAM STORMWATER MANAGEMENT PLAN (SWMP)

4.3.1 EXECUTIVE SUMMARY

Under the federal Clean Water Act and Oregon Revised Statute 468B.050, DEQ has issued the City of Gresham a National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Discharge Permit. The City of Gresham is required to develop a Stormwater Management Plan (SWMP) as described in the Clean Water Act (CWA) 40 CFR 122.26 (d) (2) (iv) (A) through (D) and in Schedule A of the 2010 NPDES MS4 Permit #101315. The primary component of the SWMP is a management program comprised of Best Management Practices (BMPs) and other management activities developed to address the elements as detailed in the CWA and in Schedule A 1. through 4., Schedule B 5. and 6. and Schedule D 1., 4, and 7. of the permit. These are actions Gresham will take to minimize pollutant discharge into surface waters to the maximum extent practicable (MEP) in order to protect water quality and satisfy requirements of the NPDES MS4 Permit and the CWA.

The contents of this Stormwater Management Plan reflect the requirements as described in the permit issued by the Oregon Department of Environmental Quality (DEQ) dated December 30, 2010. This SWMP is the final version submitted to DEQ on April 1, 2011 and is intended to carry the City through the 2010-2015 permit cycle. A summary of the rationale for the revisions made for the 2008 SWMP update is described in **Section 4.3.6**.

As described in Schedule A 3 of the permit, *“Each co-permittee is responsible for compliance within its jurisdiction as identified in this permit, and is not responsible for compliance outside of its jurisdiction.”* Therefore, the contents of this SWMP are specific to the City of Gresham and do not apply to its co-permittee, City of Fairview and vice versa.

The content of the SWMP is organized into sections as briefly described below.

Section 4.3.2 includes the Introduction to the SWMP

Section 4.3.3 includes a description of the permit area and co-permittees and a map of the permit boundary.

Section 4.3.4 includes a summary of the City’s organization with respect to managing stormwater.

Section 4.3.5 includes a summary of the City’s Maximum Extent Practicable determination.

Section 4.3.6 includes a summary of the City’s SWMP revisions and the rationale for those revisions.

Section 4.3.7 provides the SWMP BMPs with specific details. The BMPs are divided into Components 1-6.

Introduction

Section 4.3.2 describes the history of the City’s permit.

A SWMP was first developed by Gresham to meet the first NPDES MS4 permit issued by DEQ in 1995. Ongoing implementation of the SWMP was conducted during the five-year permit period from 1995 to 2000.

In February 2000, the City submitted a renewal package to DEQ as required. However, DEQ postponed issuance of the second 5-year permit until it was determined how other CWA programs would be integrated into permit requirements. During this time, the City was legally operating under

the 1995-2000 permit, but submitted a more detailed SWMP dated December 2001, as part of its adaptive management process.

In March, 2004, DEQ issued the renewed NPDES MS4 permit, which was later reconsidered, modified, and reissued in July 2005 and was set to expire on January 31, 2009. The permit required the City to prepare

...an evaluation of, and proposed revisions to, the SWMP that address the requirements of Schedules D(2)(b) and B(1)(b), including the rationale supporting the proposed revisions.

Schedules D(2)(b) and B(1)(b) include details related to conducting a SWMP evaluation and preparation of a Monitoring Plan, respectively. This update was referred to as the Interim Evaluation Report (IER) and was submitted to DEQ on May 1, 2006. The IER documents, including the updated SWMP and Monitoring Plan, were approved on July 31, 2006. The City will continue to implement the 2006 SWMP until DEQ has issued the next permit and approved the associated updated SWMP submitted with the Permit Renewal Submittal on August 1, 2008.

This SWMP is the final version submitted to DEQ on April 1, 2011 and is intended to carry the City through the 2010-2015 permit cycle. A summary of the rationale for the revisions made for the 2008 SWMP update is described in **Section 4.3.6**.

The detail of the SWMP is included in **Section 4.3.7** which includes tables of the City's BMPs.

Description of the Permit Area and Coordination with Co-Permittees

Section 4.3.3 provides a description of Gresham's portion of the permit area, watershed boundaries within the permit area, and co-permittees. The permit area for Gresham includes the incorporated areas (the city limits) of the City of Gresham.

The NPDES MS4 permit area for Gresham includes the incorporated areas (the city limits) of the City of Gresham except the portions of the City's stormwater system that drain to Underground Injection Control (UIC) systems. UICs drain to groundwater and are subject to a Water Pollution Control Facility (WPCF) permit. The Best Management Practices (BMPs) described within this Stormwater Management Plan (SWMP) are applied throughout the entire city area.

The City of Gresham area *excluding* Pleasant Valley and Springwater is about 15,002 acres or 23.4 square miles. The area *including* the urban growth boundary of Pleasant Valley, Kelley Creek Headwaters and Springwater represents approximately 17,000 acres or approximately 26.5 square miles. Gresham is comprised of four watersheds: Fairview Creek, Johnson Creek, Kelly Creek, and the Columbia Slough. All of these watersheds cross multiple jurisdictions. **Figure 4.3.1** illustrates the total area and the representative watersheds within the City of Gresham as well as surrounding jurisdictions.

With respect to NPDES MS4 co-permittees, the City of Gresham acted as the lead permit applicant for the Gresham NPDES MS4 submittal in 1993, 1995, 2000, 2006 and 2008. However, Multnomah County received its own permit and is no longer a co-permittee of the City of Gresham and Fairview for the December 30, 2010 permit reissuance. A complete overview of the permit history may be found in **Section I**. Introduction to the permit renewal submittal.

Gresham's Stormwater Management Program Organization

Section 4.3.4 describes the City's organization structure and responsible groups relative to the SWMP implementation and includes organization charts as **Figures 4.3.2 and 4.3.3** .

Maximum Extent Practicable Determination

Section 4.3.5 details the City's process for determining that its stormwater management program will reduce discharge of pollutants to the maximum extent practicable (MEP). The City has reviewed available data regarding the impact of urban runoff, and performed the required reviews of its practices and benchmark evaluation. The proposed changes are expected to improve water quality protection, while still meeting other important legal mandates and City goals such as flood control and groundwater protection. The detailed descriptions of the best management practices and their implementation schedule are listed in **Section 4.3.7**.

SWMP Revisions and Rationale for those Revisions

Section 4.3.6 contains the purpose of the proposed revisions, a short description in **Table 4.3.1** of the significant proposed BMP revisions and the rationale for those changes, and the focus of the SWMP. The majority of the proposed changes are insignificant in that their purpose is for clarity in language, grammar, formatting, etc.; or the changes are deletion of information that is no longer accurate or were formerly listed as program goals and have now been incorporated into the Implementation Activity description.

During the next permit cycle, the City plans to continue enhancing its efforts to use, require, and/or incentivize low impact development (i.e., surface infiltration techniques) where appropriate soils exist because of its regional and national recognition as a sustainable approach to stormwater management. To this end, the City proposes to undertake additional effort related to the use of trees as a stormwater management tool and recognizes the value of urban natural resource management in overall stream health and function. Further, additional examination and regional collaboration regarding stormwater monitoring program effectiveness resulted in changes to the 2006 Stormwater Monitoring Plan. Finally, the City plans to continue evolving the Private Water Quality Facility Maintenance BMP to work towards some form of an inspection program to ensure proper facility function.

The SWMP is organized to mirror Section 40 of the Code of Federal Regulations 122.26, from which the permit is derived, in order to make it simple for any reviewer to see how the City is meeting all of its legal requirements. There are now six major components. The first four mirror the stormwater management plan requirements described in 40 CFR 122.26 (d) (2) (iv) (A) through (D) and Schedule A 4. through 7 in the permit. Because some of the requirements in components 1-4 are addressed by public education BMPs, these are grouped into a fifth component. Finally, a sixth component of management activities, Program Management & Monitoring, has been created in order to capture other important elements of the permit requirements that require a significant amount of time to implement, but are not BMPs in and of themselves.

Gresham's Proposed SWMP

Section 4.3.7 contains an explanation of the contents of the six major components of organization as described above that make up the SWMP and a description of each BMP, the purpose, program commitment (measurable goals) and reporting elements.

4.3.2 INTRODUCTION

Under the federal Clean Water Act and Oregon Revised Statute 468B.050, DEQ has issued the City of Gresham a National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Discharge Permit. The City of Gresham is required to develop a Stormwater Management Plan (SWMP) as described in the Clean Water Act (CWA) 40 CFR 122.26 (d) (2) (iv) (A) through (D) and in Schedule A of the 2010 NPDES MS4 Permit #101315. The primary component of the SWMP is a management program comprised of Best Management Practices (BMPs) and other management activities developed to address the elements as detailed in the CWA and in Schedule A 1. through 4., Schedule B 5. and 6. and Schedule D 1., 4., and 7. of the permit. These are actions Gresham will take to minimize pollutant discharge into surface waters to the maximum extent practicable (MEP) in order to protect water quality and satisfy requirements of the NPDES MS4 Permit and the CWA.

Gresham's SWMP was first submitted to DEQ on August 1, 2008, as part of the City's permit renewal package. This document has been released for public comment both by the City and by DEQ and presented to Gresham City Council who determined via Council Resolution that the SWMP and its associated activities will reduce pollutants to the maximum extent practicable, given the many competing demands for City resources. Upon reissuance of the permit, DEQ directed the City of Gresham in Schedule A. 3. to include the special conditions specified in Schedule D 7 and to make subsequent changes in order to reflect the final reissued permit.

This updated SWMP represents the collective effort of various professional stormwater experts hired by the City, the City's Watershed Division personnel, and City staff who implement best management practices described within the plan. The updates to the plan take into account discussions held with DEQ and other MS4 permitted agencies in order to enhance and clarify BMPs determined to be a high priority by DEQ for this permit cycle and reflects the changes required by DEQ in Schedule D 7 and has been updated with minor edits to reflect the nomenclature and numbering references, etc. in the reissued permit.

Stormwater Management Plan History and Updates

A SWMP was developed by Gresham to meet NPDES MS4 permit requirements in 1995. Ongoing implementation of the SWMP was conducted during the five-year permit period from 1995 to 2000.

In February 2000, the City submitted a renewal package to DEQ as required. However, DEQ postponed issuance of the second 5-year permit until 2005. During this time, the City was legally operating under the 1995-2000 permit, but submitted a more detailed SWMP dated December 2001, as part of its adaptive management process.

In March, 2004, DEQ issued the renewed NPDES MS4 permit, which was later reconsidered, modified, and reissued in July 2005 and was set to expire on January 31, 2009. The permit required the City to prepare

...an evaluation of, and proposed revisions to, the SWMP that address the requirements of Schedules D(2)(b) and B(1)(b), including the rationale supporting the proposed revisions.

Schedules D(2)(b) and B(1)(b) of the 2005 permit included details related to conducting a SWMP evaluation and preparation of a Monitoring Plan, respectively. This update was referred to as the Interim Evaluation Report (IER) and was submitted to DEQ on May 1, 2006. The IER documents,

including the updated SWMP and Monitoring Plan, were approved on July 31, 2006. An updated SWMP was prepared and submitted in the City's permit renewal package on August 1, 2008. The City continued to implement the 2006 SWMP until DEQ reissued the permit on December 30, 2010 and approved the corresponding updated SWMP. The 2010 permit required the City to make further changes to some of the measureable goals within the SWMP as described in Schedule D 7. Furthermore, the permit authorized the City to make administrative changes necessary to make the SWMP references and language consistent with the final permit and submit the final SWMP to DEQ by April 1, 2011. These changes include changes to the history section to make it current as of March 2011.

This SWMP is the final version submitted to DEQ on April 1, 2011 and is intended to carry the City through the 2010-2015 permit cycle. A summary of the rationale for the revisions made for the 2008 SWMP update is described in **Section 4.3.6**.

The detail of the SWMP is included in **Section 4.3.7** which includes tables of the City's BMPs.

4.3.3 DESCRIPTION OF THE PERMIT AREA AND CO-PERMITTEES

This section provides a description of Gresham's portion of the permit area and changes that have occurred since the first NPDES MS4 permit was issued in 1995, watershed boundaries within the permit area, and the history of the co-permittees.

A. Gresham Permit Area & Watersheds

The NPDES MS4 permit area for Gresham includes the incorporated areas (the city limits) of the City of Gresham except the portions of the City's stormwater system that drain to Underground Injection Control (UIC) systems. UICs drain to groundwater and are subject to a Water Pollution Control Facility (WPCF) permit. The Best Management Practices (BMPs) described within this Stormwater Management Plan (SWMP) are applied throughout the entire city area.

Metro's urban growth boundary in the Gresham area was adjusted in 1998 and 2002 to include the areas known as Pleasant Valley, Kelley Creek Headwaters and Springwater. Gresham's city limits were adjusted in 2003 to exclude area that was de-annexed to the City of Troutdale within the Beaver Creek watershed. Gresham has entered into agreement with other local jurisdictions that describe which entity will be responsible for providing urban services to the areas within the urban growth boundary. The areas within the urban growth boundary for which Gresham will provide urban services may be annexed into Gresham over the course of the next 20 years.

Two significant annexations have occurred since July 28, 2005. Approximately 541 acres in Pleasant Valley were annexed into Gresham in June 2006 and 157 acres in Springwater were annexed in November 2007. There has been no significant development of these areas since annexation. Economic circumstances will affect the rate at which development spurs further annexations within these plan areas. The permit boundary will be expanded to include newly incorporated areas and the existing Stormwater Management Plan will be applied to the area, as appropriate.

Another change occurred related to jurisdiction of roads within the permit boundary. Effective January 1, 2006, the jurisdiction of Multnomah County's arterial roads within Gresham were transferred to Gresham. The County continues to maintain these roads pursuant to an agreement with the City of Gresham.

The City of Gresham area *excluding* Pleasant Valley and Springwater is about 15,002 acres or 23.4 square miles. The area *including* the urban growth boundary of Pleasant Valley and Springwater represents approximately 17,000 acres or approximately 26.6 square miles. Just over 2,200 acres and 150 acres lie within the permit boundary and are managed by the City of Fairview and Multnomah County, respectively and are subject to their individual Stormwater Management Plans.

Gresham is comprised of four watersheds: Fairview Creek, Johnson Creek, Kelly Creek, and the Columbia Slough. All of these watersheds cross multiple jurisdictions. **Figure 4.3.1** illustrates the total area and the representative watersheds within the City of Gresham as well as surrounding jurisdictions. In addition to these surface water bodies, Gresham has water bearing underground strata that vary in depth across the city.

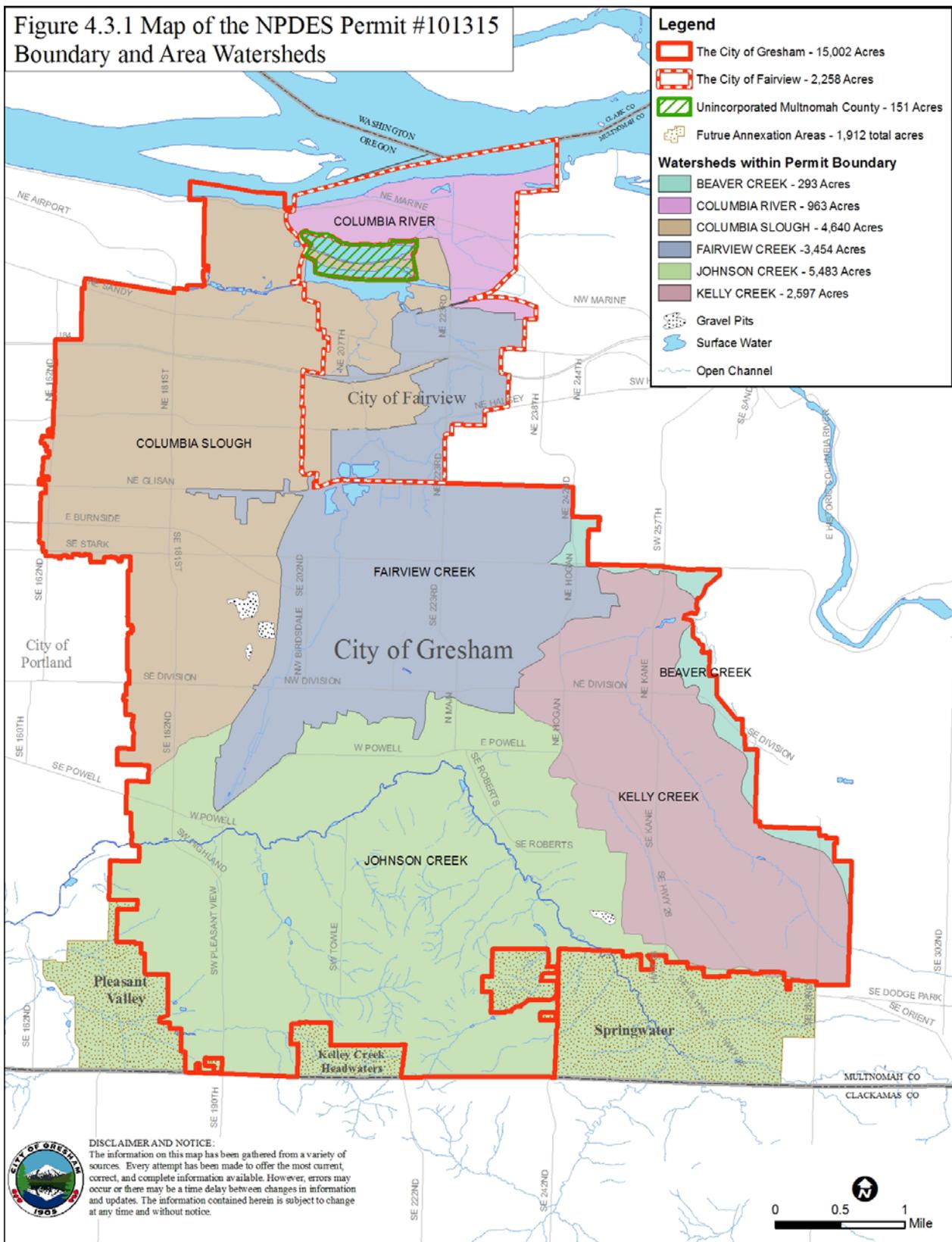
Kelly Creek & Beaver Creek

The Kelly Creek watershed with Gresham encompasses about 2,597 acres (4.1 square miles) and is tributary to the Beaver Creek watershed and ultimately to the Sandy River. Beaver Creek watershed comprises about 293 acres (0.5 square miles) within Gresham. As described above, the urban service boundary was adjusted in 2003 to exclude a 48-acre parcel of protected Metro open space within the Beaver Creek canyon area at Mount Hood Community College. Kelly Creek originates east of Gresham and enters the city limits just a few hundred yards east of SE 282 Avenue and north of SE Dodge Park Boulevard. It flows in a northwesterly direction until its confluence with Burlingame Creek; its main tributary which lies just northwest of NE Kane Road and NE 18th Court. Most of east Gresham drains to Kelly Creek.

Johnson Creek

The entire Johnson Creek watershed encompasses 54 square miles and is a tributary of the Willamette River in the Milwaukie/Portland area. About 5,483 acres (8.6 square miles) lie within Gresham's permit area. Although Johnson Creek does not originate in Gresham, some of the upper reaches of the creek flow through the City of Gresham. Presently, Johnson Creek enters the Gresham city limits at approximately SE 252 Avenue and SE Telford Road, flows in a northwesterly direction to Powell Boulevard and Main Avenue, then generally westward until it leaves the city limits near its intersection with SE 174 Avenue. Butler Creek, a significant tributary of Johnson Creek in Gresham, enters Johnson Creek a few hundred yards east of SW Pleasant View Drive. Much of south Gresham, including the downtown area, is located in the Johnson Creek watershed.

Figure 4.3.1 Map of the NPDES Permit #101315 Boundary and Area Watersheds



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Note: This map includes both the portions of the City of Gresham that drain to surface waters subject to the NPDES MS4 permit and the Underground Injection Control Facility areas draining to groundwater that will be subject to the requirements of a WPCF Permit.

Fairview Creek

The entire Fairview Creek watershed encompasses approximately 3,454 acres (5.4 square miles) and is a tributary to Fairview Lake. About 4.3 sq. miles lie within Gresham's permit areas. Fairview Creek is also recognized as the headwaters of the Columbia Slough. The creek originates within Gresham city limits near West Powell Boulevard and SE 182 Avenue. The creek flows in a northeasterly direction through Gresham and enters Fairview just west of 223 at NE Glisan Street, and remains within the City of Fairview's jurisdiction for its remaining length. The Fairview Creek watershed encompasses most of the City of Fairview and the north-central part of Gresham.

Columbia Slough

The entire Columbia Slough watershed encompasses approximately 62 square miles, of which about 4,640 acres lie within the Cities of Gresham and Fairview. About 6 sq. miles are within Gresham's permit area. The headwaters of the slough begin with Fairview Creek in the City of Gresham, flowing north to Fairview Lake in the City of Fairview, then paralleling the Columbia River west from the lake to its confluence with the Willamette River. While there are several major piped stormwater outfalls within west Gresham that drain and discharge directly to the slough, the majority of the west Gresham's drainage is served by drywells, also known as underground injection controls that drain to groundwater. For mapping purposes the northwest Gresham area is demarcated as the Columbia Slough.

Groundwater

Discharges to groundwater are not subject to the requirements of the NPDES MS4 permit. However the BMPs described within the SWMP at the time of this submittal have historically been applied in the same manner irrespective of the above or below-ground nature of the receiving water body. Based on a Water Pollution Control Facilities (WPCF) Permit anticipated in 2011, the BMPs in the area that drain to groundwater may change slightly to optimize the City's efforts to protect groundwater. In such case, the total number of miles, catch basins, or other attributes listed under a given BMP in this SWMP may change to reflect activities conducted under the WPCF permit. Any such change will be reported in the appropriate annual report and applied only after relevant approvals and/or public comment, and will not affect the implementation of BMPs in the area subject to NPDES MS4 permit requirements. The City will make any changes to the SWMP that relate to surface water discharges according to the requirements at stated in Schedule D. 5. of the NPDES MS4 permit.

Maps showing depth to groundwater based on a recent study by the US Geological Survey are available upon request, and are shown in the City's submittal to DEQ titled, "December 31, 2008 Update to WPCF Permit Application."

B. Description of Co-permittee Coordination Efforts

With respect to NPDES MS4 permit co-permittees, the City of Gresham acted as the lead permit applicant for the Gresham NPDES MS4 submittal in 1993, 1995, 2000, 2006 and 2008. A complete overview of the permit history may be found in **Section I. Introduction**. Although Gresham is the lead permit applicant, the co-permittees are responsible for development, implementation, and tracking of their jurisdictions' BMPs as well as submitting their respective annual reports to be collated with Gresham's annual compliance report and then submitted to DEQ. Gresham's responsibility is coordination of the program, communication with DEQ, and submittal of the annual report from each co-permittee. Costs associated with these activities have been partially reimbursed by the other co-permittees according to intergovernmental agreements (IGAs) or MOAs developed by the

jurisdictions. However, as of the 2010 NPDES MS4 permit reissuance, Multnomah County was issued its own permit and is no longer be a co-permittee of the City of Gresham or the City of Fairview.

During the first permit application, Gresham, Fairview, and Multnomah County employed the same 35 BMPs. However, during subsequent permit renewals, all of the co-permittees modified their respective BMPs to best suit the needs, goals, and requirements of their respective jurisdictions.

4.3.4 GRESHAM'S STORMWATER MANAGEMENT PROGRAM ORGANIZATION

Gresham's Department of Environmental Services' (DES) Watershed Division undertakes a majority of the responsibilities for development and implementation of the City's SWMP. There are, however, required components of the program where implementation and tracking must occur in other City divisions, departments, and groups. The divisions within Gresham that are responsible for implementation of the NPDES program are described below. DES is comprised of the city utilities, providing services such as delivery of drinking water, collection and treatment of wastewater, recycling & solid waste disposal, maintenance of streets, stormwater management, and parks and recreation activities. Gresham's DES consists of the following Divisions:

- The **Watershed Division (WD)**, formerly called the **Stormwater Division**, works to improve flood protection and water quality through the construction and maintenance of the public stormwater system and protection of local waterways. This division is responsible for management of Gresham's programs that address all stormwater water quality regulatory requirements listed above, monitoring of storm and surface water; erosion control inspection and enforcement; stormwater capital improvements; stormwater operations and maintenance, engineering and flood control and stormwater public involvement and education of staff, as applicable and the general public. The Watershed Division is also tasked with supporting and providing guidance to other divisions within the city regarding the NPDES MS4 permit. There are groups within WD that play very specific roles in implementation of the NPDES MS4 program and, ultimately in implementing the SWMP.
 - **Stormwater Operations and Maintenance Group** is responsible for maintaining all public conveyance and water quality components of Gresham's stormwater drainage system including surface water quality facilities and the structural conveyance system, identifying illicit connections, responding to accidental spills, and assisting in mapping updates.
 - **Stormwater Engineering Group** is responsible for planning, designing, and constructing capital improvement projects within the Watershed Division.
 - **Water Resources Group** within WD is responsible for meeting regulatory requirements including NPDES MS4, UIC, and TMDL programs. The **Public Involvement and Education, Water Quality Monitoring, TMDL and UIC Compliance, Business Inspection and the Lead Erosion Control Inspection** staff currently comprise the Water Resources Group.
 - **Natural Resources Program** is responsible for focusing on the goals created as a result of the Endangered Species Act, Goal 5 and the TMDL for temperature. This position is funded by all of the utilities in the Department of Environmental Services and coordinates closely with the Water Resources Group to maximize beneficial outcomes.

Other DES groups include:

- The **Transportation Division** is responsible for street improvements, maintenance, and repair, street cleaning, street lighting, and some signs and signals within city limits. NPDES MS4 components that include the Transportation Division are road maintenance, street sweeping, limiting and tracking their Division's use of pesticides and herbicides, and de-icing material management.

- The **Public Works Inspection Group** (housed within the Transportation Division) implements the commercial/industrial erosion prevention and sediment control inspections during construction.
- **Development Engineering** is responsible for the review and permit approval of development and re-development including implementation of the stormwater *Water Quality Manual, as well as the Green Development Practices Manual*.
- The **Water Division** provides planning, design, construction, operation, and maintenance of the public drinking water systems. The flushing of water lines, emergency system repairs and limiting and tracking of their Division’s use of pesticides and herbicides are activities the Water Division undertakes that fall within the NPDES MS4 permit.
- The **Parks and Recreation Division** operates, maintains, plans, and acquires Gresham’s parks. Of the parks within Gresham, eight are directly adjacent to open waterways. The Parks Division is responsible for limiting and tracking of their Division’s use of pesticides and herbicides, maintenance of litter receptacles, using native vegetation where appropriate, reporting dumpsites, and reporting unusual discharges in the waterways.
- The **Wastewater Services Division** is responsible for sanitary sewer master planning, design, review, and contract administration of new infrastructure projects; compliance with the City’s wastewater NPDES permit; maintaining the public system to help prevent sanitary leaks or infiltration into the stormwater system; limiting and tracking of their Division’s use of pesticides and herbicides; and implementing the Pre-Treatment Industrial Inspection program to monitor industrial point source discharges to the sanitary system and, where applicable, impacts to the stormwater system. Wastewater Services also manages the 1200COLS stormwater permit for the wastewater treatment plant.
- **The Recycling & Solid Waste Program** is responsible for managing curbside garbage, yard debris, used oil, & recycling collection and implements programs that foster waste prevention and all public education efforts related to these activities for businesses and residents. This group also assists Metro Regional Services with delivery of household hazardous waste collection events.

Other city offices having a role in the stormwater NPDES-MS4 program include:

- **The Mapping Program** is responsible for supporting various program monitoring efforts such as mapping the public infrastructure, mapping streams, watersheds, maintenance schedules, etc.
- **The Community Relations Program** is responsible for supporting all public involvement and education efforts for DES.
- **Code Compliance** is responsible for enforcement of city code and ordinance violations.
- **Facilities Maintenance** is responsible for maintaining various city-owned properties and utilizing stormwater best management practices to limit pollutant sources.
- **Community & Economic Development Department** assists with short and long range planning for city development that is codified in the Community Development Plan (Vol 1-3).
- **City Attorney’s Office** assists with review of the Legal Authority element of the NPDES permit as well as regular updates to city code.
- **Fire & Emergency Services** assists with spill response (HAZMAT team) and wellhead protection area inspections related to hazardous chemical storage.

See **Figures 4.3.2 and 4.3.3** which are organization charts for the Department of Environmental Services and the Watershed Division, respectively.

Figure 4.3.2 Department of Environmental Services Organization Chart

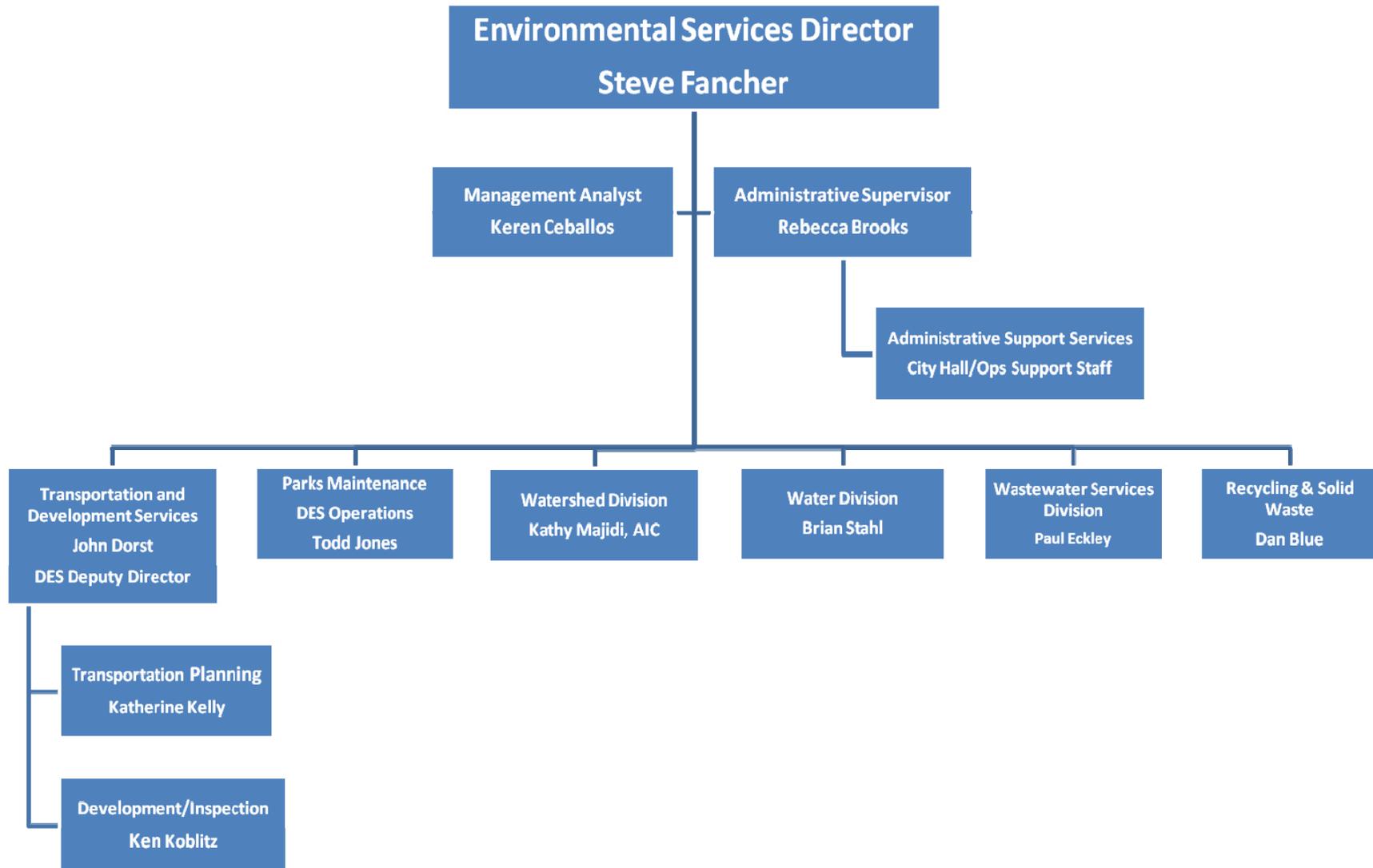
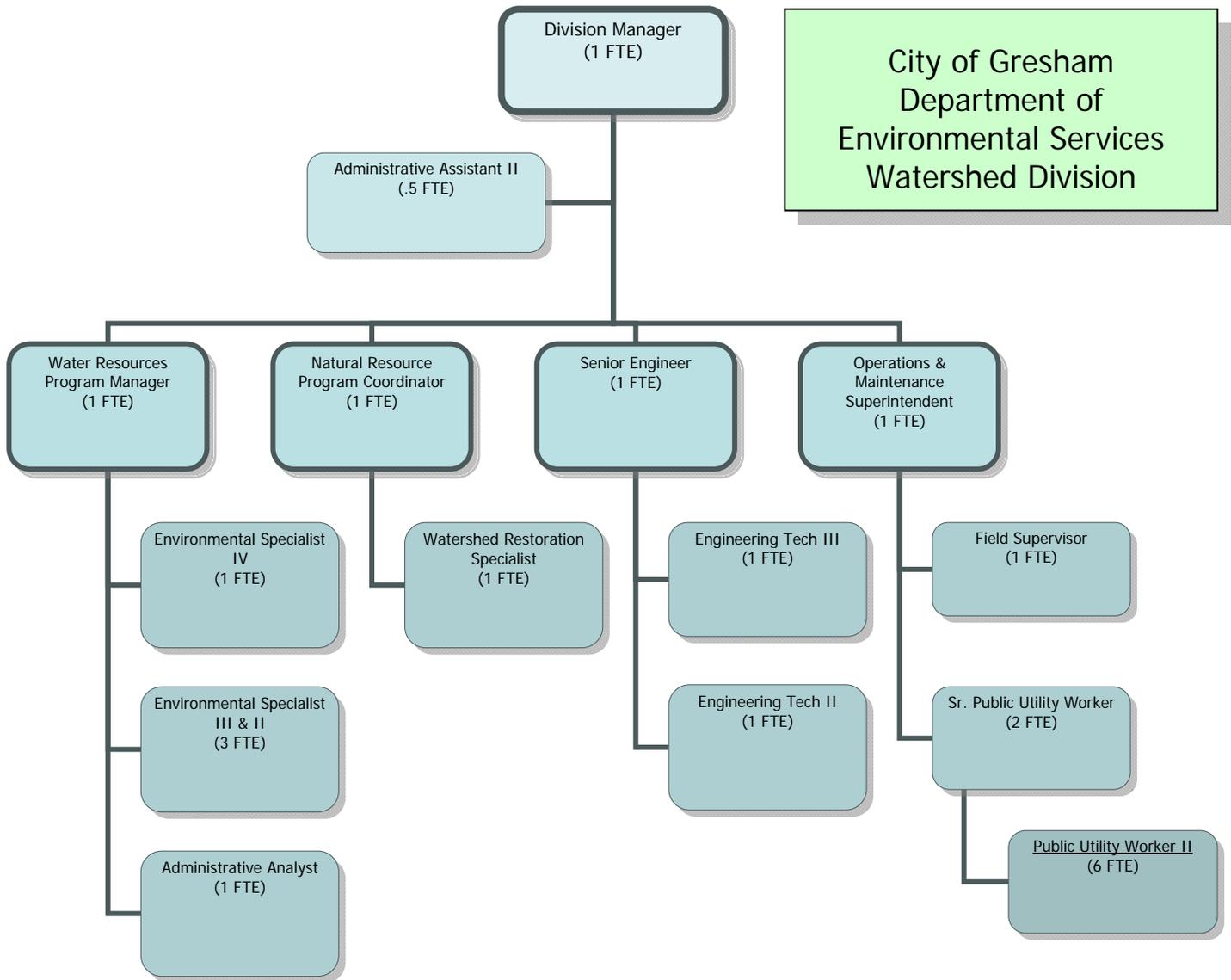


Figure 4.3.3 Watershed Division Organization Chart



City of Gresham
Department of
Environmental Services
Watershed Division

4.3.5 Maximum Extent Practicable Determination Process

NPDES MS4 permittees must develop and implement a stormwater management program to reduce the discharge of pollutants to the maximum extent practicable (MEP). This program must address the elements as required by 40 CFR 122.26 (d)(2), Section iv, Proposed Management Program and the City's NPDES MS4 Permit No: 101315. The program elements and implementation goals are described in the Stormwater Management Plan (SWMP), and other procedures and policies are described within a variety of city documents and plans as referenced within the SWMP, where applicable. These program elements vary by permitted municipality because they take into consideration site-specific conditions.

The City of Gresham developed and established the program that met MEP as part of their original 1993 permit application, which has become the foundation of the City's program since the Phase 1 NPDES MS4 permit was issued in 1995. The overall program has been continuously evaluated and adaptively managed based upon new data, technology, and/or program evaluation of individual best management practices with on-going oversight and approval from the Oregon Department of Environmental Quality. As such, this updated SWMP reflects the City's best professional judgment regarding resource allocation and optimization to reduce or eliminate the discharge of stormwater pollutants from the MS4 system based upon site-specific conditions and other factors as described further below.

The City of Gresham has used the following sequential processes to ensure its SWMP meets the MEP standard:

- I. The original development of the SWMP submitted with the 1993 permit application.
- II. The continual adaptive management process reported in annual reports and the following updates to the SWMP:
 - a. The SWMP review conducted for the 2000 permit renewal application.
 - b. The SWMP review conducted for the 2006 Interim Evaluation Report.
 - c. The SWMP review conducted for the 2008 permit renewal application.

These processes are described below.

I. PERMIT APPLICATION (1993)

To comply with requirements set forth by the 1987 amendments to the Clean Water Act, the City of Gresham and its co-permittees (City of Fairview, Multnomah County, and the Oregon Department of Transportation) submitted Part 1 of the NPDES MS4 permit application in May 1992, which contained a brief description of existing management programs implemented by the co-applicants. No comments were received from DEQ on this section of the Part 1 application; therefore, no adjustments were made.

The Part 2 application contained a SWMP that was designed to address the most critical existing storm water quality problems, as identified within the permit area. Gresham and co-permittees participated in workshops to define the problems and develop strategies to address them. Pollutants of concern were identified using a national literature search and from data collected locally by the City of Portland.

A public process was held to elicit the public's concerns, understanding, priorities and willingness to support a stormwater management program that included stormwater consultants, watershed committee representatives, developers, and a neighborhood association representative. One hundred and twenty candidate BMPs were identified and selection criteria were developed in order to prioritize the BMPs based upon available and future projected resources to support their implementation. The factors included:

- a. Lifecycle costs
- b. Meets a regulatory requirement
- c. Addresses a pollutant of concern
- d. Ability to implement (included public acceptability and willingness to pay)
- e. Reliability/Sustainability

Based upon scoring criteria applied by committee representatives, the BMPs were narrowed to 45. Using professional feedback, detailed BMP fact sheets and another complete review by City staff and its co-permittees, the BMPs were narrowed to the 35 that were submitted and accepted in 1993.

II. ADAPTIVE MANAGEMENT

As described in the NPDES MS4 permit in Schedule B 2. b. and Schedule D 4. Adaptive Management, the City follows an annual adaptive management process to assess and modify, as necessary, program elements to achieve reductions in stormwater pollutants to the maximum extent practicable. This includes consideration of available technologies and practices; review of monitoring data generated by the implementation of this Plan and corresponding analysis of the data; review of SWMP measurable goals and tracking measures; and evaluation of City resources available to implement the technologies and practices.

To ensure the on-going effectiveness of the City's SWMP, the BMPs are evaluated annually during the preparation of the NPDES Annual Report to DEQ. The Annual Reports include the following:

- a. The status of implementing the components of the SWMP.
- b. Proposed changes to the SWMP components and/or newly proposed BMPs.

III. PERMIT RENEWAL SUBMITTAL (2000)

The City's NPDES MS4 Permit requires a permit renewal submittal to be completed 180 days prior to the permit's expiration. As such, the City's renewal submittal consisted of an updated SWMP with the rationale for the proposed changes. At this time, the Oregon Department of Transportation was removed as a co-permittee in order to receive its own permit.

During the permit renewal process, third party environmental groups expressed concern that the DEQ permit was not protective enough to ensure that creeks, streams and rivers would eventually meet water quality standards. As a result, DEQ convened an advisory group to help determine what water quality goals would be included in the new permits; a process that lasted over three years. In March 2004, the City's new permit was issued and later reconsidered as a result of a third party appeal. The permit was reissued in 2005 and contained more specific requirements relating to the SWMP including:

- a. The establishment of performance measures aimed at assisting with SWMP evaluation,
- b. Estimates of pollutant load reductions based upon what is known about BMP effectiveness,
- c. The evaluation of progress towards meeting those estimates,
- d. The application of an adaptive management process until the estimates are projected to be achieved, and
- e. An overall evaluation of the SWMP.

IV. INTERIM EVALUATION REPORT (2006)

Because of the five year delay between the 2000 permit renewal submittal and the reissuance of the next permit, DEQ required that the City and its co-permittees prepare an “Interim Evaluation Report” that included:

- a. A review of the City’s estimated progress towards meeting the established Total Maximum Daily Loads for permitted streams,
- b. An analysis of the SWMPs ability to help reduce pollutants on the 303(d) List for permitted streams,
- c. A review of sources of non-stormwater discharges, and
- d. A review of the previously submitted SWMP and Monitoring Plan with proposed updates.

Related to this effort, the City hired a consultant team with a national reputation for expertise in stormwater to assist in the review of its programs and the preparation of some of the documents listed above. Additionally, the City prepared BMP fact sheets and related cost and staffing estimates in order to conduct a formal review process. The City convened a SWMP advisory subcommittee to the standing Environmental Services Council Advisory Committee (ESCAC). Known as the “SWMP Working Group,” this committee was comprised of a variety of stakeholders including citizens, developers, local Watershed Councils and business owners that met eight times, including a half-day workshop that resulted in the final recommended package of potential BMP enhancements. Two package options were provided to City Council for consideration, both required additional resources, but one was significantly more costly than the other.

In order to assist City Council in the decision making process, the City conducted a statistically representative survey of Gresham utility rate payers to assess willingness to pay for the proposed enhancements. The results were interpreted by the City’s survey consultant to mean that if the stormwater fee increase necessary to pay for the more costly package were put to a vote, the measure would fail. Thus, while City Council did consider the merits of the full package enhancements, they determined that the lower cost option was the appropriate level of effort, given the many demands on City resources. A complete description of the MEP determination process may be found in Section 2.4 of the 2006 SWMP.

V. PERMIT RENEWAL SUBMITTAL (2008)

As with the 2000 Permit Renewal Submittal, the City’s 2008 submittal package is due 180 days prior (August 1, 2008) to the expiration of the NPDES MS4 permit (January 31, 2009). Prior to this renewal submittal, the City worked with DEQ and other Phase I NPDES municipalities to develop a standardized template for a process to make an MEP determination that included the following three factors:

- **Program Effectiveness:** Describe how your program continues to address pollutants of concern in MS4 discharges to local receiving waters.
- **Local Applicability:** Describe how your program continues to be appropriate for local conditions (climate, geology, hydrology, MS4 size, etc.).
- **Program Resources:** Describe how you continue to allocate program resources appropriately (e.g., current ability to finance the program, capacity to perform operation and maintenance, tax base, public acceptability).

The City's overall process to arrive at the proposed SWMP and Monitoring Plan is as follows:

- Internal reviews to optimize BMPs
- Review of technical information from external sources and monitoring data, including a formal literature search
- Review data collected by staff and knowledge of program effectiveness
- Discussion with other jurisdictions concerning best practices
- Consideration of fiscal constraints
- Input from the general public
- Deliberation by Council

Steps that led up to revising the SWMP submitted to City Council included:

- Discussion with other Phase I permitted municipalities regarding commonalities and technical issues. The group also asked about what issues DEQ would like to see addressed in the next updated SWMP.
- A review of the following technical documents: *MS4 Program Evaluation Guidance*, US EPA, January 2007; *Protocol for Conducting Environmental Compliance Audits under the Stormwater Program*, US EPA, January 2005; *Measurable Goals Guidance for Phase II Small MS4s*, US EPA, <http://cfpub.epa.gov/npdes/stormwater/measurablegoals/index.cfm>; and *Stormwater Solutions*, Oregon Environmental Council, December 2007.
- A review of the 2008 permit renewal submittal documents including:
 - Stormwater Pollutant Load Estimates and Benchmarks for TMDL Parameters,
 - 303(d) Listed Pollutant Evaluation,
 - Trend Analysis/Overall Program Effectiveness Evaluation
 - non-stormwater discharge evaluation.
- An internal review of BMPs administered by the Watershed Division using an evaluation process that included the factors listed above, as well as additional factors such as:
 - Base Program (Possible to remove the BMP if deemed less useful)
 - Ability to address other regulatory goals/mandates (ESA, Goal 5, UIC, public safety, asset management, etc.)
 - Flood Control
 - Flow Reduction (Infiltration)
 - Cost consideration
 - Universality (application treats only a small portion of pollutant sources or has a broad effect)
- A public comment period that included:
 - Advertising before the public comment period to solicit names for the City's interested person's list (*Oregonian* and the *Outlook*—total of five ads)
 - Release of the draft documents to the general public via the City's website, a press release to the local newspapers, and ads in the *Oregonian* and the *Outlook* (notices ran on ten days total)
 - Direct mail and email to persons who are on the City's interested person's list

4.3.6 SWMP REVISIONS AND RATIONALE FOR THOSE REVISIONS

I. Purpose

The purpose of this section is to summarize the 2008 updated SWMP as compared to the 2006 SWMP and to explain the rationale for the proposed changes.

Because not much time has passed since the implementation of the 2006 SWMP, and based upon the annual reporting and review of the BMPs since the plan was adopted, substantial changes were not anticipated. To update the document, the Watershed Division (WD) notified each group or division responsible for BMPs that were not directly implemented by WD. Each person in charge of reporting and monitoring the particular BMP was asked to review the existing commitments and suggest any changes. Limited edits were made to those BMPs and no enhancements are currently proposed. The Watershed Division conducted an internal review process of the BMPs that are directly implemented using the stormwater fees from ratepayers. The review and consideration of each of the BMPs effectiveness at the current rate of implementation consisted of the process described in **Section 4.3.5**.

II. Focus of the Stormwater Management Plan (2008)

During the 2006 update, additional emphasis was placed primarily on the following BMPs: Erosion Prevention and Sediment Control, Business Inspection Program, and Monitoring Program. Since then, a 1 FTE staff position for the Business Inspection Program was created and filled, and the .75FTE position for erosion control was increased to 1 FTE. Therefore, in the 2008 update to the SWMP, additional pollution reduction is expected to be gained from each of these BMPs via program implementation and enhancements.

During the next permit cycle, the City plans to continue enhancing its efforts to use, require, and/or incentivize low impact development (i.e., surface infiltration techniques) where appropriate soils exist because of its regional and national recognition as one of the strongest approaches for stormwater management. To this end, the City also proposes to increase efforts related to the use of trees as a stormwater management tool and recognizes the value of urban natural resource management in overall stream health and function. Further, additional examination and regional collaboration regarding stormwater monitoring program approaches resulted in changes to the City's Monitoring Program. Finally, the City plans to continue evolving the Private Water Quality Facility Maintenance BMP to work towards an inspection program to ensure proper facility function.

III. Proposed Changes (2008 & 2011)

General changes to the SWMP include the following:

- Some of the BMPs and their respective Program Goals in the 2006 plan were related to short-term planning activities or studies that were completed during the last permit cycle and were therefore removed.
- Additional emphasis is being placed on BMPs that facilitate stormwater surface infiltration (i.e., low impact development techniques).
- Additional elements were added to the stormwater monitoring program, and linkages to future UIC monitoring were made.
- A commitment was included in the Private Water Quality Facility Program BMP to develop an inspection program to ensure adequate treatment function over the next permit term.
- Additional emphasis is being placed upon creating, tracking and evaluating the City's efforts to manage and enhance the urban canopy.

- The previous SWMP contained 20 main categories and the updated SWMP contains 20, but has newly proposed subtasks as described in Table 4.3.1.
- Administrative changes were made to reflect the final language and content of the December 30, 2010 permit and to complete the history section to reflect activities up until that time.
- As directed by the Dec. 30, 2010 Permit Schedule D 7. Measurable Goals were updated.

Table 4.3.1 Rationale for Changes to Gresham’s Stormwater Management Plan

BMP or Task Name	Explanation of the Proposed Change
<p>RC 1 Operations and Maintenance Program</p> <p>Deleted Task F. “Stormwater Maintenance Manual”</p> <p>Created a new BMP task called “Ensure Proper Debris Disposal”</p> <p>Added “Underground Injection Control Maintenance and Cleaning</p>	<p>Updated the numbers of facilities and level of effort based on historical averages and available staffing resources for cleaning rates.</p> <p>This was a maintenance program management enhancement project that was completed and has no additional relevance during the next permit cycle.</p> <p>The City has always engaged in this practice, but this element has been specifically described for transparency.</p> <p>Added to create continuity between the WPCF and NPDES permits</p>
<p>RC 2 Planning Procedures</p> <p>Deleted a reporting element related to System Development Charge (SDC) tracking in the task “Promote Low Impact Development Practices” and added new implementation language.</p> <p>Created a new BMP task called “Private Water Quality Facility Maintenance Program”</p> <p>Master Plan Update</p> <p>Created a new BMP task called “Urban Canopy Initiatives”</p>	<p>The City has determined that it is not practicable to offer an SDC rate reduction in an amount sufficient to act as an incentive without causing a long term financial problem for the stormwater management programs.</p> <p>Enhanced the description of the “Promote Low Impact Development Practices” to reflect the additional emphasis that the City is placing on LID implementation during the upcoming permit cycle.</p> <p>The City previously had a BMP task called “Maintenance Agreements for Private Facilities.” This BMP has been expanded to include additional program commitments over the next permit term in order to develop follow up actions in addition to collecting maintenance agreements.</p> <p>Text is updated to reflect current planning.</p> <p>This BMP was added to reflect the additional efforts that the City will endeavor to implement over the next permit cycle in order to acknowledge the importance of trees as an important strategy for stream health and as a stormwater management approach.</p>

RC 3 Maintain Public Streets RC 4 Retrofit & Restore System for Water Quality RC 5 Monitor Pollutant Sources from Closed or Operating Municipal Waste Facilities RC 6 Reduce Pollutants from Pesticides, Herbicides and Fertilizers ILL 1 Non-Stormwater Discharge Controls ILL 2 & 3 Illicit Discharges Elimination Program ILL 4 Spill Response Program	Updated text for accuracy* and clarity.
ILL 5 Facilitate Public Reporting ILL 6 Facilitate Proper Management & Disposal of Used Oil & Toxics	No changes proposed.
ILL 7 Limit Sanitary Sewer Discharges	Updated text to maintain accuracy* and clarity.
IND 1 & 2 Industrial Inspection & Monitoring	Updated text to reflect the program progress made during the past year because of additional resources (added 1 FTE) allocated to this BMP.
Con 1 & 2 Construction Site Planning & Controls	Updated text to maintain accuracy* and clarity.
Con 3 Construction Site Inspection & Enforcement	Enhanced the implementation activities description to reflect program progress made during the past year because of additional resources (from .75 FTE to 1 FTE) allocated to this BMP.
EDU 1 Stormwater Education Program	Updated text to maintain accuracy* and clarity.
MON 1-5 Program Management & Monitoring	Updated text to maintain accuracy* and clarity.

*Use of the word “accuracy” does not mean the previous BMP description was incorrect; rather the procedures for BMPs may change slightly over time because of technology or other procedural policies.

4.3.7 GRESHAM’S SWMP

As described above, this stormwater management plan is organized into the six major components listed below.

- Component #1. Structural and Source Control BMPs to Reduce Pollutants from Commercial and Residential Areas (see Table 4.3.2)
- Component #2. A Program to Detect and Remove Illicit Discharges and Improper Disposal into the Storm Sewer System (see Table 4.3.3)
- Component #3. A Program to Monitor and Control Pollutants from Industrial Facilities (see Table 4.3.4)
- Component #4. A Program to Reduce Pollutants in Stormwater Discharges from Construction Sites (see Table 4.3.5)
- Component #5. Public Education BMPs (see Table 4.3.6)
- Component #6. Program Management and Monitoring (see Table 4.3.7)

For each component, the SWMP includes an overview that lists the CFR citation and DEQ issued permit requirements and a BMP to satisfy those requirements.

Each BMP contains the following information:

Purpose

Targeted Pollutants that are addressed by that BMP

Individual tasks that will be carried out as a result of that BMP including:

The responsible group

A description of implementation activities

Program commitment*

Permit year of commitment

Program goals (if any)**

Measurable Goals***

*Program Commitment includes the timeline for which the BMP will be initiated, implemented, or completed. “Ongoing” refers to an annual commitment to continue the BMP for the duration of the permit term.

**Program Goals are activities that the City has identified as potential program enhancements, should additional resources (staff time and budget) become available. The program commitments as stated presume that no additional resources will become available other than what is currently allocated. Moreover, in some cases, initiatives are planned for discussion and recommendation, but most are subject to legal review and City Council approval and are therefore not commitments at this time.

***Measurable Goals include the reportable outcome that will be tracked, recorded and reported in the annual report, such as street miles swept, debris removed, number of trees planted, number of persons reached, etc. Location is city-wide, unless otherwise noted.

Component #1 (RC 1-7)
**Structural and Source Control BMPs to Reduce Pollutants from Commercial
and Residential Areas**

Requirements listed below are from 40 CFR § 122.26 (d)(2)(iv)(A) and are further described in the NPDES MS4 permit as cited. The Gresham BMP activity titles are listed below each requirement. The details of the BMPs are listed in **Table 4.3.2**.

(1) Maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers. NPDES MS4 permit Schedule A. g. Pollution Prevention for Municipal Operations i. and h. Structural Stormwater Controls Operations and Maintenance Activities

RC 1 Stormwater System Maintenance Program:

- Pipe Cleaning
- Catch basin Cleaning
- Maintain Public Water Quality Facilities
- System Repair and Maintenance
- Manhole (Sedimentation & Control Release types) and Detention Line Cleaning
- Ensure Proper Disposal
- Underground Injection Control Maintenance and Cleaning

(2) Planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers that receive discharges from areas of new development and significant redevelopment. Such a plan must address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. NPDES MS4 Permit Schedule A. f. Post-Construction Site Runoff , g. Pollution Prevention for Municipal Operations vi., h. Structural Stormwater Controls Operations and Maintenance Activities and Schedule A 4 d. Education and Outreach iv.

RC 2 Planning Procedures:

- Water Quality Manual for New and Re-development
- Promote Low Impact Development (LID) Practices
- Private Water Quality Facility Maintenance Program
- Master Plan Update
- Urban Canopy Initiatives

(3) Practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities. NPDES MS4 Permit Schedule A g.

RC 3 Maintain Public Streets:

- Street Sweeping
- Deicing
- Standard Operating Procedures for Road Maintenance Activities

(4) Procedures to ensure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible. NPDES MS4 Permit Schedule A g. Pollution Prevention for Municipal Operations and Schedule A 6. Stormwater Retrofit Strategy Development

RC 4 Retrofit & Restore System for Water Quality:

- Water Quality Retrofits
- Enhance Riparian Areas

(5) A program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste. The description must identify priorities and procedures for inspections and establishing and implementing control measures for such discharges. NPDES MS4 Permit Schedule A g. Pollution Prevention for Municipal Operations

Monitor Pollutant Sources from Closed or Operating Municipal Waste Facilities:

City of Gresham SWMP

- Pollutant Source Evaluation

(6) A program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer that will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities. NPDES MS4 Permit Schedule A d. Education and Outreach vii. and g. Pollution Prevention for Municipal Operations

(Note: See also component #5 and Table 4.3.6 for educational BMPs associated with this requirement).

RC 6 Reduce Pollutants from Pesticides, Herbicides and Fertilizers:

- Integrated Pest Management Program

EDU 1 Stormwater Education Program

- Educate Businesses
- Educate Residents

TABLE 4.3.2 - Structural and Source Control BMPs to Reduce Pollutants from Residential and Commercial Areas (RC 1-6)

BMP Descriptions	BMP Implementation	Measurable Goals	Reporting Elements
<p>NPDES Permit Requirement – 40 CFR § 122.26 (d)(2)(iv)(A) (1) Maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers.</p> <p>NPDES MS4 permit Schedule A. g. Pollution Prevention for Municipal Operations and h Structural Stormwater Controls Operations and Maintenance Activities.</p>			
<p>Purpose: To promote efficient and effective maintenance of the stormwater system that will lead to the removal of targeted pollutants and optimize the function and lifespan of the MS4 system.</p>			
<p>Targeted Pollutants: Primarily anything that adsorbs to sediment such as: phosphorus, bacteria, metals, and organic compounds, and litter, as well as pollutants that dissolve readily in water and/or carry a negative charge (e.g. soaps and surfactants, chloride, nitrate, and phosphate).</p>			
<p>Introductory Note With Respect to Addressing this Requirement: The City performs maintenance as needed to ensure the proper functioning of the stormwater system with respect to both flow and water quality. Over the permit term, the City will optimize the effectiveness of its maintenance activities by shifting resources among the BMPs listed below to respond to on-the-ground needs, as necessary and as part of the City’s annual adaptive management process to ensure efficient and effective implementation of BMPs and notify DEQ as required by the NPDES MS4 permit. Measurable goals are provided for each BMP, but as the size of the public system continues to grow, the City may not always have proportional maintenance budget growth or staff allocations. Therefore, the level of effort on a specific BMP may vary over the permit term, but the City will endeavor to ensure that the total amount of resources does not fall below current levels.</p>			
<p>RC 1 Stormwater System Maintenance Program</p>			
<p>A. Pipe Cleaning</p>	<p>BMP Owner: Watershed Division Operations & Maintenance group</p> <p>Implementation Activities: The City’s stormwater system currently consists of approximately 220 miles of pipes that drain to both surface and groundwater. Cleaned lines are mapped and new sections of pipe are identified for cleaning each year. When crews conduct the cleaning, they can detect off-set joints and collapsed pipe which leads to repairs that will limit pollutants from being introduced into stormwater and protects the City’s investment over the long term.</p>	<p>Program Commitment: Clean & inspect 15-20 (7% to 9%) miles of pipe per year.</p> <p>Permit Year of Commitment: ongoing</p>	<ul style="list-style-type: none"> - Track number of pipe miles cleaned per year. - Track volume of materials collected per year.
<p>B. Catch basin Cleaning</p>	<p>BMP Owner: Watershed Division Operations & Maintenance group</p> <p>Implementation Activities: The City currently owns approximately 6,200 catch basins that drain to both surface and groundwater. This number grows by about 50 to 100 per year. When cleaning is complete, the catch basin lateral pipes are inspected and deficiencies are noted for repair. Maps of the maintenance areas are made</p>	<p>Program Commitment: Clean or inspect all (100%) publicly-owned catch basins that drain to surface water once per year.</p> <p>Permit Year of</p>	<ul style="list-style-type: none"> - Track number of catch basins cleaned per year. - Track volume of materials

Table 4.3.2 (continued)

BMP Descriptions	BMP Implementation	Measurable Goals	Reporting Elements
	annually to ensure efficient routes and scheduling.	Commitment: ongoing	collected per year.
<p>C. Maintain Public Water Quality Facilities</p>	<p>BMP Owner: Watershed Division Operations & Maintenance group</p> <p>Implementation Activities: The City currently owns and operates about 170 water quality facilities, some of which drain to groundwater. The City maintains a database to manage the inventory, maintenance, and cleaning details of the publicly-owned water quality facilities. From 2002-2007, the City prioritized the inspection and major cleaning of ponds, swales and proprietary devices. Based on these efforts, staff estimate that an average of 20-25 facilities per year will be cleaned to optimize performance. During certain years, major pond rehabilitation efforts and large regional water quality facility maintenance will be necessary. Therefore, during these years, the stated goal in terms of overall quantity may not be met, but an average will be met over the permit cycle.</p> <p><u>Regional Facilities:</u> (3 total)</p> <ul style="list-style-type: none"> • Kelly Creek Pond and Swale—drains 480 acres • Columbia Slough Water Quality Facility—drains 709 acres • Fairview Creek Water Quality Facility—drains 959 acres <p>Activities that may be conducted during cleaning include the following:</p> <p><u>Ponds:</u> (32 total) Litter pickup, mowing, weeding, invasive species removal, planting enhancements, and vegetation management to ensure adequate access to the appropriate structures of the pond, periodic excavation of sediments in the basin to ensure pollutant removal and periodic removal of woody debris buildup that clogs the inlet structure. Occasionally, rehabilitation of maintenance access roads is also necessary to support large equipment, resulting in considerable cost in a budget cycle and limiting the amount of facilities that can be addressed in a given year.</p> <p><u>Swales/Ditches/Rain Gardens:</u> (20 total) mowing, weeding, invasive species removal (infrequently), replanting, and occasional removal of</p>	<p>Program Commitment: On average, clean 20-25 (11% to 15%) facilities per year over the permit cycle. Annual cleaning totals may vary because of the intensive labor efforts needed to maintain the larger regional facilities in a particular year.</p> <p>Permit Year of Commitment: ongoing</p>	<ul style="list-style-type: none"> - Track number of and type of facilities inspected per year. - Track type of cleaning activities performed on each facility type each year. - Track volume of materials removed by cleaning each year.

Table 4.3.2 (continued)

BMP Descriptions	BMP Implementation	Measurable Goals	Reporting Elements
	<p>sediment build up and reconstruction as needed to maintain performance. The City is currently constructing two large road improvement projects that will substantially increase the total number of publicly maintained rain gardens within the first few years of the permit cycle that may cause future maintenance regimens to change.</p> <p><u>Proprietary Devices:</u> (113 total) (i.e., underground vaults with stormwater filters or vortechnic settling devices, currently over 500 cartridges to maintain) Maintenance of these devices includes sediment/debris removal by cleaning and filter cartridge replacement. Devices that have been installed for typically 4 years or less are inspected annually. Devices that are older than four years tend to require less frequent cleaning because of the presence of mature landscaping and fully developed neighborhoods and are therefore inspected every 2-3 years. Staff have typically replaced one to fifteen filters on each device inspected each year.</p>		
<p>D. System Repair and Maintenance</p>	<p>BMP Owner: Watershed Division Operations & Maintenance group</p> <p>Implementation Activities: This includes repair of the pipe system and minor maintenance to ditches, culverts, inlets, off-road systems, etc that helps reduce the incidence of flooding and helps protect the City’s investments. Records of repairs and locations are kept for long-term asset management and resource planning.</p>	<p>Program Commitment: Repair and maintain the publicly-owned system to enhance function and limit water quality pollutants.</p> <p>Permit Year of Commitment: ongoing</p> <p>Program Goal: Implement capital improvement projects as staff time and resources allow to retrofit off-road water quality facilities in order to provide ease of access for maintenance</p>	<p>-Track the number of hours dedicated to repair & maintenance activities.</p>

Table 4.3.2 (continued)

BMP Descriptions	BMP Implementation	Measurable Goals	Reporting Elements
		equipment.	
<p>E. Manhole/ Detention line Cleaning</p>	<p>BMP Owner: Watershed Division Operations & Maintenance group Implementation Activities: The City currently has approximately 165 sedimentation manholes and 137 control release manholes (CRMH) that are connected to detention lines that drain to both surface water and groundwater.</p>	<p>Program Commitment: Inspect 75% of manhole structures annually, as appropriate; clean detention lines only as needed, based on a visual inspection while cleaning the CRMH. Permit Year of Commitment: ongoing</p>	<ul style="list-style-type: none"> - Track number of structures cleaned/repaired. - Report volume of debris removed.
<p>F. Ensure Proper Debris Disposal</p>	<p>BMP Owner: City-wide Operations and Maintenance groups Implementation Activities: Debris from public infrastructure maintenance is taken to the City’s dewatering station where it is dumped and dried. The City’s dewatering station is plumbed to the wastewater system. The dried debris is hauled to a DEQ approved disposal site. The debris is tested on an annual basis to verify that it does not meet the definition of hazardous waste. To date, the debris from these activities has never required special disposal due to contamination.</p>	<p>Program Commitment: Ensure that the City utilizes environmentally sound disposal practices and services.</p>	<ul style="list-style-type: none"> -Keep records on annual disposal services utilized. -Keep annual debris testing data.
<p>G. Underground Injection Controls (UICs) Maintenance and Cleaning</p>	<p>BMP Owner: Watershed Division Operations & Maintenance groups Implementation activities: The City currently owns approximately 1,100 UICs. The City has mapped the locations of the UICs in GIS. A list has been developed that includes UICs that were acquired during the Multnomah County road transfer and were built without access. The City will be adding access so that these UICs can be cleaned. The City’s inventory of accessible UICs is on a maintenance and cleaning cycle. Future UIC maintenance and cleaning will be managed in accordance with the WPCF permit.</p>	<p>Program Commitment: Under the City’s UIC WPCF permit, report all maintenance and cleaning activities as required.</p>	<ul style="list-style-type: none"> -Keep records of annual maintenance locations and cleaning activities.

Table 4.3.2 (continued)

BMP Descriptions	BMP Implementation	Measurable Goals	Reporting Elements
<p>NPDES Permit Requirement - (2) <i>Planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers that receive discharges from areas of new development and significant redevelopment. Such a plan must address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. NPDES MS4 permit Schedule A. f. Post-Construction Site Runoff, g. Pollution Prevention for Municipal Operations, and h. Structural Controls Operations and Maintenance Activities</i></p>			
<p>Purpose: To promote effective development and implementation of City code and policies that will help limit stormwater pollutants.</p>			
<p>Targeted Pollutants: Primarily anything that adsorbs to sediment such as: phosphorus, bacteria, metals, and organic compounds, as well as pollutants that dissolve readily in water and/or carry a negative charge (e.g. soaps and surfactants, chloride, nitrate, and phosphate).</p>			

Table 4.3.2 (continued)

RC 2 Planning Procedures			
A. Water Quality Manual for New and Re-Development	<p>BMP Owner: Watershed Division, Development Engineering, Building Division</p> <p>Implementation Activities: The City’s current <i>Water Quality Manual/Green Development Practices Manual</i> provides guidance to developers that is needed for meeting the stormwater quality treatment requirements as prescribed in the <i>Gresham Community Development Code</i>, <i>Gresham Revised Code</i>, and the <i>Gresham Public Works Standards</i>.</p> <p>These <i>Manuals</i> illustrate and describe, the disturbance threshold for compliance, storm derivation for design standards, stormwater management principles and techniques that are aimed at achieving water quality goals, with a focus on preserving or mimicking the natural hydrologic cycle (use low impact development/green infrastructure techniques), whenever possible. These <i>Manuals</i> provide developers and design professionals with specific requirements for reducing the impacts of stormwater runoff (water quantity) and pollution (water quality) resulting from new development and redevelopment within the City of Gresham and is available on the City’s website.</p>	<p>Program Commitment:</p> <p>1) Implement the <i>Water Quality Manual</i> standards and biennially determine whether updates to the document are necessary. Update the document, at a minimum, once during the permit cycle.</p> <p>2) Provide training opportunities to <i>Manual</i> users whenever the <i>Manual</i> is significantly updated.</p> <p>Permit Year of Commitment: ongoing</p>	<ul style="list-style-type: none"> - Track the number, location, acreage and land use of new and re-development projects. - Track the number and type of private water quality facilities installed to comply with new development standards. - Delineate and GIS map the drainage areas of the private facilities installed to comply with new development standards. - Track training activities.

Table 4.3.2 (continued)

<p>B. Promote Low Impact Development (LID) Practices</p>	<p>BMP Owner: Watershed Division, Development Engineering, Building Department</p> <p>Implementation Activities: The City has two manuals that set the policy for the use of Low Impact Development (LID) for development. (Also referred to as Green Infrastructure in the City’s NPDES MS4 permit). The <i>Water Quality Manual</i> describes methods available to developers for reducing stormwater runoff volumes and delaying the peak stormwater runoff flows from developed sites.</p> <p>The City also has the <i>Green Development Practices for Stormwater Management Manual</i>, which was originally designed for development in the Pleasant Valley & Springwater plan areas. This manual contains a simplified approach that streamlines sizing, design and maintenance submissions which acts as an incentive to the development community to use LID. Since the manual’s inception, it has commonly been utilized for stormwater management for development throughout the city, where LID is appropriate.</p> <p>While the water quality treatment standards are required, developers are afforded flexibility in BMP selection based on their various site considerations such as cost, topography, safety, drainage, full build out intent, etc. However, the primary factor they are required to consider includes surface infiltration to mimic the natural hydrologic cycle. If on-site stormwater management methods are not feasible, the City’s options for determining alternative options are described in the <i>Gresham Community Development Code</i>.</p> <p>The City also adopted <i>Green Street Standards</i> for the Pleasant Valley & Springwater areas in July 2007 that include standard details for rain gardens and stormwater planters in the street right-of-way. Standard cross-sections, plan views, and details make it easy for developers and City design staff to incorporate into new projects across the city, in addition to the Pleasant Valley and Springwater area.</p> <p>The City will continue to evaluate the <i>Water Quality Manual</i>, the <i>Green Streets Standards</i>, and <i>Green Development Practices Manual</i> to further refine and incorporate LID BMPs where appropriate.</p>	<p>Program Commitment: Implement practices or programs that promote the use of low impact development techniques and report on activities annually.</p> <p>Permit Year of Commitment: ongoing</p> <p>Program Goal: Add Low Impact Development requirements to the Water Quality Manual such that at least 90% of new development projects are utilizing LID practices to manage stormwater in portions of the city appropriate for this BMP*.</p> <p>*Subject to approval by City Council.</p>	<p>- Track the location, drainage area and type of LID practices that are implemented.</p>
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Table 4.3.2 (continued)

<p>C. Private Water Quality Facility Maintenance Program</p>	<p>BMP Owner: Development Engineering, Watershed Division</p> <p>Implementation Activities: The City collects an agreement between the developer and the City regarding how any water quality treatment facilities associated with private property will be maintained. These maintenance agreements note the type of water quality treatment facility constructed, type and frequency of maintenance to be conducted and the frequency of inspection by the owner necessary to ensure proper functioning. The agreements are reviewed by Development Engineering staff and/or WD Engineering staff for completeness. Requested changes, if any, are resubmitted to the developer for correction.</p> <p>A Memorandum of Agreement (MOA) to maintain stormwater facilities is then filed with Multnomah County prior to recordation of the plat. If a plat is not required as part of the development, the MOA is recorded prior to approval of the construction plans. The original copy of the maintenance agreement and a photo copy of the MOA are kept on file at the City.</p> <p>The WD Engineering and the WD Operations & Maintenance groups maintain a tracking database of the status of all requested and finalized agreements. There are currently just over 130 locations with private water quality facilities. Approximately 93 of these facilities have agreements on file, 15 facilities were built before the requirement was implemented, and 25 facilities are without recorded agreements.</p> <p>The City collects data on all newly installed facilities, including an estimate of the treated area. These estimates are mapped in the GIS system for planning and evaluation purposes.</p> <p>See Also: Stormwater Education Program (See Table 4.3.6) A description of the City’s education BMP for privately-owned or operated stormwater quality management facilities is included under Component #5, in Table 4.3.6.</p>	<p>Program Commitment:</p> <p>1) Collect and record maintenance agreements for private water quality facilities that legal code allows.</p> <p>Permit Year of Commitment: ongoing</p> <p>2) Develop a program to ensure private facilities are being adequately maintained. The goals for program development include example actions such as the following:</p> <ul style="list-style-type: none"> ▪ Collection of maintenance agreements for those facilities without recorded agreements using technical assistance. ▪ Self reporting requirements/Internal auditing of paperwork ▪ Inspections of facilities <p>Permit Year of Commitment: PY 16 and ongoing</p>	<p>- Track the number, type, year installed, and watershed location for all private water quality facilities.</p> <p>- Report progress on program development related to private facility maintenance annually in PY 16 and ongoing.</p>
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Table 4.3.2 (continued)

		<p>Program Goals:</p> <ul style="list-style-type: none"> ▪ Create an on-line submittal form for maintenance agreements to streamline the submittal process for developers.* ▪ To take advantage of the City's new civil penalty authority, consider changing code to require maintenance according to a maintenance manual. This could make maintenance agreements obsolete.* <p>*This requires financial resources and staff time that is not currently available.</p>	
<p>D. Master Plan Update</p>	<p>The City has updated all of its master plans to include water quality as part of the overall planning effort. These plans are expected to be effective for approximately 20 years.</p> <p>Updated Original Stormwater Master Plans: Fairview Creek Master Plan (May 2003) West Gresham (Columbia Slough) (April 2005) Johnson Creek Master Plan (December 2005) Kelly Creek Master Plan (November 2007)</p>	<p>Program Commitment: Include water quality goals in the City's master plans.</p>	<p>-Report on updates to Master Plans. -Master plan project implementat</p>

Table 4.3.2 (continued)

	<p>New Master Plans: Pleasant Valley Master Plan (July 2004) Springwater Master Plan (December 2005) Johnson Creek Master Plan Executive Summary including Pleasant Valley and Springwater (January 2006) Pleasant Valley Stormwater Master Plan (Updated 2007) Natural Resource Master Plan (expected to be completed 2011-12): This plan will allow for prioritized, phased implementation of floodplain reconnection, bank stability, invasive removal and planting projects for full-function of City's riparian and wetland natural resource areas.</p>	<p>Permit Year of Commitment: PY 17</p>	<p>ion with water quality benefits are reported in BMP RC4: Water Quality Retrofits</p>
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Table 4.3.2 (continued)

<p>E. Urban Canopy Initiatives</p>	<p>BMP Owners: Watershed Division, Urban Design & Planning Department</p> <p>Implementation Activities: The City of Gresham recognizes that trees in an urban setting are an integral part of a variety of approaches to offset impervious surface runoff caused by urban development. They intercept rain, infiltrate stormwater, and evapotranspire water, all of which are effective at slowing and reducing stormwater runoff.</p> <p>In recent years the City has adopted additional stream protection overlays known as habitat conservation areas that conform to Metro's Title 13 Urban Growth Functional Plan and afford additional protection to riparian areas, wetlands, and certain upland areas from most types of development.</p>	<p>Program Commitment: 1) Create and Implement an Urban Forestry Management Plan by November 1, 2012</p> <p>2) Utilize Code Compliance staff to help ensure urban canopy objectives are supported.</p> <p>3) Collect fines from tree removal violations that may be used for tree replacement efforts.</p> <p>4) Review code to ensure urban canopy objectives are supported.</p> <p>5) Conduct community outreach to help achieve urban canopy protection goals in accordance with</p>	<p>-1) Report on the progress of creating the Urban Forestry Management Plan and annually report on the status of the Plan's implementation</p> <p>-2) Report the number of Code Compliance investigations and outcomes related to tree protection objectives.</p> <p>-3) Report outcomes that result from the collection of tree removal fines.</p> <p>-4) Report code changes, as applicable. See MON 2: Legal Authority and Code Review.</p> <p>-5) Report the type/number of outreach activities conducted and</p>
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Table 4.3.2 (continued)

		<p>the urban forestry strategic plan.</p> <p>Permit Year of Commitment: PY 16-ongoing</p>	<p>estimated persons reached. See EDU 1: Stormwater Education Program.</p>
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Table 4.3.2 (continued)

NPDES Permit Requirement - (3) *Practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities. NPDES MS4 permit Schedule A. g. Pollution Prevention for Municipal Operations*

Purpose: To promote efficient and effective maintenance activities related to the management of the City's streets in order to limit pollutants to stormwater.

Targeted Pollutants: Primarily anything that adsorbs to sediment such as: phosphorus, bacteria, metals, and organic compounds, and litter, as well as pollutants that dissolve readily in water and/or carry a negative charge (e.g. soaps and surfactants, chloride, nitrate, and phosphate).

Table 4.3.2 (continued)

RC 3 Maintain Public Streets			
A. Street Sweeping	<p>BMP Owner: Transportation Division</p> <p>Implementation Activities: The City of Gresham Transportation Division has contracted out for services to provide street sweeping for the majority of the city during the months of March through December. The City entered a new contract in early 2010 that has an option to renew up to four additional years beyond the first year.</p> <p>Additionally, the City owned-sweeper will provide supplemental sweeps, including weekly sweeps of the downtown commercial district and enhanced leaf pickups in the fall for the Watershed Division. The City’s prioritization for using its own sweeper focuses on higher vehicular use areas, higher pedestrian traffic areas downtown, City-owned parking lots, and removal of accumulated leaves in the fall to prevent flooding. The City may also respond, if necessary, to small traffic accident clean up needs and clean up of excess sediment or landscaping materials on streets and illegal construction debris dumping that sometimes occurs during new development.</p> <p>The City has reviewed national data related to the effects of street sweeping on water quality. To date, study findings are inconclusive or contradictory about what the optimal frequency of sweeping and type of machinery to use in order to maximize water quality effects. Therefore, the City has selected the frequency which can be completed by the contractor based on current road miles, maximum miles per hour of the street sweeper, and weather. (Currently, there is little return for sweeping during the wettest months of January and February because the volume of water collected greatly exceeds the sediment collected, in turn requiring frequent decanting, making the effort very inefficient.) In order to gain extra sweeps during the dry months, an additional truck and driver would have to be employed, which drives up the cost significantly. There are currently no additional resources to conduct enhanced frequencies at this time.</p>	<p>Program Commitment: Provide 8-10 sweeps of the city per year.</p> <p>Permit Year of Commitment: ongoing</p>	<p>- Track & report the number of sweeps per year, total miles swept and total debris collected.</p>

Table 4.3.2 (continued)

<p>B. Deicing</p>	<p>BMP Owner: Transportation Division, Watershed Division</p> <p>Implementation Activities: The City of Gresham road safety and management procedures are described in a winter response standard operating procedure that is designed to maximize public safety and limit negative impacts to the environment. The techniques utilized by the City are planned in order to limit applications of sand and gravel, which are estimated to be 50% to 70% recoverable and to minimize overspray or travel of anti-icing and deicing products. The City’s Watershed Division assists the Transportation Division by evaluating products using performance, cost, environmental impacts, and corrosivity to determine the best options for use. This report is titled, <i>Anti-icing and Deicing Product Assessment</i> and is available upon request.</p>	<p>Program Commitment:</p> <p>Continue to implement deicing activities in a manner that limits impacts to water quality.</p> <p>At least once per permit cycle, review the <i>Anti-icing and Deicing Product Assessment</i>, update if needed to reflect new data or products.</p> <p>Permit Year of Commitment: ongoing</p>	<ul style="list-style-type: none"> - Track and report an estimate of sand/gravel and deicing product applied to Gresham roads. -Track the miles of road to which sand/gravel or deicing products are applied.
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Table 4.3.2 (continued)

<p>C. Standard Operating Procedures for Road Maintenance Activities</p>	<p>BMP Owner: Transportation Division, WD Natural Resource program</p> <p>Implementation Activities: The City has developed a manual titled “<i>Standard Operating Procedures for Wetland, Waterway, and Habitat Protection</i>” to guide City staff and contractors in resource protection efforts when working near jurisdictional resources. This Manual was initially based on ODOT's routine road maintenance manual, which they developed in collaboration with NOAA fisheries to gain limit 10 protection under the endangered species act. Gresham’s practices include use of the ODOT standards, plus additional policies/standard operating procedures staff deemed necessary for identification and protection of jurisdictional resources areas, listed species and their habitats, and water quality.</p> <p>The Manual is updated as necessary to reflect any regulatory changes, or to include information on new species/habitat discoveries, new BMPs, or clarifying information. The first training on the Manual was held march 2009, and was provided to all operations, engineering, and planning staff.</p> <p>Staff responsible for permitting projects or overseeing staff or contractors working on tasks with a reasonable potential to impact resources areas, listed species and their habitats, or water quality, are required to attend trainings.</p>	<p>Program Commitment: Implement a road maintenance program that will limit impacts to water quality.</p> <p>Permit Year of Commitment: Biennially train appropriate staff (PY 16 and ongoing)</p> <p>Monitor Program Implementation (PY 16 and ongoing)</p> <p>Adaptively manage the program based on monitoring feedback & results. (PY 16 and ongoing)</p>	<p>- Track and report implementation of training activities.</p> <p>- Report changes to the SOPs annually, if updated.</p>
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Table 4.3.2 (continued)

<p>NPDES Permit Requirement - (4) Procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible. NPDES MS4 permit Schedule A. g. Pollution Prevention for Municipal Operations and Schedule A h. Structural Stormwater Controls Operation and Maintenance Activities and 6. Stormwater Retrofit Strategy Development</p>			
<p>Purpose: To promote effective implementation of the capital improvement program projects and riparian/wetland restoration projects in order to maximize stormwater water quality benefits and enhance stream channel function and wildlife habitat, whenever possible.</p>			
<p>Targeted Pollutants: Primarily anything that adsorbs to sediment such as: phosphorus, bacteria, metals, and organic compounds, as well as pollutants that dissolve readily in water and/or carry a negative charge (e.g. soaps and surfactants, chloride, nitrate, and phosphate).</p>			
<p>RC 4 Retrofit & Restore System for Water Quality</p>			
<p>A. Water Quality Retrofits</p>	<p>BMP Owner: Watershed Division Engineering group</p> <p>Implementation Activities: The City looks for opportunities to retrofit the existing storm system through the development of stormwater master plans, all recently updated for the four major watershed areas in Gresham including: Fairview Creek, Johnson Creek, Kelly Creek, and the Columbia Slough. These master planning efforts result in capital improvement projects (CIPs) that are based on water quality, habitat & riparian buffer restoration, flood control, and conveyance.</p> <p>The CIPs within each Master Plan are ranked and prioritized per watershed for short, medium and long range planning. All projects from all watersheds are then re-ranked in the CIP ranking system to look at city-wide needs, not just the needs within one watershed. Additionally, projects that have more of a regional benefit for the community are given more weight. Other ranking factors include: environmental impact, cost, and public safety.</p> <p>The current CIP list is scheduled for implementation over a 20-year period. The CIP process is based on a rolling 5-year plan, with each year's plan extended to account for the projects that were completed from the previous year and then adding one more year's worth of projects.</p>	<p>Program Commitment: Implement a CIP program that will help mimic the natural hydrologic cycle and reduce or treat stormwater pollutants and promote stream protection and enhancement in accordance with the City's Water Quality and Green Development Practices Manuals.</p> <p>Permit Year of Commitment: ongoing</p> <p>Program Commitment: Document a stormwater retrofit strategy for developed areas that are underserved or lacking stormwater controls in a stormwater retrofit plan.</p> <p>Permit Year of Commitment: November 1, 2014</p>	<p>- Track the number, type, watershed location and total drainage area of CIPs constructed for water quality.</p>

Table 4.3.2 (continued)

<p>B. Enhance Riparian Areas</p>	<p>BMP Owner: Watershed Division Natural Resources program</p> <p>Implementation Activities: This program is primarily spearheaded by the Natural Resources Program Coordinator, whose position is funded by all DES Divisions, but whose operating budget comes solely from the Watershed Division. Efforts related to riparian restoration are generally supported through partnerships with various community groups, Watershed Councils, volunteers, and occasional grant funding. Through master planning, watershed Council action plans and riparian inventories, various types of priority projects have been identified for each major watershed including: removal of invasive species, restoring and expanding riparian buffers, planting of multi-story native plant populations, channel stabilization, and support of critical habitat (i.e., placement of large woody debris, and creation of backwater pond areas).</p>	<p>Program Commitment: The City will continue to seek collaboration, partnerships and grant funding in order to implement riparian enhancement projects that will help reduce the amount of stormwater pollutant sources.</p> <p>Permit Year of Commitment: ongoing</p>	<ul style="list-style-type: none"> - Track and describe riparian enhancement activities by location - Estimate number of volunteers/partners involved, where applicable - Estimate of acreage enhanced and total plants installed or invasives removed.
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Table 4.3.2 (continued)

<p>NPDES Permit Requirement - (5) <i>A program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste. The description must identify priorities and procedures for inspections and establishing and implementing control measures for such discharges. NPDES MS4 permit Schedule A. g. Pollution Prevention for Municipal Operations</i></p>			
<p>Purpose: To ensure that the City has no stormwater pollutant sources stemming from runoff in closed municipal landfills.</p>			
<p>Targeted Pollutants: Primarily anything that dissolves readily in water and/or carries a negative charge (e.g. soaps and surfactants, chloride, nitrate, and phosphate).</p>			
<p>RC 5 Monitor Pollutant Sources from Closed or Operating Municipal Waste Facilities</p>			
<p>Pollutant Source Evaluation</p>	<p>BMP Owner: Watershed Division</p> <p>Implementation Activities: There are currently no operating landfills or other treatment, storage or disposal facilities for municipal waste within the City’s jurisdiction.</p> <p>There is an existing closed landfill that was formerly the Multnomah County dump, also sometimes referred to as Vance Pit. WD staff hired a consultant to conduct an evaluation to determine its potential to contribute stormwater pollutants to the publicly-owned system. The consultant found no significant potential for the site to contaminate stormwater. The report is available upon request.</p>	<p>Program Commitment:</p> <p>Ensure that any new municipal waste facilities within the City’s permitted area are appropriately permitted and designed, in order to limit the potential for pollutants to enter stormwater.</p>	<p>- Report any new facilities and assessment results.</p>
<p>NPDES Permit Requirement - (6) <i>A program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer that will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities. See also Component #5 Stormwater Education BMP. NPDES MS4 permit Schedule A. g. Pollution Prevention for Municipal Operations and Schedule A 4 d. Education and Outreach vii.</i></p>			
<p>Purpose: To reduce stormwater pollutant sources from public lands.</p>			
<p>Targeted Pollutants: Primarily anything that dissolves readily in water and/or carry a negative charge (e.g. soaps and surfactants, chloride, nitrate, and phosphate).</p>			
<p>RC 6 Reduce Pollutants from Pesticides, Herbicides and Fertilizers</p>			
<p>Integrated Pest Management Program</p>	<p>BMP Owner: City-wide Operations & Maintenance Divisions</p> <p>Implementation Activities: The purpose of this BMP is to reduce stormwater pollutants stemming from the use of pesticides, herbicides and fertilizers by addressing the need for, alternatives to, and methods of chemical applications in landscaping, open space management, roadside ditch maintenance, and public facility maintenance. Integrated Pest Management (IPM) is an effective and environmentally sound approach to pest management. Unlike any single method of pest control, IPM programs balance costs, benefits, public health and environmental quality, and avoid unnecessary applications of pesticides, herbicides, and fertilizers. This is accomplished by focusing on correcting conditions that encourage pests and strategically selecting the locations and number of times that pest populations are</p>	<p>Program Commitment:</p> <ol style="list-style-type: none"> 1) Review and evaluate the IPM Plan biennially and, at a minimum, update at least once per permit cycle. 2) Conduct staff training. 3) Annually review the list of City approved pesticides to ensure the most current environmental information is being applied to what is 	<p>- Track frequency of staff trainings and number of staff trained.</p> <p>- Report updates to the plan.</p> <p>- Track quantities and types of pesticide, herbicides and fertilizer application.</p>

Table 4.3.2 (continued)

	<p>addressed to maximize the effectiveness of chemical treatment while minimizing the number of applications.</p> <p>The City of Gresham updated their Integrated Pest Management Plan (IPMP) in 2007 based on the City of Portland’s latest version. During 2008-2011, the WD staff continue to develop and evaluate the policies to ensure their effectiveness and ability to be applied effectively by staff. Notably, staff identified a lack of local or state integrated pest management trainings and/or certifications as one of the challenges to the ease of implementing this BMP. Staff will continue to develop or seek state and regional support for IPM trainings to further hone this program’s efficiency and effectiveness.</p> <p>Of further note, reductions in the State’s general fund allocations have created extreme public utility worker shortages with regard to park management and natural areas, as well as operating budget funding that would be used to hire subcontractors. This further limits the City’s ability to avoid the use of pesticides altogether, due to the fact that organic approaches require more human hours for maintenance. The City is committed to identifying a balance of IPM techniques combined with chemical applications within the resources allocated for this purpose.</p>	<p>prescribed by staff.</p> <p>Permit Year of Commitment:</p> <p>Evaluate and update the IPMP in PY 16.</p> <p>Train all staff: PY 16-17 and ongoing as policies are updated.</p> <p>Program Goals: *</p> <ol style="list-style-type: none"> 1) Encourage other public agencies within the Gresham city limits such as TriMet and the School Districts to adopt the IPM Plan if resources allow. 2) Create a pesticide-free park to enhance public education if resources allow. 3) Develop a training for municipal employees to supplement the training that occurs during the state of Oregon licensing process, as needed if resources allow. <p>*These are dependent on staff time available to coordinate the project, partnerships and neighborhood commitment due to funding and labor shortages.</p>	
<p>Stormwater Education Program (See Table 4.3.6)</p>	<p>A description of the City’s education BMP for construction site operators is included under Component #5, in Table 4.3.6.</p>		<p>See Table 4.3.6</p>

Table 4.3.2 (continued)

Component #2 (ILL 1-7)
**A Program to Detect and Remove Illicit Discharges and Improper Disposal
Into the Storm Sewer System**

Requirements listed below are from 40 CFR § 122.26 (d)(2)(iv)(A) except where noted and are further described in the NPDES MS4 permit as cited. The Gresham BMP activity titles are listed below each requirement. The details of the BMPs are listed in **Table 4.3.2**.

NPDES MS4 Permit #101315 Schedule A 4 a. Illicit Discharge Detection and Elimination xii. Unless the following non-stormwater discharges are identified in a particular case as a significant source of pollutants to waters of the State by the permittee or the Department, they are not considered illicit discharges and are authorized by this permit: water line flushing; landscape irrigation; diverted stream flows; rising ground water; uncontaminated ground water infiltration; uncontaminated pumped ground water; discharges from potable water sources, start up flushing of groundwater wells; potable groundwater monitoring wells; draining and flushing of municipal potable water storage reservoirs; foundation drains; air conditioning condensate; irrigation water; springs; water from crawl space pumps; footing drains; lawn watering; individual residential car washing; charity car washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; street wash waters; discharges of treated water from investigation, removal and remedial actions selected or approved by the Department pursuant to Oregon Revised Statute (ORS) Chapter 465; and, discharges or flows from emergency fire fighting activities.

NPDES MS4 Permit Schedule A 4 d. Education and Outreach vii.

ILL 1 Non-Stormwater Discharge Controls

- Control Releases from Fire Training Activities
- Water Line Flushing
- See also Table 4.3.6 Educate Residents & Educate Businesses

(2) Procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens; NPDES MS4 Permit Schedule A 4. a Illicit Discharge Detection and Elimination

(3) Procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water [such procedures may include: sampling procedures for constituents such as fecal coliform, surfactants (MBAS), residual chlorine, fluorides and potassium; testing with fluorometric dyes; or conducting in storm sewer inspections where safety and other considerations allow.] Such a description must include the location of storm sewers that have been identified for such evaluation. NPDES MS4 Permit Schedule A 4. a. Illicit Discharge Detection and Elimination

ILL 2 & 3 Illicit Discharges Elimination Program (IDEP):

- Field Screening and Investigation
- CCTV New Development Stormwater Pipe

(4) Procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer. NPDES MS4 Permit Schedule A 4. a. Illicit Discharge Detection and Elimination and Schedule A 4 d. Education and Outreach vii.

ILL 4 Spill Response Program:

- Spill Response
- Spill Prevention
- Maintain Public Vehicles

(5) A program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers. NPDES Permit Schedule A 4. d. Education and Outreach viii.

ILL 5 Facilitate Public Reporting and Respond to Citizen Concerns

(6) Educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials. NPDES MS4 Permit Schedule A 4. d. Education and Outreach iii.

ILL 6 Facilitate Proper Management of Used Oil and Toxics

(7) Controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary. NPDES MS4 Permit Schedule A 4. g. Pollution Prevention for Municipal Operations

ILL 7 Limit Sanitary Sewer Discharges

See Table 4.3.3 for more detailed descriptions of the City's BMPs that address the requirements that are listed above.

**TABLE 4.3.3 - BMPs to Detect and Remove Illicit Discharges and Improper Disposal
Into the Storm Sewer System (ILL 1-7)**

BMP Descriptions	BMP Implementation	Measurable Goals	Reporting Elements
<p>NPDES Permit Requirement - NPDES MS4 Permit #101315 Schedule A 4. a. Illicit Discharge Detection and Elimination xii. Unless the following non-stormwater discharges are identified in a particular case as a significant source of pollutants to waters of the State by the permittee or the Department, they are not considered illicit discharges and are authorized by this permit: water line flushing; landscape irrigation; diverted stream flows; rising ground water; uncontaminated ground water infiltration; uncontaminated pumped ground water; discharges from potable water sources, start up flushing of groundwater wells; potable groundwater monitoring wells; draining and flushing of municipal potable water storage reservoirs; foundation drains; air conditioning condensate; irrigation water; springs; water from crawl space pumps; footing drains; lawn watering; individual residential car washing; charity car washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; street wash waters; discharges of treated water from investigation, removal and remedial actions selected or approved by the Department pursuant to Oregon Revised Statute (ORS) Chapter 465; and, discharges or flows from emergency fire fighting activities.</p> <p><i>Schedule A 4 d. Education and Outreach vii.</i></p>			
<p>Purpose: To promote effective development and implementation of City code and policies that will help limit stormwater pollutants.</p>			
<p>Targeted Pollutants: Primarily anything that adsorbs to sediment such as: phosphorus, bacteria, metals, and organic compounds, as well as pollutants that dissolve readily in water and/or carry a negative charge (e.g. soaps and surfactants, chloride, nitrate, and phosphate).</p>			
<p>ILL 1 Non-Stormwater Discharge Controls</p>			
<p>A. Control Releases from Fire Training Activities</p>	<p>BMP Owner: Fire Department</p> <p>Implementation Activities: This BMP includes procedures to limit pollutants to stormwater while conducting fire training activities.</p> <ul style="list-style-type: none"> • Utilize catch basin filter inserts when conducting activities at the Fire Training Facility using foam. • Conduct off-site fire training activities in vegetated areas that will capture and filter the water & foam releases, whenever possible. • If vegetated areas cannot be utilized for off-site fire training, then install catch basin filter inserts at downstream drain sites. 	<p>Permit Year of Commitment: ongoing</p>	<p>- Document fire training protocols for stormwater protection and train staff</p>
<p>B. Water Line Flushing</p>	<p>BMP Owner: Water Division</p> <p>Implementation Activities: The Water Division periodically flushes all public</p>	<p>Permit Year of Commitment: ongoing</p>	<p>-Train employees on standard operating</p>

Table 4.3.3 (continued)

BMP Descriptions	BMP Implementation	Measurable Goals	Reporting Elements
	<p>water lines to ensure the reliability of all valves and hydrants in addition to removing organic sediments that have collected in the water system. Flow capacity data is also collected from fire hydrants during flushing activities. Flushing typically occurs from October to May. To avoid impacts to sensitive stormwater collection basins, detention ponds and/or swales discharges are flushed into the wastewater collection system on a case by case basis. Other activities to minimize impacts to discharges that enter the storm system include the following:</p> <ul style="list-style-type: none"> • All large discharges from the water system are dechlorinated with the use of a dechlorinator (injector) and applicable and appropriate treatment chemicals. • Catch basin inserts and bio bags are used to help filter excess sediments from the water before it enters the stormwater system. • Discharges are monitored for chlorine levels, sedimentation removal, and flow rates. 		<p>procedure to minimize impacts to local streams.</p> <p>-Annually report gallons flushed.</p>
<p>Stormwater Education Program (See Table 4.3.6)</p>	<p>A description of the City’s public education BMP related to reducing non-stormwater discharges is included under Component #5, in Table 4.3.6.</p>		<p>See Table 4.3.6</p>

Table 4.3.3 (continued)

NPDES Permit Requirement - (2) *Procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens; and*

(3) Procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water [such procedures may include: sampling procedures for constituents such as fecal coliform, surfactants (MBAS), residual chlorine, fluorides and potassium; testing with fluorometric dyes; or conducting in storm sewer inspections where safety and other considerations allow.] Such a description must include the location of storm sewers that have been identified for such evaluation. NPDES MS4 Permit Schedule A 4. a. Illicit Discharge Detection and Elimination

III 2 & 3 Illicit Discharges Elimination Program

Table 4.3.3 (continued)

<p>A. Field Screening and Investigation</p>	<p>BMP Owner: Watershed Division</p> <p>Implementation Activities: Gresham Revised Code (GRC) Chapter 3 Article 3.23 Discharge Regulations provides the City with the legal authority to implement their illicit discharges elimination program.</p> <p>As required by the permit and described within the Monitoring Plan, conduct dry weather field screening at high priority outfalls, at a minimum of once per calendar year. (See Monitoring Plan for a list of sites that are also mapped using GIS.) Screening consists of documented visual observations, uncharacteristic odors and certain field measurements. If measurements fall above expected pollutant values per City protocol, staff collect samples for laboratory analyses of additional parameters. As appropriate, follow up with additional investigation within the suspect drainage by monitoring additional manholes to assist with source identification, which may include visual inspection, smoke or dye testing and/or use of closed circuit television, and additional laboratory analysis. Work with the source to eliminate the illicit discharge within 15 working days or to develop an action plan within 20 working days or use standardized city procedure for routine/common types of illicit discharges.</p>	<p>Program Commitment: The City will continue to conduct dry weather field screening and follow up procedures as described in the Monitoring Plan.</p> <p>Permit Year of Commitment: ongoing</p> <p>Program Commitment: Document an enforcement response plan for illicit discharges that describes the procedures the City will implement when an illicit discharge investigation identifies a responsible party.</p> <p>Permit Year of Commitment: by Nov 1, 2011</p> <p>Program Commitment: Document pollutant parameter action levels and rationale.</p>	<ul style="list-style-type: none"> - Track number of and location of the outfalls inspected. - Track number and location of illicit discharges and/or connections identified. - Describe follow-up actions for identified illicit discharges and/or connections. -Include documentation in the 2011 Annual Report. - Submit documentation to DEQ by July 1, 2012.
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Table 4.3.3 (continued)

		<p>Permit Year of Commitment: By July 1, 2012</p> <p>Program Commitment: Map priority illicit discharge monitoring locations</p> <p>Permit Year of Commitment: By July 1, 2012</p>	<p>-Include in the Monitoring Plan</p>
<p>B. CCTV New Development Stormwater Pipes</p>	<p>BMP Owner: Watershed Division Operations & Maintenance group</p> <p>Implementation Activities: Conduct closed-circuit television (CCTV) inspections of new stormwater pipes installed during development projects. This activity is conducted prior to paving in order to identify installation defects and illicit connections that would cause pipe malfunction or introduce stormwater pollutants. Any noted deficiencies or illicit connections are referred to the appropriate Division for follow-up. The pipes are re-inspected during the final inspection for project acceptance by the City of Gresham.</p>	<p>Program Commitment: CCTV at least 80% of all the new pipes installed in the City.</p> <p>Permit Year of Commitment: ongoing</p>	<p>-Track the number of stormwater pipe miles inspected as a percentage of the total stormwater pipes installed.</p>

Table 4.3.3 (continued)

<p>NPDES Permit Requirement - (4) Procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer. NPDES MS4 Permit Schedule A 4. a. Illicit Discharge Detection and Elimination and Schedule A 4 d. Education and Outreach vii.</p>				
<p>Purpose: To promote effective development and implementation of City code and policies that will help limit stormwater pollutants.</p>				
<p>Targeted Pollutants: Primarily anything that adsorbs to sediment such as: phosphorus, bacteria, metals, and organic compounds, as well as pollutants that dissolve readily in water and/or carry a negative charge (e.g. soaps and surfactants, chloride, nitrate, and phosphate).</p>				
<p>ILL 4 Spill Response Program</p>				
<p>A. Spill Response</p>	<p>BMP Owner: Watershed Division, Code Compliance</p> <p>Implementation Activities:</p> <p>Hazardous Substances/Threats to the Environment:</p> <p>When there is a hazardous substance spill or a spill of any other substance that:</p> <ul style="list-style-type: none"> • Is hazardous in any quantity • Is non-hazardous and greater than 42 gallons on the ground, • Is any quantity that has entered a waterway <p>Gresham staff either notifies the Oregon Emergency Response System (OERS), or tells the responsible party that they must notify OERS. OERS then notifies DEQ and Gresham HazMat (if necessary) and other state and local agencies that may be affected. The responsible party, if identified, is required to contact an environmental clean-up company and pay for clean-up costs. Examples could include a 55 gallon drum of restaurant grease or sanitary sewer overflows on private property resulting in or having the risk of resulting in discharges to the public stormwater system. DEQ typically remains the enforcement authority in these cases. In some cases, DEQ may ask Gresham staff to oversee the clean-up and report back to DEQ. DEQ may choose to enforce against the responsible party under the following conditions: 1) the party has acted maliciously, 2) the party is a repeat offender, or 3) the party has failed to report the incident to DEQ.</p> <p>Non-Hazardous Substances:</p> <p>Watershed Management operations staff will investigate and provide emergency containment and cleanup, as necessary for identifiable substances that are labeled and are not hazardous. If the responsible party can be identified, they are directed to provide containment and site cleanup and the City will oversee the process to ensure compliance.</p> <p>If the spill is an imminent threat to waters of the state, the City reserves the right to provide clean-up and bill the responsible party for the work. The responsible party will be invoiced for any response and cleanup provided by the City. Examples include spills or</p>		<p>Program Commitment:</p> <p>1) Implement the City’s Spill Response Protocol and conduct periodic review of the document to ensure efficacy.</p> <p>2) Ensure proper training of staff responsible for implementing the spill response protocol.</p> <p>Permit Year of Commitment: ongoing</p>	<p>- Track the number, type and location of spills* that occur and the approximate quantity of material spilled.</p> <p>- Track the response activities.</p> <p>*Does not include traffic accidents.</p>

Table 4.3.3 (continued)

	<p>dumping of paint, auto fluids, carpet cleaning wastes or concrete, etc. into catch basins or onto the street. Unidentifiable substances will be treated as hazardous and referred to a licensed disposal contractor to reduce risk to City employees responding to spills.</p> <p>In non-emergency situations, such as stockpiling landscaping materials in the street or dumping yard debris on private property near a stream bank, staff will notify the responsible party, verbally and in writing and specify a timeframe for clean up. Staff will either refer the incident to Code Compliance if the responsible party does not respond within the specified time frame or take enforcement action directly. NPDES staff and Code Compliance have the authority to issue Abatement Procedures, Violations or Civil Actions.</p> <p>Because the state will not assist with cleanup of non-hazardous spills less than 42 gallons, and because the City’s equipment is not designed to cleanup spills over 5 gallons, the City will typically utilize private clean-up contractors to deal with spills between 5 and 42 gallons and less than 5 gallons when the substance is unidentifiable, if no responsible party can be found.</p> <p>Releases from Traffic Accidents:</p> <p>If there is a spill of automotive fluids resulting from a traffic accident, typically, the Fire Dept will spread an absorbent compound (usually clay) and specialized absorbent pads on automotive fluids and direct the towing company to assist with cleanup, or contact the Watershed Division if additional assistance is needed. Buckets are placed underneath dripping fluids. The road is swept and cleaned and, when necessary, additional protection is placed around the catch basins. Large leaking spills from commercial vehicles or semi-trucks are captured using a children’s plastic pool and are disposed of by the HazMat Team. From a legal standpoint, the generator of the spill is responsible; therefore the waste materials are bagged and placed inside the wrecked vehicle or given to the tow truck driver for disposal.</p>		
<p>B. Spill Prevention (Hazardous Waste Management -City</p>	<p>BMP Owner: Fire Department, Facilities Maintenance, All City Operations & Maintenance Divisions</p> <p>Implementation Activities: This BMP includes the proper management of hazardous materials to prevent spills on City-owned property from City practices. Hazardous materials are dealt with slightly differently depending on the group that stores or handles the materials.</p> <p><u>Fire:</u> Hazardous materials that are stored or handled by the Fire Dept are limited to small</p>	<p>Program Commitment:</p> <p>1) Ensure safe handling, storage and disposal of hazardous fluids in order to prevent spills and limit pollutant sources to</p>	<p>-Report quantities of hazardous materials disposed annually.</p> <p>-Report number of spill incidents and outcomes annually.</p>

Table 4.3.3 (continued)

<p>Property)</p>	<p>quantities of solvents used for cleaning, plus occasional unsolicited “gifts” of unlabelled substances that appear anonymously at the Fire station doorsteps. These substances are handled by trained HazMat personnel.</p> <p><u>Operations:</u> At the Operations yard, drums of waste paving-related emulsion, diesel oil, and used motor oil, together with small cans of gasoline or cleaning agents are the main sources of hazardous materials. For small spills, the Operations staff use absorbent booms that are mechanically squeezed to release the fluids back into a container. Drums that contain hazardous materials are located on plastic spill basins that have a capacity adequate to contain the materials from the largest drum. Used hazardous materials are disposed of by a private vendor. Lubricants and fluids are stored in OSHA-approved, fire-rated storage cabinets. Safety containers that minimize spillage during pouring are also used.</p> <p>Pesticides are kept in a locked storage area, and only licensed pesticide operators are allowed to access and apply them. Relatively small quantities (2 ½ gallon containers) of pesticides are stored, due to the concentrated nature of the pesticides. Tanks used for diluting and applying pesticides are rinsed with water that is then sprayed on the area to be treated.</p> <p>Spill kits are distributed to all Operations & Maintenance divisions and are kept in the most commonly used vehicles and each dump truck.</p> <p><u>Facilities Maintenance:</u> Chemicals related to vehicle maintenance are described under that BMP. Other chemicals used by Facilities Maintenance include: those associated with cleaning, and paints, lubricants, hydraulic fluids, and solvents.</p> <p>All fluids are stored in drums inside a contained storage facility and utilize a closed chemical distribution system that minimizes leaks or spills. Fluids are disposed or recycled by an appropriately certified vendor.</p>	<p>stormwater by training staff appropriately.</p> <p>2) Provide periodic review of City contractor’s safety and environmental violations and disposal permits, where applicable to help ensure environmental compliance of contractors handling the City’s waste products.</p> <p>Permit Year of Commitment: ongoing</p> <p>Program Goals:</p> <p>1) Document safety protocols.</p> <p>2) Develop a City procedure or policy for contractor disqualification or contract annulment based on permit or other safety & environmental violations.</p>	<p>-Request and review contractors’ permits, where applicable, at least annually and biennially review appropriate regulatory agency databases for safety and environmental violations.</p>
<p>C. Maintain Public Vehicles</p>	<p>BMP Owner: Facilities & Fleet Management Division, All DES Operation & Maintenance Divisions, Fire Dept.</p> <p>Implementation Activities: The City owns and maintains approximately 240 vehicles. Most vehicle maintenance is performed at City Hall in the vehicle maintenance bay which drains to the sanitary sewer system. Due to high use of vehicles, and the need for high performance (esp. police cars and fire trucks), routine maintenance is conducted at three-month intervals. Maintenance tasks include ensuring that working parts are fully functional, and that vehicles are clean. A database provides triggers when a vehicle is due for maintenance and information is input regularly that tracks all work done on vehicles.</p> <p>Typical BMPs implemented to minimize entry of pollutants into stormwater from these</p>	<p>Program Commitment:</p> <p>1) Maintain City-owned vehicles & equipment and ensure proper handling & disposal of fluids to reduce the likelihood of leaks or spills being released into the MS4</p>	<p>-Report annual disposal quantities of all fluids and vendors utilized.</p>

Table 4.3.3 (continued)

	<p>activities include the following:</p> <ul style="list-style-type: none"> • Vehicles in the fleet that leak fluids are taken out of operation until maintenance has eliminated the leak. • Maintenance work is conducted indoors. The floor is routinely swept, and pans set below the work bays collect anything that falls from vehicles being maintained. Any fluids that drip during maintenance are covered in kitty litter and given to a permitted private company that handles used fluids. • All fluids that are replaced are kept in drums for pickup by a permitted private firm that recycles or otherwise appropriately disposes of the fluids. Used tires are likewise recycled. • Steam cleaning and washing of vehicles is either performed at the wash pad by the decant facility at the Hogan Operations yard, or performed at commercial car washes that recycle the water. The Hogan wash pad drains to a baffled vault, from which any overflow enters the sanitary system. The vault is cleaned twice per year. • Back hoes and dump trucks are washed once per month at the wash bay at the Hogan Operations yard. • Tractors and riding mowers are inspected daily, and are maintained by a private vendor. They are washed as needed at the Hogan wash pad. • Fire trucks are washed at the individual fire stations using a mild detergent; some discharges currently enter the stormwater system. 	<p>system or the environment.</p> <p>2) Keep appropriate documentation of all contractor permits/disposal practices to ensure proper handling & disposal of fluids.</p> <p>3) Train new personnel on all safety & maintenance & spill cleanup procedures.</p> <p>3) Keep spill kits stored in all locations where maintenance & operations procedures occur.</p> <p>4) Keep written documentation of vehicle maintenance schedules and standard operating procedures for review by the NPDES Program Coordinator.</p> <p>Permit Year of Commitment: ongoing</p> <p>Program Commitment: Meet DEQ Permit 1700 A deminimis discharge or seek a</p>	<p>- Report status of deminimis discharges or Vehicle Wash Water permit implementation and/or waiver.</p>
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Table 4.3.3 (continued)

		permit and/or waiver. Permit Year of Commitment: ongoing	
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Table 4.3.3 (continued)

<p>NPDES Permit Requirement - (5) A program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers. NPDES Permit Schedule A 4. d. Education and Outreach viii.</p>			
<p>Purpose: To promote awareness of the effects of human activities on the municipal storm sewer system, area streams and wetlands and wildlife.</p>			
<p>Targeted Pollutants: Primarily anything that adsorbs to sediment such as: phosphorus, bacteria, metals, and organic compounds, and litter, as well as pollutants that dissolve readily in water and/or carry a negative charge (e.g. soaps and surfactants, chloride, nitrate, and phosphate).</p>			
<p>ILL 5 Facilitate Public Reporting</p>			
<p>Facilitate Public Reporting & Respond to Citizen Concerns</p>	<p>BMP Owner: Watershed Division, Code Compliance</p> <p>Implementation Activities: The Watershed Division will respond to requests and/or complaints from citizens regarding observed water quality problems from suspected illicit discharges or other causes and document the investigations and outcomes in a database. To date, typical activities that have caused the City to respond include the following: illegal dumping, spills, erosion control, plugged catch basins, drainage issues (public & private), concerns about mosquito breeding in stormwater water quality structures, riparian enhancement and Code Compliance related issues (e.g., overgrown vegetation in the public right of way, etc.).</p> <p>The City of Gresham currently implements or supports the use of a variety of methods to communicate stormwater related educational information to the public that address the topics listed in the descriptions above and to facilitate public reporting of illicit discharges, as appropriate.</p> <p>Communication methods that are commonly used include the following:</p> <ul style="list-style-type: none"> • Gresham <i>Outlook</i> (estimated to reach 12,000 residents & businesses) • <i>Oregonian East</i> (estimated to reach 75,000+ readers) • <i>El Hispanic News</i> (estimated to reach 15,500 readers) • Gresham <i>News to Reuse</i> (residents and GREAT Business editions) (36,000 households & 3,500 businesses) • Chamber of Commerce newsletter (estimated to reach 900 businesses) • Gresham City Newsletter (estimated to reach 39,000 	<p>Program Commitment:</p> <p>Include information for the public on how to report an illegal discharge to the stormwater system in various types of City publications, where appropriate.</p> <p>Year of Program Commitment: ongoing</p>	<p>-Track number of calls/letters received, the issue of the call, and the response to the call.</p>

Table 4.3.3 (continued)

	<p>households)</p> <ul style="list-style-type: none"> • Utility Bill Stuffers (estimated to reach 39,000 households) • Gresham’s Website (approximately 200,000 visits annually) • Johnson Creek Watershed Council <i>Within Your Reach</i> newsletter and e-newsletter (reaches about 800 residents & business owners) • Columbia Slough Watershed Council newsletter (reaches 500 residents & business owners) • Gresham area school district newsletters • Door hangars for specific projects, maintenance work, notice of violations (varies) • Direct mail to streamside property owners or specifically targeted neighborhoods. (varies) • Mount Hood Community College Public Access television (20,000) • Televised City Council meetings (20,000) • Public Service Announcements via radio or television (varies) • Educational Videos (varies) • Presentations to the public at events, open houses, meetings, etc. (varies) • Tri-met bus/max advertisements (varies by route) • Educational signs such as in parks, public, or private property (varies) • Educational brochures and posters (varies) 		
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Table 4.3.3 (continued)

<p><i>NPDES Permit Requirement - (6) Educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials. NPDES Permit Schedule A 4. d. Education and Outreach iii.</i></p>			
<p>Purpose: To promote public understanding and appropriate actions related to proper management and disposal of used oil and other toxic materials likely to enter stormwater.</p>			
<p>Targeted Pollutants: Primarily hydrocarbons and other toxics such as antifreeze, lawn, garden & household chemicals, products containing mercury, etc.</p>			
<p>ILL 6 Facilitate Proper Management & Disposal of Used Oil & Toxics</p>			
<p>Facilitate the Proper Management & Disposal of Used Oil and Toxics</p>	<p>BMP Owner: Solid Waste & Recycling Division, Community Relations Implementation Activities: The City of Gresham currently utilizes a variety of approaches to encourage proper solid waste, recycling, waste prevention and hazardous waste management behaviors in the business and residential sectors. Typical City efforts include:</p> <ul style="list-style-type: none"> • Voluntary GREAT Business Program audits, technical assistance and certification for businesses. • Hazardous and/or Special Collection events for residents. • Curbside recycling of used oil & publication of drop off locations. <p>Public education communication pieces such as: News to Reuse (residential and business), brochures, website, etc.</p>	<p>Program Commitment: The City will continue to implement various solid waste, recycling, waste prevention and hazardous waste management & disposal programs.</p> <p>Permit Year of Commitment: ongoing</p>	<ul style="list-style-type: none"> - Track quantities of used oil and toxics collected. - Estimate the number of persons and/or households reached.
<p><i>NPDES Permit Requirement - (7) Controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary. NPDES MS4 Permit Schedule A 4. g. Pollution Prevention for Municipal Operations</i></p>			
<p>Purpose: To promote best management practices of the municipal wastewater sewer system in order to limit pollutant sources to stormwater.</p>			
<p>Targeted Pollutants: Primarily bacteria, nutrients and heavy metals.</p>			
<p>ILL 7 Limit Sanitary Sewer Discharges</p>			
<p>Limit Sanitary Sewer Discharges</p>	<p>BMP Owner: Wastewater Services Division Implementation Activities: The City of Gresham Wastewater System operates under an NPDES permit issued by the Oregon Department of Environmental Quality (DEQ). The DEQ regulates the activities related to the operation, management and discharge of wastewater into surface water. The City's wastewater system is defined as a separate sanitary sewer system, unlike a combined sewer system, which contains stormwater directly connected from the stormwater system to the sanitary</p>	<p>Program Commitment: Limit infiltration seepage from the wastewater system by implementing best management practices to the maximum extent practicable.</p>	<ul style="list-style-type: none"> - Track sanitary discharge to the stormwater system, including estimated volume and location. - Track follow up responses to the identification of any

Table 4.3.3 (continued)

<p>system. The wastewater treatment plant discharges to the Columbia River. The Wastewater Services Division also administers an Industrial Pretreatment Program to ensure that industrial users that discharge to the City’s wastewater treatment system pretreat their wastewater to a certain level of quality before it can be discharged.</p> <p>In 2010, the DEQ issued an internal management directive (IMD), which incorporates CMOM provisions from the U.S Environmental Protection Agency (EPA). “CMOM” stands for “Capacity, Management, Operations, and Maintenance”. It is a flexible, dynamic framework for municipalities to identify and incorporate widely accepted wastewater industry practices to better manage, operate, and maintain collection systems; investigate capacity constrained areas of the collection system; and respond to sanitary sewer overflow (SSO) events.</p> <p>Although CMOM was not officially adopted by the EPA, it is being used by the DEQ. Therefore, the Wastewater Services Division has taken the following steps to ensure program efficiency and minimization of sanitary releases to the stormwater system:</p> <ul style="list-style-type: none"> • Completed Wastewater Collection and Conveyance Master Plan (updated in 2005) and Wastewater Treatment Plant (WWTP) Master Plan (2004) <p>Updates to ensure system capacity and efficient implementation of high priority capital improvement projects. A new Treatment Plant Master Plan is currently being prepared and will be completed by 2011. The Division is also planning to hire a consultant to complete a new Collection System Master Plan by 2012.</p> <ul style="list-style-type: none"> • Implemented best management practices at the wastewater treatment plant such as: routine maintenance and inspection of equipment; installation of covered surfaces and truck washing facilities to prevent releases. • Implemented the Pretreatment Inspection & Enforcement program. • Mapped the entire wastewater pipe system within the City’s GIS program that links to “as-built” maps, CCTV video inspection reports and videos as well as provides “at a glance” information including age, length, and material composition 	<p>Year of Program Commitment: ongoing</p> <p>Program Goal:* As resources become available, implement a CIP to construct pipelines to properties within the city that are not served by sanitary sewers, with the goal of eventually connecting all “unsewered” properties to the City’s wastewater collection, conveyance and treatment system. There are very few known unsewered properties within Gresham, therefore, this activity is a lower priority among the existing staff’s work plans.</p> <p>*(This activity is dependent upon additional monetary resources subject to City Council approval)</p>	<p>sanitary discharges to the stormwater system.</p> <p>- Track implementation of the CIP to connect currently unsewered properties to the sanitary sewer system.</p>
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Table 4.3.3 (continued)

	<p>of pipes.</p> <ul style="list-style-type: none">• Implemented annual flow monitoring, line cleaning, TV inspection and repair, as well as manhole inspections.• Documented standard operating procedures to respond to wastewater system blockages that could potentially result in sanitary releases from manholes and utilizes the City’s Spill Response protocol to respond appropriately.		
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Component #3 (IND 1 & 2)
A Program to Monitor and Control Pollutants from Industrial Facilities

Requirements listed below are from 40 CFR § 122.26 (d)(2)(iv)(C) and are further described in the NPDES MS4 permit as cited. The Gresham BMP activity titles are listed below each requirement. The details of the BMPs are listed in **Table 4.3.2**.

*(1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges. NPDES MS4 Permit Schedule A 4 b. Industrial and Commercial Facilities
NPDES MS4 Permit Schedule A 4 b. Industrial and Commercial Facilities*

IND 1 Industrial Inspection & Monitoring:

- Business Inspection Program

(2),... to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD5, TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen; and any information on discharges required under 40 CFR §122.21(g)(7)(vi) and (vii).

NPDES MS4 Permit Schedule A 4. b. Industrial and Commercial Facilities

IND 2 Industrial Inspection & Monitoring:

- Industrial Monitoring Program

See Table 4.3.4 for the City BMPs that address the requirements that are listed above.

TABLE 4.3.4 - A Program to Monitor and Control Pollutants from Industrial Facilities (IND 1 & 2)

BMP Descriptions	BMP Implementation	Measurable Goals	Reporting Elements
<p>NPDES Permit Requirement – 40 CFR § 122.26 (d)(2)(iv)(C) (1) A description of a program to monitor and control pollutants in stormwater discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities and industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and industrial facilities that the municipal permit applicant determines are contributing as substantial pollutant loading to the municipal storm sewer system. The program shall:</p> <p>1) Identify priorities and procedures for inspections and [for] establishing and implementing control measures for such discharges;</p> <p>2) Describe a monitoring program... for industrial facilities</p> <p>NPDES MS4 Permit Schedule A 4. b. Industrial and Commercial Facilities</p>			
<p>Purpose: To limit stormwater pollutants from various industrial sources.</p>			
<p>Targeted Pollutants: Primarily anything that adsorbs to sediment such as: phosphorus, bacteria, metals, and organic compounds, as well as pollutants that dissolve readily in water and/or carry a negative charge (e.g. soaps and surfactants, chloride, nitrate, and phosphate).</p>			
<p>IND 1 & 2 Industrial Inspection & Monitoring</p>			
<p>A. Business Inspection Program</p>	<p>BMP Owner: Watershed Division, Wastewater Division, Solid Waste and Recycling</p> <p>Implementation Activities: This BMP includes the following three implementation activities:</p> <ol style="list-style-type: none"> 1) Business License Review—a proactive measure instituted to identify potential sources of stormwater pollutants during the business license application process, and ensure appropriate disposal. 2) Stormwater Business Inspections—Over this permit term the City plans to (a) continue development of the business inspection program implementation manual and technical assistance materials. (b) The program will provide technical assistance efforts to businesses that may need an NPDES 1200-Z or 1200-COLS permit from DEQ but that do not already have one. (c) The City will also inspect businesses based upon a review of their activities and NAICS classifications that allows the City to assess their potential to contribute pollutant loads to the MS4 system. The number of annual inspections conducted is expected to vary based on workload and efforts related to resolving code violations. The City’s first 	<p>Program Commitment:</p> <p>1) Continue to implement business license reviews</p> <p>Year of Program Commitment: ongoing</p> <p>2a) Continue to evaluate needs and develop protocols and technical assistance materials for key business sectors</p> <p>Year of Program Commitment: ongoing</p> <p>2b) Notify businesses that may need a 1200-Z or 1200COLS permits to apply for one, or obtain a no exposure certificate.</p> <p>Year of Program Commitment: PY 16 and ongoing</p> <p>2c) Inspect businesses with</p>	<p>- (1) Track the number and location of stormwater related issues identified during the business license review and the follow-up.</p> <p>- (2a) Report the status of ongoing program development.</p> <p>- (2b) Notify DEQ of businesses that may need a 1200-Z or 1200-COLS permit and report actions promised by businesses with which the City is working</p> <p>- (2c) Track business</p>

Table 4.3.4 (continued)

BMP Descriptions	BMP Implementation	Measurable Goals	Reporting Elements
	<p>priority is to utilize technical assistance whenever possible. (d) Wastewater inspection staff will continue to notify the Stormwater Business Inspector of any deficiencies for follow-up resolution.</p> <p>3) The City has a GREAT business program that includes voluntary stormwater related audits to suggest various best management practices such as sweeping rather than power hosing, keeping non-leaking dumpsters on site and marking all storm drains on site most likely to be misused for dumping wastewater, etc. As this program is voluntary and focused upon education and technical assistance, it is also included under the public education component of this SWMP (see Table 4.3.6). This program is housed within the Solid Waste & Recycling Division and is reliant on other sources of funding to continue and is therefore subject to change in the future if City resources are reduced.</p>	<p>potential to contribute significant pollutant loads to the MS4 system.</p> <p>Year of Program Commitment: PY 16 and ongoing</p> <p>2d) Continue to implement stormwater inspections at the businesses that are inspected for the wastewater pretreatment program, based on potential to contribute pollutant loads to the MS4 system.</p> <p>Year of Program Commitment: ongoing</p> <p>Program Goal: 3) Contingent on available resources, continue to implement the GREAT business program.</p> <p>Year of Program Commitment: Ongoing</p>	<p>inspections that are conducted including the business, location, outcome, and follow-up.</p> <ul style="list-style-type: none"> - (2c) Estimate number and type of businesses to be inspected for the next year in each annual report - (2d) Report stormwater concerns identified by the wastewater pretreatment program, and resolution - (3) Track GREAT business program inspections and certifications annually. (Reported in the public education component).
<p>B. Industrial Monitoring Program</p>	<p>BMP Owner: Watershed Division</p> <p>Implementation Activities: The City will coordinate with DEQ regarding oversight of NPDES 1200-Z and 1200COLS permits issued to industries within Gresham’s jurisdiction. At a minimum, the City will review a list of facilities with 1200-Z and 1200-COLS permits from DEQ’s database each year and update its records, as applicable. If DEQ requests assistance with follow-up inspections related to monitoring data that indicates noncompliance, the City will assist as resources are available.</p>	<p>Program Commitment: Review DEQ database and keep a file of 1200-Z/1200COLS facilities within Gresham for use in the stormwater outfall monitoring program, as applicable. Review the DEQ enforcement action database on the Department website and keep a file of enforcement actions related to 1200Z/COLS permits for facilities</p>	<ul style="list-style-type: none"> - Track NPDES 1200Z/1200COLS permits issued in Gresham. - Track number of violations reported.

Table 4.3.4 (continued)

BMP Descriptions	BMP Implementation	Measurable Goals	Reporting Elements
		within Gresham's jurisdiction. Permit Year of Commitment: Ongoing	

Component #4 (CON 1-3)

A Program to Reduce Pollutants in Stormwater Discharges from Construction Sites

Requirements listed below are from 40 CFR § 122.26 (d) (2) (iv) (D) and are further described in the NPDES MS4 permit as cited. The Gresham BMP activity titles are listed below each requirement. The details of the BMPs are listed in **Table 4.3.2**.

(1) *Procedures for site planning which incorporate consideration of potential water quality impacts.*

(2) *Requirements for nonstructural and structural best management practices.*

NPDES MS4 Permit Schedule A 4 c. Construction Site Runoff Control and f. Post-Construction Site Runoff iv.

CON 1 & 2 Construction Site Planning & Controls:

- Erosion Prevention & Sediment Control Manual

(3) *Procedures for identifying priorities for inspecting sites and enforcing control measures that considers the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.*

NPDES MS4 Permit Schedule A 4 c. Construction Site Runoff Control and f. Post-Construction Site Runoff iv.

CON 3 Construction Site Inspection & Enforcement

- Construction Site Inspection & Enforcement

(4) *Appropriate educational and training measures for construction site operators.*

NPDES MS4 Permit Schedule A 4 d. Education and Outreach v.

See Component #5 and Table 4.3.6. EDU 1 Stormwater Education Program: Ensure Staff/Stakeholder Training

See Table 4.3.5 for the City BMPs that address the requirements that are listed above.

TABLE 4.3.5 - A Program to Reduce Pollutants in Stormwater Discharges from Construction Sites

BMP Descriptions	BMP Implementation	Measurable Goals	Reporting Elements
<p>NPDES Permit Requirement – (1) Procedures for site planning which incorporate consideration of potential water quality impacts.</p>			
<p>(2) Requirements for nonstructural and structural best management practices.</p>			
<p>NPDES MS4 Permit Schedule A 4 c. Construction Site Runoff Control and f. Post-Construction Site Runoff iv.</p>			
<p>Purpose: To control stormwater pollutant sources from development and redevelopment activities.</p>			
<p>Targeted Pollutants: Primarily anything that adsorbs to sediment such as: phosphorus, bacteria, metals, and organic compounds.</p>			
<p>CON 1 & 2 Construction Site Planning & Controls</p>			
<p>Erosion Prevention & Sediment Control Manual</p>	<p>BMP Owner: Watershed Division, Public Works Inspection, Building Department Implementation Activities: The City currently has a permitting process for development that requires developers to follow the erosion control requirements set forth in the City’s Erosion Prevention and Sediment Control (EPSC) Manual, including the creation of an erosion control plan for all sites which are inspected and approved by City staff based on the EPSC plan and identification of an erosion control project site manager for sites larger than one acre. (The plan required to obtain a 1200-C permit qualifies.) This Manual provides the inspection threshold, a summary of EPSC requirements, enforcement language, and a menu of BMPs and their appropriate uses, details and/or specifications for installation and maintenance, and guidance for appropriate site planning to protect water quality and is available on the City’s website. City staff will continue to maintain and update the EPSC Manual when necessary to reflect current available and accepted technologies and City code.</p>	<p>Program Commitment: Implement the EPSC Manual in order to limit stormwater pollutant sources from construction and development & redevelopment activities. Review and evaluate the manual biennially to assess changes needed, if any. At a minimum, update the Manual once during the permit cycle to ensure appropriate best management practices and/or updated City code are included. Permit Year of Commitment: ongoing</p>	<p>- Track updates to the Manual.</p>

Table 4.3.5 (continued)

NPDES Permit Requirement - (3) Procedures for identifying priorities for inspecting sites and enforcing control measures that considers the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.
 NPDES MS4 Permit Schedule A 4 c. Construction Site Runoff Control and f. Post-Construction Site Runoff iv.

CON 3 Construction Site Inspection & Enforcement

<p>Construction Site Inspection & Enforcement</p>	<p>BMP Owner: Watershed Division, Public Works Inspection, Development Engineering, Building Department</p> <p>Implementation Activities: The City conducts inspections of construction sites using the permitting system database to record the location and status of site development to ensure compliance with the City’s Erosion Prevention and Sediment Control (EPSC) Manual and proper implementation of post-construction site plans.</p> <p>The City of Gresham inspects construction sites holding a 1200-C permit utilizing the most practical application of City resources available. A construction site larger than one acre is always a priority due to the potential for soil loss and stormwater impact. If these sites involve improvements to public infrastructure they are assigned a Public Works Inspector (PWI). The PWI’s are trained biannually in EPSC best management practices. They work collaboratively with the City’s lead EPSC inspector to adaptively manage these sites. The City is not an agent of DEQ and does not review the 1200-C stormwater pollution prevention plan (SWPPP) prior to implementation; however, the City uses the Permittee’s SWPPP as a guidance document to adaptively manage the site. Sites with a greater potential for EPSC failure based on type of construction, topography, soil erodibility and receiving water quality are targeted for more frequent inspection.</p> <p>The City’s protocol for inspecting all permitted sites:</p> <ol style="list-style-type: none"> 1) <i>Pre-Construction Meeting</i> where a representative from the Water Resources group (lead EPSC inspector) discusses stormwater best management practices. The permittee is asked to call in to the City’s Interactive Voice Response (IVR) system for an initial erosion inspection. 	<p>Program Commitment:</p> <ol style="list-style-type: none"> 1) Implement the EPSC inspection program to enforce the Erosion Control Manual in order to limit stormwater pollutant sources from development and redevelopment activities. 2) Ensure proper training for staff. 3) Examine tracking parameters such as the types of violations, number of active sites and total associated acreage. <p>Permit Year of Commitment: ongoing</p> <p>Program Goals: *Create a penalty structure and protocols to add to the existing enforcement tools.</p> <p>*This effort is subject to legal and City Council approval.</p>	<ul style="list-style-type: none"> - Track the number of sites inspected annually. - Track training sessions conducted for staff. - Report parameters assessed and program adaptive management that result, if applicable.
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Table 4.3.5 (continued)

	<ol style="list-style-type: none"> 2) Lead EPSC inspector makes <i>random inspections</i> of site throughout duration of project, often utilizing Public Works Inspectors to ensure requests and/or modifications to BMPs are made. 3) Workload permitting, Public Works Inspectors <i>visit sites daily during active construction for routine inspections including EPSC compliance</i> and report erosion concerns to the lead EPSC inspector. 4) <i>Final inspection</i> is called into the IVR system, and requested by Public Works Inspector. The lead EPSC inspector performs inspection and creates a detailed punch list of deficient items. This punch list must be implemented prior to project acceptance to ensure that post-construction standards are met. 5) Should enforcement response become necessary, the City's procedures are described within the EPSC Manual and City code. <p>Additionally, the City of Gresham inspects all non-permitted sites (< 1 acre) regardless of their participation as a larger common plan of development or sale. These sites have required EPSC plans that are reviewed by City staff for compliance with the City's EPSC standards. Sites are prioritized and targeted for more frequent inspections based on topography, soil erodibility, and proximity to sensitive areas including but not limited to receiving waters.</p>		
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Table 4.3.5 (continued)

<p>NPDES Permit Requirement - (4) <i>Appropriate educational and training measures for construction site operators.</i> (Note: See Component #5 and Table 4.3.6 for educational BMPs associated with this requirement). NPDES MS4 Permit Schedule A. 4 d. Education and Outreach v.</p>			
<p>Stormwater Education Program (See Table 4.3.6)</p>	<p>A description of the City’s education BMP for construction site operators is included under Component #5, in Table 4.3.6.</p>		<p>See Table 4.3.6</p>

Component #5 (EDU 1) Stormwater Education Program

Requirements listed below are from 40 CFR § 122.26 (d)(2)(iv)(A) and (D) and are further described in the NPDES MS4 permit as cited. The Gresham BMP activity titles are listed below each requirement. The details of the BMPs are listed in **Table 4.3.2**. Three of the four major components of the SWMP requirements include public education-related requirements as follows:

Educational Requirement from Component #1 –

A (6) A program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer that will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

EDU 1 Stormwater Education Program

- Ensure Staff/Stakeholder Training

Educational Requirement from Component #4 –

*D (4) Appropriate educational and training measures for construction site operators.
NPDES MS4 Permit Schedule A 4. d. Education and Outreach: Provide notice to construction site operators concerning where education and training to meet erosion prevention and sediment control requirements can be obtained.*

EDU 1 Stormwater Education Program

- Ensure Staff/Stakeholder Training

Educational Requirement from Component #2 – NPDES MS4 Permit Schedule A 4 a. xii. [shortened and paraphrased]

[...if any of these non-stormwater discharges under the co-permittee's jurisdiction are identified as a significant source of pollutants to waters of the State, the permittee must develop and require implementation of appropriate BMPs to reduce the discharge of pollutants associated with the source: landscape irrigation; lawn watering; individual residential car washing; charity car washing; dechlorinated swimming pool discharges...]

NPDES MS4 Permit Schedule A 4 d. Education and Outreach i-iv.

EDU 1 Stormwater Education Program

- Educate Residents
- Educate Businesses

See Table 4.3.6 for the City BMPs that address the requirements that are listed above.

TABLE 4.3.6 – Public Education

BMP Descriptions	BMP Implementation	Measurable Goals	Reporting Elements
<p>Component #1 – Requirement A (6) – <i>A program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer that will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.</i> NPDES MS4 Permit Schedule A 4 d. Education and Outreach vii.</p> <p>Component #2 – Requirement <i>NPDES MS4 Permit Schedule A 4 a. xii. [shortened and paraphrased]</i> <i>[...if any of these non-stormwater discharges under the co-permittee’s jurisdiction are identified as a significant source of pollutants to waters of the State, the permittee must develop and require implementation of appropriate BMPs to reduce the discharge of pollutants associated with the source: landscape irrigation; lawn watering; individual residential car washing; charity car washing; dechlorinated swimming pool discharges...]</i></p> <p>Component #4 – Requirement (4) – <i>D (4) Appropriate educational and training measures for construction site operators.</i> <i>NPDES MS4 Permit Schedule A 4. d. Education and Outreach: v. Provide notice to construction site operators concerning where education and training to meet erosion prevention and sediment control requirements can be obtained.</i></p>			
<p>Purpose: To plan, deliver and measure public education programs that will help eliminate or reduce stormwater pollutant sources.</p>			
<p>Targeted Pollutants: Primarily anything that adsorbs to sediment such as: phosphorus, bacteria, metals, and organic compounds, and litter, as well as pollutants that dissolve readily in water and/or carry a negative charge (e.g. soaps and surfactants, chloride, nitrate, and phosphate).</p>			
<p>Introductory Note With Respect to Addressing this Requirement: This section lists a few specific programs that are linked to the required elements listed above. The overall approach to public education is to implement programs based on priority of the pollutant types addressed. The highest priority education programs will target TMDL/303(d) pollutants, such as bacteria, as well as pollutants with high toxicity to fish or to people. Additionally, programs that are measurable in terms of implementation & impact on behavior change will be prioritized higher than programs that have unknown outcomes.</p>			
<p>EDU 1 Stormwater Education Program</p>			
<p>A. Ensure Staff/Stakeholder Training</p>	<p>BMP Owner: Watershed Division, Community Relations, Development Engineering, Public Works, & Facilities Maintenance Implementation Activities: Conduct training for new employees and whenever there is a significant update to any of the following documents that regulate stormwater pollution control activities including but not limited to: Integrated Pest Management Plan—staff and workers</p>	<p>Program Commitment: The City will continue to conduct training for new personnel who utilize the documents described in this section and will conduct trainings for affected stakeholders, when appropriate.</p>	<p>-Track the number of personnel & contractors who receive training by topic.</p>

Table 4.3.6 (continued)

	<p>(subcontractors-commercial applicators) on behalf of the City of Gresham Water Quality Manual—staff and affected stakeholders Stormwater Operations Manual—staff EPSC Manual—staff and affected stakeholders Spill Response Protocol—staff</p>	<p>Permit Year of Commitment: ongoing</p>	
<p>B. Educate Residents</p>	<p>BMP Owner: Watershed Division, Community Relations, Solid Waste & Recycling Division, Water Division Implementation Activities: The City’s program philosophy is to focus primarily on delivery of services that result in behavior change, as opposed to just raising awareness. However, some mix of approaches is necessary in order to move people from awareness to action. Public education approaches that actually track and measure behavior change are not only difficult, but generally, very costly to implement. As such the City often partners with other groups or agencies to deliver programs and services in an effort to leverage the City’s budget in a cost effective manner. The City will endeavor to utilize program design and report estimated contacts and, where possible, measurable outcomes but notes that this is simply not possible in all cases.</p> <p>Create & deliver programs and/or messages to educate the public regarding non-point sources of pollutants of concern. There is no known scientific data that definitely demonstrates that the following types of non-stormwater discharges are significant sources of pollution to waters of the State within the Gresham permit boundary, nevertheless, the City’s Education and Outreach Program attempts to address the following sources including but not limited to: lawn watering & landscape irrigation and maintenance practices, swimming pool/hot tub decant; and residential and charity car washing.</p> <p>Some of the primary target audiences include:</p> <ul style="list-style-type: none"> • Single family home residents who use chemicals for home maintenance and who irrigate their lawn, who own pools 	<p>Program Commitment: The City will continue to educate the public regarding their personal contributions to stormwater pollutant sources and impacts on water bodies and the steps or actions the public can take to reduce pollutants in stormwater runoff.</p> <p>Permit Year of Commitment: ongoing</p> <p>Program Commitment: Conduct or participate in an effectiveness evaluation that focuses on assessing changes in targeted behaviors in order to measure the success of public education activities and use results to adaptively manage the education and outreach program during the term of this permit.</p> <p>Permit Year of Commitment: By November 1, 2014.</p>	<p>-Track programs/messages delivered, type of communication piece and, where appropriate/known, the number of people affected and measured behavior changes.</p> <p>-Annually report the Public Education program priorities and plans for the following year.</p>

Table 4.3.6 (continued)

	<p>and hot tubs</p> <ul style="list-style-type: none"> • Pet owners • Do it yourself car maintenance residents • Neighborhoods that have joint ownership of private water quality facilities 		
<p>C. Educate Businesses</p>	<p>BMP Owner: Watershed Division, Community Relations, Solid Waste & Recycling Division, Water Division</p> <p>Implementation Activities:</p> <p>The City’s program philosophy is to focus primarily on delivery of services that result in behavior change, as opposed to just raising awareness. However, some mix of approaches is necessary in order to move people from awareness to action. Public education approaches that actually track and measure behavior change are not only difficult, but generally, very costly to implement. As such the City often partners with other groups or agencies to deliver programs and services in an effort to leverage the City’s budget in a cost effective manner. The City will endeavor to utilize program design and report estimated contacts and, where possible, measurable outcomes but notes that this is simply not possible in all cases.</p> <p>Create & deliver programs and/or messages to educate businesses regarding non-point source pollutants of concern, including but not limited to: lawn watering & landscape irrigation, private system maintenance, discharges from potable water sources, street washing, garbage/chemical/fluid/process management, control & disposal, and spill kits.</p> <p>Some of the primary target audiences include:</p> <ul style="list-style-type: none"> • Landscape firms • Businesses that have pools and hot tubs • Businesses with privately-owned water quality facilities • Businesses as prioritized by the Business Inspection Program 	<p>Program Commitment:</p> <p>The City will continue to educate the businesses regarding their personal contributions to stormwater pollutant sources and impacts on water bodies and the steps or actions the public can take to reduce pollutants in stormwater runoff, including but not limited to those with privately owned stormwater quality management facilities.</p> <p>Permit Year of Commitment: ongoing</p>	<p>-Track programs/messages delivered, type of communication piece and, where appropriate/known, the number of people affected and measured behavior changes.</p> <p>-Annually report the Public Education program priorities and plans for the year following</p>

Component #6 (MON) Program Management & Monitoring

The following elements and corresponding activities are included in the SWMP to aid the overall permit compliance effort by the City, but these elements are not BMPs in and of themselves. These activities are listed in this section in order to address the following permit elements:

NPDES MS4 Permit 101315:

*Schedule A 4. e. Public Involvement and Participation,
Schedule A 5 Hydromodification Assessment
Schedule B 5. Annual Reporting Requirement, and
Schedule D 2. and 3.*

MON 1 Annual Report Writing

MON 3 Program Evaluation and Monitoring

*Schedule A 4. e. Public Involvement and Participation,
Schedule B 6. MS4 Permit Renewal Application Package
MON 5 Permit Renewal Submittal*

*Schedule A 4. e. Public Involvement and Participation,
Schedule A 4 f. Post-Construction Site Runoff ii.;
Schedule D 1. Legal Authority*

2. 303 (d) Listed Pollutants

MON 2 Legal Authority and Code Review

MON 3 Program Evaluation and Monitoring

MON 4 Public Involvement

See Table 4.3.7 for the City BMPs that address the requirements that are listed above.

Table 4.3.7 Program Management & Monitoring

BMP Descriptions	BMP Implementation	Measurable Goals	Reporting Elements
<p><i>NPDES MS4 Permit 101315 Schedule A 4. e. Public Involvement and Participation, Schedule A 4 f. Post-Construction Site Runoff ii, Schedule B 5. Annual Reporting Requirement, Schedule B 6. MS4 Permit Renewal Application Package, and Schedule D 1. Legal Authority</i></p>			
<p>Purpose: To involve the public in efforts to reduce stormwater pollutants, implement the SWMP and evaluate the effectiveness of meeting stormwater pollutant reduction goals and adaptively manage the programs, as necessary, while assuring overall NPDES MS4 Permit compliance.</p>			
<p>Targeted Pollutants: With the exception of Legal Authority, these activities do not address specific pollutants of concern because of their administrative nature. The Legal Authority review does, however, expressly prohibit any type of pollutant from being deliberately introduced into the municipal stormwater system.</p>			
<p>Introductory Note With Respect to Addressing this Requirement: This section lists activities that function related to the administrative function of the overall NPDES permit compliance effort. These activities are required elements that utilize a significant amount of staff time and resources but are not BMPs in and of themselves.</p>			
<p>Program Management & Monitoring</p>			
<p>MON 1 Annual Report Writing</p>	<p>BMP Owner: Watershed Division Implementation Activities: Coordinate with all City divisions and groups that administer BMPs described within the SWMP to review program commitments, gather tracking data, and where appropriate, assist with program evaluation and additional goal setting or BMP enhancements. Annually provide a copy of the report on the City’s website and provide notice to the public about the opportunity to comment.</p>	<p>Program Commitment: Submit Annual Report to DEQ on behalf of Gresham and Co-permittee, as required by the permit. Permit Year of Commitment: ongoing</p>	<p>-Each year, provide a report that includes the following components:</p> <ul style="list-style-type: none"> • a description of the public comment notice method • status of the SWMP implementation and SWMP program elements, progress in meeting the measurable goals; • status and/or results of any public education program effectiveness evaluation conducted during the reporting year and a summary of how the results were or will be used for adaptive management; • a summary of the adaptive management process during the reporting year, including any proposed changes to the SWMP identified through implementation of the adaptive management process ;

			<ul style="list-style-type: none"> • proposed changes to SWMP elements designed to reduce TMDL pollutants to the MEP; • a summary of total stormwater program expenditures and funding sources over the reporting fiscal year and those anticipated in the next fiscal year; • a summary of monitoring program results, including monitoring data that are accumulated throughout the reporting year and/or assessments or evaluations; • any proposed modifications to the monitoring plan that are necessary to ensure that adequate data and information are collected to conduct stormwater program assessments; • a summary describing the number and nature of enforcement actions, inspections & public education programs, including the results of ongoing field screening and follow-up activities related to illicit discharges; • An overview, as related to MS4 discharges, of concept planning, land use changes and new development activities that occurred within the Urban Growth Boundary (UGB) expansion areas during the previous year, and those forecast for the following year, including the number of new post-construction permits issued, and the estimate of total new or replaced impervious surface area related to new development and redevelopment
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			<p>projects commenced during the reporting year;</p> <ul style="list-style-type: none"> • Results of ongoing field screening and follow-up activities related to illicit discharges; • Annual Report 2014 must also include: <ul style="list-style-type: none"> ○ TMDL Pollutant Load Reduction Evaluation ○ Wasteload Allocation Attainment Assessment ○ 303 (d) Evaluation ○ Hydromodification Assessment ○ Retrofit Plan
MON 2 Legal Authority and Code Review	<p>BMP Owner: Watershed Division and City Attorney’s Office</p> <p>Implementation Activities: Review existing City code to ensure that the Legal Authority and development standard requirements as stated in the NPDES Permit are met and in appropriate code revision years, examine code for opportunities to enhance or improve language that will limit pollutant sources to stormwater.</p>	<p>Program Commitment: Maintain Legal Authority, as required by the permit.</p> <p>Permit Year of Commitment: ongoing</p>	<p>-Maintain adequate legal authority through ordinance(s), interagency agreements or other means to implement and enforce the provisions of the NPDES MS4 Permit #101315.</p> <p>-Track enhancements or improvements to existing City code.</p>
MON 3 Program Evaluation/ Monitoring	<p>BMP Owner: Watershed Division, with assistance from other City divisions or groups, as appropriate.</p> <p>Implementation Activities: As required by the permit, review the appropriate 303(d) list to determine whether there is a reasonable likelihood of stormwater from the MS4 to cause or contribute to water quality degradation of receiving waters. Evaluate whether the BMPs within the SWMP are effective in reducing these relevant pollutants to the MEP.</p> <p>For ongoing annual program evaluation efforts, the City utilizes the GIS Mapping Program to provide mapping support to the Watershed Division and other divisions or groups in order to support or enhance system infrastructure documentation for BMP program evaluation/monitoring efforts.</p>	<p>Program Commitment: Conduct a 303(d) pollutant evaluation as required by the permit.</p> <p>Permit Year of Commitment: PY 17 or as otherwise dated in the permit.</p>	<p>- Submit a report summarizing the results of the 303(d) list review and evaluation and any proposed SWMP modification or updates necessary to reduce applicable 303(d) pollutants to the MEP;</p> <p>- Submit a Waste Load Attainment Assessment;</p> <p>- Submit a TMDL Pollutant Load Reduction Evaluation;</p> <p>-Track significant mapping efforts that help evaluate, enhance or support the SWMP BMPs.</p>

<p>MON 4 Public Involvement</p>	<p>BMP Owner: Watershed Division, Community Relations & City Manager's Office</p> <p>Implementation Activities: Conduct appropriate public involvement efforts related to various NPDES permit elements including but not limited to: SWMP modifications, Annual Reports, Retrofit Strategy, Permit Renewal Submittal elements such as TMDL pollutant load reduction benchmark document development. Typical public involvement activities include:</p> <ul style="list-style-type: none"> • Presentations to Technical/Citizen Advisory Committees • Public notices via a variety of media outlets (as described in Component #5 Public Education) 	<p>Program Commitment: Conducted within an appropriate timeline to meet the legal requirements for five year permit renewal submittals; and ongoing, regarding adaptive management of the SWMP.</p> <p>-Summarize public involvement activities and response to public comment related to SWMP updates or proposed changes.</p> <p>Permit Year of Commitment: ongoing</p>	<p>-Report the number of people reached during public involvement activities.</p>
<p>MON 5 Permit Renewal Submittal</p>	<p>BMP Owner: Watershed Division</p> <ul style="list-style-type: none"> • Implementation Activities: Prepare the permit renewal submittal package at least 180 days prior to permit expiration that synthesizes the implementation and findings of the current permit cycle to support the proposed SWMP for the renewed permit, including an evaluation of the adequacy of the SWMP in reducing pollutants to the maximum extent practicable (MEP). 	<p>Program Commitment: Package to contain the elements as required by the permit.</p> <p>Evaluate the overall program effectiveness and progress towards achieving applicable waste load allocations.</p> <p>Permit Year of Commitment: Process to prepare the next submittal will begin in PY 17-18, or as</p>	<p>Submittal includes as required by the permit but is not limited to:</p> <ul style="list-style-type: none"> • Proposed modifications, including additions and removals of BMPS and measureable goals; • Information allowing the Department to make an independent assessment that the SWMP proposed meets the requirements of the permit to the MEP • Updated pollutant loads for TMDL pollutants and BOD5, COD, nitrate, total phosphorus, dissolved phosphorus, cadmium, copper, lead and zinc. • Establishment of TMDL Pollutant Reduction Benchmarks, if not achieving

		appropriate to meet stated permit deadlines.	the WLA <ul style="list-style-type: none">• A proposed monitoring program• a description of service area expansions• A fiscal evaluation summarizing expenditures for the current and next permit cycle• Updated MS4 maps
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