



**Multnomah County NPDES MS4 Phase I Permit
Stormwater Management Program**

**Annual Report 2014
Permit year 19**

Submitted to:

*Oregon Department of Environmental Quality
November 2014*

*Submitted in Accordance with the Requirements
of the National Pollutant Discharge Elimination System
(NPDES) Permit Number 103004, File Number 120542*

Submitted by:

*Water Quality Program
Department of Community Services
Multnomah County*

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1. Introduction

Multnomah County implements a comprehensive stormwater management program with the goal of reducing pollutants into the municipal stormwater system to the maximum extent practicable. This program is maintained and prioritized in response to the federal Clean Water Act and the County's responsibility to protect the health and welfare of its citizens and natural environment. The Stormwater Management Plan is the main component of the stormwater management program. This plan is submitted to and approved by the Oregon Department of Environmental Quality (DEQ) under the National Pollutant Discharge and Elimination System Municipal Separate Storm Sewer Phase I (NPDES MS4 Phase I) permit. The County's roles and responsibilities for complying with the permit term falls under seven categories of Best Management Practices (BMPs) with a focus on operating and maintaining the County bridges and roads.

This Annual Report summarizes the implementation activities of Multnomah County's Stormwater Management Plan in the County's permit area for the Permit Year 19 (Fiscal year 2014: July 1, 2013 – June 30, 2014).

2. Program Overview

History

From 1995 to 2010, the Oregon Department of Environmental Quality (DEQ) regulated stormwater from Multnomah County through two separate NPDES MS4 Phase I Discharge permits: Permit #101314 for the areas within the City of Portland permit boundary and Permit #108013 for the areas within the Gresham permit boundary. Multnomah County was a co-permittee on both Portland and Gresham's MS4 Permit.

The County had a limited amount of regulatory area under each permit under the two separate MS4 permits. To reduce the administrative burdens for program management and reporting, Multnomah County requested to DEQ that the permit areas be combined under a single individual permit for the 2010 permit renewal. DEQ granted this request and issued the new individual Phase I permit on December 30, 2010.

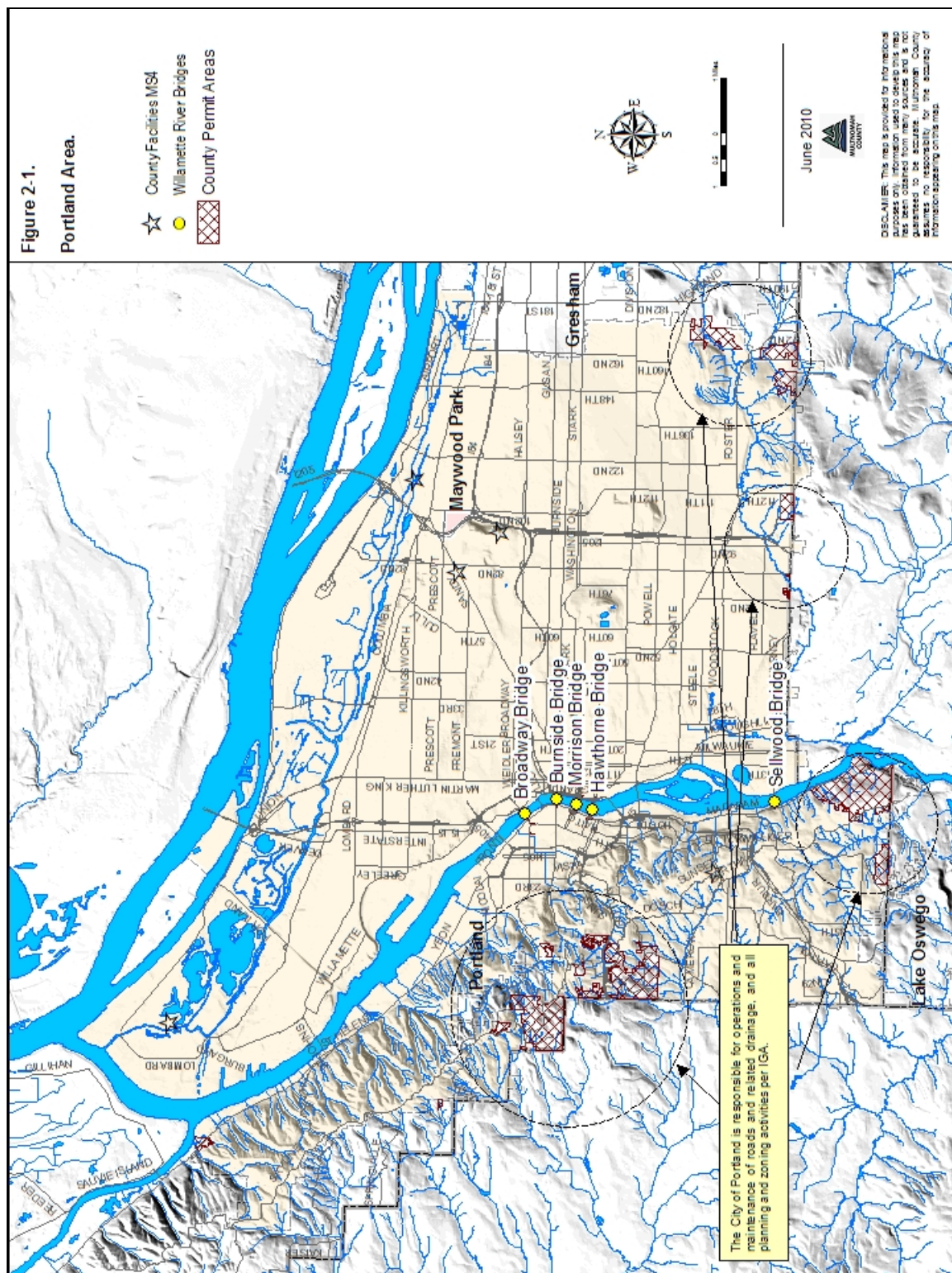
Permit area description

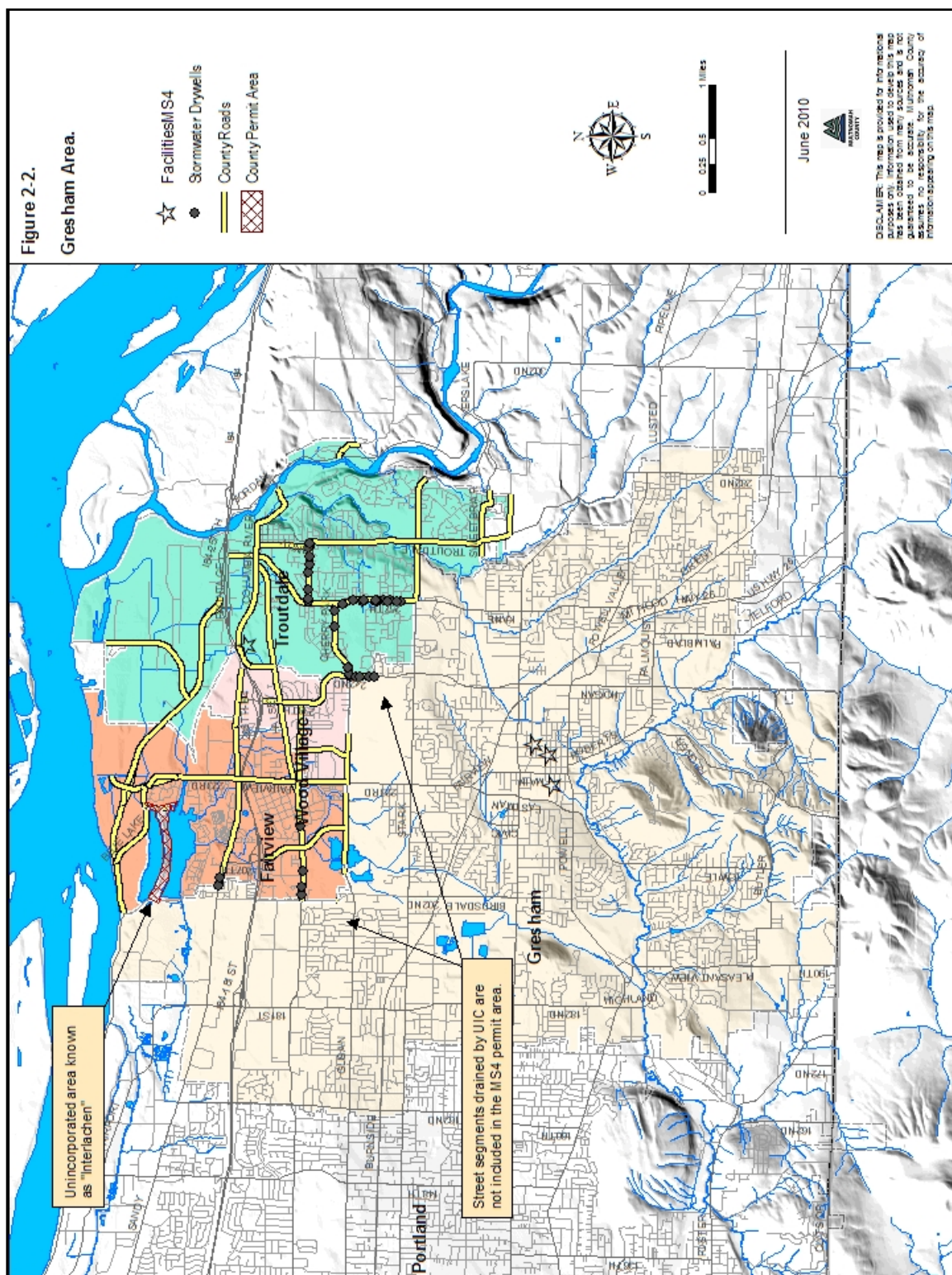
Multnomah County is a unique jurisdiction with NPDES permit areas composed of several discrete urban pockets, and approximately twenty-eight miles of road and bridge right-of-ways. The terms "Portland Area" and "Gresham Area" are used in this report to provide clarity in the area descriptions, and to provide continuity from the previous reporting areas.

Within the Portland Area, Multnomah County is responsible for five Willamette River bridges (see Figure 2-1). A few small unincorporated pocket areas within the Portland Urban Services boundary are under Portland's stormwater management through an Intergovernmental Agreement with the City of Portland. These areas are also under the City of Portland's land use authority.

Within the Gresham Area, Multnomah County is responsible for approximately twenty-eight miles of arterial roadways in the Cities of Fairview, Troutdale, and Wood Village, and the unincorporated residential area known as "Interlachen" that is located between Fairview Lake and Blue Lake (see Figure 2-2). In 2007, Troutdale and Wood Village came under NPDES Phase II coverage, and the County roads in those communities also came into permit coverage. Some road segments shown in the following maps are served by Underground Injection Controls or lack curb/gutter systems and do not discharge to surface waters.

More specific details regarding the County's jurisdiction are provided in the Stormwater Management Plan (updated April 2011).





Reporting requirements

The following table summarizes the requirements for the annual report as described in Schedule B.5 of the permit:

<i>Permit reporting requirement</i>	<i>Annual report section</i>
a. Status of each SWMP program element and progress in meeting measurable goals	BMP summary - status
b. Status or results of any public education program effectiveness evaluation conducted during the reporting year and summary of how the results were or will be used for adaptive management	BMP summary PI-1
c. Summary of the adaptive management process implementation during reporting year, including proposed changes or additions to BMPs	BMP summary – adaptive management
d. Proposed changes to SWMP elements designed to reduce TMDL pollutants	BMP summary
e. Summary of total stormwater program expenditures and funding sources over the reporting year and those anticipated in the next reporting year	Stormwater program budget
f. Summary of monitoring program results, including monitoring data and analyses	Environmental monitoring; also see Gresham and Portland permit annual reports
g. Proposed modifications to the monitoring plan	Environmental monitoring
h. Summary of the enforcement actions, inspections, public education programs, and illicit discharge screening and investigations	BMP summary
i. Overview of land use changes, concept planning and new development activities in the reporting year, including number of new post-construction permits issued and an estimate of the total new or replaced impervious surface area related to new development and redevelopment projects	Permit area description; BMP summary (ND, STR)
j. Results of ongoing field screening and follow up related to illicit discharges.	BMP summary (ILL-5)

Environmental monitoring

The City of Gresham and City of Portland have historically collected, managed, and analyzed stormwater and instream data on behalf of the County as the lead Permittee for the respective NPDES permits when the County was a co-permittee on both permits. Because the County's jurisdiction is part of the fabric of both permit areas, the data for each permit represented the overall quality of stormwater and instream health. This environmental monitoring was a component of the Intergovernmental Agreements (IGA) with both the City of Portland and City of Gresham.

Beginning December 2010, the County managed its stormwater program under a single individual permit. The monitoring requirements are met through a new IGA with the City of Gresham, and the monitoring plan is available online through the City of Gresham website.

The environmental data and analysis presented in the Annual Reports for City of Gresham independent of this report fulfill the monitoring requirement for the County's Annual Report, per the respective IGA. A monitoring summary is provided at the end of this report.

The data includes monitoring requirements from the County permit: two instream monitoring sites, two macroinvertebrate monitoring sites, and one mercury monitoring site. These are fulfilled by data from Fairview and Beaver Creeks, and the Columbia Slough Water Quality Facility.

Mercury monitoring

The mercury monitoring requirement is part of a special study to further the development of the Mercury TMDL. Two full years of Hg monitoring were completed during 2011-2013, which fulfills the mercury monitoring requirement as described in Table B-1 of the NPDES permit. To date, the Hg monitoring conducted by Multnomah County (and other MS4 Phase I permittees) has contributed to the characterization of urban stormwater runoff, a stormwater monitoring program objective. DEQ will review the monitoring data once all of the results from the MS4 permittees have been submitted. DEQ anticipates that additional Hg monitoring will not be required for the remainder of Multnomah County's permit term (Benjamin Benninghoff, personal communication 2013). Written request that the monitoring be eliminated was submitted to DEQ on November 1, 2013.

The mercury monitoring data analysis by the City of Gresham was included as an appendix to the 2013 Annual Report.

Adaptive management process

The assessment of BMPs occurs annually during preparation of the County NPDES annual report, to be submitted to DEQ by November 1 of each permit year. Among other reporting requirements, the MS4 annual report must contain (Schedule B.5) the following:

The status of implementing the stormwater management program and each SWMP program element, including progress in meeting the measurable goals identified in the SWMP.

By providing a summary in the NPDES annual report of progress toward attaining BMP measurable goals (through data collection and tracking measures), the County both: 1) meets the aforementioned reporting requirement, and 2) facilitates a critical step in adaptively managing its stormwater program by assessing each BMP.

While preparing this MS4 annual report, the County collected data and feedback from staff responsible for implementing/reporting on each BMP to facilitate the BMP assessment process. Key factors considered in the annual evaluation include but are not limited to:

- *Was the BMP measurable goal attained? If not, describe circumstances why, and how progress will be made toward future attainment.*
- *For multi-year BMPs, were milestones or timelines met?*
- *Can we feasibly refine or improve the BMP to gain efficiency or effectiveness in removing stormwater pollutants?*
- *Are staffing/financial resources available to support such a BMP improvement or refinement?*

3. BMP Summary

The Multnomah County Stormwater Management Plan is a set of Best Management Practices (BMPs) designed to reduce stormwater pollutants to the maximum extent practicable. The County's stormwater management plan is made up of thirty-two BMPs grouped into seven categories as shown below. The following table summarizes the task, measurable goals, status, and changes for each BMP.

PI	Public Involvement and Education
OM	Operations and Maintenance
ILL	Illicit Discharges Control
ND	New Development Standards
STR	Structural Controls
NS	Natural Systems
PM	Program Management

Managers and staff in several Multnomah County workgroups implement the Stormwater Management Program. The functional groups are:

Public Affairs	Public Affairs Office
Bridge Engineering	Department of Community Services
Bridge Maintenance	Department of Community Services
Land Use and Transportation Planning	Department of Community Services
Code Compliance	Department of Community Services
Facilities	Department of County Assets
Emergency Response	Department of Community Services
Right-of Way Permits	Department of Community Services
Road Maintenance	Department of Community Services
Road Engineering	Department of Community Services
Asset Management	Department of Community Services
Nuisance Code	Health Department, Community Health Services
Program Management	Department of Community Services

PI – Public Involvement and Education

Overall goal: *To inform and educate the public about the causes of stormwater pollution, the effects on local streams and rivers, and the need for stormwater management, and to encourage active participation in pollution reduction efforts.*

<i>BMP</i>	<i>Tasks</i>	<i>Measurable Goal</i>	<i>Status</i>	<i>Adaptive Management</i>
PI-1 Participate in Regional Public Education Efforts	Provide County representative to attend the <i>Regional Coalition for Clean Rivers and Streams</i> (RCCRS) meetings. Plan and Implement public education campaign promoting behaviors that improve water quality.	Help develop and implement RCCRS annual strategy to promote behavior change through the RCCRS website, television, radio and social media. Evaluate education campaign effectiveness by November 1, 2014.	RCCRS continued to contract with EviroIssues to manage and outreach campaign and help develop a new strategic plan for 2014-2015. Because a portion of the 2013-2014 budget will be used to support creative work outlined in the strategic plan, the group developed a smaller more focused education campaign using existing collateral. RCCRS also paid to support the KOIN TV “Do the Right Thing – Clean Water Tips” program which promotes on broadcast TV and web. Additionally, the County’s watershed model was used at the Children’s Clean Water Festival during the permit term (3/11/2014).	The County added additional staff time to work on the RCCRS Strategic Plan, and to craft new campaign strategies (9/2013 – 6/2014)
PI-2 Participate in Public Meetings	Attend public meetings related to water quality.	Track participation in watershed council and ad hoc committee meetings.	Water Quality (WQ) staff shared monitoring and project updates at regular monthly meetings of the Johnson Creek Watershed Council and Sandy River Watershed Council. WQ Staff participates in the Interjurisdictional Committee for Johnson Creek, a technical workgroup that coordinates stream monitoring and analysis for Johnson Creek watershed. WQ staff facilitates a similar group, known informally as the Beaver Creek Conservation Partnership. All meetings are attended monthly.	No change
PI-3 Distribute Public Education Information Regarding Stormwater	Make brochures and other educational materials from Soil & Water Conservation Districts and Watershed Councils available at the planning office. Ensure that public education materials are current and cover relevant topics.	Track the number of materials distributed at meetings, front counters and online.	Although the landowners who visit the planning office are largely rural property owners not included in the NPDES permit area, this public education outlet is maintained for the TMDL pollutant reduction. 105 brochures on various topics from septic maintenance, riparian management and livestock care were taken from the office.	No change

PI-4 Conduct Training and Education for County Personnel	Send a representative(s) to water quality conferences when feasible. Share information learned in training with other staff. Train volunteers, maintenance and operations crews, as well as inspectors on impacts of activities on water quality and MS4 in addition to new approaches to water quality protection and proper reporting procedures.	Conduct a minimum of one staff training session a year.	Road crew trainings include: Vector training (11/2013), confined space training (9/2013). WQ staff attended the regional Urban Ecology symposium (2/2014), ACWA conference (7/2013) and ACWA Stormwater Summit (5/2014). Vegetation staff continued to participate in regular meetings of the Cooperative Weed Management Areas group.	No change
PI-5 Implement the Adopt-a-Road Program	Develop a strategy to promote the adopt-a-road program. Track road segments where volunteer roadside litter removal and clean-up is performed through participation in County Adopt-A-Road programs.	Continue to advertise and support the adopt-a-road program as interest exists.	Adopt-a-road program is promoted through a County webpage and brochures at various County offices. Thirteen groups are active in the NPDES area. Clean ups range from once a month to once a year depending on the group. Adopt a Road is a trash pickup, but additional eyes on the road for illegal dumping is a benefit to the Roads program, as well as increasing the stewardship ethic in the community.	No change
PI-6 Maintain Signage to Protect Water Quality	Determine whether any areas need to be marked or re-marked and provide staff and materials to carry this out. Maintain signs in right-of-way promoting watershed awareness, as requested by watershed councils.	Inspect drain markers and signage once per permit term at all catch basins and stream crossings in the permit area.	GIS mapping of catch basins were completed with drain marker inspection in 2012.	No change
PI-7 Provide Opportunities for Public Involvement During the CIP Process	Involve the public in the process of updating the Capital Improvement Plan and Program (every two years) and in evaluating the stormwater quality impacts and issues associated with the program.	Ensure opportunities for public participation in the CIP update process through public meetings. Ensure that public comment period is established for permit renewal.	With the last biennial CIP Update completed in FY 13, work in FY 14 was mainly focused on the annually budget update as well as the kickoff of the FY 14 Bridge CIP update. The CIP is The Program is reviewed annually and updated biennially to ensure that limited resources for projects are efficiently and equitably allocated to the most critical capital needs, including where equity can be improved, as well as to leverage County funds. The CIP is readily available for review online where feedback can be submitted to the County. In addition, as part of the development of the annual budget a robust public outreach process was conducted by the county to get feedback. An update of the Bridge CIP projects also kicked off in FY 2014 that included public outreach such as open	No change

			houses, stakeholder outreach and distribution of a survey. The public involvement program for the Sellwood Bridge project also continues from previous years.	
PI-8 Facilitate Public Reporting of Illicit Discharges	Determine where signs need to be posted regarding illegal dumping and place them.	Install and maintain signage in all known areas that are problematic in terms of dumping.	No activity in permit year.	No change

OM – Operations and Maintenance

Overall goal: *To implement operations and maintenance practices for public streets, bridges, storm sewers, and other facilities to reduce pollutants in discharges from the municipal separate storm sewer system.*

<i>BMP</i>	<i>Tasks</i>	<i>Measurable Goal</i>	<i>Status</i>	<i>Adaptive Management</i>
OM-1 Review the RMOM for Potential Updates to Address Water Quality	Review the Road Maintenance Operations Manual annually. When manual revisions are made, conduct refresher staff training as provided for under BMP PI-4.	Annually review of the RMOM to ensure current practices are incorporated respect to water quality.	The RMOM was last revised in October 2012. No changes were proposed in 2014	No change
OM-2 Inspect and Maintain the Storm Drainage System	Inspect the entire stormwater conveyance system on an annual basis. Utilize the record keeping system and database to record findings and follow-up work completed by field crews.	Establish criteria used to determine catch basin (CB) cleaning frequency to maintain effective pollutant removal by July 1, 2011. Clean all roadway catch basins (CB) a minimum of 2 times per year, unless catch basin cleaning records indicates less frequent or more frequent cleaning is appropriate.	Criteria for roadway CB and sweeping frequency were submitted to DEQ on June 22, 2011. The program involves remote data entry from vehicles in the field and GIS to store data. Data of catch basin fullness were captured from the previous year was analyzed and presented in a poster presented at the ACWA Stormwater Summit (5/2014). Catch basin cleaning for spring 2014 was delayed to summer 2014 as a result of work from the Gresham road maintenance IGA that needed to be completed before that agreement was terminated at the end of the fiscal year. Catch basin fullness data analysis is forthcoming. Parking lot CBs maintained by County Facilities were inspected and cleaned on annual basis.	The road maintenance IGA with Gresham was last remaining part of the Gresham road transfer. With the termination of the agreement June 30, several staff positions and equipment were also transferred to Gresham, hence a reduced County workforce and resources. Catch basin cleaning efficiency program continues to provide useful information.

OM-3 Conduct Street Sweeping	Track street sweeping efforts to record the sweeping frequency.	Use catch basin cleaning records or inspections to inform the necessary sweeping frequency. Establish criteria used to determine street sweeping frequencies to maintain effective pollutant removal, and identify high priority street sweeping areas by July 1, 2011	(See OM-2 and PM-3) Sweeping routes were driven approximately twice a month for County arterial roads. The next step in the program will be to evaluate catch basin fullness during cleaning intervals will allow us to associate sweeping with catch basin cleaning frequency.	See OM-2
OM-4 Properly Dispose of Road Waste Material	Identify alternatives for a new decant facility to be used for the dewatering of road wastes, or upgrades to the existing facility.	Annually review disposal options that protect water quality.	Vactor waste and sweepings are disposed at a private transfer facility. Vactor liquid is field decanted into public sewer trunk with approval from Fairview. Ditching spoils from the urban area will continue to be disposed at a waste facility.	No change
OM-5 Minimize Impacts from Anti-icing Operations	Continue to follow the County RMOM procedures for the application, collection, and washing of sanding materials applied to roadways. Continue to research alternative anti-icing methods.	Conduct street sweeping to recover sanding materials within two weeks after the Road Maintenance Manager determines that the roads are free from the threat of an ice or snow event.	Sanding materials were used very sparingly on steep hills and freeway ramps during approximately six freezing events in FY14 and were removed within two weeks after the threat of ice was gone. The effectiveness of MgCl has allowed us to reduce sanding materials.	No change
OM-6 Minimize Impacts from County Truck Hauling Practices	Follow the RMOM procedures for conducting equipment checks when hauling materials.	See OM-1	No activity in permit area.	See OM-1
OM-7 Minimize Impacts From Right-of-Way and Road Shoulder Maintenance	Conduct maintenance according to RMOM	See OM-1	No activity in permit area.	See OM-1
OM-8 Minimize Impacts from Ditch Maintenance	Conduct maintenance according to RMOM	See OM-1	No activity in permit area.	See OM-1
OM-9 Maintain County-owned stormwater facilities	Inventory facilities by January 1, 2013	Annual inspection of treatment facility	Road Maintenance contracted Bravo Environmental to replace Contech Stormfilters in two vaults in FY14. Stormfilters on County bridges were inspected and replaced in FY14. County Facilities maintains several Vortex units which were cleaned in FY13.	No change

ILL – Illicit Discharge

Overall goal: *To prevent, identify, investigate, and if appropriate, control/eliminate any non-stormwater discharges into the municipal separate storm sewer system.*

<i>BMP</i>	<i>Tasks</i>	<i>Measurable Goal</i>	<i>Status</i>	<i>Adaptive Management</i>
ILL-1 Implement the Spill Response Program	Continue to follow and implement the Multnomah County Spill Response Plan. Track and record spills and information regarding spills as they occur.	Conduct spill response procedures when spills are reported.	County crews inspect the Spill Response Truck monthly to ensure proper spill control materials are stocked. No spill response was conducted in the permit area.	No change
ILL-2 Address Spills from Private Truck Haulers	Report to the appropriate agency of the private truck hauling practices impacting the County right-of-way and the stormwater conveyance system.	Contact all private haulers when spills are observed to ensure proper clean up	No activity in permit area.	No change
ILL-3 Require Erosion and Pollution Controls for Public Projects (formerly ILL-4 and ILL-5)	Execute formal contracting practices including pre-construction meetings, bonding, construction permit review, and erosion control inspections.	Inspect 100% of County project sites	Construction on three road projects (Wood Village Blvd, Halsey St, and the Troutdale Sidewalk projects) had erosion control in place during inspections. Sellwood Bridge construction project with EPA in May 2013 during the NPDES program audit and discussed construction inspection at length with County inspectors. The project continues.	No change
ILL-4 Investigate Illegal Dumping	Continue to implement the existing field inspection program during routine maintenance activities. Record and report any noticeable illegal discharge and dumping in the right-of-way.	Clean up all reported discharge or debris dumped in the right-of-way	No threats to water quality were reported from illegal dumping activity in the permit area.	No change
ILL-5 Detect and Eliminate Illicit Discharges to the Storm Sewer	Continue to inspect and maintain the bridge restroom facility holding tanks on a quarterly basis. Document enforcement response plan for illicit discharges by November 1, 2011 Develop pollutant parameter actions levels and identify priority outfall locations by July 1, 2012.	Conduct quarterly maintenance of bridge facilities. Conduct tasks by date above, and annual inspection of dry weather flows at major outfalls.	Bridge facilities maintained quarterly without incident. Dry weather outfall inspection of four outfalls occurred in April 2014. No visible signs of illicit discharge were observed.	Outfall inspection list has been updated in the IDDE plan to reflect the high risk potential outfalls.

ND – New Development

Overall goal: *New Development Standards (ND) BMPs are designed to mitigate pollutant discharges and other water quality impacts associated with new development and redevelopment during and after construction.*

<i>BMP Description</i>	<i>Tasks</i>	<i>Measurable Goal</i>	<i>Status</i>	<i>Adaptive Management</i>
ND-1 Require Erosion Control for Private Development	Review and provide comments on applications for grading permits and hillside development permits. Perform Erosion and Sediment Control Inspections for all approved construction projects.	Inspect 100% of sites once during the permit review, and a second time during active construction.	One Grading and Erosion Control permit was issued for a vacant lot in Interlachen during the permit year. The County contracts City of Troutdale to coordinate all erosion and building permit inspections; however, in this instance coordination for the initial erosion control site visit did not occur.	Further training with new Troutdale inspectors is needed for future permits.
ND-2 Regulate Stormwater Discharge	Continue to review new development permit applications to ensure proper connection to the storm sewer system and application of design standards. Inspect stormwater facilities during and after construction to ensure that the site is compliant with design standards.	Conduct plan reviews and inspections for 100% of permitted projects.	A Stormwater Certificate was submitted with the Grading and Erosion Control permit in Interlachen. Stormwater will be handled on site near the top of the road.	No change

STR – Structural Controls

Overall goal: *To implement structural modifications (constructed facilities) to existing systems/development to reduce pollutants in discharges from the municipal separate storm sewer system.*

<i>BMP</i>	<i>Tasks</i>	<i>Measurable Goal</i>	<i>Status</i>	<i>Adaptive Management</i>
STR-1 Address Water Quality with New Capital or Roadway Improvement Projects	Develop criteria and strategy for when stormwater treatment will be incorporated into public projects. Conduct plan checks of stormwater quality treatment facilities that are included in capital improvement or roadway improvement projects to assure they follow standard design criteria that include stormwater quality considerations, and that the appropriate facility is selected for the intended purpose.	Identify strategy or criteria used to determine when stormwater quality treatment will be incorporated into Capital Improvement Projects by November 1, 2013.	The County submitted criteria for when stormwater treatment is incorporated into public projects to DEQ in 2013. Based on that criteria, the Troutdale Rd sidewalk project did not include stormwater treatment because the small amount of new impervious area did not add pollutants. Wood Village Blvd project was conceived as a phase of the Arata Rd capital project. Stormwater treatment for existing impervious area on Arata Rd will offset new impervious area on Wood Village Blvd.	No change
STR-2 Retrofit Existing Facilities for Water Quality Benefit	Include consideration of stormwater treatment for water quality purposes in capital projects to reduce pollutants to the maximum extent practicable. Conduct a hydromodification assessment and develop a strategy to identify and prioritize potential retrofit projects by November 1, 2014.	Identify one retrofit project by November 1, 2013. Develop hydromodification and retrofit strategy by November 1, 2014.	Halsey St project was a second phase of the project which tied to an existing stormfilter vault. Hydromodification Assessment and Stormwater Retrofit Strategy will be submitted to DEQ on November 1, 2014.	No change
STR-3 Inventory and Map the County Storm Sewer System	Continue to update the County GIS storm sewer system map.	Complete GIS drainage system maps of the NPDES permit area by 2014, including catch basins, culverts, manholes, ditches and pipes systems.	Stormwater infrastructure mapping in GIS is completed. The County owns and maintains arterial roads within several cities' jurisdiction, and points where our stormwater infrastructure is connected to another jurisdiction's pipes were identified.	Added limited duration staff to complete GIS mapping of infrastructure. Next step will be to establish a multi-jurisdictional group to share data updates.

NS – Natural Systems

Overall goal: *to help preserve and restore the natural environment/functions to reduce pollutants in discharges from the municipal separate storm sewer system.*

<i>BMP</i>	<i>Tasks</i>	<i>Measurable Goal</i>	<i>Status</i>	<i>Adaptive Management</i>
NS-1 Conduct Vegetation Management Activities	Follow RMOM and IVM procedures. Maintain current Oregon Department of Agriculture (ODA) certifications for chemical applicators. Review and update integrated vegetation management practices (IVM) annually.	Review RMOM vegetation activities and the Integrated Vegetation Management Program (IVM) annually.	The number of stormwater facilities given in the Road Services IVM was updated.	No change
NS-2 Specify Native Vegetation in ROW and Permitted Projects	Review the current contract specifications for landscaping in the right-of-way, and update as needed. Promote the use of native vegetation and develop contract specifications for landscaping. Condition plan approvals with invasive plants removal, if needed. Ensure contract specifications are followed which require certain landscaping materials and placement.	Inspect 100% of project sites for landscaping specifications.	No vegetation was required for the Right of Way for the one site developed in Interlachen.	No change

PM – Program Management

Overall goal: *Program Management BMPs ensure effective program management, coordination, and reporting.*

<i>BMP</i>	<i>Tasks</i>	<i>Measurable Goal</i>	<i>Status</i>	<i>Adaptive Management</i>
PM-1 Stormwater Program Management	Continue to participate in the NPDES MS4 coordination meetings and any DEQ meetings. Continue to work with other NPDES MS4 permittees and DEQ to implement the stormwater management program. Review each BMP file annually. Prepare an annual report to demonstrate the County's compliance with requirements. Submit to DEQ.	Annually review BMP implementation data and submit annual report by November 1 each year.	Annual report submitted to DEQ.	No change
PM-2 Assess and Evaluate the Stormwater BMP Program	Evaluate progress of BMPs for annual report using adaptive management approach.	Develop an adaptive management approach by November 1, 2011.	The adaptive management approach was discussed mainly in the context of our catch basin and sweeping efficiency program. All deadlines are met for 2014.	No change
PM-3 Maintain Environmental Management Database	Pilot new GPS and onboard computer technology by July 2011. Develop GIS or other mapping technology to sync with GPS system by July 2012. Develop SAP work orders and tracking to integrate with GIS by July 2013.	Ensure tasks are completed by dates shown.	Work orders for Road Maintenance are captured in SAP work order system. GIS is used to capture catch basin cleaning and sweeping data.	(See OM-2)

4. Stormwater Management Program Budget

Program activity within the County's NPDES permit area is divided between areas that were previously managed under the Portland area and Gresham area NPDES permits. The Water Quality program, consisting of one staff manages the County stormwater program, and portions of two Asset Management staff provide mapping and database services across the entire permit area. Services specific to the two areas are described below.

Gresham area stormwater related services:

- Road Maintenance expenditures and anticipated budget allocations within the Fairview and Interlachen incorporate items including drainage maintenance, right-of-way, surface management, vegetation management, general administration, emergency road hazard response and training.
- Road Engineering expenditures and anticipated budget allocations within Fairview and Interlachen incorporate drainage studies and reviews, environmental compliance review, as-built plan drafting and inventory, GIS database entry, and training.
- Land Use and Transportation Planning expenditures and anticipated budget for design review of capital improvements and right-of-way impacts to the County roads in Fairview, Troutdale, and Wood Village, and for design review and permits for development within the Interlachen Area.

Portland area stormwater related services:

- Bridge Maintenance expenditures and anticipated budget allocations within the Portland Permit area incorporate items including, drainage maintenance, right-of-way, surface management, vegetation management, general administration, emergency road hazard response and training.
- Bridge Engineering expenditures and anticipated budget allocations within the Portland Permit area incorporate drainage studies and reviews, environmental compliance review, as-built plan drafting and inventory, GIS database entry, and training.
- Multnomah County Road Maintenance, contracts the City of Portland and Clean Water Services to maintain and operate County owned roads to their respective standards in the urban unincorporated pocket areas through Intergovernmental Agreements.
- Road Engineering continues to retain authority to review access and impacts to the right-of-way including stormwater discharge when such discharges cannot be retained on site.
- Transportation Planning within the Portland Permit area includes development review in the unincorporated pockets where such development has the potential to access or impact the county right-of-way.

Funding for stormwater program expenditures are derived from two sources. The Land Use Planning receives funding from County's General Fund. The Transportation Division (Road and Bridge Services and

Transportation Planning) receive funding from the State Highway Trust Fund, which includes includes the State gasoline tax, weight/mile tax on trucks, and vehicle registration fees. Highway Trust Funds are constitutionally dedicated to road related issues. The County has no revenue from dedicated stormwater fees. This is a result of the County roads and unincorporated pockets being nested within other city jurisdiction's service areas.

The table below outlines program expenditures for Fiscal Year 2013 and provides the anticipated budget for Fiscal Year 2014.

<i>Program Area</i>	<i>FY 2014 actual</i>	<i>FY 2015 budget</i>
Water Quality Program ¹	\$219,830	\$162,060
Asset Management ²	\$7,200	\$7,200
Gresham area		
• Road Maintenance ³	\$554,116*	\$555,000
• Road Engineering ³	\$210,655	\$214,960
• Land Use & Transportation Planning	\$4,220	\$4,000
Portland Area		
• Bridge Maintenance/Operations	\$14,943	\$28,861
• Bridge Engineering ⁴	\$94,033,759	\$126,238,948
• Road Maintenance IGA	\$88,500	\$100,000
• Road Engineering ⁵	\$10,845	\$11,025
• Transportation Planning	\$1,580	\$2,000

¹Figure includes entire Water Quality program includes one staff, monitoring budget for UIC, TMDL and NPDES programs, and additional program costs. Decrease from previous year is the result of the hire of a limited duration GIS technician for stormwatermapping.

²Estimate is based on a portion of time from two Asset Management staff.

³Budget estimate is based on actual spending from the previous year for time spent on water quality work plus a budget for training.

⁴The amount shown represents the entire Bridge Engineering program. The entire program is included because Bridge Services do not budget or collect charges for water quality tasks. Water quality best practices are integral in all aspects of design and construction and hence we are not able to be segregated from the other work. Increase in budget reflects Sellwood Bridge funding.

⁵Estimate of the amount of time spent on water quality issues in Portland area right-of-way.

*This value reflects changes in budget coding where zone designations within a work district were eliminated, thus the value includes work outside the NPDES area.

5. Monitoring Summary

Environmental monitoring for the NPDES MS4 Phase I permit includes instream monitoring, macroinvertebrate monitoring, stormwater sampling for mercury, and pesticide monitoring. This summary describes the instream and macroinvertebrate monitoring. In previous permit terms, the mercury monitoring was completed. Pesticide monitoring is slated to be done in conjunction with the County's underground injection control (UIC) Water Pollution Control Facility (WPCF) permit requirements. The County received the UIC WPCF permit in March 2014, and stormwater sampling will commence in fall of 2014.

Instream monitoring is required at two sites in the permit area for a range of pollutant parameters shown in the table below. Monitoring is coordinated with the City of Gresham; the County maintains an intergovernmental agreement with Gresham to contract monitoring services, including monitoring scope, and sampling methods. Fairview Creek and Beaver Creek are the two priority watersheds in the Gresham area. Fairview Creek results are summarized in the Gresham NPDES Annual Report.

<i>Monitoring location</i>	<i>Sampling frequency</i>	<i>Parameters</i>
Lower Beaver Creek (BCI1) Upper Beaver Creek (BCI2)	4 events/year	Biological Oxygen Demand (BOD5) Total suspended sediment (TSS) Hardness Temperature Dissolved Oxygen (DO) Conductivity pH Nitrate (NO3) Ammonia nitrogen (NH3-N) Total phosphorus (TP) Ortho-phosphorus (O-PO4) Copper, total and dissolved Lead, total and dissolved Zinc, total and dissolved E.coli bacteria
Lower Beaver Creek (BCI1) Upper Beaver Creek (BCI2)	1 event/year	Macroinvertebrate

Two sites in Beaver Creek are monitored by the County, one site at the boundary of the urban and agricultural land uses, and one near the mouth of the stream, where the stream joins the Sandy River. Instream monitoring results are generally within expected ranges, with exceedances in temperature and E.coli. Macroinvertebrate scores are low, which is consistent with previous sampling results.

Sample ID	Site ID	Date	Time	24-hr rain (in)	Field DO (mg/L)	Field pH	Field Temp (°C)	Conductivity (uS/cm)	Turbidity (ntu)	BOD5 (mg/L)	TSS (mg/L)	NH3-N (ug/L)	Chloro-phyll-a (mg/m3)	NO3-N (ug/L)	O-PO4 (ug/L)	TKN (ug/L)	Total-P (ug/L)	Hardness (mg CaCO3/L)
W13G238-08	BCI1	7/30/2013	10:50	0.00	10.65	7.26	16	194.2	3.01	2	3	25	2	1500	34	300	78	87.5
W13J224-10	BCI1	10/29/2013	15:20	0.00	13.14	7.4	8.4	96.2	5.1	2	2	20	2	1100	29	310	67	62
W14A201-10	BCI1	1/27/2014	13:40	0.00	15.26	7.41	2.5	85.6	3.48	2	2	20	NM	260	20	220	42	50.4
W14D249-10	BCI1	4/29/2014	13:40	0.00	10.54	7.34	13.4	91.9	5.79	2	2	20	NM	1900	20	210	38	41.4
W13G238-09	BCI2	7/30/2013	12:40	0.00	10.96	7.24	17.9	122.8	2.73	2	2	37	12.8	360	54	590	91	45.5
W13J224-11	BCI2	10/29/2013	14:10	0.00	13.61	7.15	6	71.9	2.48	2	2	20	2	1400	20	340	56	43.5
W14A201-11	BCI2	1/27/2014	12:45	0.00	14.91	7.02	2.3	59.2	4.01	2	2	20	NM	310	20	220	31	31.2
W14D249-11	BCI2	4/29/2014	12:45	0.00	12.65	6.77	12.8	71.3	5.86	2	2	20	NM	2300	20	260	32	30.7

Sample ID	Site ID	Date	Time	Hg-Total (ug/L)	Cu-Total (ug/L)	Pb-Total (ug/L)	Zn-Total (ug/L)	Cu-Diss (ug/L)	Pb-Diss (ug/L)	Zn-Diss (ug/L)	E. coli (MPN/100ml)
W13G238-08	BCI1	7/30/2013	10:50	0.0020	0.983	0.100	1.76	0.72	0.10	1.13	75
W13J224-10	BCI1	10/29/2013	15:20	0.0020	1.280	0.100	5.10	1.16	0.10	4.31	41
W14A201-10	BCI1	1/27/2014	13:40	0.0020	0.584	0.100	2.17	0.517	0.10	1.49	10
W14D249-10	BCI1	4/29/2014	13:40	0.0013	0.865	0.106	6.29	0.633	0.10	2.82	41
W13G238-09	BCI2	7/30/2013	12:40	0.0020	1.500	0.100	0.76	1.32	0.10	0.5	180
W13J224-11	BCI2	10/29/2013	14:10	0.0020	2.070	0.100	1.35	1.83	0.10	1.26	580
W14A201-11	BCI2	1/27/2014	12:45	0.0020	0.500	0.100	0.86	0.455	0.10	0.568	10
W14D249-11	BCI2	4/29/2014	12:45	0.0011	0.646	0.100	1.05	0.468	0.10	0.595	85

Bold indicates values below the minimum reporting limit

Macroinvertebrate Site	B-IBI score
BCI1	22
BCI2	20

