



— CITY OF PORTLAND —
ENVIRONMENTAL SERVICES



1120 SW Fifth Avenue, Room 1000, Portland, Oregon 97204-1912 ■ Sam Adams, Commissioner ■ Dean Marriott, Director

October 28, 2005

Rob Burkhart
Portland MS4 Permit Manager
Oregon Department of Environmental Quality
Northwest Region
2020 SW Fourth Avenue, Suite 400
Portland, OR 97201-4987

Dear Mr. Burkhart:

On behalf of the City of Portland and its co-permittees, I am pleased to submit the enclosed *NPDES Annual Compliance Report No. Ten*. This report fulfills reporting requirements for the Portland NPDES Municipal Separate Storm Sewer System (MS4) Discharge Permit. Accomplishments for the tenth fiscal year of the permit program (July 1, 2004 through June 30, 2005) are included in the report.

The report demonstrates the co-permittees' progress toward meeting the permit requirements and stormwater program goals for the past year. Each co-permittee's section of the report details the activities implemented, program status, and any initiated or proposed program changes. An overview of each co-permittee's section is provided in the Executive Summary.

A Monitoring Compliance Report, which summarizes monitoring activities conducted by Portland in the past year, is included at the end of Section II of the report. The raw monitoring data are available upon request on CD-ROM.

Please call me at 503 823-5275 if you have any questions concerning this report.

Sincerely,

Patrice Mango
Portland Stormwater Program Manager

cc: Dave Kliewer, Environmental Services
Mary Wahl, Environmental Services
Dorothy Sperry, Port of Portland
Kim Peoples, Multnomah County

Enclosure

City of Portland, Oregon

**National Pollutant Discharge Elimination System (NPDES)
Municipal Separate Storm Sewer Discharge Permit**

Permit Number: 101314

ANNUAL COMPLIANCE REPORT NO. TEN

**Fiscal Year 2004-2005
(July 1, 2004 – June 30, 2005)**

Prepared for:

Oregon Department of Environmental Quality

October 28, 2005

Submitted by:

*City of Portland
Multnomah County
Port of Portland*

City of Portland
National Pollutant Discharge Elimination System
Municipal Separate Storm Sewer System Discharge Permit
Permit Number: 101314

ANNUAL COMPLIANCE REPORT
Fiscal Year 2004-05
(July 1, 2004 - June 30, 2005)

We, the undersigned, hereby submit this annual compliance report for the Municipal Separate Storm Sewer System Discharge Permit No. 101314, in accordance with Schedule B, Section 2-a of that permit. We certify, as required by 40 CFR Section 122.22, under penalty of law, that this document was prepared under our direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on our inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of our knowledge and belief, true, accurate, and complete. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Dean Marriott
Director, Bureau of Environmental Services
City of Portland

Cecilia Johnson
Director, Department of Community Services
Multnomah County

Bill Wyatt
Executive Director
Port of Portland

Permit Holder Information

Co-Permittee: City of Portland
Bureau of Environmental Services
Address: 1211 SW Fifth Ave., Room 800, Portland, OR 97204
Contact Person: Patrice Mango
Telephone No.: 503-823-5275

Co-Permittee: Multnomah County
Land Use and Transportation Program
Department of Community Services
Address: 1600 SE 190th Avenue, Portland, OR 97233
Contact Person: Kim Peoples
Telephone No.: 503-988-3043

Co-Permittee: Port of Portland
Address: 121 NW Everett, Portland, OR 97209
Contact Person: Dorothy Sperry
Telephone No.: 503-944-7642

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

INTRODUCTION

This tenth Annual Compliance Report is submitted to the Oregon Department of Environmental Quality (DEQ) to fulfill reporting requirements for the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System Discharge Permit (hereinafter referred to as the stormwater permit or permit) issued to the City of Portland, Multnomah County, and Port of Portland (the co-permittees). It covers the work accomplished during the tenth fiscal year (July 1, 2004 through June 30, 2005) of the permit program.

In managing and implementing the permit program, the co-permittees work in a cooperative effort with DEQ, Metro, the Oregon Association of Clean Water Agencies (ACWA), other agencies, and the public.

PERMIT RENEWAL

DEQ issued the five-year stormwater permit on September 7, 1995. By federal law, the initial term of the permit is five years, and is administratively extended until renewed. The City of Portland, Port of Portland, and Multnomah County submitted a renewal application as required (180 days before the date of the original permit expiration) in February 2000. DEQ issued the permit renewal in March 2004, beginning a second five-year permit term that expires on February 28, 2009. DEQ subsequently reconsidered the second-term permit and reissued the revised permit in July 2005.

The 1993 permit application included each co-permittee's original Stormwater Management Plan (SWMP). The permit issued in September 1995 incorporated the SWMPs by reference. As the co-permittees have implemented their SWMPs, they have evaluated the effectiveness of the BMPs and assessed opportunities for improvement. As a result of this adaptive management process, the BMPs have been revised as needed to continue to reduce pollutant discharges to the maximum extent practicable.

In permit year ten, the co-permittees continued to implement their BMPs and also worked on revising their SWMPs to address new conditions of the renewed permit. The revised SWMPs will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

BMP CATEGORIES

The co-permittees' BMPs are organized under the eight general categories shown below. These common categories serve as an overall framework and promote consistency and coordination among the co-permittees. Each co-permittee then identifies its own specific BMPs under each of the common categories.

- PI: Public Involvement/Education
- OM: Operations and Maintenance
- IND: Industrial/Commercial Controls
- ILL: Illicit Discharges Controls
- ND: New Development Standards
- STR: Structural Controls
- PS: Planning/System Preservation and Development
- OA: Other Activities

The Annual Compliance Report includes individual reports prepared by each co-permittee. Each report describes the activities implemented and any initiated or proposed program changes. An overview of each co-permittee's report is provided below.

CITY OF PORTLAND

During permit year ten, the City of Portland started development of the Portland Watershed Management Plan (PWMP). The PWMP shifts Portland's focus from the traditional approach of addressing single watershed components, such as water quality or hydrology, to a watershed approach that includes the entire range of watershed goals and objectives. Such a comprehensive approach to watershed management coordinates compliance among individual environmental regulations, such as the municipal stormwater permit program and other regulatory requirements. MS4 program implementation is one part of the effort to improve watershed health. As the PWMP was in development, Portland continued to implement BMP activities.

The City also continues to coordinate MS4 program activities with other City actions and programs, including the CSO Program, Endangered Species Act Program, Underground Injection Control (UIC) Program, Total Maximum Daily Load (TMDL) Program, Portland Harbor Superfund Site, and Office of Sustainable Development.

Key activities and accomplishments for permit year ten are provided in Section II of this annual report and summarized below.

- Continued public involvement/education activities as a significant element of the Stormwater Program. Key activities included the stormwater education activities; stewardship grant projects; ongoing participation in the Regional Coalition for Clean Rivers and Streams; and educational publications and materials.
- The Portland Office of Transportation continues to follow, with modifications, the best management practices outlined in ODOT's *Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices*, as guidance for transportation-related maintenance activities.
- Implemented the 2004 Stormwater Management Manual.

- Worked with the Stormwater Advisory Committee (SAC) on revising the Stormwater Management Plan to address new conditions of the renewed permit. Began to develop a response report to the SAC's policy recommendations for transportation-related development, which were presented to City Council in 2004. Continued to implement the SAC's June 2002 report recommendations for new development, redevelopment, and existing development.
- Continued implementation of groundwater protection and stormwater BMPs and facility inspections for commercial and industrial facilities within the Columbia South Shore Well Field Wellhead Protection Area overlay zone, including education and outreach efforts.
- Continued sampling the 19 non-stormwater discharges identified in the NPDES permit to determine their impact on the MS4. As of permit year ten, completed monitoring work on four of the 19 activities listed in the permit; as of permit year nine, 17 of the 19 sampling categories have been completed.
- Completed a draft of revisions to Title 10 (erosion control), focusing on regulations for larger sites with steep slopes and on sensitive areas, and reducing plan review and inspection requirements for small, flat sites. Began to revise the City's Erosion Control manual, involving a multi-bureau group of engineers and inspectors. Conducted 10,345 erosion control-related inspections
- Continued the stormwater management facility (SMF) inspection program for private stormwater management facilities.
- Continued to provide in-kind services in coordination with the Multnomah County Drainage District (MCDD) and the U.S. Army Corps of Engineers to implement Section 1135 Program projects in the Columbia Slough.
- Continued implementation of 24 projects funded by a \$1.6 million EPA grant for innovative stormwater projects.
- Completed four water quality friendly streets pilot projects.
- Continued to provide technical assistance and grant funding for projects that incorporate green building principles, including stormwater pollution prevention and management.
- Continued to update Portland's environmental land use planning and zoning program. Key activities included work to update the City's natural resource inventories and existing environmental zoning code to help protect the important functions provided by the City's streams and riparian areas, wetlands, and other specified water bodies. This work is intended to contribute toward the City's compliance with the Endangered Species Act and Clean Water Act, as well as with Oregon land use

planning goals 5, 6, and 7 and Title 3 of Metro's Urban Growth Management Functional Plan.

- City Council adopted the River Renaissance Strategy, which establishes guiding principles and policy direction to achieve the City's River Renaissance Vision adopted in March 2001. One key element is direction on how to achieve Portland's goals for a clean and healthy Willamette River and healthy tributary watersheds.
- Made significant progress toward completion of an update to the City's environmental code. Working with community stakeholders, the City has developed code amendment proposals aimed at improving enforcement of environmental violations and making it easier to obtain permits to undertake resource enhancement projects. Project completion is anticipated by fall 2005.
- Initiated a scoping effort for the Columbia Corridor Natural Resource Conservation Plan District project. This effort will develop project goals and options for improving natural resource conservation regulations, complying with current and upcoming regulations, and developing creative approaches to conserve resources while also recognizing and striving to support City goals for economic and industrial development in this unique part of the city.
- Drafted new guidance and regulatory documents for tree and landscaping requirements associated with screening and aesthetic landscaping needs, including diversity standards, an enhanced tree list, design concepts, and a self-certification rule to ensure proper installation of landscaping. Landscape certification was adopted permanently on September 1, 2004.
- Completed a public and legal review of stormwater enforcement rules that will implement City Code provisions for industrial stormwater inspections and pollution complaints. These rules identify the types of enforcement tools that can be used and severity of enforcement and penalty expected for typical violations.
- Purchased eight acres of flood-prone property under the Johnson Creek Willing Seller Program. In addition, Portland Parks and Recreation acquired 21.74 acres of property. Since the beginning of the permit, the City has purchased a total of 2,452 acres, including Metro open space acquisitions.
- Under the Watershed Revegetation Program, revegetated streamside and upland areas with 99,655 plants on 11,353 linear feet of streambank and 80.5 acres.
- Portland City Council adopted the Pleasant Valley Plan District in December 2004, and the new code measures went into effect in June 2005. In addition, the cities of Portland and Gresham reached an agreement on future governance under which Portland will eventually annex approximately 290 acres of the study area. (Gresham will annex the other 1,242 acres.) These 290 acres were added to Portland's urban services boundary and are covered under the MS4 permit. The cities of Gresham and

Portland jointly completed the Pleasant Valley Plan District System Master Plans for Stormwater, Wastewater, and Funding in July 2004.

MULTNOMAH COUNTY

Multnomah County continued implementation of its comprehensive stormwater management program countywide in permit year ten. Although County activities are limited within the permit area, the stormwater program is implemented throughout the County, including areas outside the permit area consistent with County environmental and resource conservation policies.

Section III of the annual report describes the County's stormwater management efforts, primarily focusing on activities within the permit area. Brief summaries below highlight key accomplishments.

- **Transfer of Urban Planning Authority:** The westerly 290 acres of unincorporated Multnomah County, known as Pleasant Valley, was added to the "urban planning pockets" that the City of Portland administers for the County. The area received new zoning consistent with City of Portland Comprehensive Plan designations. The City is now responsible for all current and long-range planning for the area.
- **Public Education and Outreach:** The County continued its partnership with the Regional Coalition for Clean Rivers and Streams. Members of the Regional Coalition for Clean Rivers and Streams re-engaged the media campaign called "*Is your lawn chemical free? Maybe it should be.*" The materials aimed at informing citizens that the use of pesticides and herbicides on lawns can harm people, pets, and the health of the region's waterways. Advertising materials were used to develop posters, brochures, bus tail boards, newspaper advertisements, and movie screen advertisements. Educational materials were distributed throughout the Metro area in spring 2005 to coincide with the seasonal upswing in lawn and gardening activities.
- **Capital Maintenance Projects:** The Transportation Bridge Section completed the Broadway Bridge drainage retrofit project that incorporated water quality treatment facilities for treating stormwater before it discharges into the Willamette River.
- **Employee Training:** The County continued to provide training and regulatory updates to employees on water quality related topics. During permit year ten, staff received training on erosion control, spill response, and vegetation management practices, as well as stormwater best management practices.

PORT OF PORTLAND

The Port of Portland (Port) continued implementation of its stormwater management program during permit year ten. The stormwater program continues to evolve over time through an adaptive management process. The Port's stormwater management efforts are guided by implementation of its Stormwater Management Plan (SWMP), the individual operating area stormwater plans, and other Port environmental policies.

Section IV of this annual report contains detailed descriptions of the Port's stormwater management efforts during permit year ten. Key accomplishments are summarized below.

Public outreach: The Port continued to implement and support a variety of public outreach programs and events focused on increasing public awareness of water quality issues, coordinating many of its efforts with other organizations. The Port is an active participant in a number of environmental organizations, and hosts and sponsors a variety of outreach events throughout the year, including environmental forums, committee meetings, conferences, and tradeshow.

Port staff generate a number of publications for public interest. The Port's *Environmental Annual Report* documents progress made by the Port with regard to its Environmental Objectives and Targets for the 2004-2005 fiscal year and outlines future environmental goals. The publication of the *Port Currents* and *Portside* newsletters further provided the public with information on Port activities and environmental aspects of Port operations.

Training and Education: The Port conducts a number of public education and employee training activities throughout the year. Port staff receive training on spill response, pesticide application, and stormwater awareness, and staff attend a variety of conferences and seminars for additional educational opportunities. A variety of educational materials that address stormwater issues are distributed to the public.

Maintenance and Landscaping Activities: Port staff continually inspect, repair, and maintain stormwater conveyance and stormwater treatment system components throughout the permit year. The Port continued to implement BMPs to minimize the use of pesticides and fertilizers in the course of its landscape maintenance activities.

Illicit Discharge Detection and Elimination Program: Port staff continued to implement the Illicit Discharge Detection and Elimination Program. The program involves dry-season field monitoring of priority outfalls and investigation of potential illicit discharges.

Coordination and Compliance: The Port of Portland coordinates with the other Portland co-permittees, particularly the City of Portland, with regard to monitoring and program coordination. The Port continues to operate and manage its stormwater program and facilities effectively, in coordination with other municipal stormwater permits and other general stormwater permits.

Resource Allocation: The Port designated considerable resources to stormwater management during the 2004-2005 fiscal year. Estimated Port stormwater expenditures exceeded \$2.3 million and included staff salary, contractor and consultant fees, stormwater infrastructure, training, and outreach materials.

Section I

GENERAL INTRODUCTION

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This tenth Annual Compliance Report is submitted to the Oregon Department of Environmental Quality (DEQ) to fulfill reporting requirements for the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System Discharge Permit (hereinafter referred to as the stormwater permit or permit) issued to the City of Portland, Multnomah County, and Port of Portland (the co-permittees). The report covers the work accomplished during the tenth fiscal year (July 1, 2004 through June 30, 2005) of the permit program.

The map on page 3 shows the NPDES stormwater permit areas for the three co-permittees, as described below:

- Approximately 43,300 acres within the City of Portland's urban services boundary drain to a separate storm sewer system.
- The Port owns approximately 6,274 acres within the City of Portland's urban services boundary, some of which drains to the Port's municipal separate storm sewer system. This acreage includes Portland International Airport, four marine terminals, several industrial parks occupied by commercial tenants, and several mitigation sites.
- Since the issuance of the Portland area NPDES Permit (No101314) in 1995, Multnomah County's jurisdiction and level of activity have been greatly reduced. Most significantly, the County no longer has land use planning authority within the few remaining unincorporated urban pockets within the permit area. Additionally, the City of Portland now has operation and maintenance responsibilities of all 18.76 miles of County dedicated roads and drainages within the permit area through an intergovernmental agreement.

Multnomah County's primary activity within the permit area continues to be the operation and maintenance of five Willamette River bridges. The County Transportation Division also continues to retain authority to review stormwater management plans, granting a handful of permits every year to access County right-of-way for limited stormwater discharge within the unincorporated pockets. Staff reviews plans that detail the stormwater runoff effects of development and redevelopment. Discharge from the undeveloped parcel is calculated, and only that volume is permitted for access to County road drainages, which are now operated and maintained by the City of Portland.

PERMIT BACKGROUND

Seven co-applicants submitted a permit application to DEQ in 1991 (Part 1) and 1993 (Part 2) to achieve compliance with the federal and state-delegated NPDES regulations. DEQ issued a permit to the seven co-permittees on September 7, 1995.¹ By federal law, the initial term of the permit is five years, and is administratively extended until renewed. The City of Portland, Port

¹ The seven original co-applicants/co-permittees, which all operate separate stormwater conveyance systems within Portland's urban services boundary, were the City of Portland, Port of Portland,

of Portland, and Multnomah County submitted a renewal application as required (180 days before the date of the original permit expiration) in February 2000. DEQ issued the permit renewal in March 2004, beginning a second five-year permit term that expires on February 28, 2009. DEQ subsequently reconsidered the second-term permit and reissued the revised permit in July 2005.

STORMWATER MANAGEMENT PLAN

The 1993 permit application included each co-permittee's original Stormwater Management Plan (SWMP). The permit issued in September 1995 incorporated the SWMPs by reference. The co-permittees coordinated and created intergovernmental agreements to jointly implement some parts of their SWMPs.

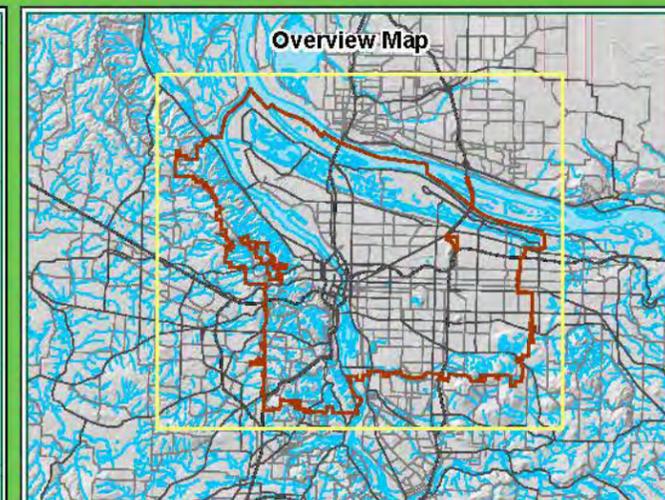
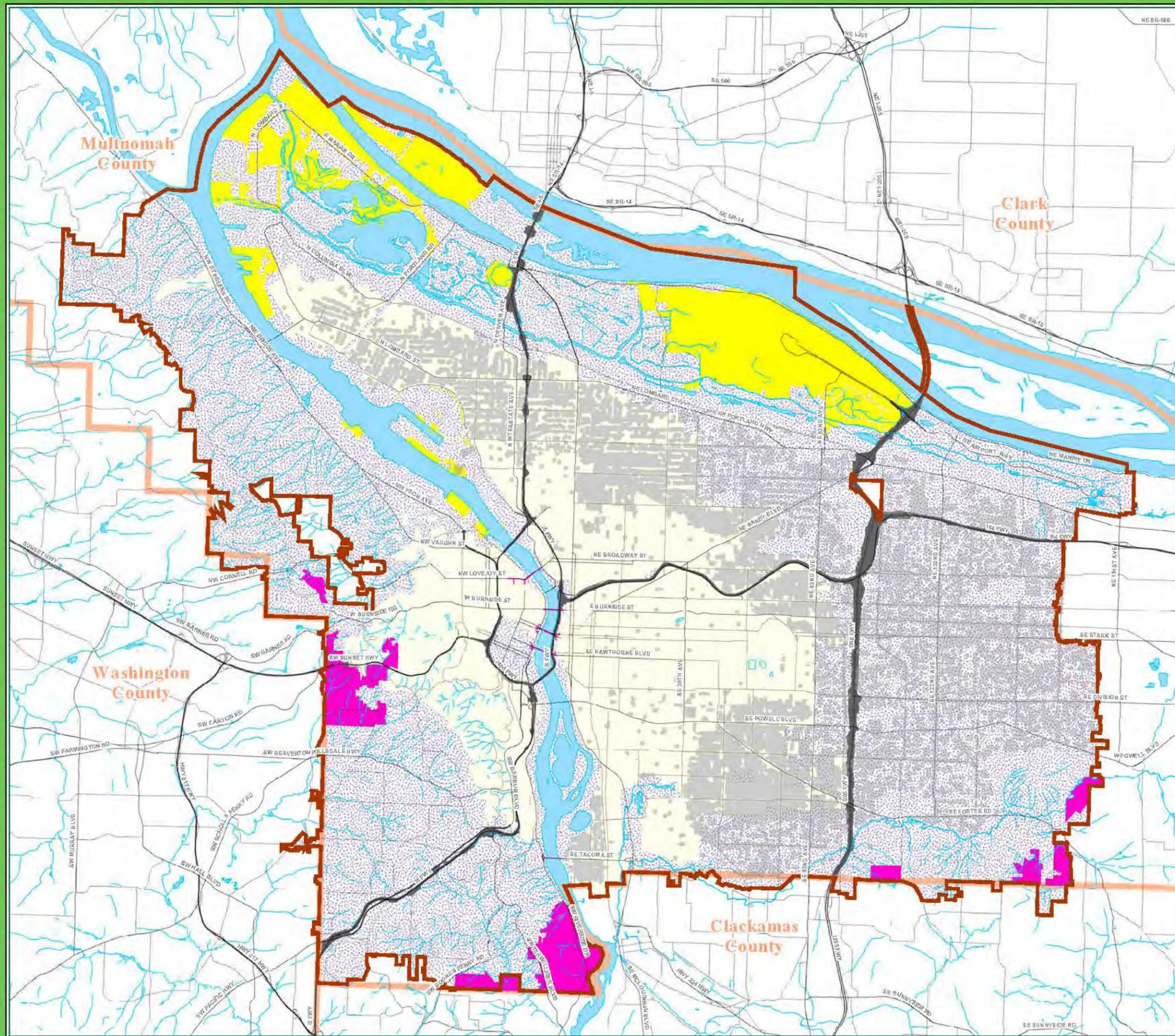
The 1993 permit application also included a Stormwater Monitoring Plan. Implementation of the Monitoring Plan is included as a best management practice (BMP) in the City of Portland's SWMP. The Port of Portland and Multnomah County also participate in the monitoring program via intergovernmental agreements.

As the co-permittees have implemented their SWMPs, they have evaluated the effectiveness of the BMPs and assessed opportunities for improvement. As a result of this adaptive management process, the BMPs have been revised as needed to continue to reduce pollutant discharges to the maximum extent practicable. These revisions include:

- Changes made in annual compliance reports.
- Modifications to the Port of Portland SWMP and monitoring program submitted to DEQ October 15, 1996 and April 8, 1998.
- Modifications to the monitoring elements of the permit (Addendum No. 1) approved by DEQ on April 29, 1998, in response to the City of Portland's request to modify its monitoring plan.
- Proposed BMP revisions included in the co-permittees' permit renewal submittal to DEQ on February 29, 2000.

In permit years nine and ten, the co-permittees have worked on revising their SWMPs to address new conditions of the renewed permit. The revised SWMPs will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

Multnomah County, Oregon Department of Transportation (ODOT), Multnomah County Drainage District No. 1, Peninsula Drainage District No. 1, and Peninsula Drainage District No. 2. In 2000, ODOT obtained a statewide NPDES permit and was removed as a Portland co-permittee. The three drainage districts established memoranda of agreement to fulfill their stormwater management responsibilities, and were removed as Portland co-permittees in 2003.



Legend

- Portland Urban Services Boundary*
- County Boundary
- Combined Sewer Area
- Areas Draining to Portland UICs
- Port of Portland Permit Area
- Multnomah County Permit Area
- City of Portland Permit Area
- ODOT Right-of-Way (Covered Under Statewide NPDES MS4 Permit)

*Areas Covered by the Portland MS4 Include all Existing and New Discharges of Storm Water from the Municipal Separate Storm Sewer System Within the City of Portland Urban Services Boundary.

N
W E S
1 inch equals 9000 feet
0 4500 9000 18000 Feet

NPDES MS4 Stormwater Permit Areas

CITY OF PORTLAND
ENVIRONMENTAL SERVICES
Systems Analysis
Spatial Analysis and Modeling

BMP CATEGORIES

In the permit renewal package submitted in February 2000, the City of Portland, Multnomah County, and Port of Portland organized their BMPs under eight general categories, as shown below. These common categories serve as an overall framework and promote consistency and coordination among the co-permittees. Each co-permittee then identifies its own specific BMPs under each of the common categories.

- PI: Public Involvement/Education
- OM: Operations and Maintenance
- IND: Industrial/Commercial Controls
- ILL: Illicit Discharges Controls
- ND: New Development Standards
- STR: Structural Controls
- PS: Planning/System Preservation and Development
- OA: Other Activities

COMPARISON OF BMPS WITH NPDES REGULATORY REQUIREMENTS

The following table shows how the co-permittees' BMPs address the various NPDES regulatory requirements.

NPDES REGULATION 40 CFR 122.26 (d) (2) (iii)	City BMPs	Port BMPs	County BMPs
(D) Include (<i>in the permit application</i>) a proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls or field screening points to be sampled, why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment.	OA1	OA3	N/A
NPDES REGULATION 40 CFR 122.26 (d) (2) (iv)	City BMPs	Port BMPs	County BMPs
Proposed Management Program. ...It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and systems, design and engineering methods, and such other provisions which are appropriate...	All City BMPs	All Port BMPs	All applicable County BMPs
...Such programs shall be based on: (A) A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal separate storm system (MS4s) that are to be implemented during the life of the permit,...	OM3 OM4 STR1 STR2 PS3	OM1 OM2 OM3 ND1 STR1	OM1 STR1

...the description shall include: (A)(1) A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from MS4s;	OM1 OM2 PS1	OM1 OM3	OM1 OM5 OA3
(A)(2) A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from MS4s which receive discharges from areas of new development and significant redevelopment. Such plans shall address controls to reduce pollutant discharges from MS4s after construction is complete...	ND2 STR2 PS1 PS2 PS3	P12 OM1 OM3 ND1 STR1 OA1 OA2 OA3	PI4 ILL4 OA1 OA2 OA3
(A)(3) A description of practices for operating and maintaining public streets, roads, and highways and procedures for reducing the impact on receiving waters of discharges from MS4s, including pollutants discharged as a result of deicing activities;	OM2	OM2	OA3
NPDES REGULATION 40 CFR 122.26 (d) (2) (iv)	City BMPs	Port BMPs	County BMPs
(A)(4) A description of procedures to assure that flood management projects assess the impacts on 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 stormwater is feasible;	STR1 STR2	N/A	PI7 STR1 STR2
(A)(5) A description of a program to monitor pollutants in runoff from operating or closed landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing controls measures for such discharges;	IND1	N/A	N/A
(A)(6) A description of a program to reduce to the maximum extent practicable, pollutants in discharges from the MS4s associated with the application of pesticides, herbicides, and fertilizers which will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in the public rights-of-way and municipal facilities.	PI1 PSI	P12 OM3 ILL2	PI3 PI4 PS1
(B) A description of a program, including a schedule, to detect and remove (or require the discharger to the MS4s to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm system.	PI1 OM3 OM4 IND1 ILL2	ILL3 IND1	ILL5 ILL7 ILL8
(B)(1) A description of a program, including inspections, to implement and enforce an ordinance, order or similar means to prevent illicit discharges to the MS4s; this program description shall address all types of illicit discharges,...flows shall be addressed where such discharges are identified by the municipality as sources of pollutants to the waters of the U.S....	ILL2	ILL3	ILL1 ILL3 ILL4 ILL6 ILL7 ILL8

(B)(2) A description of procedures to conduct ongoing field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens;	ILL2	OA3 ILL3	OM1 STR5 OA3
(B)(3) A description of procedures to be followed to investigate portions of the MS4s 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-stormwater (such procedures may include: sampling...such as fecal...Such description shall include the location of storm sewers that have been identified for such evaluation);	ILL2	OA3 ILL3	ILL1 ILL3 ILL5 OM1 STR5
(B)(4) A description of procedures to prevent, contain, and respond to spills that may discharge into the MS4s;	ILL1	ILL1 ILL2	ILL1 ILL6
NPDES REGULATION 40 CFR 122.26 (d) (2) (iv)	City BMPs	Port BMPs	County BMPs
(B)(5) A description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from MS4s;	PI1 ILL1	PI1 PI2 ILL1 ILL3 ILL4	PI1 PI2 PI3 PI4 PI5 PI6 PI8 ILL1 ILL3 ILL6
(B)(6) A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials;	PI1	PI1 PI2 ILL2	PI1 PI2 PI3 PI4 PI5 PI6 PI8
(B)(7) A description of controls to limit infiltration of seepage from municipal sanitary sewers to MS4s where necessary;	OM1	OM1 ILL3 OA1	N/A
(C) A description of a program to monitor and control pollutants in stormwater discharges to MS4s from municipal landfills, hazardous waste treatment, disposal, and recovery facilities, industrial facilities that are subject to section 313 of Title III of the Superfund Amendments ...and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the MS4s. The program shall:	IND1	IND1	N/A
(C)(1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;	IND1	IND1	N/A
(C)(2) Describe a monitoring program for stormwater discharges associated with the industrial facilities identified in paragraph (C)...to be implemented during the term of the permit...	IND1 OA1	OA3	N/A

(D) A description of a program to implement and maintain structural and nonstructural best management practices to reduce pollutants in stormwater runoff from construction sites to the MS4s, which shall include:	ND1	PI2 ND1 STR1	ILL7 ILL8
(D)(1) A description of procedures for site planning which incorporate consideration of potential water quality impacts;	ND1	ND1	ILL4 ILL9 STR1
(D)(2) A description of requirements for nonstructural and structural best management practices;	ND1	ND1 STR1	ILL4 ILL7 ILL9
NPDES REGULATION 40 CFR 122.26 (d) (2) (iv)	City BMPs	Port BMPs	County BMPs
(D)(3) A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality;	ND1	ND1	ILL7 ILL8 ILL9
(D)(4) A description of appropriate educational and training measures for construction site operators.	ND1	PI2 ND1	PI4 ILL3 ILL7 ILL8 ILL9
NPDES REGULATION 40 CFR 122.42 (c)	City BMPs	Port BMPs	County BMPs
Municipal separate storm sewer systems. The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under Sec. 122.26(a)(1)(v) of this part must submit an annual report....	OA2		OA1

PROGRAM COORDINATION

The management and implementation of the permit program is a cooperative effort among the City of Portland's Bureau of Environmental Services (BES), other City bureaus, the co-permittees, DEQ, Metro, Oregon Association of Clean Water Agencies (ACWA), other agencies, and the public.

Co-Permittee Coordination

The City of Portland (as lead co-permittee) and the other co-permittees actively participated in the three-year planning process (1990-1993) to develop the NPDES permit application, which became the basis for the permit conditions and individual SWMPs. After submitting Part II of the application to DEQ in May 1993, the co-permittees began meeting regularly (generally monthly) to share information about program implementation and coordination, BMP effectiveness, monitoring, and other issues related to the permit. The co-permittees discussed and coordinated the permit renewal process at a number of their monthly meetings prior to

submitting the permit renewal to DEQ in February 2000, and again during development of the final second-term permit issued in July 2005.

These regular meetings have helped the co-permittees implement their stormwater management programs and coordinate projects and public outreach endeavors, such as the City's industrial discharge and illicit discharge elimination BMP efforts and the Regional Coalition for Clean Rivers and Streams.

Coordination with Others

The co-permittees coordinated closely with other local agencies to develop the NPDES permit application and individual SWMPs, and continue to rely on regional cooperative efforts to successfully fulfill some of the permit requirements. The co-permittees work closely with the regional government (Metro) to support programs that have a positive water quality benefit. Examples include the household hazardous waste disposal program, the GreenStreets program, and Title 3 of Metro's Urban Growth Management Functional Plan.

Representatives from the City, Port of Portland, and Multnomah County actively participate in ACWA programs and committees to coordinate and address stormwater permit implementation issues with other jurisdictions in the state.

REPORT PREPARATION AND ORGANIZATION

BES stormwater management staff coordinated the preparation of this Annual Compliance Report on behalf of the City and its co-permittees. In addition to the co-permittees, all affected City bureaus participated in the report preparation, most notably BES, Water, Transportation, Maintenance, Parks, Office of Planning and Development Review, Planning, and Fire. Programmatic information provided by City bureaus is integrated into a single City of Portland report (Section II). Multnomah County's report (Section III) and the Port of Portland's report (Section IV) are compiled with the City's report for a single package submittal to DEQ.

This tenth annual report covers the period from July 1, 2004 through June 30, 2005. It includes implementation actions and accomplishments that occurred during that period alone (i.e., it is not cumulative).

The report is organized as follows:

- **Executive Summary**--A summary of significant program activities and program status for all of the co-permittees.
- **Section I: General Introduction**--An overview of the overall permit background and regulatory information, BMP categories, program coordination, and report organization, relevant to all of the co-permittees.
- **Sections II, III, and IV**--The individual compliance reports of the co-permittees (City of Portland, Multnomah County, and Port of Portland, respectively), describing implementation actions taken, program status, and any initiated or proposed program changes.

- **Appendix: City of Portland NPDES Stormwater Permit**

The report's goal is to convey clear, succinct program information that complies with the annual reporting requirements of the NPDES permit. The report will also provide other interested parties with a status overview of the stormwater program. Detailed supporting information, such as inspection reports, logs, and individual correspondence, are archived at each permitted agency and are available to DEQ upon request.

Section II

CITY OF PORTLAND

**Section II
CITY OF PORTLAND**

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INTRODUCTION

The issues surrounding urban watershed management are complex and multi-dimensional. The work includes a wide range of activities and involves many people. Portland is shifting its focus from the traditional approach of addressing single watershed components, such as water quality or hydrology, to a watershed approach that includes the entire range of watershed goals and objectives. The watershed approach relies on integrated activities of many City bureaus and maximizes the use of limited resources by looking for solutions that meet multiple objectives. The approach measures results and tracks progress toward overall watershed health. The focus is on addressing environmental problems at the source. Such a comprehensive approach to watershed management coordinates compliance among individual environmental regulations, such as the municipal stormwater permit program and other regulatory requirements. MS4 program implementation is one part of the effort to improve watershed health.

The watershed approach is the basis of the 2005 Portland Watershed Management Plan (PWMP). The PWMP will:

- Describe the health of Portland's watersheds.
- Help the City meet state and federal regulatory requirements for water quality and endangered species.
- Use the best available science.
- Integrate the work and goals of several Portland City bureaus in developing a cost-effective, comprehensive approach to protecting and improving urban watersheds.
- Offer implementation options for protection and improvement of watershed conditions.
- Establish an ongoing watershed management system that allows Portland to adapt as more is learned about watershed dynamics.

Although the PWMP is more than the sum of compliance with individual regulations, implementation of actions generated by those regulations is an important part of watershed health. The PWMP will coordinate and inform how the specific regulatory actions are implemented.

This Annual Compliance Report for the City of Portland's MS4 permit program identifies activities that occurred during the tenth fiscal year (July 1, 2004 through June 30, 2005) of the program and summarizes the status of the program.

This Introduction contains the following sections:

- Key Accomplishments
- Program Organization and Coordination
- Proposed Changes to Stormwater Management Plan Components
- Urban Growth Boundary Expansion Areas
- Relationship to Other Water Quality Programs
- City Budget and Funding

Following the Introduction are individual activity reports for each best management practice (BMP).

KEY ACCOMPLISHMENTS

- Continued public involvement/education activities as a significant element of the Stormwater Program. Key activities included the stormwater education activities; stewardship grant projects; ongoing participation in the Regional Coalition for Clean Rivers and Streams; and educational publications and materials.
- The Portland Office of Transportation continues to follow, with modifications, the best management practices outlined in ODOT's *Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices*, as guidance for transportation-related maintenance activities.
- Implemented the 2004 Stormwater Management Manual.
- Worked with the Stormwater Advisory Committee (SAC) on revising the Stormwater Management Plan to address new conditions of the renewed permit. Began to develop a response report to the SAC's policy recommendations for transportation-related development, which were presented to City Council in 2004. Continued to implement the SAC's June 2002 report recommendations for new development, redevelopment, and existing development.
- Continued implementation of groundwater protection and stormwater BMPs and facility inspections for commercial and industrial facilities within the Columbia South Shore Well Field Wellhead Protection Area overlay zone, including education and outreach efforts.
- Continued sampling the 19 non-stormwater discharges identified in the NPDES permit to determine their impact on the MS4. As of permit year ten, completed monitoring work on four of the 19 activities listed in the permit; as of permit year nine, 17 of the 19 sampling categories have been completed.
- Completed a draft of revisions to Title 10 (erosion control), focusing on regulations for larger sites with steep slopes and on sensitive areas, and reducing plan review and inspection requirements for small, flat sites. Began to revise the City's Erosion Control manual, involving a multi-bureau group of engineers and inspectors. Conducted 10,345 erosion control-related inspections
- Continued the stormwater management facility (SMF) inspection program for private stormwater management facilities.
- Continued to provide in-kind services in coordination with the Multnomah County Drainage District (MCDD) and the U.S. Army Corps of Engineers to implement Section 1135 Program projects in the Columbia Slough.

- Continued implementation of 24 projects funded by a \$1.6 million EPA grant for innovative stormwater projects.
- Completed four water quality friendly streets pilot projects.
- Continued to provide technical assistance and grant funding for projects that incorporate green building principles, including stormwater pollution prevention and management.
- Continued to update Portland's environmental land use planning and zoning program. Key activities included work to update the City's natural resource inventories and existing environmental zoning code to help protect the important functions provided by the City's streams and riparian areas, wetlands, and other specified water bodies. This work is intended to contribute toward the City's compliance with the Endangered Species Act and Clean Water Act, as well as with Oregon land use planning goals 5, 6, and 7 and Title 3 of Metro's Urban Growth Management Functional Plan.
- City Council adopted the River Renaissance Strategy, which establishes guiding principles and policy direction to achieve the City's River Renaissance Vision adopted in March 2001. One key element is direction on how to achieve Portland's goals for a clean and healthy Willamette River and healthy tributary watersheds.
- Made significant progress toward completion of an update to the City's environmental code. Working with community stakeholders, the City has developed code amendment proposals aimed at improving enforcement of environmental violations and making it easier to obtain permits to undertake resource enhancement projects. Project completion is anticipated by fall 2005.
- Initiated a scoping effort for the Columbia Corridor Natural Resource Conservation Plan District project. This effort will develop project goals and options for improving natural resource conservation regulations, complying with current and upcoming regulations, and developing creative approaches to conserve resources while also recognizing and striving to support City goals for economic and industrial development in this unique part of the city.
- Drafted new guidance and regulatory documents for tree and landscaping requirements associated with screening and aesthetic landscaping needs, including diversity standards, an enhanced tree list, design concepts, and a self-certification rule to ensure proper installation of landscaping. Landscape certification was adopted permanently on September 1, 2004.
- Completed a public and legal review of stormwater enforcement rules that will implement City Code provisions for industrial stormwater inspections and pollution complaints. These rules identify the types of enforcement tools that can be used and severity of enforcement and penalty expected for typical violations.
- Purchased eight acres of flood-prone property under the Johnson Creek Willing Seller Program. In addition, Portland Parks and Recreation acquired 21.74 acres of property. Since

the beginning of the permit, the City has purchased a total of 2,452 acres, including Metro open space acquisitions.

- Under the Watershed Revegetation Program, revegetated streamside and upland areas with 99,655 plants on 11,353 linear feet of streambank and 80.5 acres.
- Portland City Council adopted the Pleasant Valley Plan District in December 2004, and the new code measures went into effect in June 2005. The cities of Portland and Gresham reached an agreement on future governance under which Portland will eventually annex approximately 290 acres of the study area. (Gresham will annex the other 1,242 acres.) These 290 acres were added to Portland's urban services boundary and are covered under the MS4 permit. The cities of Gresham and Portland jointly completed the Pleasant Valley Plan District System Master Plans for Stormwater, Wastewater, and Funding in July 2004.

PROGRAM ORGANIZATION AND COORDINATION

Program Authorization

The Portland City Council passed a resolution supporting the final National Pollutant Discharge Elimination System (NPDES) stormwater permit application in June 1995. In that resolution, the Council designated the Bureau of Environmental Services (BES) as the lead for the City's implementation of the Stormwater Program. In accordance with Section 402(p) of the Clean Water Act, the Oregon Department of Environmental Quality (DEQ) issued the first-term permit on September 7, 1995. The City of Portland and its co-permittees submitted a renewal application as required (180 days before the date of the original permit expiration) in February 2000. DEQ issued the permit renewal in March 2004, beginning a second five-year permit term that expires on February 28, 2009. DEQ subsequently reconsidered the second-term permit and reissued the permit in July 2005.

Legal Authority

The City of Portland continues to maintain legal authority to implement the programs outlined in the Stormwater Management Plan (SWMP) as initially demonstrated in Part 1 of the original NPDES Municipal Storm Water Permit Application (No(s). 101315 & 101314).

City Management and Coordination

BES's Stormwater Program Manager is responsible for overall project management, compliance reporting, policy development, and coordination within the City of Portland, as well as for coordination with the other Portland co-permittees. BES project planning is generally organized by watershed to enhance project coordination. BES staff members serve as leads for the various BMPs contained in the SWMP. Because the permit is citywide, many City staff members outside BES are also involved with stormwater program development, implementation, and reporting. The BMP staff leads coordinate stormwater program activities through BMP-specific teams that include representatives from appropriate bureaus. In addition, stormwater program activities are coordinated with the City's Office of Sustainable Development.

PROPOSED CHANGES TO STORMWATER MANAGEMENT PLAN COMPONENTS

During permit years nine and ten, the City of Portland has worked on revising the BMPs in the SWMP to address new conditions of the renewed permit. BES is working with multi-bureau focus groups and the City's Stormwater Advisory Committee to review the City's existing BMPs and identify any needed changes through adaptive management. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

URBAN GROWTH BOUNDARY EXPANSION AREAS

In permit year ten, Portland's urban services boundary expanded by approximately 290 acres to include portions of Pleasant Valley. In 1998, 1,532 acres of Pleasant Valley were added to the region's urban growth boundary. The City of Portland has been working with its regional partners (Gresham, Metro, Multnomah County, and Clackamas County) and the community since 1998 to create a plan for the future urbanization of this rural area. A concept plan was developed to achieve the overall goal of "creating a complete community." This extensive planning process has created a vision and a plan for the transition of a rural community of 800 residents into an urban community of approximately 12,000 residents and 5,000 jobs. The cities of Portland and Gresham adopted similar policies and development code to achieve this goal. Portland City Council adopted the Pleasant Valley Plan District in December 2004, and the new code measures went into effect in June 2005, including the urban services boundary expansion. In addition, the cities reached an agreement on future governance that includes Portland's annexation of approximately 290 acres of the study area. (Gresham will annex the other 1,242 acres.) The cities of Gresham and Portland also jointly completed the Pleasant Valley Plan District System Master Plans for Stormwater, Wastewater, and Funding in July 2004. Under the Master Plan, as properties are developed, they are annexed into the City of Portland and become subject to the requirements of the City's Stormwater Management Manual. These requirements include structural and source control BMPs. The BMPs in the City's Stormwater Management Plan apply to all areas within the expanded urban services boundary.

RELATIONSHIP TO OTHER WATER QUALITY PROGRAMS

BES works cooperatively with many other City bureaus on watershed issues. Although not all of the following activities are specifically required as part of the NPDES permit, they are closely associated with the Stormwater Program, are related to stormwater quality, and are a part of restoring watershed health. These programs and projects are coordinated with the PWMP for greatest watershed health benefits.

Watershed Programs and Watershed Management Plan

During permit year ten, the City continued implementing watershed programs in the Columbia Slough, Johnson Creek, Fanno Creek, Tryon Creek, and Willamette River Watersheds. BES continued to use an integrated watershed approach to manage watersheds comprehensively and implement multi-objective watershed management actions. In addition, BES coordinated with the various jurisdictional and public interests within Portland's watersheds. This approach helps identify and prioritize projects and activities on a watershed basis to maximize water quality benefits and enhance watershed health. BES's watershed approach also supports the City's

River Renaissance Strategy, which establishes guiding principles and policy direction to achieve the City's River Renaissance Vision adopted in March 2001. One key element is direction on how to achieve Portland's goals for a clean and healthy Willamette River and healthy tributary watersheds.

While BES has been building up to the formation of a citywide watershed management plan for years, project scoping for the 2005 PWMP began in January 2005. As noted previously, the PWMP is a citywide strategy to identify opportunities and actions that help make the urban and natural environments more compatible. Strategies are organized into broad categories, including stream enhancement, revegetation, stormwater management, policy and protection, education and outreach, and operations and maintenance. The PWMP is scheduled for public comment during November 2005 and presentation to City Council in December 2005. Following City Council review of the PWMP, BES will assemble work plans and specific projects for implementation in each of Portland's watersheds, reflecting the priorities laid out in the PWMP.

Because of high public interest in the health of Portland's watersheds, public participation is an important element of watershed planning and implementation. The City actively participates on watershed councils for the Columbia Slough, Johnson Creek, and Tryon Creek. In addition, the City fosters citizen stewardship through its Community Watershed Stewardship Program.

Combined Sewer Overflow Reduction

The City is constructing the third of four major phases for controlling combined sewer overflows (CSOs) to the Willamette River and Columbia Slough. The activities include a combination of stormwater inflow reductions (roof drain disconnections, sump installation, local separation) and large structural solutions (including the West Side and East Side CSO tunnel systems), as well as treatment plant and pump station upgrades. Part of the CSO abatement strategy includes separating combined flows in some areas and evaluating water quality treatment alternatives for the resultant separated stormwater flows. Since 1990, Portland has reduced CSOs from 6.0 billion gallons per year to less than 2.8 billion gallons per year on an average basis. CSO discharges to the Columbia Slough have been reduced by over 99 percent, while discharges to the Willamette River have been reduced by over 40 percent to date. Over 2 billion gallons of local stream and stormwater runoff have been removed from the combined sewer system through the use of sumps, downspout disconnections, and stream separations.

Sewer Separation

Figure 1 on page 9 shows City of Portland stormwater outfalls. In permit year ten, there were no separations of combined flows that resulted in the conversion of CSO outfalls to stormwater-only outfalls.

Pretreatment Programs and Publicly Owned Treatment Works (POTWs)

Many of the City's more traditional operations and infrastructure support water quality goals. Sanitary sewage is collected for treatment at the Columbia Boulevard and Tryon Creek publicly owned treatment works (POTWs). Existing pretreatment programs protect the sanitary system infrastructure, reduce pollutant releases to surface waters during combined sewer overflows, and prevent discharges that could cause treatment upsets or result in pollutant pass-through to surface waters.

BES's Industrial Source Control Division (ISCD) has administered a state and federally approved industrial pretreatment program since 1983. The program was implemented as a federal mandate to control the discharge of toxic pollutants from industrial sources that interfere with the operation of Portland's wastewater treatment plants, collection systems, and biosolids uses. Under the program, the City has progressively increased its permitting, monitoring, and enforcement activities of industrial users.

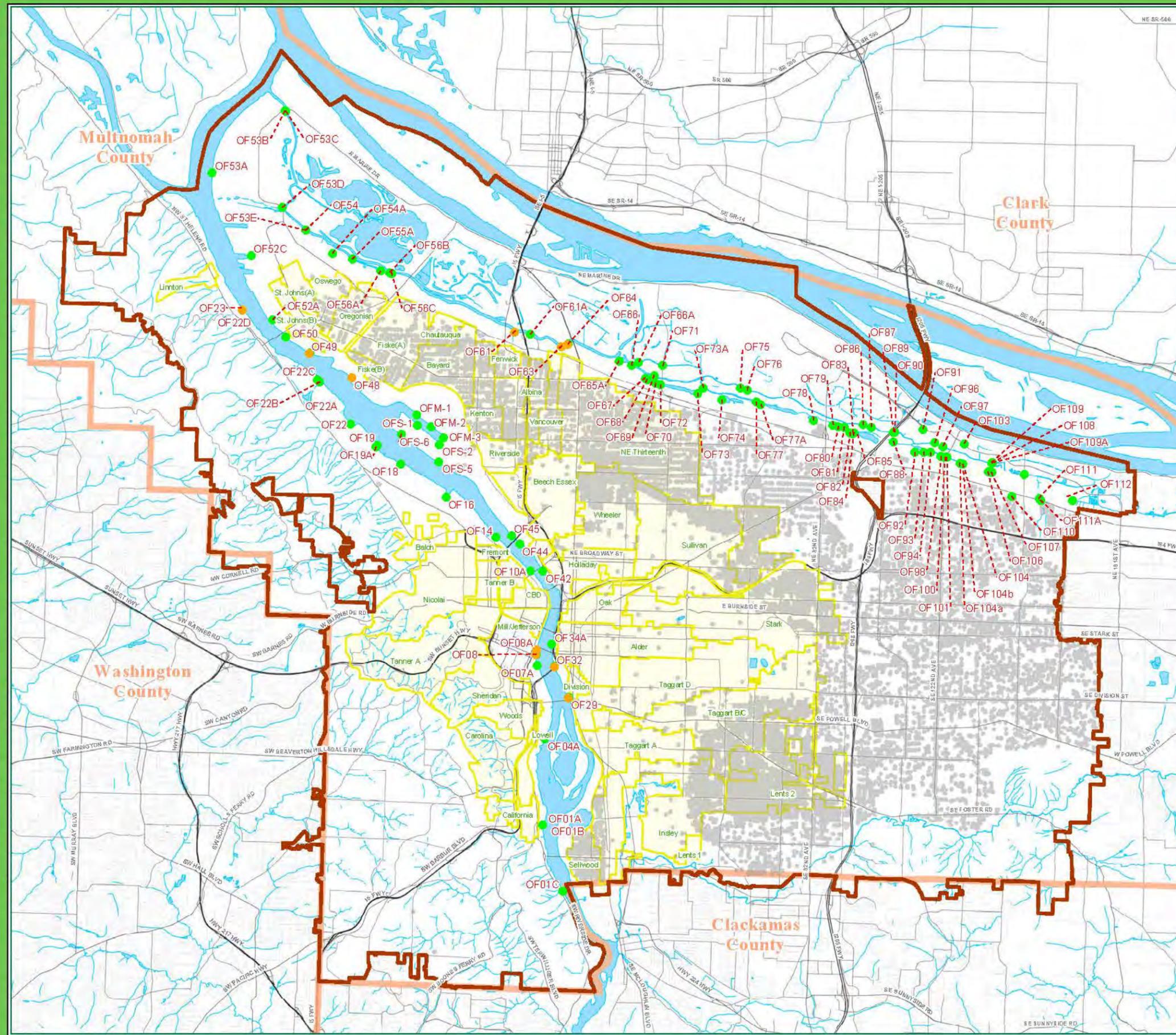
Underground Injection Control (UIC) Program

DEQ defines an underground injection control (UIC) as any system, structure, or activity that discharges fluid below the ground or subsurface, including sumps, drywells, and French drains. UICs can pollute groundwater and surface water if not properly designed, sited, and operated. DEQ regulates all underground injection in Oregon. On June 1, 2005, DEQ issued the City of Portland a Water Pollution Control Facility (WPCF) Permit for City-owned or operated UICs (approximately 8,500). The WPCF Permit requires the City to develop and implement a UIC Management Plan, including BMPs, a monitoring plan, a spill response plan, and an operations and maintenance plan. Many of the components of these plans will be similar to actions implemented as part of the SWMP—for example, pollution prevention, stormwater treatment, and operations and maintenance of facilities. Both the NPDES stormwater program and UIC program focus on improving stormwater quality.

Total Maximum Daily Load (TMDL) Program

Under Section 303 of the Clean Water Act, states are required to develop "303(d)" lists of impaired waters that do not meet water quality standards set by the state for certain pollutants. In Oregon, DEQ has this responsibility. After a waterbody is placed on the 303(d) list, DEQ is required to develop total maximum daily loads (TMDLs) for the listed pollutant(s). A TMDL is the maximum amount of a pollutant a water body can assimilate (load capacity) without violating a water quality standard. The aim of the TMDL program is to manage water resources so pollutants do not exceed water quality standards and so "beneficial uses" (recreation, cold water fisheries, municipal and industrial water supply and navigation) are protected.

A TMDL divides the allowed load of any pollutant for each waterway reach among those entities authorized to discharge that pollutant. The amount of a given pollutant that a source with an NPDES permit (such as an industry or municipality) is allowed to discharge to the water body is called a wasteload allocation. In Portland, TMDLs and wasteload allocations have been established for pollutants in the Columbia Slough and Fanno Creek. TMDLs and wasteload allocations are under development for temperature in the Columbia Slough and Tryon Creek and for pollutants in the Willamette River mainstem and Johnson Creek. Once these are established (projected for the end of 2005), Portland will have 18 months to prepare TMDL implementation plans to manage pollutant loads entering the waterbodies. These plans will most likely involve a variety of best management practices emphasizing stormwater pollutant prevention and management, as well as erosion controls. Examples of activities already underway include instream flow control, riparian tree planting, culvert replacement, streambank restoration, and water quality facilities.



Legend

- Portland Urban Services Boundary*
- County Boundary
- Combined Sewer Basins
- Areas Draining to Portland UICs
- Existing Major Storm Outfalls
- Separated Major CSO Outfalls

*Areas Covered by the Portland MS4 Include all Existing and New Discharges of Storm Water from the Municipal Separate Storm Sewer System Within the City of Portland Urban Services Boundary.

1 inch equals 9000 feet

0 4500 9000 18000 Feet

Figure 1
City of Portland
Major Storm Water
Outfalls
 NPDES MS4
 Permit Year 10

CITY OF PORTLAND
 ENVIRONMENTAL SERVICES
Systems Analysis
 Spatial Analysis and Modeling

Endangered Species (ESA) Program

Portland's Endangered Species Act Program was created in March 1998, shortly after the National Oceanographic and Atmospheric Association (NOAA) listed steelhead trout in the lower Columbia River system as a threatened species under the federal Endangered Species Act (ESA). Chinook salmon were subsequently listed as a threatened species in March 1999 and coho salmon in June 2005. On August 12, 2005, the National Marine Fisheries Service (NMFS) announced designations of critical habitat areas in Portland for salmon and steelhead listed under the ESA. The designated areas in Portland include Johnson Creek (including Kelley Creek and Crystal Springs), Tryon Creek, the north part of the Columbia Slough (and Smith and Bybee Lakes), and the mainstem Willamette River.

The ESA Program takes an integrated, citywide approach to salmon recovery, recognizing that the most important step the City can take to restore healthy salmon populations is to restore healthy watersheds. This comprehensive approach ensures that salmon recovery goals are compatible with other City goals, and that restoration actions address multiple environmental objectives. Stormwater program activities closely relate to ESA goals; implementation of BMPs will mitigate stormwater quantity impacts and improve water quality. Stormwater program staff coordinate with City ESA staff on program activities related to fish impacts.

Portland Harbor Superfund Site

The Portland Harbor Superfund Study area covers a stretch of the Lower Willamette from Swan Island to the southern tip of Sauvie Island. It is designated as a Superfund site because of sediment contamination. Portland Harbor has a long history of shipping, industrial, and commercial activity due to its key location on the Willamette River. The operational and waste disposal practices common to these industries many years ago polluted the river. Discharges from sewer outfalls, stormwater, and agricultural runoff may also contribute to the contamination. The City of Portland is a member of the Lower Willamette Group, a coalition of businesses and the Port of Portland. The Group has voluntarily stepped forward to fund and participate in the investigation of the site. This work includes characterizing the extent of contamination in fish, wildlife, and sediments in the harbor and assessing risks to humans, fish and wildlife, and the environment from contaminated sediments. The City has about 20 stormwater outfalls in the Superfund site and is working with DEQ to determine if contaminants are being conveyed by the stormwater system to the river.

Columbia South Shore Well Field Wellhead Protection Area Program

The Columbia South Shore Well Field (CSSW) is the second-largest water source in the State of Oregon, with about half the capacity of Portland's Bull Run source. Water is drawn from 25 wells in four aquifers spread over an 11-square-mile area that includes lands in three different cities. CSSW groundwater is used as an emergency back up for the 800,000 Oregonians served by the Bull Run supply and also provides supplemental supply during the summer demand season. To protect this valuable drinking water resource, the cities of Portland, Gresham, and Fairview adopted a common set of wellhead protection regulations aimed at new and existing businesses that use and store hazardous materials that pose a threat to groundwater in the CSSW. Portland's City Council adopted the regulations on July 2, 2003. The new regulations require industrial sites that have hazardous materials to implement retrofits by 2008. Retrofits

predominantly include paving, covering, and berming of outdoor activity and storage areas. Many of these areas currently drain to the ground or into local MS4 or private piped systems.

CITY BUDGET AND FUNDING

The City of Portland has invested more than \$379.1 million in stormwater management services and facilities during permit years one through ten. The revenue requirements for permit year ten totaled more than \$55.6 million, allocated as follows:

Major Program Category	Requirements	Percentage Share
Enforcement and Development Review	\$ 3,032,166	5
Watershed Program & Habitat Restoration	11,494,413	21
Facilities Operations and Maintenance	17,391,837	31
Capital Improvements*	23,717,660	43
Total Revenue Requirements	\$ 55,636,076	
* Includes debt service, facilities planning and engineering, construction engineering, and construction contracts.		

Nearly 89 percent of these revenue requirements are financed through direct monthly user fees. The remaining revenue sources include direct charges for new private development (system development charges, or SDCs), service charges, permit fees, and regulatory charges and penalties. More details on City revenues are provided below.

In year eleven, the City plans to invest \$62.1 million in stormwater management services and facilities. As in prior years, direct monthly user fees will pay for nearly 90 percent of these investments.

Stormwater Management Charges

City Council approves revised stormwater monthly fees and stormwater SDCs at the start of each fiscal year. Monthly fees are adjusted to reflect operating, maintenance, and capital costs of the City’s sanitary sewer and drainage system. The rate adjustments are based upon cost of service principles, ensuring equity by charging ratepayers according to the amount of sewer and drainage service they use.

The following table reports the monthly single-family stormwater management charge and the monthly stormwater rate per 1,000 square feet of impervious area for the last five permit years:

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Single-Family Residential Charge	\$10.01	\$10.97	\$11.42	\$12.07	\$13.30
Residential rate per 1,000 square feet of impervious area	\$4.17	\$4.57	\$4.76	\$5.03	\$5.54
Non-residential rate per 1,000 square feet of impervious area	\$4.63	\$5.00	\$5.17	\$5.54	\$6.06

At the close of FY 2004-2005, City Council increased the monthly charge for single-family residences from \$13.30 to \$14.26. The residential rate increased from \$5.54 to \$5.94 per 1,000 square feet of impervious surface per month, and the commercial rate increased from \$6.06 to \$6.45 per 1,000 square feet of impervious area per month.

In December 2000, the Council authorized the development of a discount program for ratepayers who manage the quantity and quality of stormwater on their property. The program will provide a discount of up to 100 percent of the property component of the monthly stormwater management charge. BES is developing program criteria that will set the highest financial incentive for facilities that manage stormwater to the strictest water quality, volume, and flow control standards. This approach will promote facilities that use vegetated surface infiltration. The program will be implemented as soon as the City’s utility billing system is capable of providing data processing support. The anticipated start date is September 15, 2006.

Stormwater System Development Charges

Formerly based on impervious area, the methodology for assessing system development charges for new development and significant redevelopment was revised in permit year three to include two components. One component represents the charge for stormwater facilities that handle runoff from individual properties. For permit year ten (FY 2004-2005), this onsite portion was assessed based on \$110.00 per 1,000 square feet of impervious area. Riparian properties that drain directly to the Columbia Slough, Columbia River, or Willamette River are exempt from this portion of the SDC. The other portion represents the cost of stormwater facilities that handle runoff from public rights-of-way. This portion was assessed based on the use of the transportation system, using road frontage and vehicle trips to allocate the costs. For permit year ten, the rates were \$3.52 per linear foot and \$1.80 per vehicle trip. At the end of permit year ten, City Council increased the rates for stormwater system development charges as follows: \$116.00 per 1,000 square feet of impervious area, \$3.70 per linear foot of frontage and \$1.87 per daily vehicle trip.

Discounts may be granted only for the “onsite” part of the charge for facilities constructed as part of new development. Discounts range from 80 percent for retention of the 100-year event to no discount for control of the 10-year storm.

ACTIVITY REPORTS

The following pages summarize the status of the City of Portland BMPs. The following information is provided for each BMP:

- The BMP identifier (e.g., PI-1) and description
- Key accomplishments for permit year ten (FY 04-05)
- Challenges and solutions
- Projected major accomplishments for permit year eleven (FY 05-06)
- Proposed BMP revisions

<p>PI-1 Implement a comprehensive stormwater/watershed Public Participation Program that includes information, education, involvement, and stewardship; evaluate and update the program annually.</p>
--

KEY BMP ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 04-05)

Naturescaping for Clean Rivers

Continued the Naturescaping for Clean Rivers residential program, in partnership with the East Multnomah Soil and Water Conservation District (EMSWCD), Metro, DEQ, AmeriCorps/Northwest Service Academy, and SWNI (Southwest Neighborhoods, Inc.). Activities included:

- Conducted 11 four-hour Naturescaping Basics workshops, with 310 total participants, in the Portland metro area.
- Conducted four Site Planning I workshops, with 90 participants, and three Site Planning Feedback sessions, with 16 participants.
- Worked with numerous community partners, including workshop hosts from Berry Botanic Gardens, Mt. Tabor Neighbors, Friends of Tryon Creek State Park, Hillsboro Parks and Recreation, the Tualatin Basin Public Awareness Committee, Madeline Parish, Clackamas County, St. Andrews Catholic Church, and Oak Lodge Sanitary District.
- Conducted one Naturescaped Yard Tour, which offered a drop-in clinic for participants to see Naturescaping principles on the ground. The tour hosted 101 participants.
- Attended 25 events (e.g., Earth Day, Natural Style Home and Garden Show, Fix-It Fairs) to let 3,570 people know about the Naturescaping for Clean Rivers program. Event hosts included Good Samaritan Hospital, Portland Community College, Xerox, City Repair Project, Columbia Slough Watershed Council, NW Earth Institute, and David Douglas High School.
- Took three-dimensional displays of homes that use conventional landscaping compared to homes that use Naturescaping techniques to events throughout the metro region.

Downspout Disconnection Program

Disseminated Naturescaping and stormwater information as part of the outreach and education efforts of the Downspout Disconnection Program, which included the following activities:

- Canvassed 7,800 owner-occupied homes and 12,500 residents, and achieved a participation rate of 37 percent.
- Canvassed landlord-owned homes through mailing to 7,100 homes; attended landlord-targeted community events, reaching 12,000 landlords; advertised in landlord newsletters, reaching an audience of 10,000; and called 2,000 landlords. Achieved a 44 percent participation rate.

- Provided information through community events, reaching approximately 5,000 people.
- Spoke at 14 community meetings.
- Conducted watershed curriculum, in which 150 students participated.
- Conducted an ongoing media campaign, including events and major and local community media.
- Mobilized 650 volunteers, who contributed about 3,200 volunteer hours.
- Partnered with 300 community organizations and hired ten canvassers.

Stormwater Education Activities

- Reached 7,312 students (grades K-12) with classroom programs that provide hands-on, interactive science education about stormwater and other environmental issues.
- Involved 5,555 students (K-12) in education field programs that offer watershed investigations and assessment technique training, such as how to measure water quality and conduct macroinvertebrate sampling as indicators of water quality health.
- Involved 1,709 students (K-12) in adopt-a-site restoration/education projects that involved invasive plant removal and native plant planting. Adopted sites were Oaks Bottom Wetlands, Alsop-Brownwood Greenspace, Brookside Wetlands, Gabriel Park, Woods Creek, Whitaker Ponds, Johnson Lake, and various other sites along the Columbia Slough and Johnson Creek. These activities were in partnership with Portland Parks and Recreation, the Columbia Slough Watershed Council, and the Johnson Creek Watershed Council.
- Co-sponsored the assembly program Make a Ripple, Make a Wave, presenting it to 3,374 elementary students within the City of Portland. The assembly focuses on stormwater pollution, what students can do to protect rivers and streams, and the relationship of stormwater pollution to wildlife health.
- Participated in 12 community events, with a total of 1,906 participants. These included The Children’s Clean Water Festival, Salmon Festival, Sunnyside Environmental School River Festival, Portland Harbor Field Day, Hayhurst Elementary Earthday Festival, the 10th Annual Math, Science and Technology Conference for Middle School Girls, Explorando El Columbia Slough, Canoe the Slough, Columbia Slough Small Craft Regatta, Adventure in the Well Field, and DaVinci Middle School Family Science Night. The Stormwater Obstacle Course activity and the Soak it Up program were very popular components of several of these events. All events included stormwater pollution prevention messages.
- Participated in training 28 “Eyes on the Slough” volunteer monitors. Monitors paddle each reach of the Columbia Slough monthly and report on water quality and landscape conditions.

- Provided canoe tours of the Columbia Slough to 191 students who had studied about the Columbia Slough Watershed and had completed a stewardship project.
- Provided jet boat tours of the Willamette River to 868 students who had studied combined sewer overflows and had completed a stewardship project. The focus of the tour was on Willamette River history, combined sewer overflows, stormwater pollution, and personal actions to prevent stormwater pollution.
- Checked out stormwater and watershed curriculum kits to 43 Portland elementary and middle school teachers, reaching 1,209 students.
- Provided teacher training workshops, involving 228 participants.
- Presented Stormwater - Soak it Up, a 75-minute classroom program for grades 5-12, to 1,455 students. The students learned to identify pollutants, distinguish between pervious and impervious surfaces, calculate runoff, and design greener cities within given budget constraints.
- Presented Tours of Stormwater Solutions, a two- to three-hour program tailored as appropriate for grades 5-12, to 149 students. The students visited bioswales, stormwater planters, ecoroofs, porous pavement, and creative downspout disconnections. They learned how these solutions can filter pollution, slow down stormwater, and prevent erosion. Also presented a six-hour Stormwater Tour for stormwater professionals at the Environmental Education Association Conference for Oregon and Washington.
- Presented Watershed Awareness to 954 students, grades 3-6. This program focuses on common non-point sources of stormwater pollution typically found in a watershed and how to prevent them.
- Partnered with nine schools on EPA Wet Weather projects to retrofit their school landscapes to manage stormwater. This was a partnership between Environmental Services' stormwater division, the Clean Rivers Education Program, and Portland Public Schools. Students at several schools were involved with either design or planting of bioswales and stormwater planter boxes.
- Continued the permanent storm drain curb marker program. Ten school and community groups placed 425 permanent markers in the Willamette, Fanno, Tryon, Columbia Slough, and Johnson Creek watersheds. The program is a community and school stewardship activity to increase awareness of stormwater pollution and help prevent the public from disposing of household or lawn chemicals into the storm drain. Volunteers also distribute doorhangers containing stormwater pollution prevention messages and clean river tips to nearby residences.
- Co-sponsored six Canoe the Slough events, in which 90 participants received information about urban stormwater.

- Co-sponsored the Columbia Slough Regatta, in which over 500 participants paddled the waterway and received stormwater information.
- Sponsored community events including Slough 101, Wetlands 101, Groundwater 101, two watershed cycling events, two Great Blue Heron week events, two Wild in the City events, two neighborhood association picnics, and other venues in which stormwater was a topic of instruction. The total attendance was approximately 500.
- Conducted six Soup on the Slough events for 145 people, in which participants ranging from community activists to business owners and operators were introduced to stormwater and hydrology issues in the urban slough waterway.
- With Parkrose High School students, developed and conducted a door-to-door survey regarding street tree canopies and street tree planting opportunities in the Argay and Parkrose Neighborhoods. This activity involved 25 students, reached 300 households, and planted 72 street trees. Other partners included the Argay Neighborhood Association, Parkrose Business Association, Friends of Trees, and Parkrose High School.
- With Multnomah Youth Cooperative high school students, developed a ground truthing model verification program for street tree planting sites. Students verified street tree planting sites identified by BES's computer model, solicited landowners for tree planting, and conducted a street tree planning day. Four street trees were planted.
- Participated in developing projects for the Columbia Slough Watershed Council Action Plan, which identifies numerous stormwater watershed restoration projects and activities for the Council and its partners.
- Continued working with the Johnson Creek Watershed Council and streamside property owners to encourage watershed stewardship.
- Co-sponsored the seventh annual Johnson Creek Watershed-Wide Restoration Event, where over 400 volunteers helped plant trees, remove invasive species, and pick up trash from ten watershed locations.
- Staffed the Watershed Resource Center, which provided technical assistance and project support to neighborhood and Friends groups in Fanno and Tryon Creek Watersheds, including:
 - Provided support for seven outreach events, with three community groups, to educate 1,262 people about natural gardening and watershed stormwater issues. Events included the Friends of Tryon Creek Trillium Festival, the Southwest Neighborhoods Inc. Neighborhood Walk, and the Southwest Community Center Family Fun Night.
 - Created and installed nine exhibits at the Watershed Center about topics such as natural gardening, macroinvertebrates, beavers, and highlights of community groups.

- Engaged 283 youth in watershed education activities in the Watershed Center and Gabriel Park.
- Loaned tools to six groups for 24 work parties.
- Provided information for 609 visitors to the Watershed Center
- Participated in the Division Vision planning workshop and community outreach meetings to promote sustainable stormwater management projects on and around SE Division Street.
- Partnered with Americorps' Northwest Service Academy to sponsor an AmeriCorps member to act as BES's Stormwater Stewardship Coordinator. Accomplishments included:
 - Led a Stormwater Cycling tour five times, with a total of 26 attendees. Participants visited sustainable stormwater sites in the inner eastside. Promoted the tour on a local bike-focused radio show.
 - Posted Stormwater Cycling case studies online
 - Attended a Built it Green information fair and provided natural gardening information; 350 people attended the fair.
 - Worked with Hosford Abernathy Neighborhood Development to produce and distribute a walking map of neighborhood stormwater features.
 - Created an event display that teaches alternatives to chemicals for lawn care.
- Wrote and received a NOAA grant for outreach in the Tryon Creek Watershed. The grant funded a part-time staff person to provide technical assistance to streamside homeowners. Participants were educated about erosion reduction, control of invasive plants, and native plant selection. The grant also funded the addition of large wood to an in-stream site at Tryon Creek State Park.
- Partnered with Friends of Trees to support natural area crew leader training, education outreach about the importance of trees, and volunteer plantings along Johnson Creek. The 32 crew leaders led 22 planting events throughout the region. The volunteer plantings along Johnson Creek engaged 161 participants who contributed 655 volunteer hours. The 18 education programs reached 554 people.
- Partnered with SOLV to provide volunteer stream restoration projects (erosion reduction, invasive plant control, and native plantings) on private property at seven sites in Portland. The project engaged 600 volunteers from scout groups, schools, volunteer organizations, and businesses.

Stewardship Grant Projects

BES's Community Watershed Stewardship Program awarded stewardship grants totaling \$55,000 to the following projects:

Columbia Slough

- **Columbia Slough Watershed Council (CSWC) Volunteer Program** \$3,500
Volunteer program for education, restoration, and monitoring
- **St. Andrew's Watershed Stewardship Project** \$5,000
Downspout disconnection, asphalt removal, and bioswale
- **Multnomah Youth Cooperative (MYC) Urban Tree Canopy Project** \$5,000
Student surveys, data collection and tree planting

Fanno / Tryon Creek

- **Albert Kelly Park Restoration** \$5,000
Continued restoration and community education by Bridlemile Creek Stewards
- **Hayhurst Neighborhood Watershed Improvement Project** \$4,000
Invasive removal, interpretation, trail, and erosion control along Pendleton Creek
- **Restoration of South Upper Ball Creek** \$4,000
Portland Community College restoration and education of South Upper Ball Creek

Johnson Creek

- **Downspout Disconnect at David Douglas High School** \$3,500
Naturescaping and downspout disconnection with redirection to vegetated infiltration area
- **Lents Springwater Habitat Restoration** \$5,000
Community plantings, youth education
- **Zenger Farm Wetland Education** \$3,600
Water quality monitoring and youth education

Willamette River

- **Building a Community Green Roof Environment** \$5,000
Metropolitan Learning Center ecoroof demonstration and stormwater education project
- **Grant High School Bioswale** \$1,300
Bioswale construction and educational signage
- **St. Philip Neri Bioswale** \$1,800
Bioswale construction and native planting
- **Triangle Park Renovation Project** \$5,000
Concrete removal, green street construction, and community education

All Watersheds

- **Ecoroof Kiosk Project** \$3,300
Construction of five ecoroofs in community gardens

The Community Watershed Stewardship Program provided technical assistance and/or incentives (native plant gift certificates) for riparian restoration and stormwater projects on private and public property. The program awarded mini-grants totaling \$2,750.00 to the following projects:

Columbia Slough

- **Open Meadow/George Middle School** **\$250**
Native plants for a bioswale on the George Middle School campus
- **Oregon Natural Resources Council** **\$500**
Replanting of parking lot bioswales with native vegetation

Fanno/Tryon Creek

- **Bridlemile Creek Stewards/SWNI** **\$100**
Restoration and community education
- **Americorps/Ash Creek** **\$200**
Removal of invasives and replanting with natives near Ash Creek
- **Marshall Park Neighborhood Association** **\$100**
Removal of invasives and replanting with natives at streamside property
- **Tryon Life Community Farm** **\$500**
Native plants for “food forest”

Johnson Creek

- **Americorps/Sellwood Middle School** **\$350**
Native plants for Earth Day Beautification Project

Willamette River

- **Atkinson Elementary School** **\$550**
Interplanting of large trees with natives; removal of asphalt in playground
- **Sunnyside Elementary/Environmental Middle School** **\$100**
Native plants for recently excavated space on school campus
- **Madison High School Natural Sciences Academy** **\$100**
Native plants for campus bioswale

Education Advisory Committee

Continued bimonthly Education Advisory Committee meetings to review and advise on public participation approaches and activities.

Regional Coalition for Clean Rivers and Streams

Continued participation in the Regional Coalition for Clean Rivers and Streams, with the following activities:

- With an annual budget of \$60,000, conducted the tenth year of the annual public awareness campaign. Coalition membership/participation includes: City of Portland/Environmental Services, Clean Water Services of Washington County, Water Environment Services/

Clackamas County, City of Gresham, Metro, City of Vancouver, and Washington and Clark Counties, Washington. The public awareness campaign message for 2004/05 was: “Is Your Lawn Chemical Free? Maybe It Should Be.” Coalition members used the message and creative art originally produced for the 2002/03 campaign.

- Used transit boards and newspaper ads as the outreach tools for the campaign, which ran from April 3, 2005 to June 30, 2005. The media buy resulted in two million impressions from the newsprint advertising. The newsprint ad included a phone number to call for an All Natural Lawn Care Kit: gardening gloves, native seeds and more. The transit buy included 102 units over eight weeks and included 102 interior bus cards.
- Received 19,051 hits on the Coalition website (www.cleanriversandstreams.org) during April, May, and June. The website included the newsprint ad with the coupon. A Spanish version of lawn care tips was included on the website.
- Negotiated the next five-year Interagency Agreement to continue the annual public awareness campaign and increased the agency contributions to a total of \$72,000 per year for five years.

Eco-logical Business Program Promotional Campaign

- Held a focus group for the Ecological Business Landscape Services program. Assessed the success of messages and barriers to implementation for various potential participants
- Began efforts to reformat the automotive handbook to reduce its size and complexity. Began to develop new informational tools that estimate the amount of pollution reduced from participating shops.
- Continued participation in local environmental and neighborhood events, including the annual sustainability fair and the home and garden show, to promote use of EcoBiz certified shops.
- Continued a promotional campaign to raise awareness and communicate the importance of supporting auto shops that operate environmentally responsible business practices. The campaign used newspapers, the Redirect Guide, the Chinook Book, and local news advertising to promote the Eco-logical Business message.

Publications

- Printed and distributed 3,000 native plant posters with stormwater pollution messages.
- Printed and distributed 2,000 Top Ten Invasive Weeds posters for use in riparian and upland restoration projects.
- Developed an Eco-Biz Landscape brochure and customer booklet; printed 500 copies.
- Developed a Community Watershed Stewardship Project map that shows the locations of stormwater projects.

- Developed and printed 3,000 sustainable stormwater management fact sheets for a variety of projects, such as porous paving projects and curb extensions.
- Developed and printed 2,400 wet-weather innovation projects fact sheets.
- Produced and distributed surveys and informational material to neighbors living near a green street.
- Printed and distributed 1,500 Hosford-Abernathy Neighborhood District (HAND) stormwater walking tour brochures.
- Updated and reprinted 1,000 Stormwater Cycling brochures for a tour of eastside stormwater facilities.
- Distributed a variety of educational materials at community meetings and events such as the Home and Garden Show, Children’s Clean Water Festival, Rebuilding Center grand reopening, and Hollywood Farmers Market.
- Reprinted 3,000 copies of the Naturescaping program brochure.
- Developed and printed 19,000 copies of the downspout disconnection materials for the canvassing project.
- Developed and printed 224,000 bill inserts (“Is your lawn chemical-free? Maybe it should be.”) for the March, April, and May quarter.

Coordination with Other City and BES Programs

- Coordinated with other City projects and programs (e.g., Endangered Species Act Program, Willamette Stormwater Control Program, watershed programs) to integrate stormwater activities and messages.
- Worked with Portland Parks and Recreation, Natural Resources to sponsor an Americorps member to support five Friends groups throughout Portland: Friends of Vermont Creek (Fanno Creek), Friends of Woods Park (Fanno Creek), Oaks Bottom (Willamette River), Errol Heights (Johnson Creek) and Friends of Marshall Park (Tryon Creek) to help address streambank erosion, non-point source pollution from pets and transportation, and forest canopy protection.

From July 2004 – December 2004, the Americorps member:

- Worked with students and adult volunteers to paint a community mural on a restoration toolshed, depicting local watersheds and stormwater solutions. This project involved 99 volunteers from elementary schools, Americorps, and the Friends of Vermont Creek, who contributed over 740 volunteer hours.

- Produced brochures and information flyers for Friends of Woods Park and Friends of Vermont Creek.
- Wrote and was awarded a \$9,975 OWEB grant for sediment reduction in Woods Park along Woods Creek (Fanno Creek Watershed).

In the first six months of 2005, the Americorps member worked with 1,604 volunteers and participants in educational activities. Projects included:

- Invasive plant removal and tree planting along streams and wetlands.
 - Community art projects that include messages about erosion prevention for walkers along Vermont Creek.
 - Publication of a newsletter for Bottom Watchers.
 - Volunteer training and coordination.
 - Realigning trails, building bridges and boardwalks along Woods Creek.
 - Copying and distribution of a video (called *Riparian*) about Oak's Bottom wetland protection to neighborhoods and schools.
- With the Office of Sustainable Development (OSD), sponsored the Green Building Tour, attended by about 1,000 people (plus those reached through media coverage). The tour demonstrated green building techniques in new development, redevelopment, and remodeling projects.
 - With OSD, conducted the ReThink training series on green building, reaching over 300 people.
 - OSD continued to coordinate and offer Fix-It Fairs, a free neighborhood-oriented event that offers workshops and exhibits on home and garden topics, with a focus on health and resource efficiency. Over 90 workshops and exhibits provide residents with self-help information and resources on everything from organic gardening, Naturescaping and composting to water conservation, lead poisoning prevention, and lowering energy bills. During permit year ten, 1,500 people attended four fairs.

Other BMPs

Public education and involvement activities conducted as part of other BMPs are identified under those BMPs, including IND1, ILL1, ILL2, ND1, ND2, PS2, and PS3.

CHALLENGES AND SOLUTIONS

A major challenge for stormwater public information and outreach is information overload. To be successful, almost every BMP requires some form of information, education, or outreach to

impart what businesses and the general public can do to prevent stormwater pollution. Because of the wide variety of programs and audience cross-over, the entire outreach effort runs the risk of overloading the recipients with information.

Another major challenge is to inform the general public about the successes and improvements gained through stormwater management efforts. It is important to demonstrate to people that what they are being asked to do is working to reduce stormwater pollution and improve the quality of our rivers and streams.

In parts of the City where it is particularly challenging to engage the public (for example, Johnson Creek), watershed programs are employing practices of community-based social marketing. This outreach methodology focuses on finding ways to deliver messages in the context of issues that are most pertinent to the audience. For example, information about streamside restoration is focused on how it will lower maintenance time and costs. These issues are of more direct concern to the average citizen than stormwater management, but the outcome (improved riparian areas) is the desired outcome in either case.

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05-06)

The PI1 activities that have proved successful will continue in FY 05/06, including the Naturescaping for Clean Rivers program; Downspout Disconnection Program outreach and education; stormwater education activities; community stewardship grants; participation in the Regional Coalition for Clean Rivers and Streams and Eco-logical Business Program; and coordination with other BES and City programs. Specific projected activities include:

Publications

- Continue to produce publications to support program areas (e.g., Downspout Disconnection materials, Naturescaping materials, Sustainable Stormwater Management Program, landscape swales poster, native plants poster).
- Continue to develop signage for sustainable stormwater demonstration projects.
- Develop a water/sewer bill insert that focuses on the importance of streets trees for stormwater management and how to select and place appropriate trees.
- Develop a bill insert for the spring 06 quarter that focuses on the stormwater messages developed by the Regional Coalition for Clean Rivers and Streams.

Activities

- Develop public information materials that support the connection between sustainable stormwater projects and the arts.
- Develop a public service campaign that focuses on household stormwater management techniques and the availability of a stormwater discount.

- Develop a sustainable stormwater management display for community events.
- Develop homebuilder brochures for preventing erosion and pollution releases from construction sites.

Committees

- Continue bimonthly Education Advisory Committee meetings to review and advise on public participation approaches and activities.

Eco-Logical Business Program

- Reformat the Keep Your Shop in Tune handbook for automotive services. Prepare outreach materials to celebrate the tenth year of the Ecological Business Program. Complete development of the pollution prevention estimation materials for use in marketing messages.

Regional Coalition for Clean Rivers and Streams Awareness Campaign

- Develop the public awareness messages that will be used over the next five-year interagency agreement.

Education

- Provide education outreach on the science of stormwater management to schools participating in the EPA “Innovative Wet Weather” stormwater demonstration projects.

Partnerships

- Incorporate the Annual Pollution Prevention Awards into the City’s BEST awards program. (The BEST program assists industries with green practices that save water and energy and deal with stormwater and solid waste.)

Coordination with Other City and BES Programs

- Continue to offer Fix-It Fairs and other environmental programs to the public through the Office of Sustainable Development.

PROPOSED BMP REVISIONS

The City is revising its Stormwater Management Plan, including BMPs, to address new conditions of the renewed permit. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

OM-1 Develop and implement a Stormwater Maintenance Program that includes elements needed to successfully maintain and enhance performance of MS4 conveyance and treatment facilities within the City’s urban services boundary.

KEY BMP ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 04-05)

- Continued to work on the Stormwater Facilities Maintenance Plan, including identification of potential pollutant issues and potential improvements to existing practices.
- Repaired or constructed 330 inlets, 2,680 lineal feet of inlet lead, and 4,941 lineal feet of culvert.
- Cleaned approximately 922 sumps and sedimentation manholes, 16,500 catch basins, 11,700 lineal feet of ditch, and 21,200 lineal feet of culvert. Made 12,900 maintenance visits to various locations (multiple visits to some locations after major rain events).
Accomplishments by watershed are provided below:

Accomplishment	Columbia Slough	Fanno Creek	Johnson Creek	Tryon Creek	Willamette River	TOTAL
Sumps and Sedimentation Manholes Cleaned	362	1	204	-	355	922
Feet of Ditch Cleaned	-	2,126	1,918	605	7,078	11,727
Feet of Culvert Cleaned	504	8,720	1,337	2,940	7,731	21,232
Surface Water Pollution Reduction Facilities Inspected	30	49	25	7	11	122

- Inspected all 122 detention and water quality pond PRFs (pollution reduction facilities) twice to document the condition of each facility and identify needed cleaning and repairs. Inspections by watershed are shown above.
- Constructed improvements at an underutilized site at the Columbia Boulevard Wastewater Treatment Plant to process residuals removed from stormwater facilities (ditches and culverts).
- Continued a sedimentation accumulation study at four stormwater management facilities (one swale and three ponds) across the city.

- Continued monitoring retrofitted permeable shoulder swales at the City's Water Pollution Control Laboratory. (See BMP OA-1: Monitoring Compliance Report.)

CHALLENGES AND SOLUTIONS

As new facilities are added, the challenge is to provide increased and improved maintenance to support water quality goals. Several new maintenance techniques and types of equipment that could increase productivity are under investigation. New funding mechanisms and/or reprioritizing existing funding sources will be needed to adequately maintain all existing and new water quality and quantity control facilities and other parts of the sewer collection system. By rating facilities and setting maintenance priorities, the Stormwater Facilities Maintenance Plan will be an important tool for focusing limited funding on the highest-priority needs.

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05/06)

- Continue materials and product research and monitor at least two products, facilities, or activities, as budget allows.
- Continue work on the Stormwater Facilities Maintenance Plan, including a schedule and work plan for evaluating potential improvements to existing practices, including monitoring needs. Begin identification of watershed-specific weighting criteria for facility operations and maintenance plans. Complete basic maintenance practices information forms.
- Continue the sediment accumulation study at representative facilities.

PROPOSED BMP REVISIONS

The City is revising its Stormwater Management Plan, including BMPs, to address new conditions of the renewed permit. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

OM-2 Continue ongoing evaluation and pilot testing of improvements to operations and maintenance practices for public rights-of-way to limit pollutant discharges to the MS4 to the maximum extent practicable.

KEY BMP ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 04-05)

Pollution Prevention Teams

- Pollution Prevention (P2) teams at the Bureau of Maintenance (BOM) continued to evaluate and track maintenance procedures, pilot test new products and techniques, evaluate work processes, and monitor developments in related fields.
- P2 team field members organized the annual bureau-wide Earth Day event. Information from Metro (composting, household hazardous waste disposal, recycling), the Water Bureau (water conservation, water distribution map), and PDOT (bicycle maps, walking maps) was provided. PDOT's Options Mobile was on display, and water reduction devices, plant seeds, and native plants were given away.
- P2 managers continued to meet monthly to help build a bridge between field members and management on environmental issues.
- The following topics were presented at P2 team field meetings:
 - Green Buildings - Office of Sustainable Development
 - Environmental Shepherds of Oregon
 - Willamette River Fish Survey - City's Endangered Species Act Team
 - Portland Harbor Superfund Site - Bureau of Environmental Services
 - City's Recycling Program for Businesses – Office of Sustainable Development

Regulatory Activities

- Bureau supervisors continued to follow, with modifications, the best management practices outlined in ODOT's *Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices*, as guidance for PDOT's transportation-related maintenance activities.
- BOM continued to use Portland Parks and Recreation's Integrated Vegetation Management (IVM) plan as a guidance document. The IVM, approved by NOAA Fisheries under the ESA 4(d) rule to protect salmonids, requires certification of pesticide applicators. This approach is designed to minimize the need for fertilizers, pesticides, and irrigation while developing and maintaining viable landscapes.
- BOM representatives have been participating in an evaluation and redrafting of the City's Erosion Control Manual. This manual provides technical guidance for erosion prevention

and sediment control to be used by site designers, developers, contractors, and local government agencies.

- Staff is participating in discussions about proposed modifications to DEQ 1200C and 1200CA permits. Staff has made changes to recordkeeping procedures to ensure compliance with the permit requirements.

Operational Processes

- The P2 Team continued to work with BES's Sustainable Stormwater Management Program to monitor and evaluate the effectiveness of vortex devices in reducing stormwater inflow rates.
- BOM tested the effectiveness of new city procedures to track and remove abandoned erosion control devices. If not properly maintained, these bio-bags and catch basin inserts can break open and contribute to stormwater pollution. New protocol for City inspectors has been developed to identify and remove these devices. A memo detailing the City's expectations regarding the removal of the devices was also sent to all utilities and contractors with open permits. This process also had the added benefit of improving relationships among bureaus and expanding awareness of sediment control and pollution reduction.
- BOM continues to use the trenchless liner repair system. This technique reduces environmental impacts by minimizing pavement cuts, excavation, material removal, and trench replacement material. Managers are evaluating the purchase of an additional system so two liner repair crews can operate at the same time.
- BOM continues to participate in the County Cooperative Weed Management Area Committee, which includes the four regional counties: Clackamas, Clark, Multnomah, and Washington. By participating, BOM stays informed of changes and recommendations in integrated pest management programs.
- Employees continued to use cleanup kits containing a variety of products to control, contain, and clean leaks and spills. Customized kits have been created for the City's street sweepers and other vehicles. These vehicles have limited space and cannot always accommodate the standard six-gallon buckets. The accessibility of these materials allows crews to respond to leaks quickly. Kits are routinely replenished as supplies are used.
- BOM crews have expanded their use of bio-pillows for sediment control on impervious surfaces and hydrocarbon-absorbing booms to trap sediment, oil, and grease while cleaning the grinding machine. These bio-pillows are placed on the immediate downhill side of the cleaning process, containing any contamination on the job site and away from the catch basins. Catch basin protection at the job site is also provided when grinding and/or paving equipment is left onsite overnight.
- BOM continues to puncture and empty aerosol cans at an onsite designated aerosol can recycling facility. New BOM employees are trained in appropriate techniques to empty their

own cans. This helps reduce and contain the amount of hazardous waste disposed of by BOM.

- BOM staff members participate on several stormwater committees. The Sustainable Stormwater for Streets Committee is developing policies and protocol for stormwater collection, treatment and disposal. This committee also addresses regulatory compliance. The Stormwater and Streets (SWAT) Team examines technical issues and new technologies associated with stormwater collection, treatment, and disposal.
- BOM is participating in the evaluation of different types of alternative pavement surfaces and their effectiveness, durability, and maintainability. The first test location includes N. Gay Avenue and N.E. Alberta Street, and consists of two blocks each of porous asphalt and porous concrete. The second test area at SE 22nd Avenue and SE Knapp consists of porous paving blocks.
- BOM has expanded the use of compost for erosion control and slope stabilization. Crews are also using straw wattles for erosion control. The wattles are designed to split open and spread on-site, providing additional erosion control when needed.
- Where possible, crews continue to use the most environmentally friendly products for graffiti removal. A soy-based cleaner is available and its use is promoted.
- BOM uses a vactor to help maintain the storm sewer system. The vactor is used to remove excess material from ditches to reestablish the flow. The bureau also purchased a 120-foot extension hose for the vactor to access remote locations.
- All hydroattenuators have been removed from City streets. The existing attenuators are now dry systems, eliminating the risk of releasing hazardous chemicals such as anti-freeze into the environment.
- BOM completed several bridge repair projects using best management practices. These included fish ladder repairs, removal of debris dams, and routine bridge maintenance. Bureau employees worked closely with staff from the City's Endangered Species Act (ESA) Team and the Bureau of Environmental Services. These efforts reduced impacts on water quality and fish populations.
- BOM is evaluating the composition of street shoulder material that is used to support the edge of streets. The material with the least amount of fines, allowing for less sediment in the runoff, may not always stay in place and may therefore require more frequent replacement. The environmental impact and maintenance practices for this material will be evaluated.
- BOM is working with ODOT and Multnomah County, with Metro's approval, on a pilot study to treat street sweeping debris. Staff is working with two consultants to test two consortiums or groups of microbes and their ability to break down the hydrocarbons in the sweepings. Debris is being sampled and monitored. If the study is successful, the bureau plans to explore possible reuses for street sweepings to keep the material out of the landfill.

- Staff is working with BES to examine various environmentally friendly methods of vegetation eradication and effective street cleaning for alternative street surfaces. Vendor demonstrations are being scheduled for the use of infrared heat to kill vegetation growth without harming the street or contaminating the stormwater runoff.
- BOM hired a compost consultant to help staff improve the processing of the City's leaf compost. This consultant will also train staff to monitor compost for process control, collect samples for quality assurance, and recommend reuse options of end products (compost and blended soil).

Communication

- BOM's orientation for new employees, offered several times per year, now includes a one-hour overview of the bureau's Environmental Program. Staff has developed a PowerPoint presentation highlighting the bureau's commitment to water quality, pollution prevention, alternative energy, and environmental awareness in the workplace. This overview also includes a training video on municipal best management practices and stormwater pollution prevention.
- A member of BOM's Environmental Team regularly reports on environmental and water quality issues during the bureau's monthly meeting for managers and supervisors. Environmental Team members also attend section meetings to discuss spill response measures, erosion control practices, environmental concerns, and other issues as requested.
- BOM continued to expand its library of educational materials, including a video library, reference manuals, and copies of PowerPoint presentations from trainings and conferences. These materials are available to all bureau employees. Topics include soil bioengineering, erosion and sediment control, spill response, and other best management practices.
- BOM's weekly employee newsletter continued to include a news items on environmental issues. The Environmental Team regularly contributed articles on topics covering new BMPs, pollution prevention techniques, and the promotion of general environmental awareness.
- BOM continued its monthly environmental steward recognition program. This award acknowledges employees for making an outstanding contribution to environmental protection, pollution prevention, and/or erosion control.
- BOM continued to develop a closer working relationship with the city's Endangered Species Act (ESA) team, BES's Watershed Division, and the Bureaus of Parks, Water, and Development Services. Improved communication and services have strengthened these relationships.

Training

- BOM employees attended the Pacific Northwest Pollution Control Association Water Environment School at Clackamas Community College. This year's topics included erosion

control programs, streambank restoration, stormwater reuse, and the use of compost for erosion control, bio-swales and wetlands.

- BOM employees attended the annual American Public Works Association Conference and presented a session on responding to landslides and erosion control.
- Staff continues to attend quarterly meetings of the Association of Clean Water Agencies (ACWA) and the annual day long Stormwater Summit. This provides an opportunity for BOM to contribute to policy development and to gather information.
- A consultant was hired to provide a series of classes on sustainability in the workplace to all BOM managers and supervisors. BOM employees continue to be encouraged to incorporate sustainability into their day-to-day operations and practices.
- BOM's crew leader manuals and testing procedures now include a section on erosion control methodology and techniques. Job applicants to the bureau are also expected to answer interview questions about erosion control and water quality, when applicable.
- BOM personnel taught a one-hour erosion control training session to Water Bureau field personnel.
- A bureau manager attended the Water Environment Federation's Collection Systems Conference. Although the conference focused mainly on sewer systems, it also had a stormwater component. Discussion topics included surface stormwater treatment and disposal, design storm standards, and erosion control.
- A member of BOM's Environmental Team gave a presentation at the International Erosion Control Conference in Dallas, Texas. This included an overview of the bureau's environmental program and highlights of the bureau's best management practices for water quality.
- BOM representatives attended the Green Building Conference and collected information and product samples to be evaluated for use by crew members in business operations.

CHALLENGES AND SOLUTIONS

The demands of the ESA program, coupled with funding issues, continue to impact sometimes-competing objectives within maintenance programs. BOM continues to work with ODOT, DEQ, BES, regulatory agencies, and other operating bureaus to balance environmental needs with community priorities within available funding levels. The relationships BOM has developed with these other agencies continue to benefit the City.

The increasing number of environmental initiatives and requirements has affected how BOM conducts its business. The amount of available resources to support these changes in maintenance practices has been limited. BOM has been addressing these environmental initiatives creatively and without additional resources. By supporting the work of the bureau's

Pollution Prevention teams, showcasing accomplishments, and encouraging every employee to take responsibility, BOM is meeting its regulatory requirements while setting an example for other maintenance agencies.

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05-06)

- Continue work on PDOT's Environmental Strategic Plan, which will offer a complete vision of the environmental challenges facing PDOT and a plan to address them. A steering committee will be reconstituted and stakeholders will be interviewed. Feedback will be used to develop a mission, vision, and values statement for the program. Top issues will be incorporated into a workplan for the program.
- Implement a new and expanded shoulder and ditch maintenance program during FY05-06.
- Continue to evaluate new materials and processes, pilot test tools and techniques, and monitor developments in related fields. Continue to invite guest speakers and host vendor demonstrations to keep apprised of new materials and practices.
- Continue ongoing crew-level skill training for ESA and PDOT's routine maintenance practices and water quality guidelines. Educational opportunities will include outside speakers, in-house training, and attendance at various workshops and conferences.
- Continue to work with BES to assess the efficiency of pervious concrete in infiltrating stormwater. Monitor and evaluate two test sites to assess their maintainability. With the installation of different types of porous pavements, BOM is continuing to evaluate how to most effectively remove street sweeping debris from the pavement. Keeping maintenance costs manageable is extremely important to the success of these projects. Part of this will include continuing the partnership between BES's Sustainable Stormwater Management Program, PDOT, BOM, and BES Engineering Services to evaluate and monitor maintenance for SE Rex paver streets.
- Continue to promote a shift in culture to support environmental awareness and skills in BOM's day-to-day activities, furthering the bureau's efforts towards environmental stewardship.
- Work with BES to evaluate the feasibility of placing smaller areas of porous pavement uphill from catch basins in areas of the city served by combined sewers as an environmentally friendly way to remove and dispose of stormwater normally found in combined sewers.
- Further refine and expand BOM's environmental communication and outreach program. This includes more frequent internal communication, such as regular articles on related topics in the bureau's weekly newsletter to employees, external messages through community outreach, speakers, and other presenters.

- Implement annual environmental consultations, in which members of the P2 field team visit BOM employees at job sites to help generate ideas to promote more environmentally protective work practices.
- Begin development of a PDOT manual that includes best management practices for all PDOT maintenance activities, not just those addressed in ODOT's roadside maintenance manual. This manual will include best management practices for such activities as traffic maintenance, environmental systems, pest control, traffic electrical work, recycling, sidewalk maintenance, and other activities performed by BOM.
- Develop additional training for supervisors that concentrates on BMPs that are specific to the type of work performed by that supervisor's crews. The BMPs included in ODOT's Blue Book will be used as the basis for the training.
- Continue to promote environmental awareness in the bureau and support the environmental steward recognition program.
- Continue to test prototype machinery that contains sediments from the pavement markings grinder, which is used to remove and capture plastic pavement markings from the street. This includes efforts to retrofit the grinder with a vacuum system to collect the grindings in an efficient manner for proper disposal.

PROPOSED BMP REVISIONS

The City is revising its Stormwater Management Plan, including BMPs, to address new conditions of the renewed permit. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

OM-3 Evaluate materials storage, handling, and transportation activities at City-operated facilities to determine whether there are any adverse impacts. Where practical, implement enhancements or alterations to limit identified adverse effects.

KEY BMP ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 04-05)

Bureau of Maintenance (BOM)

- Pesticides used as part of BOM's Integrated Pest Management Plan are purchased in small quantities, on an as-needed basis.
- Watersorb, a product that absorbs water-based liquids and converts them into a gel that is easier to contain and clean up if spilled, is now part of the spill kit for the Pesticide Application Vehicle.
- The bureau expanded the number of recycling stations throughout the Stanton and Albina Yards to reduce the amount of BOM waste sent to the landfill. Each station is signed, and a flyer with a map and instructions has been developed and distributed to employees.
- Prior to BOM's semi-annual yard cleanups, a member of the Environmental Team now meets with employees to review sediment control and inlet protection methods.
- The City purchased a facility at 2308 N. Clark to bulk store de-icing and anti-icing products. Product originally stored in external tanks at several locations in multiple yards is in the process of being consolidated at this new location. Some of the materials will be stored in plastic tanks in an external covered area. The facility has been retrofitted to hold large quantities of environmentally friendly products, including calcium magnesium acetate (CMA). A boom has also been installed to more efficiently fill the anti-icing trucks and thereby reduce the amount of product loss.
- The bureau has designed and constructed an exterior truck wash facility at Albina Yard to contain the amount of pollutants and sediments from City equipment. The system was designed and sized in accordance with the City's Stormwater Management Manual. It includes two concrete pads, an oil/water separator, sump, and steam cleaner. Trucks and equipment are cleaned on one pad. On the second pad, an asphalt releasing agent is applied to the bed of trucks used to transport asphalt. The waste streams from both pads are collected and plumbed through a sedimentation manhole and an oil/water separator prior to discharge to the sewer system. The ingress and egress to the truck wash are constructed from permeable pavement.
- Crews monitor stormwater inlets in the yard near the stocked piles of street-sweeping debris. These piles are picked up by a contractor for delivery to a landfill.

- The bureau completed the on-site installation and retrofit of two mobile trailers. These trailers are being used as emergency operations centers, as well as for additional meeting space. Porous pavers have been installed around the trailers, reducing the amount of impermeable surface.
- All City diesel-powered trucks are now running on biodiesel, a 80/20 mix of low-sulfur diesel and vegetable oil. This is reducing the amount of emissions generated by City trucks.
- Two storeroom employees participated in the bureau's Pollution Prevention Team. This increases the storekeeper's awareness of the potential environmental impacts of new products or equipment BOM orders and of storage concerns.
- The bureau's facilities staff has developed a parking containment area within the yard for equipment that has the potential to cause significant leaks. Staff members also continue to evaluate and improve housekeeping skills to keep work sites and maintenance yards clean.
- Street sweepers are rinsed after every shift. The rinsate is treated before discharge the sanitary storm sewer. The treatment process consists of routine solids removal, scooping out the debris with a bobcat, and vacator cleaning of the collection system.
- Compost processed by BOM is being used for erosion control at the State of Oregon lot under the Marquam Bridge. City equipment is stored on this leased property.
- A majority of the rock and backfill material stored at the Albina Yard is stored under cover to reduce pollutant load in stormwater runoff. A three-stage separator has been installed to treat the stormwater from the entire loose material storage area before it enters the stormwater sewer system.

Water Bureau

- Continued to inventory discharges from Water Bureau facilities.

Parks and Recreation Bureau

- Reduced storage needs for pesticides at individual golf course sites through an agreement with a vendor to deliver on an as-needed basis. This also shifts any transportation risks to the vendor, who has more appropriate equipment and training.
- Portland Parks and Recreation continued to empty the sump at Mt. Tabor Yards that captures the grass and dirt of Parks mowers when they clean off at the end of shift, so that material is not getting into the storm drain system.

CHALLENGES AND SOLUTIONS

Developing evaluation criteria and ranking hundreds of City-owned sites is complex. Site-specific criteria related to age, size, location, and long-range plans for the various facilities must

be considered, as well as stormwater-related criteria and other environmental regulations. Some City bureaus are effectively addressing facility management as part of a master planning process for their facilities, with dedicated staff and budgets to evaluate sites.

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05-06)

Bureau of Maintenance

- Evaluate the employee parking lot to identify whether additional recycling stations can be set up. If so, add any new stations to the current map showing the locations of all the recycling stations around the yards.
- Decommission external plastic storage tanks for de-icing product at Albina as part of the product consolidation at the N. Clark Building. This will allow the bureau to better contain the product and reduce the risk of product loss.
- Implement a vehicle-washing program to encourage employees and supervisors to have their City vehicles washed more frequently. The bureau plans to distribute vouchers allowing employees to have City vehicles washed at specified locations that recycle the rinse water. This should also result in fewer pollutants on roadways.

Water Bureau

- Continue to inventory discharges from Water Bureau facilities.

Parks and Recreation Bureau

- Continue to expand hazardous waste transportation training and planning for district employees.

PROPOSED BMP REVISIONS

The City is revising its Stormwater Management Plan, including BMPs, to address new conditions of the renewed permit. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

OM-4 Evaluate various City discharges to the MS4, including NPDES permit identified non-stormwater discharges not addressed by BMP OM1, OM2, or OM3. Many of these discharges can be associated with operations and maintenance activities of various City bureaus. Where practical, implement enhancements or alterations to these activities to limit identified adverse effects.

KEY BMP ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 04-05)

- The Water Bureau continued to implement a program that requires it to submit requests to the Bureau of Environmental Services for discharges of potable water from flow tests of hydrants and tank and reservoir drains. Discharges are approved on a case-by-case basis with a letter of authorization. The authorization requires BMPs to reduce the impacts of flow rate, volume, and suspended solids from these activities, in addition to the state-required BMPs for chlorinated discharges. A report is required for each discharge in order to track volume and respond to any complaints.
- The Water Bureau continued to inventory discharges at various facilities, in conjunction with sump registration and NPDES permit application work for direct discharges.
- BES, the Fire Bureau, and General Services continued working together on the City's fire station seismic upgrade to incorporate environmental issues. Specifically, all upgrades include washing areas that discharge to the sanitary system, with appropriate pretreatment. This eliminates discharges of wash water to City storm or ground disposal systems. To date, 20 remodeled stations and three new stations have been completed with indoor vehicle wash areas and oil/water separators. Nine additional stations will have vehicle wash areas with an oil/water separator when built or remodeled. BES continues to review new stations and remodeled stations' plans as they proceed through the building permit process. All stations are designed to incorporate many environmental components to achieve and exceed stormwater quality goals.
- The Bureau of General Services and BES continue to work together to reduce pollutant discharges from city facilities. A dedicated condenser loop for cooling equipment was installed at the Portland Building, which reduces non-stormwater discharges to sewer lines by over 11 million gallons of condensate a year. A green roof is being planned and designed for the Portland Building.
- BOM continued to review onsite vehicle and equipment washing facilities in preparation for developing a treatment facility.
- Portland Parks and Recreation continued to examine maintenance activities as part of annual compliance requirements for continued Salmon Safe certification.

- Portland Parks and Recreation continued installation of the Rose City Golf Course irrigation system to reduce water usage; reduce runoff; offer more precise targeting; increase turf health and improve resistance to diseases and insects, reducing reliance on pesticides; and allow for recycling of irrigation water. Initial results show reduced water use and better playing conditions from healthier turf.
- Portland Parks and Recreation, in conjunction with Multnomah County Drainage District, continued monitoring and maintenance on a bank cutback and terracing project at the Portland International Raceway (PIR) to prevent the sloughing off/collapse of the bank into waterways at PIR that lead into the Columbia Slough.
- Portland Parks and Recreation continued to maintain the new drip irrigation system in Mt. Tabor Nursery, as well as turf strips to prevent erosion from watering and harvesting equipment.
- Portland Parks and Recreation continued testing nutrient levels and the presence of pesticides in surface waters for City golf courses on a twice-annual basis. Results from testing continue to show that pest management and fertilization activities are not presenting a negative impact to aquatic habitat and ESA listed species.
- Portland Parks and Recreation continued the use of special equipment for precise application amounts, timing, and distribution of fertilizer on golf course fairways and greens as part of an ongoing program.
- Portland Parks and Recreation continued the use of a specially formulated slow-release fertilizer on park turf, which possesses an ideal formulation of components that reduces leaching and wasted elements in runoff. Water quality testing results confirm the efficacy of this formulation.
- Portland Parks and Recreation began an Integrated Pest Management (IPM) enhancement program to formally assess and document alternative pest management techniques, materials, and methods in trials at various locations in City parks, community gardens, golf courses, and natural areas. The program will assess efficacy, economics, impacts, and suitability for park use. The long-term goal is to seek potential environmental, economic, and safety improvements within the IPM approach and provide usable data for BMP improvements.

CHALLENGES AND SOLUTIONS

It has been very challenging to develop evaluation criteria and rank a large group of City activities. It has sometimes been difficult to identify what types of discharges enter the MS4, especially for non-routine, incremental, and emergency activity discharges. In addition to stormwater-related evaluation criteria, other environmental regulation issues must be considered in the ranking criteria. In addition, specific criteria related to other regulations apply to the type and location of discharge. Economics is also a major factor driving current activities. These combined factors complicate the evaluation of various City activities for impacts to the MS4.

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05-06)

- Continue to refine the process of requesting and approving discharges to the storm sewer system for other Water Bureau discharges as they are identified.
- Develop a plan for evaluating each bureau's facilities for stormwater impacts. The plan will prioritize which activities to evaluate first.
- Water Bureau will continue discharges inventory work at various City facilities.
- Continue review of onsite vehicle and equipment washing at BOM and other City facilities.
- Portland Parks and Recreation will evaluate the hazardous material spill response policy and training process and develop a plan for a new training schedule.
- At the Parks Bureau nursery, continue trials of erosion control soil cover crop techniques and plant species to evaluate efficacy and suitability.
- Pursue funding to install a surface water bioswale at Irving Park to capture large-scale hard surface runoff. A good location for a maintainable facility of adequate size has not been determined.
- Continue to implement provisions outlined in the Salmon Safe certification directives.
- Resolve water rights issues in order to complete well drilling and use water drained from the Westmoreland Park casting pond for irrigation, rather than releasing it to Crystal Springs.
- Continue to design a green roof and plan for replacement of the existing roof on the Portland Building as funding becomes available.
- Create a new water catchment basin, using bioengineering and plants, to capture some of the water coming off a new plant holding area in Mt Tabor Yard.
- Continue the ongoing program to test nutrient levels and the presence of pesticides in surface waters for City golf courses on a twice-yearly basis.
- Establish a public/private partnership to fund new cultural practices at key park sites to renovate athletic fields. This reduces fertilizer use and increases water infiltration.
- Work to achieve structural soil changes that improve plant health and optimize use of water and fertilizers, primarily in sports fields but also in other areas.
- Continue the Integrated Pest Management (IPM) enhancement program.

PROPOSED BMP REVISIONS

The City is revising its Stormwater Management Plan, including BMPs, to address new conditions of the renewed permit. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

IND-1 Implement the City's Industrial Stormwater Management Program to control the discharge of pollutants to the MS4 from existing and developing industries; continue to provide educational materials; and continue to develop and implement permitting or policies for identified non-stormwater discharges that are creating negative impacts.

The Industrial Source Control Division (ISCD) in BES conducts most of the activities related to this BMP.

KEY BMP ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 04-05)

- Inspected, sampled, and administered the permits for 143 industries (and associated tenants) with stormwater discharge to the MS4. Continued to perform annual compliance inspections and additional inspections, if warranted, to provide technical assistance or assess BMP implementation.
- Continued to perform inspections and evaluate the need for stormwater permits for non-permitted industries in the MS4 and outside the MS4. Performed 99 inspections during permit year ten. Identified BMPs at these industries to minimize or remove exposure of industrial activities to stormwater. Required five facilities within the MS4 and three outside the MS4 to apply for a stormwater permit.
- Collected and analyzed 26 samples from 18 permitted industries. In addition, conducted a monitoring and sampling program at a selected outfall basin to evaluate the long-term impact of the Industrial Stormwater Program. Monitored three storm events in this effort.
- Reviewed 207 industrial files and evaluated impacts on the storm sewer system. Based on the file review, 102 facilities had no identified impact on the storm sewer system, 25 were out of business, eight were issued stormwater permits, seven are controlled as tenants of permitted facilities, and 28 were issued "no exposure certifications" (NECs). Information in the database was updated, and inspections performed as needed. Thirty-seven of these facilities remain under review, including four that are required to apply for a permit.
- Continued to use locate and map non-city outfalls to receiving streams from all industries and businesses located in the riparian area and to identify the sources that drain to these outfalls. This includes heavy efforts in the Columbia Slough and Willamette River Watersheds for the identification of direct discharges.
- Continued to re-inspect industries that were previously identified as having no exposure and were not required to apply for a permit. The inspections are conducted on a five-year cycle. Industries are now being issued a no exposure certification (NEC) in lieu of a permit. The program will allow the City to effectively track these facilities. It also requires facilities to notify the City and/or DEQ if site conditions change, resulting in exposure of industrial activities to rainfall and stormwater runoff. The facilities would then be required to apply for

a permit. Of the 12 industries that had a NEC expiring in FY 04-05, four were no longer in business. The City inspected the other eight and reissued the NEC to five facilities; the other three are still under review.

- The City's industrial survey referred 87 sites to the Industrial Stormwater Program for further evaluation.
- Completed a public and legal review of stormwater enforcement rules that will implement City Code provisions for industrial stormwater inspections and pollution complaints. These rules identify the types of enforcement tools that can be used (stop work order, compliance agreements, etc.) and severity of enforcement and penalty expected for typical violations.
- Continued to implement activities in the following categories of industrial controls: wastewater discharge permits, accidental spill prevention plans, Pollution Complaint Program, Buildings Plan Review Section, and Fire Bureau's SARA Title III facility review.
- Continued to implement the Columbia South Shore Well Field Wellhead Protection Program and Reference Manual for the City of Portland (and also in effect in Gresham and Fairview). Portland's program is administered by the Portland Water Bureau with inspections being conducted by Fire Bureau inspectors every two years. Program requirements include structural and operational BMPs to reduce the occurrence of spills and minimize spill impacts. Phased-in requirements went into effect starting June 30, 2005. The first compliance deadline applies to indoor and outdoor storage areas. Outreach included public events, workshops, and partnerships. Businesses are required to fill out and return Hazardous Material Inventory Reports by November 30 of each year. In 2004, approximately one-half of the affected businesses returned the reports.
- Administered 111 additional permits for facilities not located in the MS4. Most are permits for direct dischargers, although some discharge to the Port of Portland's system or the Multnomah County Drainage District.
- Under the Eco-logical Business Program:
 - Continued to work with the Pollution Prevention Team and Automotive Advisory Group for the Portland metro region to certify automotive repair and service shops. By the end of permit year ten, a total of 36 shops were certified in the City of Portland.
 - Revised the automotive checklist and Keep Your Shop in Tune handbook to help with ease of use and broaden their applicability to other areas of the state.
 - Continued implementing the Eco-logical Business Program for the landscape services sector. Three landscape designers and three maintenance and installation contractors have begun the certification process.

CHALLENGES AND SOLUTIONS

Resources continue to be stretched as the City has committed staff to assist in the source investigation efforts in support of the Portland Harbor Superfund Program. Staff continues to carry pollution prevention and source control messages to regulated commercial and industrial businesses. Staffing and funding limitations limit the capacity of some technical assistance and recognition programs, including the loss of one full-time staff person in the Industrial Projects Section who assisted in the Eco-Logical Business Program..

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05-06)

- Continue to inspect all permitted industries in the City once per year, and conduct sampling as needed.
- Continue to inspect non-permitted industries discharging to the MS4 to evaluate the need for permits (approximately 150 per year).
- Continue certifications in the Eco-Logical Business Program with the Pollution Prevention Team and Automotive and Landscape Advisory Groups. The goal for permit year eleven is to have 70 auto shops certified and five certifications through the landscaping program.
- Complete formal acceptance of the stormwater enforcement rules and associated modifications to City code for industrial stormwater inspections and pollution complaints.
- Continue to locate and map non-city outfalls in the Columbia Slough and Willamette River Watersheds and identify the sources to these outfalls.
- Continue implementation of groundwater protection and stormwater BMPs and facility inspections for commercial and industrial facilities within the Columbia South Shore Well Field Wellhead Protection Area overlay zone, including education and outreach efforts to affected residents and businesses and one-on-one technical assistance to businesses to help them comply with program requirements.

PROPOSED BMP REVISIONS

The City is revising its Stormwater Management Plan, including BMPs, to address new conditions of the renewed permit. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

ILL-1 Continue spill prevention and response programs and activities to reduce the frequency and impact of spills to the MS4.
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KEY BMP ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 04-05)

- Continued overseeing site investigation and remediation at contaminated industrial sites within the Columbia South Shore Well Field (CSSW) Wellhead Protection Area. Worked on subregional characterization of the most vulnerable shallow aquifer in the CSSW, the Upper Gravel/Troutdale Gravel Aquifer.
- BES and the Water Bureau worked on CSSW area signage. The signs list the BES spill response hotline number (staffed 24 hour a day) and read: “TO REPORT SPILLS CALL (503) 823-7180.”
- The Regional Spill Committee continued its coordination meetings, holding four quarterly meetings during permit year ten.
- Continued activities related to the Spill Response Program, Accidental Spill Prevention Program, tank farm policy, Hazardous Materials Response Team, Columbia South Shore, hazardous substances, and Buildings Plan Review Section.
- Conducted training for City staff on the BES spill response hotline and staff response duties.

CHALLENGES AND SOLUTIONS

The balance of priorities between groundwater, stormwater, and drainage continues to be a significant citywide concern.

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05-06)

- Continue duty officer training sessions.
- Continue to provide absorbent boom to Portland fire boats for response actions.
- Continue to conduct internal training to City staff on the BES spill response hotline and staff response duties.
- Continue to make external presentations about the BES spill response reporting hotline and staff response duties.
- Continue Regional Spill Committee quarterly meetings.

- Continue technical assistance to regulated businesses and general outreach to the public under the Columbia South Shore Well Field Wellhead Protection Program. Install eight new wellhead protection monitoring wells in the CSSW.
- Continue Columbia South Shore Plan District reviews for appropriate control of hazardous materials.

PROPOSED BMP REVISIONS

The City is revising its Stormwater Management Plan, including BMPs, to address new conditions of the renewed permit. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

ILL-2 Implement all elements of the Illicit Discharge Elimination Program to prevent, search for, detect, and control illicit discharges to the MS4; continue to evaluate existing properties and non-stormwater discharges.

The Illicit Discharges Elimination Program (IDEP) is conducted by the Spill Protection and Citizen Response Section within BES's Environmental Compliance Division (ECD) and the Industrial Source Control Division (ISCD).

KEY BMP ACCOMPLISHMENTS, PERMIT YEAR TEN (FY04-05)

- Conducted 364 outfall inspections.
- Continued revising the priority outfall list; currently track 116 outfalls.
- Continued dry-weather monitoring at all major outfalls during the summer sampling period; inspected/sampled all priority and Portland Harbor outfalls at least twice.
- Continued sampling the 19 non-stormwater discharges identified in the NPDES permit to determine their impact on the MS4. As of permit year ten, 17 of the 19 sampling categories have been completed. (Also see BMP OA-1.)
- Continued to implement measures to limit impacts from non-stormwater discharges related to City operations (see BMP OM-4).
- The Industrial Stormwater Program continued to address illicit discharges and connections as they are identified during stormwater inspections and as referred. During FY 04/05, nine illicit discharges, primarily wash water, were identified and removed from the storm sewer. One illicit connection was identified and corrected; an additional illicit connection that had been identified in FY 03-04 was corrected. The program continues to address wash water discharges and other non-stormwater discharges to the storm sewer system. Policies and appropriate control measures, if needed, are developed and implemented.
- Continued activities related to administering wastewater discharge permits; accidental spill prevention plans; the Pollution Complaint Program; the Buildings Plan Review Section; the Fire Bureau's SARA Title III facility review; SOLV events; Metro's Recycling Information Center line; BES's Solid Waste and Recycling Programs; and development controls, including plans review. Related actions included:
 - The BES hotline number (823-7180) receives about 1,600 calls per year regarding pollution complaints, industry information, spills, seepage discharges, and agency referrals. This hotline is staffed 24 hours a day. During the past year, 491 after-hours complaint calls were registered. The duty officer responded on-scene to 65 complaint sites during after-hours actions. Duty officer response actions identified two illicit discharge events that were referred for enforcement.

- The City continues to comply with the intent of the State Toxic Materials Reduction Act by evaluating all new chemicals used in various City facilities.
- The Pollution Prevention Group's Industrial Projects Section (IPJS) processed four new discharge authorization permits to mobile washers. A total of 14 mobile washers are now operating under the discharge authorization program. These washers collect their wash water and discharge it to the sanitary sewer under BES's authority. IPJS is also working to conduct additional outreach to mobile washers that operate in the Portland metropolitan area. This effort further reduces the potential to impact the storm sewer system.

CHALLENGES AND SOLUTIONS

Consistent citywide program coverage to control illicit discharges continues to be a challenge, but the effort will be moving forward with the comprehensive watershed planning effort.

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05-06)

- Complete code and administrative rule changes to the stormwater enforcement code.
- Continue scope and research on outfall ownership in Portland Harbor.
- Continue to evaluate pipe infiltration and inflow issues and groundwater-related non-stormwater discharges. Continue to identify sampling locations and methodologies. Continue non-stormwater sampling for remaining categories.
- Complete the non-stormwater discharge evaluation report, including evaluation and potential monitoring of new categories added in the renewed permit, including:
 - Clean-up wells
 - Aquifer storage and recovery (ASR) wells
 - Well start-up discharges
- Continue to remove illicit discharges and connections to the storm sewer system as they are identified during IDEP, spill response, pretreatment, or stormwater permit inspections.

PROPOSED BMP REVISIONS

The City is revising its Stormwater Management Plan, including BMPs, to address new conditions of the renewed permit. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

ND-1 Implement City Code Title 10: Erosion Control, which provides for a comprehensive, citywide erosion and construction site pollutant control program; provide training and other support as needed.

KEY BMP ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 04-05)

- Planned erosion control monitoring at the Deerhaven site was not viable because of pipe slope issues and continuing interference of street gravels. A new monitoring location is being identified.
- The Bureau of Parks and Recreation and the Bureau of Maintenance continued their commitment to erosion control education by training new employees on correct plants and techniques for erosion control. Parks staff continue to train new employees on erosion control methods used for construction and protection methods for existing infrastructure.
- For selected new single-family permit applications, continued to implement a pre-permit-issuance site meeting program, where the applicant's team meets onsite to discuss erosion control and other sensitive site issues.
- Presented the fourth Regional Erosion Prevention Awards to reward outstanding erosion control efforts by builders and contractors. This year's participation included 25 local jurisdictions and nine sponsors, such as the Association of General Contractors (AGC). Local inspection professionals in each jurisdiction selected the top contractors. The City of Portland presented awards to the top residential builder and the top capitol improvement project (a new category this year).
- The Bureau of Development Services (BDS) conducted a total of 10,345 erosion control-related inspections in the following categories:
 - 3,660 pre-construction inspections
 - 657 interim compliance inspections (during construction)
 - 3,539 permanent erosion control measures inspections (at building final)
 - 2,489 final erosion control inspections (6 months after building final)
- Tracked erosion complaint complaints through the City's building permit tracking program, TRACS. A total of 290 cases were opened, and 267 were closed.
- Completed a draft of revisions to Title 10, focusing on regulations for larger sites with steep slopes and on sensitive areas, and reducing plan review and inspection requirements for small, flat sites.
- Began to revise the City's Erosion Control manual, involving a multi-bureau group of engineers and inspectors.
- Continued operation of the Soil Trader, an online database that allows residents/businesses to post and search for free excess construction soils. Other construction commodities, such as

asphalt (crushed and rubble), concrete (crushed and rubble), woody debris, fencing, and boulders, are also part of this reuse effort. The site was moved to the Green Building Program's website http://www.green-rated.org/soiltrader_main.asp.

CHALLENGES AND SOLUTIONS

With a comprehensive program instituted, the biggest challenge is the continuing integration of enhanced erosion control efforts into the existing City design, review, and inspection systems. This integration has been aided by developing and implementing new computer tracking programs and complaint response systems and by refining interbureau roles and procedures. Education of inspectors, contractors, and builders continues to be a challenge.

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05-06)

- Continue educating new employees about erosion control and pollution prevention.
- Complete and formally adopt the update and modifications to the Erosion Control Manual and Title 10 of City Code.
- Develop application information for permit applicants and outreach material for new inspectors, focusing on erosion control and pollution prevention measures during construction.
- Continue to modify permitting, contracting, and inspection processes for more effective erosion control enforcement, especially for pollutant control measures.
- Conduct a fifth annual regional awards program to reward outstanding erosion control efforts by builders and contractors. Provide additional outreach to and participation with public works permit contractors.
- Continue to evaluate the need for continuing education for contractors and City staff, and modify or develop curricula as needed.
- Identify and begin monitoring a new residential development for erosion control efforts in compliance with Title 10 regulations.

PROPOSED BMP REVISIONS

The City is revising its Stormwater Management Plan, including BMPs, to address new conditions of the renewed permit. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

ND-2 Implement and refine stormwater management requirements for all new and redevelopment projects to minimize pollutant discharges and erosive stormwater flows. Evaluate and develop stormwater management requirements for existing development.

KEY BMP ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 04-05)

- Began to develop a response report to the Stormwater Advisory Committee (SAC) policy recommendations for transportation-related development, which were presented to City Council in 2004.
- Continued to follow the workplan and schedule for implementing the SAC's June 2002 report recommendations for new development and redevelopment.
- Implemented the 2004 Stormwater Management Manual (SWMM). Some of the major revisions are:
 - A hierarchy must now be followed to determine the stormwater disposal point for a site. On-site infiltration is required to the maximum extent practicable (MEP) prior to any discharge off-site. On-site infiltration is further broken down into surface infiltration and underground injection, with surface infiltration required to the MEP.
 - Additional information is provided about rainwater harvesting systems and how stormwater management credit can be granted with the right combination of collection area, tank storage, and reuse rate. Continuous simulation models using Portland rainfall data were used to simulate the performance of rainwater harvesting systems to determine the percentage of average annual runoff volume that would be captured and used.
 - An appendix is added to explain the formulation of Portland's pollution reduction storm intensity and volume, and the rationale for selecting the treatment of 90% of the average annual volume.
 - Requirements related to underground injection control structures (UICs) are modified to be consistent with DEQ requirements. Pollution reduction requirements for streets and parking lots are increased, while pollution reduction requirements for rooftops are decreased. Information is added to guide an applicant through the State's UIC registration process.
 - Additional design details for streets are provided. New "greenstreet" techniques that manage stormwater at the source are included.
 - The process for analyzing current flow control standards was begun, and will be included in the September 2007 SWMM revision process.

- Added new requirements for sites modifying drainage connections (e.g., drywells converting to storm sewer connections) to ensure protection of waterways.
- Drafted revised code language to support implementation of the 2004 SWMM. The new language supports enhanced definitions and new triggers for requirements, and clarifies linkages back to the SWMM.
- Completed an evaluation of how SWMM requirements impact Columbia Slough sites that retrofit (voluntarily and/or as legally required) to meet the City’s wellhead protection rules. It was determined that, for the majority of sites, there would be no additional burden beyond what is required in the Wellhead Protection Manual.
- Continued to implement a stormwater management facility (SMF) inspection program for private stormwater management facilities. The inspection program will ensure that O&M plans are followed, provide technical assistance to ensure the facilities operate as designed, and assess effectiveness through field observations. The following activities were accomplished during FY 04-05:
 - Continued to establish and draft business processes for inspections, interactions with other workgroups, and data processing. In FY 04-05, 493 new O&M plans were received. The temporary database currently tracks 3,450 O&M sites, which encompass over 5,100 private stormwater facilities. Approximately 27 percent of the O&M sites are commercial/industrial, and 73 percent are residential.
 - Continued to use a temporary electronic database to house all pertinent information from the O&M plans. Information will eventually be linked to the City’s Enhanced Water Quality Database, which is currently under design.
 - Compiled X:Y coordinate data for all 5,100 facilities, enabling the creation of an ArcGIS mapping layer.
 - Mapped the “pipe-sheds” and drainage acreage for all 22 wetlands and ponds currently tracked in the database.
 - Worked with the Bureau of Development Services—Nuisance Group to resolve two enforcement cases involving neighbor complaints about private stormwater facilities. Owners of both sites worked with the City to come into compliance.
 - Focusing on commercial and industrial sites, performed inspections at 117 properties, which included a total of 319 stormwater management facilities. In addition to the stormwater management facility review, assessed each entire site for stormwater issues (e.g., waste storage practices, washing).
- Developed design guidelines for use of porous pavement systems for both private and publicly owned systems.

CHALLENGES AND SOLUTIONS

Multiple stakeholders and issues must be considered in developing stormwater management requirements for existing, new, and redevelopment. The SAC, which represents a wide spectrum of interests and expertise, continues to meet monthly to review City actions and make policy recommendations. It has been a valuable asset by helping identify and promote potential management approaches. A number of bureaus participate in the SAC process, facilitating the coordination of issues and solutions. Extensive public outreach is also conducted as part of the SWMM review and revision cycles. This input has helped clarify and streamline the SWMM so it better responds to user concerns, without reducing standards.

The ability to conduct annual inspections at all sites that are classified as industrial/commercial and have stormwater management facilities will be tested as the number of sites continuously grows. Staff will try to identify other ways to ensure maintenance is performed, including mailing information, possibly instituting reporting requirements, and incorporating inspections into other programs.

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05-06)

- Continue to work with the SAC to develop and refine stormwater management policies. Complete a comprehensive analysis of current flow control requirements and policies. Recommend changes for the September 2007 SWMM revision.
- Complete the response report to the SAC's June 2004 report recommendations for transportation-related development.
- Complete City code modifications as needed to implement the 2004 SWMM requirements. Continue to identify and modify other City codes to support/facilitate innovation and resource protection in stormwater planning, design, and management.
- Continue to develop designs to address stormwater management issues for new and redeveloped streets. Construct and monitor demonstration projects, including pervious pavements (pervious concrete, asphalt, and paver blocks), street swales, and street planters.
- Continue the Stormwater Management Facility (SMF) inspection program for private facilities, including completion of a permanent database and a continued enforcement partnership between the Bureaus of Development Services and Environmental Services. Additional activities include:
 - Conduct annual inspection for all sites classified as industrial/commercial.
 - Evaluate alternatives to address single-family sites, including mailings and inspections.
 - Map "pipe-shed" and drainage acreage for all facilities.

PROPOSED BMP REVISIONS

The City is revising its Stormwater Management Plan, including BMPs, to address new conditions of the renewed permit. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

STR-1 Structurally modify existing outfalls and the stormwater system to reduce pollutant discharges; modify on a selected basis, or as O&M occurs, or where failures occur.

KEY BMP ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 04-05)

- Continued to assess opportunities for water quality facilities in the City’s watershed planning process. Identified various locations across watersheds where structural facilities are viable alternatives for watershed health.
- Began to consider the extent of water quality improvement to be included in the revised Public Facilities Plan (to be renamed the BES System Plan).
- Complete construction of the Kelley Creek Confluence Project, which will provide habitat improvements to Kelley Creek at the confluence with Johnson Creek. BES obtained an OWEB (Oregon Watershed Enhancement Board) grant to finish the design and construction of this project.
- Developed the scope and selected a consultant to complete the design and prepare construction documents for the remaining three elements of the Brownwood Alsop projects – Brownwood, Brunkow, and Hammersmith. These projects will increase flood storage, reconnect floodplains, and reestablish riparian corridors next to the creek to improve water quality and provide fish habitat.
- Began design of the NE 92nd Avenue water quality facility, which will treat stormwater from 53 acres of mixed-use drainage (commercial, industrial, and residential development and Columbia Boulevard, a high-volume road).
- Began Taggart pre-design, which will incorporate stormwater management solutions to eliminate basement-flooding high-risk conditions under the 25-year design storm, replace or repair failing sewer infrastructure, improve surface and ground water hydrology, and reduce CSO volume and peak discharges from the basin.
- In partnership with property owners, began design of the SW Texas greenstreet project through the Portland Office of Transportation’s local improvement district (LID) process. The project will help solve local stormwater management problems associated with an unimproved gravel street (erosion, unmanaged sheet flow) by using swales and surface water management instead of pipe infrastructure.

CHALLENGES AND SOLUTIONS

An ongoing challenge is coordination among various City programs (e.g., watershed, Public Facilities Plan/BES System Plan, and CSO) to ensure that structural water quality facilities are

evaluated and prioritized in a consistent manner and that water quality impacts are addressed in the design/construction of new and retrofitted flood control facilities. The integration of this BMP into BES's watershed plans will assist in this effort.

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05-06)

- Continue to implement watershed facilities/resource plans that evaluate the NPDES-listed major outfalls in the Fanno, Tryon, Columbia Slough, and Willamette Watersheds.
- Continue design work on CSO stormwater conveyance projects, which includes evaluating pollutant loading and water quality treatment options and opportunities within the individual CSO basins.
- Construct a passive stormwater treatment facility in the Tryon Creek Watershed at SW Taylor's Ferry and 17th Avenue.
- Complete the SW Texas greenstreet project.
- Begin design for stormwater facilities at NE 148th Avenue in the Columbia Slough Watershed, which will treat 294 acres of mixed land use (primarily residential).
- Complete design and construction of the Tryon Headwaters project, which includes stream daylighting, wetland enhancement, street curb extensions, stormwater management, and replacement of culverts to facilitate fish movement. BES is partnering with a private developer, PDC, PDOT, and Portland Parks and Recreation, and has received OWEB grant funding.
- Complete design and construct stormwater management facilities in Hillsdale and at the intersection areas of SW Beaverton Hillsdale Highway and Shattuck Road. The Hillsdale facilities include installation of stormwater planters, the facilities in the Albertsons parking lot at Beaverton Hillsdale and Shattuck Road will include parking lot planters.
- Continue to provide in-kind services in coordination with the Multnomah County Drainage District and the U.S. Army Corps of Engineers to implement Section 1135 Program projects.
- Initiate pre-design for Fanno/Tryon water quality projects, focusing on stormwater and stream conveyance system modifications and retrofits to improve hydrologic and hydraulic conditions, stormwater management and operations, and system maintenance.
- Construct Phase 3 of the Tanner Basin projects (the final element of the Tanner projects). Once complete, this system will separate clean and treated stormwater from downtown Portland along Highway 26 up to the Oregon Zoo interchange and deliver it to the Willamette River. Phase 3 will construct the element from just below the PGE Park/Canyon Road off-ramp from Highway 26 to the zoo interchange.

- Move forward with the design, permitting, and construction of the Lents Interceptor/Johnson Creek Aggradation Project. This project will restore structural integrity to the 61-inch by 57-inch monolithic concrete pipe that is at risk of failure from impact or scour, by aggrading the stream, reconnecting the stream with the floodplain, enhancing flood storage, and reducing the energy of the stream through this reach.

PROPOSED BMP REVISIONS

The City is revising its Stormwater Management Plan, including BMPs, to address new conditions of the renewed permit. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

STR-2 Review and modify existing design standards for drainage/flood control and water quality facilities to improve water quality. Implement and evaluate effectiveness of pilot projects demonstrating innovative technologies.

KEY BMP ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 04-05)

- Continued implementation of 24 projects funded by a \$1.6 million EPA grant for innovative stormwater projects. Through this grant, the Innovative Wet Weather Program (IWWP) provided partial or entire funding for the implementation of 14 water quality friendly streets and parking lot projects; nine projects related to downspout disconnections, bioswales and stormwater planters; and one ecoroof project. Completed IWWP projects include:

Water quality friendly streets and parking lots:

- Westmoreland permeable pavers

Downspout disconnections/bioswales/planters:

- Rebuilding center
- Mississippi Commons
- SE Division New Season swales
- Astor Elementary School

Other projects in design and beginning construction include:

- N. Gay Avenue porous pavement street project
- Cathedral Park and Oregon Zoo water quality facilities
- Bridger and Astor Urban Water Works partnership school retrofits
- Other Portland Public Schools projects

- Completed the following water quality friendly street pilot projects:
 - New Columbia (Hope VI) housing development: approximately 120 streetside swales and 30 filtration planters; 95 percent of impervious surface areas will be infiltrated completely onsite.
 - Lents III Local Improvement District: infiltration swales.
 - Streetside planters on SW Gaines Street in the South Waterfront development.
 - SE Siskiyou and SE Ankeny curb extensions.
- BES and the Office of Sustainable Development continued to provide technical assistance and grant funding for projects that incorporate green building principles, including stormwater pollution prevention and management
- Retrofitted a section of street at SW 12th and Montgomery with demonstration planters and pavers.

- Constructed a pilot project to modify deep roadside ditches and rebuild them as porous shoulder infiltration swales at SW Hewett Blvd. (1,200 linear feet of swale).
- Continued two pilot projects to modify deep roadside ditches and rebuild them as compost infiltration swales at 3229 SW Sunset Drive (30 linear feet) and 5914 SW Orchid Drive (80 linear feet).
- Continued to monitor previously constructed pilot stormwater management facilities for flow control and pollution removal.

CHALLENGES AND SOLUTIONS

It is a continuing challenge to identify and fund retrofit opportunities within the existing drainage system. Available space is often limited for both new construction and retrofits. Other issues such as long-term maintenance responsibility and public acceptance can be barriers. Pilot projects will provide essential information about the effectiveness of streetside or converted swales, infiltration planters, planting strips, and creek daylighting for managing runoff, as well as about O&M needs.

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05-06)

- Continue to implement EPA grant funded IWWP projects, including:
 - Conduct 10 projects in partnership with the Portland Public and David Douglas School Districts.
 - Complete construction of an ecoroof at Metro’s regional headquarters.
 - Begin work on an innovative stormwater management project at the Oregon Zoo.
 - Work with Rejuvenation Hardware to design and implement innovative stormwater management facilities at its warehouse facility.
 - Partner with Portland Parks and Recreation to design and implement a stormwater facility at Cathedral Park.
 - Identify, design, and implement a new “simple” greenstreet project.
- Implement water quality friendly street projects at SE Tibbetts (People’s Food Co-op) and NE 131st and Fremont.
- Complete the design and construct a stormwater filter pilot project in Hillsdale.
- Identify, evaluate, and prioritize monitoring needs for innovative landscape/stormwater management approaches. Continue to modify design criteria in the Stormwater Management Manual, based on project experiences.
- Identify future CIP and grant funded retrofit projects through the watershed and sustainable stormwater programs.

PROPOSED BMP REVISIONS

The City is revising its Stormwater Management Plan, including BMPs, to address new conditions of the renewed permit. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

PS-1 Continue to review and modify City codes to minimize or mitigate impervious surfaces, maximize self-sustaining landscapes and vegetative cover, and minimize the need for pesticides and irrigation.

KEY BMP ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 04-05)

- The City continued work to update the City’s natural resource inventories, focusing on water bodies and riparian areas, as well as upland wildlife habitat. The riparian inventory update identifies important riparian features and associated functions affecting water quality, flow and hydrology, channel dynamics, microclimate, food web, and riparian wildlife habitat. The upland wildlife habitat component of the inventory evaluates vegetation patch size and configuration, proximity to water and other patches, and rare or critical habitats for species of concern. Once the inventory is completed, it can be used to help inform City planning projects and updates to the existing environmental zoning and Willamette Greenway programs. The inventory can also be used in setting priorities for land acquisition, restoration efforts, technical assistance, and community education and stewardship activities.

This year’s work focused on completing an update to the City’s data for streams and vegetation, as well continued work to refine riparian and wildlife habitat GIS models. The stream remapping project has resulted in revised stream centerlines for 288 stream miles and the addition of more than 100 miles of stream not previously mapped. The vegetation mapping involved classification of vegetation patches greater than ½ acre using the National Vegetation Classification System for forest, woodland, shrubland, and herbaceous plants. In addition, this year’s effort included identification and documentation of “special habitat areas.”

- The City Council adopted the River Renaissance Strategy in December 2004. The Strategy establishes guiding principles and policy direction to achieve the City’s River Renaissance Vision adopted in March 2001. One key element is direction on how to achieve Portland’s goals for a clean and healthy Willamette River and healthy tributary watersheds. This policy direction provides a basis for updating the City’s Comprehensive Plan goals and policies and for guiding a broad range of City programs and projects, including the update of the Willamette Greenway Plan. The strategy includes recommendations for capital improvements, work plans for future planning projects, and proposals that could make some existing regulations easier to implement and more cost-effective. The planning process included extensive collaboration among bureaus and a significant amount of community outreach. The City has also hired a River Renaissance Initiative Manager to coordinate implementation and the ongoing participation of City bureaus in River Renaissance projects.
- The City made significant progress toward completion of an update to its environmental code. Working with community stakeholders, the City has developed code amendment proposals to make the code more efficient, equitable, and cost effective. Some key elements include improving enforcement of environmental violations; offering simpler review options for trail, small right-of-way, and small stormwater outfall projects that meet development

standards (designed to limit adverse impacts); and making it easier to obtain permits to undertake resource enhancement projects. The goal of this work is to make the regulations easier to understand and comply with, while also maintaining the City's commitment to protect and conserve important natural resource values and functions. Project completion is anticipated by fall 2005.

- The City has initiated a scoping effort for the Columbia Corridor Natural Resource Conservation Plan District project. This effort will develop project goals and options for improving natural resource conservation regulations, complying with current and upcoming regulations, and developing creative approaches to conserve resources while also recognizing and striving to support City goals for economic and industrial development in this unique part of the city.
- New guidance and regulatory documents were drafted for tree and landscaping requirements, including diversity standards, an enhanced tree list, design concepts, and a self-certification rule to ensure proper installation of landscaping. Landscape certification was adopted as a temporary rule in FY 03/04 and adopted permanently on September 1, 2004. The rule requires the installation of landscaping required by Title 33 regulations or land use conditions to be certified by a third party professional or self-certified by the property owner. In FY 04-05, 408 landscape certifications were completed. Amendments to the rule have been proposed that would replace self-certification with inspection by City inspection staff. The amendments are expected to be adopted in FY 05/06.
- Regulatory improvement and code maintenance work continued to progress. The major accomplishment for this fiscal year was to position the City's development-related bureaus to more efficiently and effectively respond to regulatory improvement requests. This was done by creating a new process for selecting and prioritizing requested amendments. The new process has already proved to be a more efficient way to strategically address requested amendments. The new process includes:
 - Establishment of an online database, accessible to the public 24 hours a day, 7 days a week.
 - Establishment of a stakeholders advisory team.
 - Combining technical and minor policy amendments into one workplan package.
 - Presenting the Planning Commission with future workplan lists at the same time as proposed code language.
- Implementation of provisions for the Pleasant Valley Plan became effective in June 2005. Those provisions include an allowance for transferring development rights. The transfer of development rights preserves development opportunities for new housing and reduces development pressure in environmentally sensitive sites. The regulations allow development rights to be transferred from areas within the Pleasant Valley Natural Resources overlay zone to areas that can accommodate the additional density without environmental conflict. This code provision maximizes self-sustaining landscapes and vegetative cover and minimizes the need for pesticides and irrigation.

- City Council passed a resolution that upgrades the City’s green building policy to require the installation of ecoroofs on all newly constructed City facilities. City-owned re-roofing projects are also required to replace existing roofs with ecoroofs when practical.

CHALLENGES AND SOLUTIONS

Conflicting or overlapping code requirements administered by different bureaus have sometimes impeded integrated landscape-based stormwater management approaches. The Bureau of Parks and Recreation, Bureau of Development Services, Bureau of Planning, and BES are continuing to work cooperatively to find and correct these barriers. Land use issues are highly charged in Portland at this time. Balancing the preservation of water quality critical lands with Metro 2040 and City development density goals is an ongoing challenge.

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05-06)

- Continue to implement the River Renaissance Strategy and integrate the actions into bureau budgets and workplans.
- Develop a River Concept that applies the policies in the River Renaissance Strategy and other plans to the land along the Willamette River as a foundation for the River Plan.
- Launch a River Plan process to update the Willamette Greenway Plan, beginning with the north reach of the Willamette. This plan will implement natural resource protection, restoration, and other natural resource recommendations identified through other plans such as the Portland Watershed Plan and Metro's Nature in the Neighborhoods.
- Establish a River Plan Committee to advise City staff on the development of the River Plan and to forward the River Plan to the Planning Commission.
- Continue technical review of zoning, special district, urban renewal area, and other City codes to identify opportunities to improve water quality. Continue to coordinate interbureau efforts on removing barriers to implementation of stormwater management projects.
- Complete the Columbia Corridor Natural Resource District Plan scoping project and determine and initiate next steps.
- Continue making progress on refining the natural resource inventory and on amending environmental codes to make them clearer and easier to use. This will also involve extensive coordination with state, regional, and local agencies and stakeholders to build relationships and ensure consistency across similar planning efforts.
- Finalize and implement a tree and landscaping manual to provide guidance for applicants and developers in designing and installing improved landscaping that will provide enhanced stormwater management.

- Continue working on regulatory improvements, including:

Regulatory Improvement Code Amendment Package (RICAP 1):

- Consider removing the prohibition on adjusting minimum density standards or creating a land division exception to minimum density standards based upon carrying capacity of the land and public service availability. Allowing for adjustments to reduce minimum densities would reduce impervious surfaces.
- Consider amending the tree review approval criteria to allow for mitigation in a form other than tree replacement. Other mitigation approaches could include tree preservation and installation of an eco-roof.
- Consider allowing the trees in an environmental zone to count toward the tree preservation requirements in the land division site. Currently, trees in the environmental zone are not counted.

PROPOSED BMP REVISIONS

The City is revising its Stormwater Management Plan, including BMPs, to address new conditions of the renewed permit. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

PS-2 Continue to develop a means of encouraging landowners to protect and preserve natural areas on their land and control or eliminate erosion. Continue to purchase property with high water quality or natural resource value.

KEY BMP ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 04-05)

- The 2001 Oregon Legislative Assembly enacted legislation to expand the existing riparian property tax exemption program to include qualifying lands located within cities and urban growth boundaries. The legislation was a priority initiative of the Portland City Council, and is considered an important way to advance the goals of River Renaissance and the Clean River Plan. The property tax exemption provides a financial incentive for private landowners to maintain, preserve, conserve and rehabilitate riparian lands.

State law requires both cities and counties to adopt authorizing ordinances before riparian property tax exemptions are granted to qualifying landowners. The Oregon Department of Fish and Wildlife (ODFW) has promulgated administrative rules (OAR 635-430-0300 through 635-430-0430, adopted November 2004), and the Oregon Department of Revenue has prescribed application forms for landowners to use.

BES is working with officials of Clackamas, Multnomah and Washington Counties to facilitate authorization of the program. BES is also working with ODFW to develop intergovernmental understandings regarding technical assistance and compliance monitoring.

- Under BES's Watershed Revegetation Program, many businesses and other private landowners participated in and helped fund revegetation projects on their properties and neighboring properties. The Watershed Revegetation Program is currently managing 2,194 acres of both public and private property.
- Agreements were developed with some of the property owners participating in the Watershed Revegetation Program and other watershed-specific projects, where the owners will ensure that plantings are preserved and maintained.
- The following actions were taken under the Watershed Revegetation Program:

Johnson Creek:

- Planted 23,978 plants on 2,440 linear feet of streambank and 10 acres. This included 5,779 deciduous trees, 3,512 coniferous trees, and 14,687 shrubs.

Willamette River:

- Planted 15,470 plants on 4,306 linear feet of riverbank and 27.7 acres. This included 2,460 deciduous trees, and 13,010 shrubs.

Columbia Slough:

- Planted 48,868 plants on 1,740 linear feet of streambank and 33.7 acres. This included 16,720 deciduous trees, 3,034 coniferous trees, and 29,114 shrubs.

Tryon Creek

- Planted 2,700 plants on 50 linear feet of streambank and 2 acres. This included 400 deciduous trees, 600 coniferous trees, and 1,700 shrubs.

Fanno Creek

- Planted 8,639 plants on 2,817 linear feet of streambank and 7.1 acres. This included 1,650 deciduous trees, 1,950 coniferous trees, and 5,039 shrubs.

- BES partnered with SOLV, Friends of Trees, and other community organizations to coordinate natural area restoration programs for volunteers. SOLV, a statewide nonprofit group, worked on eight Team Up for Watershed Health project sites in Portland. Projects were located on a mix of private and public property along streams and wetlands, as summarized below.

Fanno and Tryon Creeks

SOLV projects planted 1,666 trees and shrubs.

Tryon Creek Watershed Council projects planted 50 trees and shrubs.

Friends of Vermont Creek projects planted 2,000 trees and shrubs.

Johnson Creek

SOLV projects planted 109 trees and shrubs.

Johnson Creek Watershed Council projects planted 3,200 trees and shrubs.

Friends of Trees projects planted 1008 trees and shrubs.

Willamette River

SOLV projects planted 450 trees and shrubs.

Columbia Slough

SOLV projects planted 296 trees and shrubs.

Friends of Trees projects planted 500 trees.

- The Johnson Creek Willing Seller program acquired eight acres of flood-prone property. Portland Parks and Recreation acquired 21.74 acres of property, some in partnership with Environmental Services, during permit year ten. Since the beginning of the permit, the City has purchased a total of 2,452 acres, including Metro open space acquisitions.

CHALLENGES AND SOLUTIONS

The passage of House Bill 3057: Riparian Tax Credit during the 2001 Oregon state legislative session creates provision for financial incentives for property owners that will assist in preservation of private riparian areas. The City and Multnomah County are in negotiations to authorize property tax exemptions for riparian areas. Their progress is dependent on the

commitment of time and resources by the Oregon Department of Fish and Wildlife to review riparian restoration and management plans. The partners may adopt the program conditioned on a specific level of commitment from the state, or in concert with an intergovernmental agreement between the City and state to provide the necessary administrative support.

The purchase and acquisition of property can protect water quality and other natural resources, but budget constraints can mean that funds are not available to purchase property from property owners who are willing to sell.

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05-06)

- Continue to work with riparian and floodplain property owners within the Johnson Creek Watershed.
- Continue to purchase land for stormwater management and natural resource protection, and work with property owners to protect existing natural areas.
- Continue watershed program plantings and purchases.

PROPOSED BMP REVISIONS

The City is revising its Stormwater Management Plan, including BMPs, to address new conditions of the renewed permit. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

PS-3 Implement the Urban Forest Management Plan to provide maximum mitigation of stormwater impacts.

KEY BMP ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 04-05)

- The Bureau of Parks and Recreation's Urban Forestry Division continues to implement the Urban Forest Management Plan that was revised in 2004.
- The Urban Forestry Division continued implementing the neighborhood Tree Liaison Program. Over 268 volunteers have been trained in the last ten years. In permit year ten, 31 volunteers were trained, and tree liaisons contributed over 4,600 hours of their time to promote proper tree care throughout the city. Some of the many successful projects include neighborhood pruning workshops, school ground cleanups, and tree plantings and tree care presentations to neighborhood associations.
- The Urban Forestry Division partnered with Grant High School, Reynolds Academy, and Gilbert Heights to provide hands-on tree care opportunities and urban forestry curriculum for 6th to 12th grade classes. During the 2004-2005 school year, 140 students volunteered 600 hours. The students pruned 10 trees and planted and established 12 new trees at various schools.
- The Urban Forestry Division coordinated Neighborhood Tree Liaisons and community members to plant nine large-canopy trees in Portland neighborhoods during community tree plantings.
- The Urban Forestry Division conducted neighborhood tree walks to increase community awareness of trees and their benefits and to help homeowners select trees for their rights-of-way. The tree walks took place in the Sabin, Concordia, Sellwood, Northwest Portland, Eastmoreland, and North Portland neighborhoods. The tree walks are available on the Portland Parks & Recreation website.
- The Urban Forestry Division funded Friends of Trees (FOT) to implement community tree planting, tree distribution programs, and public education and outreach work, including natural area restoration projects, street and yard tree plantings, and yard tree distributions.
- The Urban Forestry Division worked with Portland Public schools to inventory street trees with students. Three schools inventoried street trees around their school properties.
- The Urban Forestry Division worked with Neighborhood Tree Liaisons to inventory street trees in 14 different neighborhoods.

(Note: BMP PS2 includes additional land protection and revegetation actions.)

CHALLENGES AND SOLUTIONS

Financing is always a challenge. One of the responsibilities of the Urban Forestry Coordinator is to secure grants and other funding. Funding for research may prove difficult to obtain, but potential agency partners are being sought.

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05-06)

- Conduct youth tree liaison programs with high school and middle school science classes. Build upon the existing street tree inventory, using students.
- Review BES and other bureau specifications and standards to identify how bureaus can provide more tree planting on various types of City projects. This is especially important in light of the many temperature issues in most Portland waterways.
- Continue to implement the Urban Forestry Management Plan.
- Continue working with the Parks Bureau to review and revise the City's approved street tree list to include more native trees. Implement demonstration projects that incorporate these trees, and evaluate survivability and stormwater benefits.
- Develop a website to help homeowners select street trees.
- Further develop the street tree database with volunteer Neighborhood Tree Liaisons, and update the database with removal/replanting permits.

PROPOSED BMP REVISIONS

The City is revising its Stormwater Management Plan, including BMPs, to address new conditions of the renewed permit. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

OA1: Continue to implement the Stormwater Monitoring Plan.

KEY BMP ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 04-05)

- Continued to implement monitoring activities in accordance with the Stormwater Monitoring Plan.
- Prepared the annual monitoring report. (The monitoring report follows OA2, below.)
- Initiated development of BMP-specific summaries, including rigorous statistical analyses of monitoring results from demonstration projects.
- Added O&M monitoring, including retrofitted swales, sediment accumulation, and accumulated sediment quality.
- Worked with other ACWA members in small workgroup to evaluate ACWA BMP study information and prepare ranges of BMP effectiveness values appropriate for local conditions.

CHALLENGES AND SOLUTIONS

Because of the numerous anthropogenic influences on stormwater quality, it is difficult to identify and quantify trends from the existing data set. Even data collected for structural BMPs (such as swales) shows substantial variability that will not allow identification of design elements to improve their pollutant removal effectiveness.

Information from BMPs studies conducted throughout the country was compiled in a database. These BMP data were evaluated ranges of BMP effectiveness values appropriate for local conditions were prepared. Data gaps in the BMP data were identified, and additional monitoring, mainly related to O&M, was initiated.

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05-06)

- Continue to implement and evaluate the Stormwater Monitoring Plan.
- Continue development of BMP-specific summaries of monitoring results from demonstration projects. The substantial variability, combined with a fairly small data set, may limit the statistical analyses.
- Continue to work with co-permittees, ACWA members, and other jurisdictions to coordinate and share stormwater monitoring data and, where possible, establish joint monitoring efforts. Specifically, work with the ACWA stormwater committee to identify types of BMPs (structural and non-structural) that should be monitored. Furthermore, identify TMDL and 303(d) parameters that have not been analyzed in the past in BMP effectiveness studies.

- Establish pollutant reduction benchmarks and initiate work, including installation of additional BMPs, improving O&M practices, and quantifying non-structural BMPs, that will reduce the overall pollutant load from the MS4 system.

OA-2: Continue program management, evaluation, and reporting activities.

KEY BMP ACCOMPLISHMENTS, PERMIT TEN (FY 04-05)

- Coordinated program activities through participation in the River Renaissance Management Team and Executive Committee. River Renaissance is a citywide, multi-objective initiative that coordinates and integrates multiple programs and projects aimed at protecting and restoring the Willamette River and its tributaries.
- Met regularly (generally monthly) with the Stormwater Advisory Committee (SAC), a group of external stakeholders that reviews and makes recommendations on stormwater management issues and policies.
- Worked with City bureau representatives and the SAC on revising the Stormwater Management Plan to address new conditions of the renewed permit.
- Met regularly (generally monthly) with co-permittees to coordinate permit activities.
- Coordinated with other jurisdictions statewide through the Oregon Association of Clean Water Agencies (ACWA); participated as board member and on water quality, stormwater, and groundwater committees.
- Coordinated with numerous other City bureaus and jurisdictions to implement BMPs (as reported under the individual BMPs).

CHALLENGES AND SOLUTIONS

Managing and evaluating the stormwater program is challenging because of the numerous programs and jurisdictions involved, as well as the many external influences on stormwater quality.

PROJECTED MAJOR ACCOMPLISHMENTS FOR PERMIT YEAR ELEVEN (FY 05-06)

- Continue to meet with the SAC to address stormwater issues and policies.
- Continue to work with City bureau representations, the SAC, and other public stakeholders to revise the Stormwater Management Plan as part of the revised NPDES MS4 permit.
- Continue to work with co-permittees, City bureaus, and other jurisdictions and organizations to implement BMPs.
- Use monitoring data and other BMP effectiveness indicators to implement adaptive management and refine BMPs.

- Research stormwater management programs implemented by other jurisdictions.

PROPOSED BMP REVISIONS

The City is revising its Stormwater Management Plan, including BMPs, to address new conditions of the renewed permit. The revised SWMP will be submitted to DEQ in an Interim Evaluation Report by May 1, 2006, as required by the permit.

<u>MONITORING COMPLIANCE REPORT</u> (BMP OA1)
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INTRODUCTION

The purpose of this monitoring report is to comply with Schedule B of Portland's National Pollutant Discharge Elimination System (NPDES) municipal stormwater permit. The information documents stormwater quality monitoring activities conducted by the City of Portland and its co-permittees (hereinafter referred to as Portland) during permit year (PY) ten.

Prior annual monitoring reports submitted to the Oregon Department of Environmental Quality (DEQ) have included comprehensive quantitative and qualitative evaluations of the data gathered, including statistical analyses of several years of monitoring data. This tenth annual monitoring report has been condensed to provide a summary of the monitoring activities conducted by Portland in the past year and a brief discussion of the results. The compiled data are available on CD-ROM upon request. Detailed data evaluation, including statistical analysis and BMP-specific technical information, will be conducted as soon as sufficient data are available or the project has been terminated.

The monitoring report is organized into seven sections. This first section provides an introduction, background, and outline of the monitoring plan. The following six sections briefly summarize the objectives of each task of the monitoring plan and the accomplishments during the past year and in previous years that address the task objectives.

BACKGROUND

In 1996, the Oregon Association of Clean Water Agencies (ACWA), a consortium of cities and agencies, prepared a report called *Analysis of Oregon Urban Runoff Water Quality Monitoring Data Collected from 1991 to 1996*, which was a compilation and statistical analysis of available land use-based stormwater monitoring data for the state. The findings of that report indicate that stormwater quality for different land uses is reasonably well characterized by the existing data set, and that additional monitoring is not likely to significantly improve current knowledge in this area.

Based on these findings, and in an effort to answer new questions and increase the cost effectiveness of monitoring efforts, ACWA petitioned DEQ to allow modifications to the monitoring programs. Portland subsequently developed and proposed a new monitoring program, which DEQ approved on February 4, 1998.

Implementation of the revised monitoring program builds upon previous monitoring efforts and more effectively directs resources toward acquiring new information to improve stormwater management activities. To this end, monitoring objectives were established and organized into six specific tasks that make up the stormwater monitoring program:

- Task 1:** Program Planning/ Annual Report/ Review of Existing Water Quality Data
- Task 2:** Construction Site Sampling
- Task 3:** Structural BMP Monitoring
- Task 4:** Comprehensive Stream Monitoring to Assess Stormwater Impacts
- Task 5:** Continued Stormwater Monitoring at Existing Land Use Stations
- Task 6:** Collaboration with Oregon DEQ and ACWA

The following sections list the respective tasks and their objectives and summarize the monitoring activities of the past year and previous years in a table for each task. Additionally, Table 1 summarizes the parameters analyzed at all monitoring locations during permit year ten. The data Portland collected during permit year ten are provided in table form on CD-ROM, available upon request.

TASK 1 PROGRAM PLANNING/ANNUAL REPORT/REVIEW OF EXISTING WATER QUALITY DATA

Objectives

Task 1 has several objectives. The first objective is to compile and interpret stormwater data collected as part of watershed monitoring efforts and other monitoring studies such as the Illicit Discharges Elimination Program and the monitoring of non-stormwater discharges. The second objective is to prepare reports to evaluate data results with respect to stormwater management. The third objective is to review the monitoring program annually and prepare the annual monitoring report.

Accomplishments

To address the first objective described above, Table 2 summarizes the monitoring activities Portland completed under this task during permit year ten. To address the second objective, monitoring-related technical reports or brochures are being developed to evaluate how effectively various BMPs reduce pollutants in stormwater discharges. Development of these reports depends on the availability of sufficient data that allows for a rigorous statistical analysis. Preparation of this tenth annual monitoring compliance report addresses the third objective.

Non-stormwater sampling data were compiled and statistically analyzed. A data summary report was prepared, issues identified, and actions recommended. This report as well as the statistical summary is available upon request.

Table 2
TASK 1 - SAMPLING ACTIVITIES FOR PERMIT YEAR TEN

Sampling Program¹	Number of Sampling Locations	Type of Samples	Sampling Frequency	Sampling Dates	Follow-up Investigations
Illicit Discharges Elimination Program (IDEP) ²	117 priority outfalls, incl. 13 CSO outfalls	Grab	Minimum two times; Total of 333 outfall inspections; 12 upstream inspections	August 2004 September 2004 October 2004 June 2005	Identified and corrected four illicit discharges
Non-Stormwater Discharges ³	0 ⁴	N/A	N/A	N/A	N/A
Industrial Monitoring ⁵	1	Composite	Three storm events	11/15/2004 1/7/2005 3/28/2005	N/A

¹ See Table 1 for parameters analyzed.

² IDEP has maintained a similar level of monitoring each year since 1994.

³ The types of non-stormwater discharges that were monitored were: street wash water, swimming pools, residential car washing, irrigation water, rising groundwater, groundwater infiltration, pumped groundwater, diverted stream flows, springs, and flows from riparian/wetland habitat. Types of non-stormwater discharges that were monitored in past years include fire-fighting activities, lawn watering, landscape irrigation, irrigation water, foundation drains, crawl spaces, diverted stream flows, and flows from riparian habitats and wetlands.

⁴ Sampling is completed with the exception of activities 11-13 (foundation drain, footing drains, crawl space pumps, 15 (uncontaminated groundwater infiltration), and 16 (uncontaminated pumped groundwater). No suitable sampling locations have been found to date for the remaining samples.

⁵ The Industrial Stormwater Program has maintained a similar level of monitoring in each of the previous three years.

TASK 2 CONSTRUCTION SITE SAMPLING

Objective

The objective of Task 2 is to conduct construction site monitoring to evaluate the impact of local construction sites on stormwater quality and evaluate the effectiveness of construction site BMPs.

Accomplishments

Table 3 summarizes the monitoring activities completed under this task during permit year ten.

Table 3
SUMMARY OF CONSTRUCTION SITE SAMPLING ACTIVITIES

Sampling Sites¹	Permit Year (PY) 1-9 Number of Events Monitored	PY 10 Number of Events Monitored	PY 10 Sampling Dates	PY 10 Range of Event Rainfall Volumes (inches)	PY 10 Type of Samples Collected
Deerhaven	2 storm water 1 sediment	1 storm water 1 sediment	10/18/2004 7/20/2005	0.29	Grab & Composite

¹ See Table 1 for parameters analyzed.

Results

The Deerhaven structural erosion control treatment train consists of a Stormceptor™ and erosion control pond. Construction at the Deerhaven subdivision started in PY 9. Flow and pollutant concentrations were monitored at the inlet and outlet of the treatment train, which allows evaluation of this treatment train concept. Sediment accumulated in the pond was sampled and analyzed. Finally, the Stormceptor™ inlet monitoring station serves as a residential land use monitoring site.

Three storm events were scheduled at Deerhaven for FY 2004-05, but problems at the site prevented completing this task. After the sample collection in October 2004, continued problems with construction gravel in the pipes required the sampling to come to a halt. Numerous discussions with the property owner and the city inspector did not result in a satisfactory resolution of the problem. The source of the gravel in the pipes has not been clearly established. All sampling equipment was removed from the site in Spring 2005. Unless the problem can be resolved, no further sampling will be conducted at this site. Currently, no other appropriate construction site has been identified.

A brief discussion of the data is included in Task 3.

TASK 3 STRUCTURAL BEST MANAGEMENT PRACTICE (BMP) MONITORING

Objective

The objective of Task 3 is to conduct monitoring to evaluate the effectiveness of existing and new BMPs to reduce pollutants in discharges and better manage stormwater.

Accomplishments

Table 4 summarizes the monitoring activities completed under this task during permit year ten.

**Table 4
SUMMARY OF STRUCTURAL BMP SAMPLING ACTIVITIES**

BMP Sampled ¹	Number of Sampling Locations	Permit Year (PY) 1-9 Number of Events Monitored	PY 10 Number of Events Monitored	PY 10 Sampling Dates	PY 10 Range of Event Rainfall (inches)	PY 10 Type of Samples Collected
Buffalo Slough PRF	2 storm water	10 storm events;	3 storm events;	12/4/04 12/7/04 12/9/04	0.21 1.11 0.45	Grab, Composite & Sediment ⁶
	1 sediment	4 sediment	1 sediment	6/22/05 ⁶	N/A ⁸	
NE 138 th Ave. PRF	1 storm water	8 storm events	3 storm events;	10/25/04 3/19/05	0.43 0.45	Grab & Sediment ⁷
	1 sediment	3 sediment	1 sediment	4/7/05 7/20/05 ⁷	0.32 N/A ⁸	
Whitaker Ponds PRF	2 storm water	8 storm events;	3 storm events;	12/4/04 1/28/05	0.21 0.16	Grab, Composite & Sediment ⁵
	2 sediment	3 sediment	1 sediment	3/20/05 06/22/05 ⁵	0.15 N/A ⁸	
Hamilton Ecoroof	2 storm water	10	2	11/2/04 3/28/05	0.38 0.22	Grab
NPDES O&M Swales	3 storm water	0	3	10/25/04 11/2/04 4/15/05	0.20 0.61 0.06	Grab & Composite
Deerhaven Erosion Control	2 storm water 1 sediment	2 storm water 1 sediment	1 storm water 1 sediment	10/18/2004 7/20/2005 ⁹	0.29	Grab & Composite

¹ See Table 1 for parameters analyzed.

² Soil samples were not collected during a storm event.

³ Stormwater sample.

⁴ Infiltrate sample.

⁵ Sample collected from Vault and Pond 1 unit (pond sample not collected until 7-5-05 due to high water).

⁶ Sample collected from VortechTM unit.

⁷ Sample collected from pond forebay. Sample collection was delayed until begin of PY11 due to high water level in PRF but information is applicable to PY10

⁸ Sediment sample – not collected during storm event

⁹ Sediment sample wasn't collected until 7/20/05 due to high water level in the PRF

Results

Below is a brief discussion of all BMP monitoring activities that occurred during PY10. Technical reports will be prepared for all BMPs to summarize, discuss, and evaluate all data collected. Some of these reports will be very site-specific and others will help developers and engineers select and design the most appropriate BMPs for site-specific stormwater problems. The preparation of these reports is pending the collection of sufficient data for a rigorous statistical analysis for ongoing projects. Completed projects will be evaluated subject to availability of staff resources.

Buffalo Slough PRF

Through PY 10, 13 storm events have been sampled and five sediment samples have been collected from the Vortech[®] unit. The effluent-only sampling continued in PY 10. Effluent concentrations of some total metals in PY 10 were above chronic ambient water quality standards and NPDES 1200-COLS benchmarks, even though substantial amounts of pollutants were removed with the settled sediment. Concentrations of potentially bio-available metals, on the other hand, were fairly low.

NE 138th Ave. PRF

Through PY 10, 11 storm events have been sampled and four sediment samples have been collected from the wet pond. Sediment samples are collected in the forebay, and during the last three permit years, stormwater samples were collected at the outlet from the wet pond. Effluent concentrations of all metals in PY 10 were below chronic ambient water quality standards and NPDES 1200-COLS benchmarks and within the range of data previously observed.

Whitaker Ponds PRF

Through PY 10, eight storm events have been sampled and three sediment samples have been collected from the vault/wetland treatment train system. Effluent concentrations of most metals in PY 10 were above chronic and acute ambient water quality standards and the NPDES 1200-COLS industrial stormwater permit benchmarks, even though substantial amounts of pollutants were removed with the sediment that settled out in the sediment vault and wetland pond. Illegal vehicle washing activities may have contributed to these elevated metal concentrations. The BES Industrial Source Control program has been dealing with this issue with little success to date.

Hamilton Ecoroof

Through PY 10, effluent samples from the west and east side of the ecoroof from 11 storm events have been sampled. The east roof, which has a thinner substrate than the west side, has copper and zinc but lower lead effluent concentration than the west roof. Phosphorus concentrations coming off the west roof are consistently higher than from the east room. Investigations are still ongoing as to whether these observed differences are from the difference in substrate material or substrate thickness or due to other roof related factors. The volume of stormwater retained on the west roof is significantly higher than on the thinner east roof.

NPDES O&M Swales

During PY 10, inlet and outlet samples were collected during three storm events to compare the water quality and quantity benefits of two swales made with different soil mixtures. The limited data set indicate that the swale consisting of all leaf compost provided better treatment than the one made with leaf compost and sand. Additional sampling will be required before a more rigorous analysis will be conducted.

Deerhaven Structural Erosion Control Treatment Train

During PY 10, inlet and outlet samples from three storm events were collected. In addition, sediment accumulated in the erosion control pond was sampled. While the stormwater sampling is inconclusive it appears that suspended solids and total metals were removed. This is corroborated by the sediment accumulated in the pond. This project is on hold until site problems are resolved or a better suited monitoring location has been found.

**TASK 4 COMPREHENSIVE STREAM MONITORING TO ASSESS
STORMWATER IMPACTS**

Objective

The objective of Task 4 is to conduct comprehensive in-stream stormwater monitoring to evaluate stormwater impacts associated with the chemical, biological, and physical characteristics of receiving waters.

Accomplishments

Table 5 summarizes the monitoring activities completed under this task during permit year ten.

**Table 5
SUMMARY OF STREAM MONITORING ACTIVITIES**

Sampling Locations¹	Permit Year (PY) 10 Number of Sites Monitored	PY 10 Number of Events Monitored	PY 10 Sampling Frequency	PY 10 Type of Samples Collected
Balch Creek	2	12	Monthly	Grab
Columbia Slough	9 6 (hydrolabs)	12	Monthly	Grab Continuous
Fanno Creek	1	26 6	Weekly (May-Oct) Monthly (Nov-Apr)	Grab & Continuous Grab
Johnson Creek	8	12	Monthly	Grab
Kelley Creek	5	3	Irregular	Grab
Tryon Creek				
Willamette River	12 ² 2 (hydrolabs)	12	Monthly	Grab, Composites, Continuous

¹ See Table 1 for parameters analyzed.

² East bank, center and west bank grab samples at 4 locations; composite samples at same 4 locations

Results

Data collected in all watersheds are currently being evaluated and incorporated into watershed management plans. This data assessment, as well as proposed TMDLs for some watersheds and parameters, forms the basis for actions to improve overall watershed health that will be proposed as part of the watershed plan. Future trend analyses will indicate changes to the in-stream water quality, will assist in adaptive management of the resource, and will be used to update the watershed management plan.

TASK 5 CONTINUED STORMWATER MONITORING AT EXISTING LAND USE STATIONS

Objective

The objective of Task 5 is to continue to conduct land use characterization monitoring at four existing stations in order to assess trends.

Accomplishments

Table 6 summarizes the monitoring activities completed under this task during permit year ten.

**Table 6
SUMMARY OF LAND USE SAMPLING ACTIVITIES**

Land Use Stations¹	Permit Year (PY) 1 – 9 Number of Events Monitored	PY 10 Number of Events Monitored	PY 10 Sampling Dates	PY 10 Range of Event Rainfall Volumes (inches)	PY 10 Type of Samples Collected
M1 – NE 122nd Street (Mixed)	36	3	4/10/2005 5/3/2005 5/18/2005	0.43 0.18 0.31	Grab & Composite
Outfall 19 Industrial Storm-water Monitoring	1	3	11/15/2004 1/7/2005 3/28/2005	0.34 0.39 0.15	Grab & Composite
R4 ² - Deerhaven (Residential)	2	1	10/18/04	0.29	Grab & Composite

¹ See Table 1 for parameters analyzed.

² The inlet to the Deerhaven erosion control facility is considered to be a residential land use monitoring site, but the drainage area will most likely exhibit some mixed land use characteristics until the subdivision is fully built out. The pond had will also been functioning as an erosion control monitoring site until build-out occurs. Sampling at this location will be discontinued and a different location will be sampled during FY 05/06.

Results

None of the storm events sampled during PY 10 had a rainfall volume above the water quality storm. A total of seven events, two in fall, one in winter, and four in spring, were sampled at three locations. The results are within the range of results observed previously and do not show any statistically significant trends.

TASK 6 COLLABORATION WITH OREGON DEQ AND ACWA

Objective

The objective of Task 6 is to continue to coordinate/collaborate with state and local jurisdictions (e.g., DEQ, ACWA) to share information, minimize duplication of efforts, and try to determine if benchmarks can be recommended.

Accomplishments

The City of Portland attended and participated in ACWA's stormwater subcommittee. The City also actively participated in collaborative efforts to establish TMDLs in Johnson Creek, the Columbia Slough, and the Lower Willamette River. Specifically, city staff participated in technical committees to assist DEQ with the scientific analysis of collected data and the preparation of draft TMDL documents.

MONITORING COMPLIANCE REPORT PREPARATION

For more information regarding Portland's stormwater monitoring program or the results that are provided in this report, contact either:

Frank Wildensee, Project Manager
City of Portland, Bureau of Environmental Services
Regulatory and Policy Section
1120 SW Fifth Avenue, Room 1000
Portland, Oregon 97204-1912
Phone: (503) 823-2926

Fax: (503) 823-5344

Email: frankw@bes.ci.portland.or.us

or

Atina Casas
City of Portland, Bureau of Environmental Services
Investigation and Monitoring Section
6543 N Burlington Ave.
Portland, Oregon 97203-5452
Phone: (503) 823-5437
Fax: (503) 823-5344
Email: atinac@bes.ci.portland.or.us

Section III

MULTNOMAH COUNTY

Multnomah County
Municipal NPDES Annual Report for Permit Year 10
City of Portland and Co-Permittees
Permit #101314
November 1, 2005

MULTNOMAH COUNTY STORMWATER MANAGEMENT PROGRAM

Summary

Multnomah County implements a comprehensive stormwater management program countywide. The goal of the program is to reduce pollutants in stormwater runoff to the maximum extent practicable. The program is maintained and prioritized in response to federal Clean Water Act requirements and the County's responsibility to protect the health and welfare of its citizens.

Multnomah County continues to implement an active Stormwater Management Program throughout its jurisdiction, including those areas outside of NPDES permit areas. The BMPs reported here however, apply only to the few remaining activities the County continues to engage in within the Portland permit area.

Midway through permit year seven, Multnomah County transferred the last remaining zoning and planning authority within the permit area to the City of Portland as part of the Multnomah County-Portland Compliance Project to achieve the goals of, and comply with, Metro's Urban Growth Management Functional Plan. Up until January 1, 2002, the County had limited land use planning jurisdiction for several small unincorporated pocket areas, this is no longer the case.

The County Transportation Division continues to retain authority to review stormwater management plans, granting a handful of permits every year to access County road ditches for limited stormwater discharge within the unincorporated pockets. Staff reviews plans that detail the stormwater runoff effects of development and redevelopment. Discharge from the undeveloped parcel is calculated and only that volume is permitted for access to County road drainages, which are operated and maintained by the City of Portland to Portland NPDES BMP standards under an Intergovernmental Agreement (IGA) known as the Westside Maintenance Agreement. Through the IGA, the City of Portland operates and maintains all 18.76 miles of County dedicated roads and drainages within the permit area. Under the agreement the County retains responsibility to perform emergency repairs resulting from flooding and landslides. In addition, the County continues to own, operate and maintain several of the Willamette River Bridges.

GENERAL BEST MANAGEMENT CATEGORIES

Second Permit Term BMP Categories Used in Permit Year 10:

- (1) Public Involvement and Education (PI);
- (2) Operations and Maintenance (OM);
- (3) Illicit Discharges Control (ILL);
- (4) New Development Standards (ND);
- (5) Structural Controls (STR);
- (6) Planning/System Preservation and Development (PS); and
- (7) Other Activities (OA)

Public Involvement and Education (PI). These activities are designed to support a comprehensive stormwater management and watershed wide public participation program. The Best Management Practices (BMPs) in this category include: Regional Coalition for Clean Rivers and Streams, Watershed Councils, Education Materials, Staff Training and Education, Adopt-A-Road Program, Storm Drain Marking, Ensure Public Involvement-Capitol Improvement Plan and Program, and Report Illegal Dumping.

Operations and Maintenance (OM). These activities provide pollutant reduction controls for County Operations and Maintenance. The BMPs in this category include: Inspect and Maintain Storm Conveyance System, Street Sweeping Program, Disposal of Road Waste Materials, Minimize Use of Sanding Materials, County Truck Hauling Practices, Culvert Maintenance Program, Maintain Road Shoulders, and Ditch Cleaning/Ditch Maintenance.

Illicit Discharges Control (ILL). These activities reduce the frequency and impact of accidental non-stormwater discharges and controls illicit discharges and improper waste disposal. The BMPs in this category include: Work with Regional HAZMAT Teams, Private Truck Hauling Practices, County Contractors' Truck Hauling Practices, Require Detention Systems with Proper Connection, Identify and Investigate Illicit Connections, Spill Prevention and Response Program, Ensure Contractors' Damages are Addressed, and Discharges of Construction Wastes.

New Development Standards (ND). These activities provide standards to reduce pollutant discharges from new and redevelopment. The BMPs in this category include: Transfer of Urban Land Use Planning Authority, Grading Permits and Hillside Development Permits, Enforcement of Setback Requirements, and Drainage Standards for New Development.

Structural Controls (STR). These activities reduce pollutant discharges in Multnomah County drainage and flood control facilities. The BMPs in this category include: Design of Capitol Improvement Project Stormwater Quality Treatment Facilities, Retrofit of Existing Drainage and Flood Control Facilities, Facilities Design in Road Construction Projects, Review Existing Design Standards for Drainage, Inventory and Map of the Municipal Stormwater Separate Sewer System, and Constructed Wetlands.

Planning/System Preservation and Development (PS). These activities are designed to reduce pesticide use and encourage use of self-sustaining vegetation to help improve water quality. The BMPs in this category include: Selectively Use Herbicides/Pesticides, Use of Self-Sustaining and Native Vegetation/Tree Planting Programs, and Landscape in Right-of-Way Projects.

Other Activities (OA). Other Activities include other ongoing program activities and reporting that ensure pollutant discharge reduction to the maximum extent practicable. The BMPs in this category include: Develop and Manage the Stormwater Program, Assess and Evaluate the BMP Program, and Record-Keeping & NPDES Field Records.

***Program Activities and County Accomplishments:
Best Management Practices (BMPs) Applied in the Portland Permit Area***

• **Public Involvement and Education (PI)**

The County's participation in public involvement and education activities is limited due to the limited type of activity the County is involved in within the Portland NPDES permit area. The County is represented through its co-permittee status by the City of Portland's efforts with the "Regional Coalition for Clean Rivers and Streams." The residents in the permit area are informed of impacts to the storm drainage system through the Coalition's educational efforts via mass media (radio, movie ads, newspaper) and direct mailing. County staff attend and participate in stormwater workshops and meetings sponsored by the City and other local agencies. County representatives attend Watershed Council meetings and participate on several regional committees as part of the public involvement element.

• **Operations and Maintenance (OM)**

The County contracts with the City of Portland for operation and maintenance of County owned roadways and associated storm drainage facilities in the unincorporated pockets of land within the Portland urban services area. Computerized inventories of drainage and road appurtenances are maintained by both organizations. The County remains responsible for emergency flooding and landslide road repairs. The County Bridge Section maintains several of the Willamette River Bridge structures.

- **Illicit Discharges Control (ILL)**

The County implements several BMPs that target potential sources of illicit discharges to the MS4 or surface waters directly. The County Transportation Emergency Response and Bridge Programs utilize training, inspection and maintenance practices to prevent non-stormwater discharges.

- **Structural Controls (STR)**

New or retrofit facilities within the County's Capital Improvement Plan (CIP) include consideration of structural stormwater quality facilities related to the Willamette River bridges.

- **New Development Standards (ND)**

The County transferred its zoning and land use planning responsibility for the unincorporated urban pockets, within the permit area to the City of Portland. This was a result of the Multnomah County-City of Portland Compliance Project. Up until the second half of the permit year seven, the County reviewed plans for new private development/redevelopment in the unincorporated portions of the Portland permit area, which were largely residential (e.g., Dunthorpe area in Southwest Portland), but no longer. The County utilized the same stormwater design guidance used area-wide by design professionals. However, the County still maintains review and permitting authority for stormwater management and discharge into the County owned right-of-way in these unincorporated pockets. Discharge from the undeveloped parcel is calculated and only that volume is permitted for discharge to County road ditches - all other stormwater must be retained on site. The County continues to implement its construction bond program, which ensures financial recovery for damage to County right-of-way or associated drainage facilities, including erosion damage.

- **Planning/System Preservation and Development**

Due to the County's transfer of zoning and planning authority to the City of Portland pursuant to the Metro Urban Growth Management Functional Plan, the BMP under this category has been reduced to include the review of use of pesticides and herbicides in the County right-of-way.

- **Other Activities (OAs)**

The County implemented several other activities (OAs) required by the NPDES regulations to ensure the proper management and success of the program. In general, they include:

- ◆ Participating in the development and negotiation of the NPDES Permit conditions;
- ◆ Developing and executing intergovernmental agreements (IGAs) with the other permittees;
- ◆ Overseeing modifications to the stormwater management plan and NPDES permit conditions on behalf of the County;
- ◆ Compiling and reviewing internal reports;
- ◆ Writing and submitting the annual compliance report;
- ◆ Coordinating and communicating with the other permittees and the City;
- ◆ Attending and facilitating meetings;
- ◆ Liaison with DEQ;
- ◆ Overall budget and schedule tracking; and
- ◆ Providing regulatory and BMP stormwater updates to staff.

Functional Groups

Managers and staff in the Multnomah County Department of Community Services, Land Use and Transportation Division, implement the Stormwater Management Program. The Team includes Transportation Division Managers, Bridge Maintenance Supervisors, the County Engineer, the Planning Director, and other County staff. To ensure efficient implementation, each team member belongs to a ‘functional group’ responsible for specific BMPs, as described below.

Functional Group assignments were given to the Implementation Team to ensure active participation by the necessary staff. Assignments were made by matching appropriate staff to the BMPs directly relating to their duties. For example, the staff Engineer responsible for reviewing stormwater facility design is in the DESIGN functional group, while the staff Engineer responsible for overseeing road building contracts is in the CONSTRUCTION functional group. The nine functional groups are:

- Road Maintenance
- Bridge Engineering & Maintenance
- Construction
- Design
- Education
- Emergency Response
- Land Use and Transportation Planning
- Right-of-Way Permits
- Compliance

Functional Group Accomplishments: Permit Year 10

Road Maintenance

General NPDES Roles and Responsibilities for Permit Year 10:

The Road Maintenance section of the County Transportation Division will utilize established road maintenance procedures specifically relating to stormwater quality management. Staff will document maintenance procedures through the Stormwater Maintenance Manual and field logs and ensure that problems found in the field relating to stormwater quality and stormwater facilities are addressed.

Bridge Engineering & Maintenance

General NPDES Roles and Responsibilities for Permit Year 10

The Bridge section of the County Transportation Division utilizes bridge maintenance procedures to protect water quality and address stormwater management. The group ensures through design of new projects and review of contractors' plans that stormwater and Best Management Practice (BMP) structural controls are considered and properly designed for Capital Improvement Program projects.

Key Accomplishments for Permit Year 10

- The City of Portland by agreement, maintains County owned roads and associated facilities within the permit area.

Key Accomplishments for Permit Year 10

- During the Broadway Bridge Construction & Rehabilitation project the steel open grating on the lift span bascule decks were replaced with a solid fiber reinforced polymer (FRP) deck that directs stormwater runoff and associated pollutants directly to the FRP curb and into newly installed catch basins outfitted with water quality filtration devices.
- Improved documentation of routine bridge maintenance practices.
- Continued to utilize vacuum system in conjunction with concrete core drilling equipment to prevent concrete slurry from entering the stormwater conveyance system.

Construction

General NPDES Roles and Responsibilities for Permit Year 10

County Engineering/Construction Group ensures through plan checking, education of contractors, specification interpretation, pre-construction meetings, and rigorous inspection and monitoring, that stormwater controls are properly considered, installed, and maintained as part of all public Capital Improvement Projects. Stormwater controls include structural and non-structural techniques and practices, which will result in reduced pollution.

Key Accomplishments for Permit Year 10

- The Road Construction functional group does not routinely have any activity within the permit area. The City of Portland by agreement, maintains and operates County owned roadways within the permit area.

Design

General NPDES Roles and Responsibilities for Permit Year 10

County Engineering/Design Group ensures through design of new projects and review of contractors' plans that stormwater and Best Management Practice (BMP) structural controls are considered and properly designed for Capital Improvement Program projects. They will promote a balance of stormwater quality and quantity (flood control) to the Maximum Extent Practicable in considering stormwater facility design.

Key Accomplishments for Permit Year 10

- The Road Design functional group does not routinely have any activity within the permit area. The City of Portland by agreement maintains and operates County owned roadways within the permit area.
- Engineering Design in conjunction with Right-of-Way continued to review a handful of development requests in the unincorporated pockets that had the potential to impact drainage facilities in the County right-of-way.

Education

General NPDES Roles and Responsibilities for Permit Year 10:

Multnomah County's responsibility for stormwater quality education is two-fold. Public education roles are important but are primarily the City of Portland's NPDES responsibilities for incorporated areas. This change occurred due to the accelerated annexation of SE Portland in 1995. Moreover, the County lost additional jurisdictional responsibility with completion of the Multnomah County-Portland Compliance Project. Personnel training within the County Transportation and Land Use Divisions is still important, and is more extensive. Training includes initiating activities to educate and inform County staff about the sources and solutions to stormwater program issues.

Key Accomplishments for Permit Year 10

- Facilities and Property Management and Transportation staff received OSHA certified First Response Operations Level training for County employees who have responsibility for responding to emergencies to the operations level as first responders to chemical releases.
- Functional Group Team members attended water quality related seminars.
- Distributed water quality related brochures to public at County offices.
- Members of the Regional Coalition for Clean Rivers and Streams re-engaged the media campaign "Is your lawn chemical free? Maybe it should be." The materials were aimed to inform citizens that the use of pesticides and herbicides on lawns can harm people, pets, and the health of the region's waterways. Advertising materials were used to develop posters, brochures, bus tail boards, newspaper and radio advertisements. Educational materials were distributed throughout the Metro area in the Spring to coincide with the seasonal upswing in lawn and gardening activities.
- Clean Water Act and Safe Drinking Water Act regulatory updates provided to the Land Use and Transportation staff.

Emergency Response

General NPDES Roles and Responsibilities for Permit Year 10:

County Emergency response personnel will ensure water quality concerns are addressed during emergency procedures. In particular, staff consider how to prevent materials from reaching the Municipal Separate Storm Sewer System (MS4). Staff will continue to raise awareness of emergency response personnel (in road maintenance group) to ensure general water quality concerns are addressed. Participate in regional Committees addressing these concerns to assure necessary coordination between agencies.

Key Accomplishments for Permit Year 10

- Multnomah County completed and put in service its new Spill Containment Trailer this year. The trailer is marked with special decals that match the Incident Response Truck and is recognized on the street by Police & Fire. On board is a large supply of absorbent material, soiled rag disposal barrels, absorbent pads and socks, fire extinguishers, first aid kits, eye wash station, PPE, road flares, hand tools and traffic cones. The trailer is kept in a ready state and any crew truck can use it. This past year was used on some 8 to 12 incidents.
- Trained Transportation and Facilities Management staff on recently revised County Emergency Spill Response Plan. All County responders will follow the Plan. This will improve the efficiency of response and increase the safety of the responders.
- Sampled and tested road waste materials to ensure proper disposal and avoid surface and ground water pollution.
- County Emergency Response manager continued close working relationship with key agency partners, including DEQ water quality spill response manager, to assure quickest possible response.
- Reviewed training procedures for

County road maintenance staff and administrative staff in quick response to emergency calls regarding spills in right-of-way including proper use of absorbent pads and booms and recorded individual response activities.

Land Use Planning and Transportation Planning

General NPDES Roles and Responsibilities for Permit Year 10:

County Planning staff will ensure stormwater quality management and maintenance practices are considered in land use zoning and permit requirements and applications. In particular, they will enforce land use zoning and permit requirements that may impact stormwater quality. Staff will determine whether land use planning procedures are in place to encourage sound environmental principles relating to water quality Significant Environmental Concern zones.

The County relinquished zoning and land use planning jurisdictional responsibility with completion of the Multnomah County-Portland Compliance Project pursuant to the Metro Urban Framework Functional Plan.

Right-Of-Way Permits

General NPDES Roles and Responsibilities for Permit Year 10:

County Right-of-Way Permits Section will ensure stormwater pollution controls are considered and incorporated into permits for private and public construction projects that attach to and are in the County right-of-way. Staff will specify erosion control requirements

Key Accomplishments for Permit Year 10

- The County completed transfer of zoning and land use planning authority in the Portland Permit Area, January 1, 2002. (PY 7)
- The westerly 290 acres of unincorporated Multnomah County known as Pleasant Valley was added to the “urban planning pockets” that the City of Portland administers for the County. The area received new zoning consistent with City of Portland Comprehensive Plan designations. The City is now responsible for all current and long range planning for the area.

Key Accomplishments for Permit Year 10

- Required utility companies and private contractors operating in the public right-of-way to implement pollutant and erosion control measures such as weep-drains, culvert/ditch inlets, silt socks,

through contractor bonding for public right-of-way projects. Staff will ensure that maintenance is conducted for life of project and immediate future.

Compliance

General NPDES Roles and Responsibilities for Permit Year 10:

The Compliance Group is responsible for overall Program Development and Management, Program Assessment and Evaluation, and Program Compliance Reporting.

biobags, or hay bales.

- Continued to provide information and clarification of truck hauling practices to avoid stormwater pollution.
- County roads within the cities of Troutdale Fairview and Wood Village as well within the unincorporated areas of the County a cash deposit is required for any temporary construction access connection to a County right-of-way to ensure that water quality is protected and concerns are addressed.
- Ensured plan specifications for contractors included measures to address erosion and sediment control during construction activities.
- Right-of-way inspectors continued to monitor activities within the right-of-way and to report concerns to the appropriate maintenance or enforcement section.

Key Accomplishments for Permit Year 10

- Provided program management and implementation coordination with County Staff.
- Attended Co-Permittee Management Committee meetings and DEQ meetings relating to the Portland NPDES Co-Permit.
- The County through OACWA

further participated in a BMP Effectiveness Project for Stormwater management.

Coordinated reporting activities with City of Portland, as lead permittee.

***Best Management Practices (BMPs) and Other Activities (OAs):
Accomplishments***

Annual Compliance Reports for the Municipal NPDES Stormwater Permit are required to include information relating to each BMP task and schedule. The following matrices provide this information, in summary form, for each BMP. More detail is available upon request through documentation in the Multnomah County Transportation Division of the Department of Business and Community Services. In general, all BMP tasks are on schedule without modification. Modifications occurring due to the Multnomah County – Portland Compliance Project and/or road transfers are noted and explained. The following matrix provides the following information:

- √ A short description of the Best Management Practice, with BMP Number.
- √ The overall intent, goals and objectives of the Best Management Practice.
- √ The Multnomah County ‘Functional Group(s)’ designated as responsible for BMP Implementation.
- √ Key accomplishments for Permit Year 10.
- √ Assessment of Controls.
- √ Any proposed modifications or changes to the schedule or activities.

Best Management Practices (BMPs) Matrix for Permit Year 10

Best Management Practice	Overall Intent, Goals and Objectives	Functional Group(s) for BMP Implementation ¹	Key Accomplishments for Permit Year 10	Assessment of Controls	Proposed Modifications to Schedule or Activities
These activities are designed to support a comprehensive stormwater management and watershed wide public participation program. (PI)					
PI1. Participate in the <u>Regional Coalition of Clean Rivers and Streams</u> . Continue support and direct participation for public involvement and public education campaigns.	Participate with regional entities and cities in coordinating new and existing efforts to educate and inform the public about stormwater pollution problems, and to involve the public in developing stormwater pollution prevention programs. The County will provide support for the various public involvement and education activities provided by the Regional Coalition of Clean Rivers and Streams. The County will make staff and materials available as requested and practicable, and will grant volunteers and other clean-up groups access to the County right-of-way whenever feasible.	Public Affairs Office	<ul style="list-style-type: none"> • Members of the Regional Coalition for Clean Rivers and Streams reengaged a media campaign, “<i>Is your lawn chemical free? Maybe it should be.</i>” The materials were aimed at addressing lawn care practices and their impacts on the health of people and pets as well as fish and water quality. Advertising materials were used to develop posters, brochures, bus tail boards, newspaper and radio advertisements. Educational materials were distributed throughout the Metro area Spring 2005 to coincide with the seasonal upswing in lawn and gardening activities. 	<ul style="list-style-type: none"> • Notes of meetings. • Participation in the coalition and evaluation of the campaign. 	On Schedule. No Modification.
PI2. Participate in local watershed <u>councils</u> and their activities. Present information to public regarding Multnomah County programs and regulation, particularly water quality program.	Educate the public about the County’s role in protecting stormwater quality and the opportunities for public participation in pollution prevention as well as public involvement and education on stormwater pollution problems by working with the local watershed councils. In addition, educate the County staff about the public’s role in protecting water quality on a watershed-wide basis.	Compliance	<ul style="list-style-type: none"> • County staff attended Johnson Creek, Sandy River Basin and Columbia Slough Watershed Council meetings. • The County sits on the Johnson Creek Interjurisdictional Committee and the Lower Willamette Agricultural Water Quality Management Area Advisory Committee which developed water quality rules for agricultural practices under the authority of Senate Bill 1010. 	<ul style="list-style-type: none"> • Staff reports on attendance and actions. 	Depending on resources re-evaluate level of participation.

Best Management Practice	Overall Intent, Goals and Objectives	Functional Group(s) for BMP Implementation ¹	Key Accomplishments for Permit Year 10	Assessment of Controls	Proposed Modifications to Schedule or Activities
PI3. <u>Promote public education and involvement</u> in stormwater pollution prevention efforts <u>through distribution of brochures and educational materials</u> at County offices and public water quality meetings.	Provide information to educate and inform the public about stormwater pollution problems, and to encourage public involvement in stormwater pollution prevention programs.	Compliance Public Affairs Office, Land Use and Transportation Division,	<ul style="list-style-type: none"> • Salmon Festival 2004 where County staff presented water quality and fish habitat issues related to the County Transportation system and efforts to address. • Provided watershed BMP fact sheets in County offices. • Preparation and Distribution of Multnomah County Sustainability Report – to describe County sustainability activities including water quality. Distributed to elected officials and regional partners. • County presentation on stormwater BMPs to Portland Stormwater Advisory Committee 	<ul style="list-style-type: none"> • County staff evaluates educational products and efforts. 	On schedule. No modifications.
PI4. <u>Train and educate appropriate Multnomah County personnel</u> about impacts of on-the-job activities to the MS4, and how to <u>minimize impacts to receiving streams</u> . Include erosion control seminars, stormwater maintenance activities, inspection practices, construction BMPs, and other activities for in-house and field personnel. Include training and education relating to water quality learned in conferences.	Through training of County staff, minimize/eliminate the impact of on-the-job activities to the MS4 and stormwater quality.	All functional Groups	<ul style="list-style-type: none"> • Bridge staff were trained on First Responder Spill Response and bridge maintenance BMPs. • Land use and Transportation staff attended a DEQ sponsored Erosion Control Inspectors Training. • Road Maintenance staff attended an Environmental II – Environmentally Friendly Vegetation Management and Erosion Control Workshop. The course provided an overview of environmentally friendly vegetation management and erosion control methods. Best management practices (BMP's) associated with vegetation control activities such as mowing, brush cutting, and spraying are discussed along with related issues such as spills and use of personal protective gear. The course also presents BMP's for erosion and sediment control. It covers the causes of erosion and discusses when erosion and sediment control methods are needed. Special situations such as large maintenance projects and emergency situations are also discussed. 	<ul style="list-style-type: none"> • Evaluation of training and County NPDES program ongoing. • Staff consulted to evaluate efforts. • County NPDES program designed for adaptive management to react and implement necessary changes. 	On schedule. No modification.

Best Management Practice	Overall Intent, Goals and Objectives	Functional Group(s) for BMP Implementation ¹	Key Accomplishments for Permit Year 10	Assessment of Controls	Proposed Modifications to Schedule or Activities
<p>PI4. <i>(BMP PI4 report continued)</i> <u>Train and educate</u> appropriate <u>Multnomah County personnel</u> about impacts of on-the-job activities to the MS4, and how to <u>minimize impacts to receiving streams</u>. Include erosion control seminars, stormwater maintenance activities, inspection practices, construction BMPs, and other activities for in-house and field personnel. Include training and education relating to water quality learned in conferences</p>	<p>Through training of County staff, minimize/eliminate the impact of on-the-job activities to the MS4 and stormwater quality.</p>	<p>All Functional Groups</p>	<ul style="list-style-type: none"> • METRO Green Streets presentation to Transportation Planning, Engineering and Maintenance staff. • Erosion Control Reminder to Transportation Staff. Periodic e-mail reminders provide regulatory, legal or practical information to staff to encourage awareness and pro-activity. • Stormwater & Wetlands seminars provided staff with regulatory and jurisdictional updates. • U.S. Army Corp of Engineers Regulatory Programs overview of program jurisdiction and associated regulations. In depth coverage of Corp authority behind its regulatory programs. • Chemical Applicator Training including ESA and water quality awareness and liability. Seven licensed applicators earned continued education units as required by the Oregon Department of Agriculture • Water Quality program orientation and water policy review to Bridge Maintenance and Road Engineering. • First Responders ‘Operations Level’ training for employees who have responsibility for responding to chemical spill emergencies. • APWA Street Maintenance – Seminar on Green Streets including alternative street designs intended to minimize storm runoff, cross section and ROW requirements, permeable paving materials, constructability & maintenance concerns. 	<ul style="list-style-type: none"> • Evaluation of training and County NPDES program ongoing. • Staff consulted to evaluate efforts. • County NPDES program designed for adaptive management to react and implement necessary changes. 	<p>On schedule. No modification.</p>

Best Management Practice	Overall Intent, Goals and Objectives	Functional Group(s) for BMP Implementation ¹	Key Accomplishments for Permit Year 10	Assessment of Controls	Proposed Modifications to Schedule or Activities
PI5. Continue to implement the Multnomah County <u>Adopt-A-Road program</u> to promote public awareness of litter control and impacts to roads and waterways. Increase use of volunteers and track work by volunteers, including County inmate work crews.	Educate the public regarding the storm water pollution that results from littering. Work with citizen action programs to facilitate efforts to reduce littering.	Road Maintenance	<ul style="list-style-type: none"> BMP not implemented in the Portland permit area. However, many Adopt-A-Road events held in other areas of the County during the permit year to pick up trash, reduce access of solids to the stormwater system, and educate the public on the connection between clean stormwater and litter. All County roads operated and maintained by IGA with Portland. 	<ul style="list-style-type: none"> Field log entries and recording of events. Review of field logs. Kept records of public meetings attended. Kept records of litter pickup activity 	Revise to reflect limited or no implementation in Portland Permit area.
PI6. Participate in <u>storm drain stenciling and other signage programs</u> to promote public awareness of the importance of keeping pollutants out of storm drains.	Reduce/eliminate the illicit discharges into street storm drains to protect water quality by reducing illicit discharges and impact by the public. Educate the public about drainage ways, impacts to streams from storm sewer systems, and watershed awareness.	Road Maintenance	<ul style="list-style-type: none"> BMP not implemented in the Portland permit area. The County does not have storm street drains in the Portland permit area. 	<ul style="list-style-type: none"> Will monitor for durability and reduction in solid and liquid quantities in catch basins. 	Revise to reflect limited or no implementation in Portland Permit area.
PI7. Ensure public involvement during two-year update process for <u>Capital Improvement Plan and Program</u> that addresses stormwater quality impacts and issues. <u>Identify NPDES drainage issues</u> and remedies on Capital Improvement Plan project scope sheets. Include in project atlas during public review process	Improve public awareness of properly designed stormwater facilities' ability to remove pollutants and protect water quality.	Transportation Planning	<ul style="list-style-type: none"> The County continues to participate with regional partners in the CIP process and subsequent public involvement process for the Sellwood Bridge rehabilitation project which incorporates Stormwater water quality treatment facilities. Public Involvement will continue into PY 11. 	<ul style="list-style-type: none"> Tracked attendance in meetings and actions needed. Maintained records of public meetings that the County facilitated 	No modifications. On Schedule.
PI8. Facilitate efforts to <u>report illegal dumping</u> of pollutants, trash, or illegal fill (dirt/soil). Work with citizen and neighborhood groups, and post signs at areas where illegal dumping may occur that encourage citizens to report incidents.	Control illicit discharges from illegal dumping to protect water quality.	Emergency Management Right-of-Way Permits Nuisance	<ul style="list-style-type: none"> Emergency Response Coordinator responded to reports from Road Maintenance and Right-of -Way Inspectors of illegal dumping within the right-of-way and properly disposed of materials through NRC Environmental Service and RMCAT Environmental Services, Inc., outside of permit area. The Nuisance/ Vector Control web page provides information on how to report illegal dumping throughout the County. 	<ul style="list-style-type: none"> Field log or report-of-event report. Review of field logs and BMP data base. 	No modifications.

Best Management Practice	Overall Intent, Goals and Objectives	Functional Group(s) for BMP Implementation ¹	Key Accomplishments for Permit Year 10	Assessment of Controls	Proposed Modifications to Schedule or Activities
Pollution reduction controls for County Operations and Maintenance (OM)					
<p>OM1. <u>Inspect and maintain</u> inlets, catch basins, sumps and <u>stormwater conveyance system</u> on a regular basis. Identify any known non-stormwater discharges and follow up as necessary.</p>	<p>Ensure that inlets, catch basins, sumps and stormwater conveyance system are maintained in a manner that reduces pollutants to the maximum extent practicable. Continue to review and revise operations and maintenance procedures as appropriate.</p>	<p>Bridge Maintenance Road Maintenance</p>	<ul style="list-style-type: none"> Catch basin storm filters inspected, maintained and replaced as needed on Burnside Bridge. Routine gutter cleaning and debris removal on Morrison Bridge Routine cleaning of Pits on Morrison and Burnside bridges Replaced catch basin storm filter cartridges on Broadway Bridge 	<ul style="list-style-type: none"> Quantities of roads waste materials are logged and recorded. 	<p>On schedule. No modification.</p>
<p>OM2. Continue to implement a <u>street sweeping program</u> to include scheduled sweeping, equipment review, and training on a regular basis. Revise and update schedule, equipment, and training as necessary.</p>	<p>The objective of the street sweeping program for county roads is to reduce materials on the roadway and impacts to the stormwater system. The County will continue to review and revise the program and schedule and make improvements as appropriate.</p>	<p>Road Maintenance</p>	<ul style="list-style-type: none"> BMP not implemented in the Portland permit area. County roads operated and maintained by agreement with Portland. 	<ul style="list-style-type: none"> Not applicable. 	<p>Revise to reflect limited or no implementation in Portland Permit area.</p>
<p>OM3. Continue to investigate identification of proper sites for <u>disposal of road waste materials</u>. Record amounts and location of material disposed. Include street sweeping collection, catch basin cleaning, sump cleaning, etc. Test for disposal using an independent lab and record/file test results. Review different disposal procedures for street sweeping vs. Vactor pad materials. Continue to investigate feasibility of decant facility for County waste materials. Work cooperatively among County divisions to reduce water quality impacts of site handling, storage, and disposal areas for material collected during road maintenance activities. Review and, if appropriate, adopt DEQ/ODOT Road Waste Management Practices.</p>	<p>The objective of the road waste disposal operations for county roads is to reduce materials on the roadway and impacts to the stormwater system. The goal is to identify and implement practices for disposal of road waste materials that protect water quality. Determine if current outdoor storage activities are contributing sediments to stormwater runoff. Recommend practices to control discharges as needed.</p>	<p>Road Maintenance</p>	<ul style="list-style-type: none"> County roads operated and maintained by agreement with Portland. Portland responsible for proper disposal of road waste materials on County roads. Amounts of road waste materials removed from bridge catch basins were recorded. 	<ul style="list-style-type: none"> Road Maintenance staff used multiple cleaning and maintenance field logs to document and track these activities. Emergency Response Coordinator reviews protocols and coordinates disposal of road waste materials. 	<p>Disposal locations will be reviewed during Permit Year 11.</p>

Best Management Practice	Overall Intent, Goals and Objectives	Functional Group(s) for BMP Implementation ¹	Key Accomplishments for Permit Year 10	Assessment of Controls	Proposed Modifications to Schedule or Activities
<p>OM4. <u>Investigate the potential to reduce use of sanding materials for seasonal and anti-icing operations.</u> Continue testing of alternative anti-icing methods and materials (e.g., CMA). Prohibit the use of salt or glycol on the roadways. Collect sanding material distributed during anti-icing events as soon as feasible. Continue collection and recycling of sand (anti-icing material) throughout the County's portion of the permit area.</p>	<p>Reduce harmful effects of roadway anti-icing activities and materials on water quality by proper sand collection methods and by prohibiting the use of glycol and salt.</p>	<p>Road Maintenance</p>	<ul style="list-style-type: none"> BMP not implemented in the Portland permit area. County roads operated and maintained by IGA with Portland. 	<ul style="list-style-type: none"> Not applicable. 	<p>Revise to reflect limited or no implementation in Portland Permit area.</p>
<p>OM5. <u>Review County truck hauling practices</u> with field crews annually. Recommend revisions (if necessary) to limit occurrence of leaks, spills, or other releases. Revise operations and maintenance manual as necessary to reduce potential pollutants. Continue to <u>test and evaluate asphalt release agents</u> for truck and tool cleanup, which use "environmentally-friendly" products.</p>	<p>Control discharges from truck hauling activities to the extent that they are impacting County right-of-way (ROW) and/or the Municipal Separate Storm Sewer System (MS4).</p>	<p>Road Maintenance Bridge Maintenance</p>	<ul style="list-style-type: none"> Bridge and Road Crews are regularly briefed on proper operations procedures. 	<ul style="list-style-type: none"> Review of Road Maintenance and Operations Manual reporting. In-house truck driving training includes precautions to reduce stormwater pollution from truck practices. 	<p>On Schedule. No modifications.</p>
<p>OM6. <u>Continue culvert maintenance program</u> to inspect and maintain culverts in ways that minimize impacts to water quality. Consider opportunities to retrofit culverts to provide better water quality treatment. Continue to maintain culvert inventories. Make distinction as to whether culverts are fish passage culverts and adhere to appropriate maintenance procedure.</p>	<p>Determine if the frequency of current operation and maintenance practices allows for reduction of pollutants to the maximum extent practicable. Improve and retrofit as needed.</p>	<p>Road Maintenance</p>	<ul style="list-style-type: none"> BMP not implemented in the Portland permit area. County roads operated and maintained by agreement with Portland. 	<ul style="list-style-type: none"> Not applicable. 	<p>Revise to reflect limited or no implementation in Portland Permit area.</p>
<p>OM7. <u>Maintain right-of-way and road shoulders</u> in ways that avoid and prevent future adverse water quality impacts. Review <u>slide repair procedures</u> in the Multnomah County Road Maintenance Operations Manual (RMOM). Continue review of current maintenance practices.</p>	<p>The purpose of this BMP is to control and reduce the amount of sediments discharged to the receiving waters via the right-of-way. Sediments attract and adhere to other pollutants (heavy metals, oil/grease) and increased turbidity/sedimentation on channel bottoms impairs water quality and fish habitat.</p>	<p>Road Maintenance</p>	<ul style="list-style-type: none"> BMP not implemented in the Portland permit area. County roads operated and maintained by agreement with Portland. 	<ul style="list-style-type: none"> Not applicable. 	<p>Revise to reflect limited or no implementation in Portland Permit area.</p>

Best Management Practice	Overall Intent, Goals and Objectives	Functional Group(s) for BMP Implementation ¹	Key Accomplishments for Permit Year 10	Assessment of Controls	Proposed Modifications to Schedule or Activities
<p>OM8. Review frequency and timing of <u>ditch cleaning</u> in areas where sediment and/or debris tend to accumulate. Determine if the frequency and timing of current <u>ditch maintenance practices</u> allows for reduction of pollutants and minimizes the impact on ditch surface. (If not, recommend and implement improved frequencies, timing, and/or type of equipment to minimize damage to ditch bottom.) Using records, determine where improvements are needed to reduce discharges to ditches.</p>	<p>Control/reduce amount of sediments and pollutants discharged to the receiving waters. Sediments attract and adhere to other pollutants (heavy metals, oil/grease) and increased turbidity/sedimentation on channel bottoms impairs water quality and fish habitat.</p>	<p>Road Maintenance</p>	<ul style="list-style-type: none"> BMP not implemented in the Portland permit area. County roads operated and maintained by IGA with Portland. 	<ul style="list-style-type: none"> Not applicable. 	<p>Revise to reflect limited or no implementation in Portland Permit area.</p>

Best Management Practice	Overall Intent, Goals and Objectives	Functional Group(s) for BMP Implementation ¹	Key Accomplishments for Permit Year 10	Assessment of Controls	Proposed Modifications to Schedule or Activities
Reduces the frequency and impact of accidental nonstormwater discharges and controls illicit discharges and Improper Waste Disposal (ILL)					
ILL1. Continue to <u>work with regional HAZMAT teams</u> on policy matters concerning water quality impacts. Continue cooperative agreements with other agencies to ensure spills are responded to and cleaned quickly. If necessary, clarify and/or improve procedures to ensure effective interagency coordination and rapid response.	Improve procedures to ensure effective interagency coordination and communication, and rapid response. Train staff about water quality impacts from spills. Currently most staff is aware of safety issues, but not necessarily environmental impacts.	Emergency Response	<ul style="list-style-type: none"> • Aside from diesel spills, the County contracts with RMCAT to ensure that spills are responded to and cleaned quickly and safely. • County Transportation Safety Officer remains briefed on the activities and policies of the Portland regional hazardous materials team and considers changes to the County program as appropriate. County crews followed proper procedures regarding spills and discharges requiring emergency response. • Continued to address non-hazardous spills and report hazardous spills to appropriate agencies • No hazardous spills were reported 	<ul style="list-style-type: none"> • Records are kept of County response to hazardous and non-hazardous spills. The NPDES Emergency Response functional group leader evaluates these records. 	On Schedule. No modifications.
ILL2. Review reporting of and action for noticeable <u>private truck hauling practices</u> causing discharges to County roads and the stormwater conveyance system. Work with County inspection officers for immediate response.	Control discharges from truck hauling activities to the extent that they are impacting the County right-of-way.	Right of Way Permits Bridge Section	<ul style="list-style-type: none"> • Right-of-Way Inspectors continue to enforce on impacts to the ROW including tracking of mud from agricultural, industrial or construction activities. • Right-of-Way continues to require a cash deposit to ensure ROW is not negatively impacted. 	<ul style="list-style-type: none"> • Not applicable 	On schedule. No modification.

Best Management Practice	Overall Intent, Goals and Objectives	Functional Group(s) for BMP Implementation ¹	Key Accomplishments for Permit Year 10	Assessment of Controls	Proposed Modifications to Schedule or Activities
<p>ILL3. Implement requirements to control discharges from <u>County contractors' truck hauling practices</u> to ensure that materials do not leak, spill or otherwise release contaminants onto roadways or open space where they may be washed into storm drains or waterways. Continue to require erosion control measures in contract specifications. Review permit requirements with contractors for fueling, cleaning trucks, etc. during project. Develop a monitoring process to ensure control of discharges.</p>	<p>Control discharges from truck hauling and maintenance activities to the extent that they are impacting the County right-of-way (ROW). Enforce erosion control measures to reduce sediment discharge to County ROW. Monitor to ensure control over regulated contractors' activities.</p>	<p>Construction Right-of-Way Bridge</p>	<ul style="list-style-type: none"> Erosion control is a standard bid item on construction projects. The County provides information, open discussion and clarification of truck hauling practice issues in pre-construction conferences held for each construction project. Discussion of practices is encouraged throughout any active project. Contractors are required to self-monitor erosion discharge via the Oregon Department of Transportation (ODOT) Erosion Control Monitoring form turned in to the project manager weekly. Reviewed and approved erosion control plans are required from the contractor at contract start up. Project-specific concerns are addressed in the contract erosion control plan. County Inspectors monitor implementation of Erosion Control Plan to ensure proper maintenance. 	<ul style="list-style-type: none"> County Contractor posts performance bond and provides insurance. Construction inspectors monitor construction activities on a daily basis, with an emphasis on discharge control. Inspectors take immediate action when a stormwater problem is identified. A \$1,000 cash deposit is required to help insure that trucks do not pollute; if they do and don't clean up within the time allowed the County responds and deducts all costs. Erosion Control Monitoring forms are reviewed weekly and evaluated for erosion control management. 	<p>On Schedule. No modifications.</p>
<p>ILL4. Continue to <u>require detention systems with proper connection</u> to the right-of-way and/or the MS4 and/or surface or subsurface infiltration. Review new development permit applications for sedimentation manholes, catch basins, etc., which reduce pollutants to the maximum extent practicable. Continue to require installation of pollution plates on new inlets.</p>	<p>Assure that the design standards in place adequately address water quality issues throughout the permit area.</p>	<p>Design Right of Way Permits</p>	<ul style="list-style-type: none"> County requires new development requesting drainage into County right-of-way to limit drainage to that which would occur naturally without impervious surface. County issues street opening permits within County roads to construct public utilities, including storm sewer facilities. 	<ul style="list-style-type: none"> Records kept of public utility inspection activities. 	<p>On schedule. No modifications.</p>
<p>ILL5. Continue to implement a field program to <u>identify and investigate illicit connections</u> (from sanitary sewers and/or commercial wastewater sewers) to the storm sewer system. Develop procedures for inspection and follow-up solutions, and include in Operations Manual.</p>	<p>The objective of this BMP is to remove non-stormwater discharges to the MS4. By identifying, investigating, and solving cross-connections and other illicit discharges, waste can be sent to the appropriate system.</p>	<p>Bridge</p>	<ul style="list-style-type: none"> County roads operated and maintained by IGA with Portland. Portland inspects for illicit connections during road maintenance activities. Bridge Maintenance regularly inspects and maintains sanitary facilities on bridge structures for proper operation. 	<ul style="list-style-type: none"> Monitor maintenance inspections and follow up with necessary repairs. 	<p>On schedule. No modifications.</p>

Best Management Practice	Overall Intent, Goals and Objectives	Functional Group(s) for BMP Implementation ¹	Key Accomplishments for Permit Year 10	Assessment of Controls	Proposed Modifications to Schedule or Activities
<p>ILL6. Continue to <u>manage the spill prevention and response program</u> that reduces the frequency and impact of accidental non-stormwater discharges to the MS4. Improve use of absorbent materials for quick response to minor spills of oil or fluid. Keep records of incidents and response. Continue to coordinate appropriate incidents with cities. <u>Revise County Road Maintenance Operation Manual (RMOM)</u>, if necessary, to include clear instructions for field personnel in the event of a spill.</p>	<p>Prevent spills to the maximum extent practicable and improve response to accidental non-stormwater discharges to reduce the frequency and overall impact of spills to the stormwater system.</p>	<p>Bridge & Road Maintenance Emergency - Response</p>	<ul style="list-style-type: none"> • Spill response trailer was put on line to provide operational support equipment to "first responders" • Trained employees on new <i>Emergency Spill Response Plan</i> to those trained at the First Responders Operations Level. • County contracts with NRC Environmental Services and RMCAT Environmental Services, Inc., for response to hazardous material spills. • Field logs used for recording spill events. • Road Maintenance Supervisors and lead staff carry spill response and containment materials onboard their vehicles. • County Facilities equipped with Spill Response Kits. • County personnel responded to several spills with in the permit area. 	<ul style="list-style-type: none"> • Kept records of observations and follow-up action. • Reviewed and evaluated field logs. 	<p>On Schedule. No modifications.</p>
<p>ILL7. Continue to implement incentives or requirements for County contractors to <u>ensure that damages (from erosion and sediment deposition) are addressed and paid for by dischargers</u>. Continue to require cash deposits, performance-payment bonds, final inspections and other mechanisms to ensure compliance with permit requirements. Continue pre-construction meetings to disseminate information about requirements to prevent damages during road construction projects.</p>	<p>Continue to require those responsible for damage and water quality pollution to pay the clean-up costs. By implementing conditions that ensure damage will be reversed and paid for, the objective of this BMP is to promote practices that will not cause damage in the first place. This BMP is intended to apply to contractors hired to construct County projects, including road repair and construction, and associated projects.</p>	<p>Construction, Design Right of Way Permits Bridge Engineering</p>	<ul style="list-style-type: none"> • Bridge Engineering through contract with its subcontractors incorporates requirements performance incentives. • Right-of Way continues to review and permit access and impacts to the right-of-way and appropriate performance incentives to ensure compliance. 	<ul style="list-style-type: none"> • Records kept of inspection activities 	<p>On schedule. No modifications.</p>

Best Management Practice	Overall Intent, Goals and Objectives	Functional Group(s) for BMP Implementation ¹	Key Accomplishments for Permit Year 10	Assessment of Controls	Proposed Modifications to Schedule or Activities
<p>ILL8. Implement a program to <u>reduce/eliminate discharges of all other pollutants</u> (other than sediment) <u>from road construction and related sites</u> (paints, solvents, metals, etc.). Establish or improve regulations or policy as necessary. Continue inspection as part of daily routine. Continue record-keeping system for reporting any incidents of pollutants or debris. Provide training program to staff to monitor for pollution control.</p>	<p>Eliminate/reduce discharge of <u>all</u> pollutants from construction sites which adversely impact stormwater and receiving water quality.</p>	<p>Bridge Sustainability Facilities and Property Management</p>	<ul style="list-style-type: none"> • The County requires its contractors to submit a lead abatement plan for bridge painting. Included in the plan is a containment requirement during sandblasting and painting, air monitoring, and soil testing in and around construction areas. Contractors are also required to have a spill control plan that include notification procedures, clean up and disposal instructions. These practices are monitored by County construction inspectors to make sure contractors comply with contract provisions and specifications. • Events of pollutant discharge or debris and clean up are kept in the environmental database. • Bridge Maintenance routinely inspects and cleans the hydraulic systems of the moveable spans on the Broadway Bridge for leaks. If repairs are necessary the repair area is contained to prevent fluids from entering receiving water below. • Bridge Maintenance routinely inspects the gate gear boxes of the Morrison, Burnside and Broadway and Hawthorne Bridges. If servicing is necessary precautions are taken to prevent oil from entering receiving water below. 	<p>Monitor reporting of maintenance inspections</p>	<p>On schedule. No Modifications.</p>
Standards to reduce pollution from new and redevelopment (ND).					
<p>ND1. Continue to <u>coordinate transfer of urban land use planning authority</u> from the County to the cities, which ensures continuous application of NPDES roles and responsibilities prior to transfer.</p>	<p>Much of the urban area is outside of County jurisdiction as it has been annexed to Portland or Gresham. As this area is transferred, the County will continue to coordinate to ensure continuous land use planning services including NPDES roles and responsibilities.</p>	<p>Land Use Planning</p>	<ul style="list-style-type: none"> • The County completed the transfer of zoning and land use planning authority within the permit area to the City of Portland, January 2002, per the Multnomah County- City of Portland Compliance Project to achieve the goals of, and comply with, Metro's Urban Growth Management Functional Plan. • The westerly 290 acres of unincorporated Multnomah County known as Pleasant Valley was added to the "urban planning pockets" that the City of Portland administers for the County. The area received new zoning consistent with City of Portland Comprehensive Plan designations. The City is now responsible for all current and long range planning for the area. 	<p>Not applicable.</p>	<p>Revise to reflect limited or no implementation in Portland Permit area.</p>

Best Management Practice	Overall Intent, Goals and Objectives	Functional Group(s) for BMP Implementation ¹	Key Accomplishments for Permit Year 10	Assessment of Controls	Proposed Modifications to Schedule or Activities
ND2. Continue permitting <u>grading permits and hillside development permits</u> per County zoning code.	Control/reduce amount of erosion and sediments discharged to the receiving waters. Sediments attract and adhere to other pollutants (heavy metals, oil/grease) and increased turbidity/ sedimentation on channel bottoms impairs water quality and fish habitat.	Land Use Planning	<ul style="list-style-type: none"> The County completed the transfer of zoning and land use planning authority within the permit area to the City of Portland, January 2002, per the Multnomah County- City of Portland Compliance Project to achieve the goals of, and comply with, Metro's Urban Growth Management Functional Plan. 	Not applicable.	Revise to reflect limited or no implementation in Portland Permit area.
ND3. Continue to enforce land use zoning and permit requirements, which may impact stormwater quality. Continue to enforce <u>setback requirements from Designated significant streams</u> and identified waterways.	Preserve significant vegetated areas adjacent to water bodies to reduce stormwater runoff and the pollutants carried with it.	Land Use Planning	<ul style="list-style-type: none"> The County completed the transfer of zoning and land use planning authority within the permit area to the City of Portland, January 2002, per the Multnomah County- City of Portland Compliance Project to achieve the goals of, and comply with, Metro's Urban Growth Management Functional Plan. 	Not applicable.	Revise to reflect limited or no implementation in Portland Permit area.
ND4. Apply <u>County drainage standards for all new development and redevelopment</u> , both public and private. Revise drainage standards as needed to clarify requirements for stormwater facilities related to new private development and redevelopment.	Adequately control discharge of stormwater for both water quantity and quality purposes.	Engineering Design Right-of- Way Permits	<ul style="list-style-type: none"> All planned connections to the County right of way are reviewed by Transportation Right-of-Way and Road Engineering to determine storm water discharge to the MS4 where on site detention is not possible and only that predevelopment volume is permitted to connect to the ROW. Drainage standards have been reviewed in-house. No revisions made in PY10 	<ul style="list-style-type: none"> Operations internally reviewed by staff for completeness and accuracy. 	On schedule. No modifications.
Pollution reduction in Multnomah County drainage and flood control facilities (STR)					
STR1. Conduct plan checks of stormwater quality treatment facilities that are included in capital 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.	The goal of this BMP is to ensure that appropriate design standards are established to reduce the discharge of pollutants from sites to the maximum extent practicable.	Bridge Engineering,	<ul style="list-style-type: none"> Bridge Engineering reviewed stormwater conveyance considerations for Broadway Bridge restoration and incorporated stormwater treatment facilities. Bridge Engineering incorporated stormwater treatment facilities in concept design for the Sellwood and Sauvie Island Bridge rehabilitation projects. 	<ul style="list-style-type: none"> Monitor effectiveness of water quality treatment facilities. 	On schedule. No modifications.
STR2. When major repair is needed, develop and implement <u>retrofit of existing public drainage and flood control facilities</u> (sumps, retention basins, drainage channels, bioswales, trash racks, sediment trap devices, etc.) where practicable to improve water quality. Install new systems using current standards.	Continue sump replacement and retrofit of flood control facilities to improve pollutant reduction aspects of existing drainage and flood control facilities.	Bridge Engineering,)	<ul style="list-style-type: none"> Bridge Section retro fit of existing catch basins on the Broadway Bridge with water quality treatment facilities as a Capital Improvement Project. Manhole access lids installed on existing Underground Injection Control facilities (sumps) located in parking lots of county buildings 	<ul style="list-style-type: none"> Monitor effectiveness of filtration device. Record level of effort expended to address new technologies and practices 	On schedule. No modifications.

Best Management Practice	Overall Intent, Goals and Objectives	Functional Group(s) for BMP Implementation ¹	Key Accomplishments for Permit Year 10	Assessment of Controls	Proposed Modifications to Schedule or Activities
STR3. Ensure that any <u>facilities built in conjunction with road construction projects</u> consider <u>long-term water quality protection</u> , where feasible.	Ensure that drainage/flood control and water quality facilities built as part of road construction projects protect stormwater quality beyond the construction period.	Road Engineering	<ul style="list-style-type: none"> County roads are “built out” in the permit area, thus no Capitol Improvement Projects are planned. County roads operated and maintained by IGA with Portland. The Bridge Engineering section installed stormwater filter inserts during a recent bridge maintenance project on the Broadway Bridge. 	<ul style="list-style-type: none"> Monitor effectiveness of filtration device. 	On schedule. No modifications.
STR4. <u>Review existing design standards for drainage</u> , flood control, and water quantity facilities for applicability to water quality. Review water quality criteria issued by the City of Portland and others and consider for use as guidance documents. Modify design standards if necessary.	Consider design standards used in the region to better address water quality issues when permitting drainage and water quantity facilities (other than road construction), both private and public.	Road Engineering Bridge Engineering	<ul style="list-style-type: none"> No activity within the permit area. 	<ul style="list-style-type: none"> Not applicable. 	Revise to reflect limited or no implementation in Portland Permit area.
STR5. Continue to <u>inventory and map the municipal storm sewer system</u> . Improve knowledge of the County system to facilitate identification of problem areas and implementation of control programs in strategic locations. Allocate staff resources to ensure continued map updates.	Ensure County storm sewer mapping is accurate. This BMP supports the MS4 by providing valuable information allowing the County to effectively accomplish other elements of the NPDES permit requirements.	Road Engineering Bridge Engineering	<ul style="list-style-type: none"> Inventory maps updated as projects are constructed. Outfall mapping within permit area updated using GIS and field inspection. 	<ul style="list-style-type: none"> Accuracy maintained via map updates as projects are constructed. 	On schedule. No modifications.
STR6. Ensure through contract agreements that <u>constructed wetlands and adjacent facilities built in conjunction with road projects</u> are properly <u>designed to reduce the effects of pollutants</u> in stormwater and runoff, as well as impacts to the wetlands themselves.	Provide stormwater quality protection benefits through use of natural resource areas such as wetlands.	Road and Bridge Engineering	<ul style="list-style-type: none"> No activity during PY 10 within Permit area. 	<ul style="list-style-type: none"> Not applicable. 	On schedule. No modifications.

Best Management Practice	Overall Intent, Goals and Objectives	Functional Group(s) for BMP Implementation ¹	Key Accomplishments for Permit Year 10	Assessment of Controls	Proposed Modifications to Schedule or Activities
Designed to reduce pesticide use and encourage use of self-sustaining vegetation to help improve water quality (PS).					
<p>PS1. Continue to implement <u>vegetation management procedures</u> as in the Road Maintenance and Operations Manual (RMOM) to assure that water quality impacts are addressed. Include annual Oregon Department of Agriculture and EPA certification for pesticide applicators. <u>Selectively use pesticides</u> wherever applicable. Continue to improve application practices and train personnel to reduce pollutants to the maximum extent practicable.</p>	<p>Reduce pesticide use as means of improving impacts to water quality. Implement existing/improved practices to ensure that pollutants discharged from and into County rights-of-way (roads, ditches) are reduced to the maximum extent practicable.</p>	<p>Transportation Division</p>	<ul style="list-style-type: none"> County roads and associated Right-of-Way operated and maintained by IGA with Portland. Bridge section continues to maintain vegetation appurtenant to bridge abutments when necessary. 	<ul style="list-style-type: none"> Not applicable. 	<p>No modifications.</p>
<p>PS2. Promote <u>use of native vegetation</u> on public and private projects. Support government <u>tree-planting programs</u> that reduce pollutant impacts to receiving streams. Utilize existing native plant lists for development review.</p>	<p>Reduce pesticide use and encourage use of self-sustaining vegetation as means of improving water quality.</p>	<p>Land Use and Transportation Planning Division,</p>	<ul style="list-style-type: none"> Not applicable in Permit area. The County no longer has planning or zoning authority within the permit area. 	<ul style="list-style-type: none"> Not applicable. 	<p>Revise to reflect limited or no implementation in Portland Permit area.</p>
<p>PS3. Ensure specifications for <u>landscape in right-of-way projects</u> require the use of low-impact species. Encourage use of self-sustaining, non-invasive vegetation that reduces the need for pesticides, fertilizers, and water.</p>	<p>Reduce pesticide use and encourage use of self-sustaining, non-invasive vegetation as means of improving water quality. Implement existing/improved practices to ensure that pollutants discharged from and into County rights-of-way (roads, ditches) are reduced to the maximum extent practicable.</p>	<p>Transportation Planning</p>	<ul style="list-style-type: none"> County roads are operated and maintained by City of Portland through IGA. Transportation Planning and Right-of-Way continue to provide input to City of Portland on potential access or impacts to the right-of-way. County remains responsible for the Transportation System Plan for County owned roads within the unincorporated pockets. The TSP addresses right-of-way landscape standards. During permit year ten, Transportation Planning initiated a Transportation Planning System (TSP) planning project pursuant to State-wide Planning Goal 12. During permit year ten the TSP incorporated public involvement and is anticipated to be adopted in Permit year 11. 	<ul style="list-style-type: none"> Not applicable. 	<p>Update native species list and sources. Transportation System Plan will be adopted in PY11.</p>

Best Management Practice	Overall Intent, Goals and Objectives	Functional Group(s) for BMP Implementation ¹	Key Accomplishments for Permit Year 10	Assessment of Controls	Proposed Modifications to Schedule or Activities
Other Activities include other ongoing program activities and reporting that ensure pollution reduction to the maximum extent practicable (OA).					
OA1. <u>Develop and manage the Stormwater Program to ensure compliance</u> with the NPDES permit. Implement cost-effective, practical BMPs and activities that are designed to reduce stormwater pollution to “the maximum extent practicable,” given the County’s unique conditions.	Develop and manage the County's stormwater program to ensure compliance with the NPDES permit. Develop and implement cost-effective, practical BMPs and activities that are designed to reduce stormwater pollution to the "maximum extent practicable."	Compliance	<ul style="list-style-type: none"> Utilized e-mail to provide program updates to functional group members. Messages incorporated regulatory updates of Clean Water Act; TMDL and NPDES programs, and Underground Injection Control as well as a reminder to report on their assigned BMPs. by using the County’s electronic tracking system. Facilitated work sessions with County staff related to program implementation and reporting. Attended DEQ meetings to discuss implementation of County NPDES programs. 	<ul style="list-style-type: none"> Conducted informal surveys of staff responsible for functional group’s BMP tasks. Conducted meeting of functional group representatives to review BMP implementation and accomplishments. 	On schedule. Modifications of program upon evaluation where necessary.
OA2. On a continuous basis, and especially annually, <u>assess and evaluate the BMP program</u> to ensure use of available resources, and make recommendations for improvements in program implementation tasks. Designate County staff to compile/summarize records for each BMP. Utilize BMP record-keeping system for evaluation of progress at regular work sessions with Stormwater Implementation Team.	Assess and evaluate program to ensure the best use of available resources and make recommendations for continuous improvement.	Compliance	<ul style="list-style-type: none"> Managed record keeping system for use by the County staff to track work done in the field, meetings attended, etc. Worked with County staff to compile individual BMP files for evaluation of progress at several work sessions. Participated in a regional BMP effectiveness study and analysis of stormwater BMPs in anticipation of upcoming new NPDES permit requirements. 	<ul style="list-style-type: none"> Conducted informal surveys of staff responsible for functional group’s BMP tasks. Conducted meeting of functional group representatives to review BMP implementation and accomplishments. 	On schedule. Due to new staff, evaluation of program efficiencies will be conducted.
OA3. Review annually and update as needed the <u>Road Maintenance Operations Manual (RMOM)</u> , including procedures regarding water quality impacts to receiving streams. <u>Continue to keep field records of maintenance activities.</u>	Use record keeping to track performance of BMPs over-time and to determine level of water quality protection provided. Adjust Stormwater Program through adaptive management based on results reported in annual reports.	Transportation Division	<ul style="list-style-type: none"> Completed activity logs are compiled and entered into the Integrated Road Information Systems database. Additionally, more narrative is provided on Report of Event forms and entered in the Environmental Management database 	<ul style="list-style-type: none"> Staff review of field logs. Conducted meetings of Transportation Division staff to review use of logs. 	On schedule. No modifications.

Stormwater Management Program Budget **B(2)(a)(iii)**

Program activity within the Portland Permit area for Permit year ten is primarily associated with the Department of Community Services – Land Use and Transportation Program and the Environmental Compliance Program.

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, through an Intergovernmental Agreement, contracts with the City of Portland to maintain and operate County owned roads consistent with applicable operations and maintenance best management practices as set forth in the City of Portland Stormwater Management Plan of the 1993 City of Portland National Pollution Discharge Elimination System Municipal Stormwater permit.

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. Discharge from the undeveloped parcel is calculated and only that volume is permitted for access to County road drainages. There were only a handful of reviews conducted during permit year ten.

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. During permit year ten, Transportation Planning initiated a Transportation Planning System (TSP) planning project pursuant to State-wide Planning Goal 12. During permit year eleven the TSP incorporated public involvement and is anticipated to be adopted.

Funding sources for stormwater program expenditures are derived from the County general fund for the Land Use Planning & Water Quality programs. The Transportation Division receives funding from the State Highway Trust Fund: revenue from this source include the State gasoline tax, weight/mile tax on trucks, and vehicle registration fees, which are constitutionally dedicated to road related issues.

The table below outlines program expenditures for PY 10 (Fiscal Year 2004-2005).and provides the anticipated budget for PY 11 (Fiscal Year 2005-2006).

Portland Permit Area Budget

Program Area	PY 10 Expenditures	PY 11 Anticipated Budget
Environmental Compliance	\$125,611	\$145,146
Bridge Maintenance/Operations	\$2,142,050	\$2,501,312
Bridge Engineering	\$3,111,443	\$11,623,770
Road Maintenance IGA	\$158,000	\$158,000
Road Engineering	\$1,500	\$5,000
Transportation Planning	\$19,000	\$15,000

Monitoring Summary

B(2)(a)(iv)&(vi)

The City of Portland performs this component of the Stormwater Management Plan within the Permit Area. Please refer to the City of Portland annual report for a summary of data including monitoring data accumulated throughout the reporting year, and identification of water quality improvements of degradation.

Legal Authority

B(2)(a)(vii)

The County continues to maintain legal authority to implement the programs outlined in the Storm Water Management Plan as initially demonstrated in Part 1 of the original NPDES Municipal Storm Water Permit Application (No(s). 101315 & 101314).

Multnomah County Road Maintenance through an Intergovernmental Agreement (IGA) contracts with the City of Portland to maintain and operate County owned roads consistent with applicable operations and maintenance best management practices as set forth in the City of Portland Stormwater Management Plan of the 1993 City of Portland National Pollution Discharge Elimination System Municipal Stormwater permit.

The County completed the transfer of zoning and land use planning authority within the permit area to the City of Portland, January 2002, per the Multnomah County- City of Portland Compliance Project to achieve the goals of, and comply with, Metro's Urban Growth Management Functional Plan. Through IGA, the City is now responsible for all current and long range planning for the area.

Recently, the Multnomah County Code (M.C.C) 37.0915 to 37.0970 has been amended to provide for the enforcement of violations constituting substantial evidence of environmental harm including, but not limited to, any discharge of pollutants to waters of the state that cause or contribute to a violation of applicable water quality standards. In addition, the County has revised its code enforcement program by adding a full time code compliance specialist to enforce the land use and transportation codes. The amendments apply to unincorporated portions of Multnomah County outside of the Urban Services Area.

Overview of Land Use Changes

B(2)(a)(viii)

The Permit under Schedule B(2)(a)(viii) of Permit No. 101315 provides; "An overview, as related to MS4 discharges, of concept planning, land use changes and new development activities that occurred within UGB expansion areas during the previous year, those forecast for the following year, and an evaluation for consistency with the requirements of Schedule D(2)(c)(i)(2)."

The westerly 290 acres of unincorporated Multnomah County known as Pleasant Valley was added to the “urban planning pockets” that the City of Portland administers for the County. The area received new zoning consistent with City of Portland Comprehensive Plan designations. The City is now responsible for all current and long range planning for the area.

Section IV

PORT OF PORTLAND



PORT OF PORTLAND

National Pollutant Discharge Elimination System (NPDES)

Municipal Separate Storm Sewer System Permit

Permit Number 101314

ANNUAL REPORT NO. TEN

Fiscal Year 2004-2005

(July 1, 2004 – June 30, 2005)

Prepared for:

Oregon Department of Environmental Quality

October 29, 2005

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APPENDIX

PORT OF PORTLAND TENANTS WITH NPDES PERMITS

1.0 INTRODUCTION

The Oregon Department of Environmental Quality (DEQ) regulates stormwater runoff from Port property through the Municipal Separate Storm Sewer System (MS4) Discharge Permit No. 101314 and other National Pollutant Discharge Elimination System (NPDES) stormwater permits, including the 1200-Z, 1200-COLS and 1200-CA permits. This annual report describes activities specifically related to implementation of the Port's MS4 Permit.

The Port and Multnomah County are co-permittees on the City of Portland's MS4 Permit. As required under Schedule B(2)(a) of the MS4 Permit, co-permittees must submit an annual report each year, summarizing accomplishments and implementation of the Municipal Stormwater Management Plan (SWMP).

This annual report documents activities from July 1, 2004 to June 30, 2005 related to the Port's stormwater management efforts under the MS4 Permit and SWMP. Each section of the report, with the exception of Sections 2.0 and 3.0, corresponds to the specific permit requirements in Schedule B(2)(a). The report emphasizes efforts and activities associated with individual Best Management Practices (BMPs) from the Port's SWMP (summarized in Section 8.0).

2.0 SUMMARY OF PORT OF PORTLAND PROPERTIES

The Port owns approximately 6,274 acres within the City of Portland (City) Urban Services Boundary. The Port-owned property includes Portland International Airport (PDX), four marine terminals, various industrial parks, and a number of undeveloped properties, such as wetland mitigation sites and part of West Hayden Island.

The MS4 Permit regulates the Port's municipal separate storm sewer system that serves Port property located within the City Urban Services Boundary. Property owned by the Port is primarily zoned for commercial and industrial use. Many of these areas have regulated industrial activities that also require industrial stormwater permits; these permitted areas overlap with the MS4 Permit. Much of the Port's property is leased to tenants many of which also hold industrial stormwater permits. For tenants that have industrial stormwater permits, the City of Portland oversees their stormwater related activities, and the ability of the Port to conduct stormwater management activities on these specific areas is limited. The following section describes stormwater management for the Port operating areas and undeveloped areas.

2.1 Portland International Airport

PDX comprises an area of approximately 3,200 acres and is located in northeast Portland between the Columbia River and the Columbia Slough. The facility is owned and operated by the Port, and it serves numerous aviation-related tenants. Stormwater runoff from the PDX property discharges into the Columbia Slough through a series of nine major outfalls authorized under the NPDES General 1200-COLS Industrial Stormwater Discharge Permit. This 1200-COLS permit is specifically structured to address Columbia Slough Total Maximum Daily Load (TMDL) parameters, including dissolved oxygen (DO), pH, nutrients, bacteria, and toxics. With the exception of the Oregon Air National Guard, which has its own 1200-COLS Permit, PDX tenants whose operations require stormwater permits are co-permittees with the Port under the PDX 1200-COLS Permit. BMPs conducted to meet the requirements of the 1200-COLS Permit also address the requirements under the Port's MS4 Permit. Therefore, stormwater management activities conducted at PDX to comply with the 1200-COLS Permit are organized and reported in this annual report under the relevant MS4 BMP categories. BMPs related to maintenance of public streets, illicit discharge detection and elimination and minimization of impacts from pesticide and fertilizer use are not required for the 1200-COLS Permit but are required to be addressed under the MS4 permit; therefore, these BMPs are addressed for PDX in the SWMP and reported in this annual report under the relevant MS4 BMP categories.

PDX also holds a NPDES Construction Dewatering Waste Discharge Permit, a City of Portland Pretreatment Permit, a Water Pollution Control Facility (WPCF) 1700-B Wastewater Permit, and a NPDES Anti-icing/Deicing Waste Discharge Permit. All tenants at PDX who conduct deicing activities are required to be co-permittees under the Anti-icing/Deicing Permit, or must obtain their own permit.

2.2 Marine Terminals

The Marine Terminals operating area consists of four active shipping terminals that are managed by the Port's Marine Department. The terminals collectively occupy approximately 1,000 acres along the Willamette (Terminals 2, 4, and 5) and Columbia (Terminal 6) rivers. These areas handle the shipping, receiving, and temporary storage of finished goods, agricultural products, and raw materials. The Port previously owned and operated Terminal 1 (Willamette River), managing it as an industrial property following its closure as a public marine cargo facility in 1989. The Port completed the sale of Terminal 1 in February 2004.

Because Terminal 6 discharges into two separately regulated water bodies, the Columbia River and the Columbia Slough, the Port holds both a 1200-Z (Columbia River) and 1200-COLS (Columbia Slough) NPDES permit for Terminal 6. As with PDX, BMPs conducted to meet the requirements of the 1200-Z or 1200-COLS permits also meet most of the requirements under the Port's MS4 Permit. Therefore, stormwater management activities at Terminal 6 to comply with the 1200-COLS and 1200-Z permits, and addressed in the associated SWPCP, are organized and reported in this annual report under the relevant MS4 BMP categories. BMPs related to maintenance of public streets, illicit discharge detection and elimination and minimization of impacts from pesticide and fertilizer use are not required for the 1200-Z or 1200-COLS permits but are required to be addressed under the MS4 Permit; therefore, these BMPs are addressed for Terminal 6 in the SWMP and reported in this annual report under the relevant MS4 BMP categories.

The majority of properties located at Terminals 2, 4 and 5 are leased to various tenants some of whom hold their own 1200-Z Permits. For those facilities not holding 1200-Z Permits, the Port's MS4 Permit serves as the regulatory guidelines for stormwater management activities.

2.3 Industrial Parks

The Port's Property and Development Services Department manages Port-owned industrial parks, including those at Swan Island, Port Center, Mocks Landing, Rivergate, and Portland International Center (PIC), totaling approximately 3,150 acres. The Port leases approximately 80% of its industrial park property to private commercial operators. These tenants are regulated by the City of Portland and some also hold industrial discharge NPDES permits (1200-COLS or 1200-Z permits) that are issued by DEQ and administered by the City. For these tenants, the Port has limited authority to control stormwater management activities. For Port owned and managed properties throughout the Port's industrial parks, the Port is directly responsible for ensuring these areas are in compliance with its MS4 Permit.

2.4 Undeveloped Properties

The Port's Property and Development Services Department manages approximately 900 acres of undeveloped property within the Urban Services Boundary. Stormwater management for the undeveloped properties that discharge into the Port's municipal separate storm sewer system is conducted under the Port's MS4 Permit.

3.0 ORGANIZATIONAL STRUCTURE AND COMMITMENT

The Port's Environmental Affairs Department is responsible for administering the MS4 Permit and the SWMP. Environmental staff from each operating area are responsible for implementing Port environmental programs to ensure permit compliance. As a means of coordinating Port-wide programs and policies, Environmental Affairs Program Managers regularly meet with Port operating area staff.

One means of coordination between Environmental Affairs and the three operating areas is the Water Resources Coordination Group (WRCG). The WRCG includes environmental staff from the corporate office, operating areas, and engineering. This group meets monthly and is responsible for coordination on Port-wide stormwater policy issues, permit matters, training, and communication. The Environmental Affairs Water Resources Program Manager (also the MS4 Permit Manager) serves as the lead for the WRCG.

Operating areas with NPDES Industrial Stormwater Discharge Permits are required to prepare and maintain Stormwater Pollution Control Plans (SWPCPs) for their facilities. Port staff at PDX prepares and updates the SWPCP in conjunction with any co-permittees, and Marine staff prepares and updates the SWPCP for Terminals 2 and 6. Tenants with Industrial Stormwater Discharge Permits are also required to prepare and maintain SWPCPs, but the Port does not oversee those efforts as the City of Portland (DEQ's agent) coordinates directly with each 1200-series permit holder in the Port of Portland service area.

4.0 STORMWATER MONITORING DATA

The Port's Stormwater Monitoring Program, submitted to DEQ in 1998, defines the Port's approach to meeting the MS4 Permit monitoring requirements. Through an Intergovernmental Agreement (IGA), the Port shares costs with the City of Portland for a variety of monitoring efforts. Such efforts include land use based monitoring, non-stormwater discharge monitoring, and BMP effectiveness monitoring. The Port also implements monitoring efforts which include dry weather field screening of outfalls as part of the Illicit Discharge Detection and Elimination Program, industrial monitoring for compliance with the Port's 1200-Z and 1200-COLS permits, and voluntary water quality monitoring at select mitigation sites.

The IGA with the City of Portland was established on October 5, 1998 and a later addendum, dated August 5, 1999 formalized the agreement stating that the Port will pay its percentage of the City's monitoring costs until 2005. As the current IGA with the City of Portland expires in 2005, the Port and the City are currently working to update and revise the current IGA for the remainder of the permit term.

Although not specifically related to the NPDES MS4 Permit, the Port collects and submits monitoring data to DEQ for the other NPDES permits listed below. Again, these are not components of the Port's stormwater monitoring program but provide useful information regarding the Port's activities. Data collected for these permits is not included in the MS4 Permit annual report, but can be made available through the Port or DEQ upon request.

- NPDES Anti-icing/Deicing Waste Discharge Permit, DEQ File No. 101647
- NPDES Construction Dewatering Waste Discharge Permit, DEQ File No. 101588
- NPDES 1700-B Water Pollution Control Facility (WPCF) Wastewater Discharge Permit, DEQ File No. 107220
- NPDES Excavation Wastewater (Construction dewatering) Permit, DEQ File No. 107220

4.1 Industrial Permit Monitoring

Stormwater sampling at PDX and Terminal 6 is required for general industrial stormwater permit compliance (1200-Z and 1200-COLS permits). As mentioned previously, monitoring related to these industrial permits is not conducted to address a specific MS4 Permit requirement and thus is not submitted for compliance with the Port's MS4 Permit. However, the monitoring provides useful data about Port industrial properties. Data resulting from the site runoff sampling has been and may continue to be useful for understanding water quality impacts from these different types of industrial land uses.

The Port submitted stormwater monitoring data to DEQ for the following industrial stormwater discharge permits:

- NPDES 1200-COLS Industrial Stormwater Discharge Permits, DEQ File Nos. 107220 and 111492 (PDX and Terminal 6, respectively)

- NPDES 1200-Z Industrial Stormwater Discharge Permit, DEQ File No. 103594 (Terminal 6)

This data is not included in the Municipal Permit annual report, but is available through the Port or DEQ upon request.

4.2 Illicit Discharge Inspections and Monitoring

Illicit discharge inspections and monitoring are conducted as part of the Port's MS4 Illicit Discharge Detection and Elimination Program. Dry season inspections occur for all Port-owned outfalls annually. Dry weather field screening is conducted to detect non-stormwater discharges from Port-owned outfalls. If the inspector observes a discharge that is not a permissible discharge as outlined in 40 CFR 122.26(d)(2)(iv)(B)(1), the inspector documents visual observations, source identification procedures are initiated, and water samples are collected for laboratory analysis, if needed, to aid in determining the source of the flow. Port staff schedule follow-up investigations and inspections as necessary.

PDX environmental staff conducted dry season inspections at PDX and PIC in summer 2004 by inspecting a total of 11 monitoring locations. PDX increased the inspections of priority outfalls to include all nine drainage basins on PDX property. Photographs of each monitoring location were taken as documentation. No illicit discharges were discovered.

Marine staff conducted dry season inspections at 11 outfalls on marine terminals in summer 2004. Three outfalls were observed with discharges and water samples were collected at two outfalls. One outfall was inaccessible and not enough flow was present in the manhole to collect a sample. Sources of the other flows were not determined.

Property and Development Services staff conducted dry season inspections at 29 outfalls at the Swan Island and Rivergate industrial parks in summer 2004.

- Thirteen outfalls were inspected at the Rivergate Industrial Park. Staff increased their observations from four priority outfalls to thirteen in order to do a more comprehensive inspection. Five outfalls at Rivergate had summer flows. Discharge from two of these outfalls was determined to be on the list of permitted discharges, discharge from one outfall was the result of improper BMPs and the Port notified the tenant. The tenant hired a contractor to have the pipes cleaned. The source of discharge from the remaining two outfalls was not determined.
- Sixteen outfalls at the Swan Island industrial park were inspected. Two were observed with flows. Discharge from one of the outfalls was determined to be on the list of allowable discharges and discharge from the other outfall was determined to be the result of City staff performing maintenance work on the sewer. This potential illicit discharge was referred to the City's illicit discharge coordinator.

5.0 STORMWATER EXPENDITURES

From a financial perspective, the Port has two primary means of income: (1) Portland International Airport (PDX); and (2) Marine/Other. PDX resources are derived primarily from charges to passengers and cargo airline customers, airport parking, rental car revenue, passenger facility charges, Federal grants and tenant fees. PDX resources are restricted by bond ordinances and Federal Aviation Administration regulations for exclusive use at PDX.

Resources for Marine/Other are primarily derived from fees, charges and leases with Marine customers, leases with tenants of the Port's industrial parks, sales of property at the industrial parks, revenues from the U.S. Army Corps of Engineers (USACE) for dredging services, and property taxes.

Port stormwater expenditures are distributed among five departments: Marine, Property and Development Services, Aviation, Engineering, and Environmental Affairs. Expenditures include Port staff salary (including benefit costs), contractor and consultant fees, stormwater infrastructure costs, City of Portland stormwater fees, stormwater training activities, and stormwater outreach materials.

The Marine Department spent approximately \$278,826 in fiscal year 2004-05 on stormwater expenditures and estimates that expenditures for 2005-06 will be approximately \$700,583. The expected increase in expenses is primarily due to increases in the City of Portland's stormwater fees. Property and Development Services allocated approximately \$49,610 for stormwater-related needs during the 2004-05 permit year and also estimates that expenses for 2005-06 will be similar. The Port's Aviation Department (PDX) spent approximately \$1,458,110 on stormwater related needs in fiscal year 2004-05, and plans to spend approximately \$1,500,010 for fiscal year 2005-06. Stormwater expenditures for the Port's Engineering Department totaled approximately \$234,000 for fiscal year 2004-05, which is also the estimated total for 2005-06. The Environmental Affairs Department designated approximately \$281,921 for stormwater-related uses in 2004-05, and projects that it will spend approximately \$253,663 in 2005-06. The total estimated 2004-05 stormwater expenditures by the Port was \$2,302,467 and the estimated total for 2005-06 is \$2,737,981.

Table 5-1. Summary of Port of Portland Stormwater Expenditures

Department	Estimated 2004-05 Stormwater Expenditures	Estimated 2005-06 Stormwater Expenditures
Marine	\$278,826	\$700,583
Property & Development Services	\$49,610	\$49,725
Aviation	\$1,458,110	\$1,500,010
Engineering	\$234,000	\$234,000
Environmental Affairs	\$281,921	\$253,663
Total	\$2,302,467	\$2,737,981

6.0 INSPECTIONS AND ENFORCEMENT ACTIONS

As described in Section 4.0 of this report, inspection and enforcement activities performed by the Port are primarily related to the dry weather inspections and field screening of stormwater outfalls as part of the Illicit Discharge Detection and Elimination Program. When non-permissible discharges are detected, the Port initiates investigation procedures and conducts follow-up investigation and inspections as necessary.

The Port may take enforcement actions against its tenants if they determine that a violation of the tenant's lease (as related to a stormwater protection clause) occurred that contributed to an impermissible discharge. The Port took no enforcement actions during the 2004-05 reporting year.

7.0 DEMONSTRATION OF CONTINUED LEGAL AUTHORITY TO IMPLEMENT THE PROGRAMS OUTLINED IN THE SWMP

The Port has authority to implement programs outlined in the SWMP through ordinance, permits, and contracts.

The Port has statutory authority to enact ordinances to regulate stormwater sewers that it owns, operates, maintains, or controls. On March 11, 1992, the Port Commission adopted Ordinance No. 361, which provides the Port with legal authority over persons in possession of land owned by the Port. Ordinance No. 361 prohibits such persons from making, causing, or allowing an illicit discharge into a storm sewer owned or operated by the Port. Section 4 of the Ordinance requires written permission from the Port before connection to a Port storm sewer. Section 5 of the Ordinance authorizes the Port to inspect the land and storm sewers for violations of the Ordinance or applicable law that governs the conveyance or disposal of stormwater. In addition, the Ordinance provides the Port with authority to control the contribution of pollutants to storm sewers owned or operated by the Port; the quality of stormwater discharged from the sites of industrial activity on land owned by the Port; and the discharge to storm sewers owned or operated by the Port of pollutants from spills, dumping, or the disposal of materials other than stormwater.

In addition to the Ordinance, the Port has legal authority to control contribution of pollutants to the municipal storm sewer through contracts with its tenants. The lease agreements require the lessees to comply with the Port's MS4 Permit. Where appropriate and necessary, the Port has also entered into stormwater agreements to help control the contribution of pollutants to Port storm sewers. Some properties also have separate stormwater permits, with the Port and tenants as co-permittees. Through these regulatory and contractual mechanisms, the Port is working with tenants and users of Port facilities to implement and evaluate best management practices that will control the contribution of pollutants to Port storm sewers.

8.0 BMP ACCOMPLISHMENTS FOR PERMIT YEAR TEN (2004-2005)

8.1 Introduction

The Port's 2004-2005 MS4 Permit annual report content and format is based on the SWMP drafted in September 2000 and revised in October 2004. Per the new MS4 Permit requirements under Section B(2)(b), the Port's existing SWMP is currently being evaluated and revised to better reflect activities on Port property specifically regulated under the Port's MS4 Permit. Modifications to the existing SWMP will affect the future content and format of the annual reports, but in order to maintain consistency with the existing SWMP, are not reflected in this year's annual report content.

8.2 Current BMP Categories

The Port and its co-permittees developed eight general BMP categories during the permit renewal process for the second term of the Municipal Permit. These general categories provide a framework for co-permittees to improve interagency consistency and coordination. Within these categories, each co-permittee identifies specific BMPs that apply to their respective operations. The eight general BMP categories are listed below:

BMP Code	BMP Action
<i>Public Involvement/Education (PI)</i>	Inform and educate the public, business, industry, and government about the causes of stormwater pollution and its effects on local streams and rivers; to encourage active participation in pollution reduction efforts.
<i>Operation and Maintenance (OM)</i>	Improve existing and/or implement new operation and maintenance practices for public streets, sewers, and other facilities that reduce the amount of pollutants entering the storm sewer system and waterways.
<i>Industrial/Commercial Controls (IND)</i>	Reduce and control industry and commercial discharges to the storm sewer system from runoff and production practices.
<i>Illicit Discharges Controls (ILL)</i>	Develop a program to investigate, find, and eliminate illicit discharges to the stormwater system (illicit discharges include both illicit connections and illegal dumping).
<i>New Development Standards (ND)</i>	Ensure that pollutant controls are applied in project planning, during construction phases, and for existing projects.
<i>Structural Controls (STR)</i>	Incorporate onsite stormwater quality and transport systems into design standards for new and remodeled development; to evaluate, construct/retrofit, and monitor appropriate stormwater treatment and transport systems for both existing and new development.
<i>Planning/System Preservation and Development (PS)</i>	Develop incentives and policies for preservation of natural areas; to modify zoning codes to improve water quality.
<i>Other Activities (OA)</i>	Ensure program coordination, management, evaluation, and monitoring.

Within the general BMP categories listed above, the Port has developed fifteen sub-categories that are specific to Port activities. These subcategories are listed below.

BMP Code	BMP Action
<i>Port-PI1</i>	Conduct public outreach and support programs that increase public awareness of the importance of water quality protection.
<i>Port-PI2</i>	Inform employees and tenants of new stormwater pollution control efforts and activities in each Port operating area. Provide guidance for implementing the programs, where applicable. Participate with the City of Portland and community groups in promoting educational programs that relate to Port operations.
<i>Port-OM1</i>	Evaluate and update stormwater maintenance practices that affect water quality at stormwater quality facilities.
<i>Port-OM2</i>	Evaluate operations and maintenance of Port roads and vehicle maneuvering areas to determine water quality impacts. Recommend procedures or practices to reduce the discharge of pollutants to the stormwater system.
<i>Port-OM3</i>	Review landscape maintenance practices. Recommend the use of vegetation that reduces the need for pesticides, herbicides, fertilizers, and water, where practical.
<i>Port-IND1</i>	Develop a program to reduce the discharge of pollutants to the stormwater system from existing and developing industries on Port property, particularly focused on those that are not already regulated by other NPDES requirements.
<i>Port-ILL1</i>	Review required spill response procedures in each operating area. Refine procedures as necessary, including improving interagency coordination.
<i>Port-ILL2</i>	Provide information to employees and tenants on where and how to properly dispose of oil, antifreeze, pesticides, herbicides, paints, solvents, and other potentially harmful materials.
<i>Port-ILL3</i>	Detect and control illicit connections and discharges to the stormwater system.
<i>Port-ILL4</i>	Reduce the potential for illegal dumping through active property management.
<i>Port-ND1</i>	Apply practical erosion and sediment controls to reduce pollutant discharges at construction sites on properties being developed by the Port.

BMP Code	BMP Action
<i>Port-STR1</i>	When warranted and appropriate based on available water quality monitoring data, develop procedures for construction, maintenance, and monitoring of water quality facilities.
<i>Port-OA1</i>	Coordinate with applicable agencies working on regulatory aspects of water quality protection, including watershed management, combined sewer overflows, solid waste and recycling, and industrial waste and source control. Cooperate with agencies to implement new source or non-point source control practices where water quality data indicate the need for stormwater quality improvement.
<i>Port-OA2</i>	Promulgate policy and practices to address stormwater pollution issues on all Port property.
<i>Port-OA3</i>	Monitor stormwater to characterize typical discharges to the Port's municipal system.

8.3 SWMP Implementation

The remainder of this annual report describes the activities conducted by the individual Port operating areas during the 2004-2005 fiscal year, categorized according to each of these BMP categories.

PUBLIC INVOLVEMENT

Port-PII	Conduct public outreach and support programs that increase public awareness of the importance of water quality protection.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)Educational Activities

- As a member of the Columbia Slough Watershed Council (CSWC), the Port continued to participate in the Action Plan Implementation Committee and implement the Columbia Slough Watershed Action Plan, which includes enhancement and restoration projects, water quality improvement projects, educational programs, and public recreation opportunities.
- Environmental Affairs staff continued to host and co-chair the Columbia Corridor Association's Water, Air and Waste Committee meetings. The committee sponsors community presentations and sessions including information on industrial stormwater permits and the City's stormwater rate structure.
- Environmental Affairs staff presented the Port's Municipal Stormwater Management Plan to the City of Portland's Stormwater Advisory Committee (SAC) in November 2004. The SAC advises BES, the Commission-in-Charge, City Council and all departments of the City on policy and implementation issues related to stormwater management. The SAC was asked for input on the Port's stormwater program.
- The Port continued to implement the Project Delivery System as a method for providing employees with a template for planning and executing projects. Project Delivery training is conducted for new employees to instruct them on how to involve internal and external stakeholders in project development, including environmental affairs staff to ensure that environmental considerations and MS4 Permit SWMP goals are factored into planning and project execution.
- The Port's Properties and Development Services Department maintains several mitigation sites through the Mitigation Management Program. These sites are designed to provide a number of wildlife and community benefits, including restoring wetland hydrological functions, improving habitat connectivity, controlling the spread of invasive weeds, and providing greenspaces in highly urbanized areas. During the 2004-2005 permit year, the Port utilized these mitigation sites to provide a number of educational and outreach opportunities for the public, including the following:
 - The Port hosted the Multnomah Youth Cooperative in March 2005 for an educational site visit to Vanport Wetlands.
 - The Port hosted the Columbia Slough Watershed Council and Americorps for two visits to Vanport Wetlands to conduct training in wetland ecology.

- The Port continued to make information about the mitigation sites available to the public through its web site (www.portofportland.com).

Educational Publications

- The Port continued to publish *Port Currents*, a quarterly publication dedicated to informing the public about how Port projects, policies and news intersect with community and environmental issues. The Winter 2005 issue featured the Executive Director of the Columbia Slough Watershed Council and the efforts of the Council, of which the Port is a member, in restoring habitat in the watershed. The Spring 2005 issue featured an article titled, “Managing stormwater to protect water quality,” and describes the Port’s Municipal Stormwater Permit and Stormwater Management Plan.
- The Port continued to publish *Portside*, a publication issued three times per year featuring news and information about airports, marine terminals, industrial parks, and environmental programs. The Summer 2005 issue featured an article about the State Land Board award presented to the Port for the success of the Vanport Wetland mitigation project.
- The Port continued to publish the *Environmental Annual Report*. This annual publication documents the Port’s environmental accomplishments for the reporting year, and outlines objectives and targets for the upcoming fiscal year including the objective, minimize impacts to water resources.
- Environmental Affairs staff designed and printed 6,000 stickers and 1,000 folders with a stormwater education theme. The stickers were donated to the Columbia Slough Watershed Council’s Slough School as part of the Port’s in-kind grant contribution.

Awards

- The Port was one of eleven ports selected by the American Association of Port Authorities and the U.S. Environmental Protection Agency (EPA) to participate in a two-year Environmental Management System (EMS) project aimed at bringing ports together to share strategies for successful EMS implementation. The Port is a mentor to other ports pursuing EMS development.
- In September 2004, the Port won the 2004 American Association of Port Authority’s Environmental award in the Comprehensive Environmental Management category. This is the third consecutive year that the Port has won the award. Key elements contributing to the success of the award application were the long-term commitment of the Port to the program, including transferring much of the development and achievement of environmental targets to Port staff in operating areas.

Sponsorships

- The Port continued to host the Environmental Forum three times per year to provide representatives of regulatory agencies, tribes, environmental groups, and elected officials' staff with an opportunity to learn about environmental aspects of the Port's business and provide feedback. The February 2005 Forum, for example, included a presentation on how the Port sets annual objectives and targets under the Port's environmental management system (EMS), including targets under the objective, minimize impacts to water resources.
- The Port was a sponsor for the 2004 Annual Northwest Environmental Conference (NWEC) and Tradeshow. The NWEC is the largest, most comprehensive environmental conference and tradeshow in the Pacific Northwest. Sessions included topics on water quality and NPDES permitting and stormwater management.
- The Port was a co-sponsor for the Oregon Environmental Council's Forum for Business and the Environment speaker series. The Forum is the most highly attended statewide series, and has featured over 80 events and reached more than 5,000 of Oregon's business and community leaders. One of the presentations was titled, "New Technology and Market-Based Solutions to Stormwater Pollution."
- The Port co-sponsored the Annual Columbia Slough Regatta, an annual family-oriented canoeing and kayaking event that provides educational information about the Columbia Slough. Environmental, Marketing and Community Affairs staff volunteered at the event, organized by the Columbia Slough Watershed Council, of which the Port is a member.

PUBLIC INVOLVEMENT

Port-PI2	Inform employees and tenants of new stormwater pollution control efforts and activities in each Port operating area. Provide guidance for implementing the programs, where applicable. Participate with the City of Portland and community groups in promoting educational programs that relate to Port operations.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

General Activities

- The Port's Executive Director continued to support the Port's environmental programs by distributing Port-wide memorandums on environmental objectives.
- Port environmental staff continued to make available to employees and tenants copies of stormwater-related documents such as management plans, programs, procedures, and policies. Environmental Affairs staff and operating area managers relayed informational updates pertaining to stormwater management via email and through meetings. Environmental Affairs staff also distributed informational materials regarding upcoming conferences, training seminars, and stormwater-related environmental issues.
- Port staff from the various operating areas and departments collaborated on the development of new Environmental Objectives and Targets for fiscal year 2005-2006 which includes the objective, minimize impacts to water resources.

Staff Training Activities

- Port staff attended the following professional conferences and seminars during the 2004-2005 permit year:
 - Oregon Association of Clean Water Agencies (ORACWA) Stormwater Summit
 - ORACWA Annual Conference
 - Northwest Environmental Conference and Tradeshow
 - Environmental Law Education Center Stormwater Conference
 - Presentation on the Stormwater Permitting Regulations and Status sponsored by Stoel Rives LLP
 - DEQ's Erosion Prevention and Sediment Control Workshop
- PDX environmental staff conducted stormwater awareness training for PDX general maintenance staff, landscaping maintenance staff and general aviation maintenance staff. Training covered stormwater regulations and appropriate BMPs.
- Marine Environmental provided new staff members with OSHA HAZWOPER training. Refresher training is also provided annually.

- Environmental Affairs staff created MS4 Permit Management Manuals for operating area staff to use as a reference and training guide. The manuals contain the MS4 Permit, the Stormwater Management Plan, the Illicit Discharge Program and the Port's stormwater ordinance.
- All of the Properties Maintenance staff attended the City of Portland Parks Department annual chemical applicator re-certification class. Applicators must complete 40 hours of continuing education within five years.
- Two Properties Maintenance staff attended the Chemical Applicators short course held by Oregon State University's Integrated Plant Protection Center.
- Properties Maintenance conducted annual spill response training for the staff.
- PDX Environmental staff received annual HAZWOPER training.

Tenant and Contractor Training Activities

- PDX Environmental staff conducted erosion prevention and sediment control training for all of the Port's Construction Inspectors in the Engineering Department.
- The Port's Engineering Department continued to implement the Required Environment Practices for Construction by outlining these requirements in all construction contract specifications. The specifications are aimed at preventing stormwater contact with equipment operations that could potentially contribute contaminants if not properly managed.
- PDX continued to host BMP Committee meetings three times per year for PDX employees and tenants. The winter BMP Committee meeting featured a presentation by Environmental Affairs staff on the Port's *Stormwater Management Plan for Underground Injection Control*. Other meetings discussed stormwater and spill prevention requirements.

OPERATIONS AND MAINTENANCE**Port-OM1 Evaluate and update stormwater maintenance practices that affect water quality at stormwater quality facilities.****KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)**

- Operating area staff continued to develop, promote, and implement specific stormwater maintenance practices at Port and tenant facilities. Many of the maintenance practices meet the requirements of NPDES and other permits, including the following:
 - NPDES Anti-icing/Deicing Waste Discharge Permit, No. 101647 (PDX)
 - NPDES Construction Dewatering Discharge Permit, No. 101588 (PDX)
 - NPDES 1200-CA Stormwater Discharge Permit, No. 107018 (Port-wide)
 - NPDES 1200-COLS Industrial Stormwater Discharge Permit, No. 107220 (PDX)
 - NPDES 1200-COLS Industrial Stormwater Discharge Permit, No. 111492 (Terminal 6)
 - NPDES 1200-Z Industrial Stormwater Discharge Permit, No. 103594 (Terminal 6)
 - City of Portland Pretreatment Permit, No. 400-131 (PDX)
- The Port continued to coordinate with the Multnomah County Drainage District (MCDD) through an intergovernmental agreement that covers the maintenance of ditches, pipes, and sumps within PIC and portions of PDX.
- The Port continued to make improvements to the deicing system at PDX. The system is designed to reduce glycol discharges and associated water quality impacts to the Columbia Slough. PDX staff monitored and evaluated the effectiveness of the system throughout the deicing season, and developed operating protocols and quality assurance/quality control (QA/QC) measures to supplement the deicing system's Operations and Maintenance (O&M) Manual.
- Marine staff completed routine stormwater maintenance activities throughout the permit year. Activities included catch basin inspection and cleaning, oil/water separator maintenance, inlet filter maintenance and replacement, and facility sweeping.
- Marine staff continued implementation of stormwater BMPs on leased Marine Terminal properties through the Marine Tenant Management Program. Pollution control practices outlined in the BMPs include the following:
 - Using "dry cleaning" techniques (e.g., sweeping) for outdoor surfaces cleaning;
 - Directing contaminated runoff to sanitary sewers instead of storm sewers;
 - Incorporating landscaped areas into facility design;

- Using lead-free, water-based paints when painting asphalt or other ground features.
- PDX staff continued to host its annual “Spring Cleanup” program at PDX by providing dumpsters for tenants’ scrap metals and other solid waste materials. The waste was taken to a sorting station for recycling. The collection day minimizes improper garbage disposal and storage on Port property.
- PDX staff regularly performed the following routine maintenance practices:
 - Boom deployment, maintenance, and/or replacement;
 - Inlet filter installation, maintenance, and/or replacement;
 - Detention/quiescent pond cleaning;
 - Vegetative swale maintenance;
 - Oil/water separator maintenance;
 - Catch basin inspection and cleaning;
 - Facility sweeping; and
 - Preventative maintenance inspections of aboveground storage tanks (ASTs), and industrial activity areas.
- PDX Drainage Basin 4 quiescent pond was cleaned.
- PDX continued to maintain an intergovernmental agreement with Multnomah County Drainage District to conduct maintenance activities on outfalls and ditches.
- Property and Development Services staff continued to identify and inventory “orphaned” stormwater system components (e.g., catch basins) at its industrial properties, and worked to add these features to the maintenance program.
- Property and Development Services staff managed landscaped areas within the industrial parks and marine terminals to provide stormwater quality improvements. Crews removed and disposed of vegetative debris, scrap metal, and miscellaneous garbage. Staff composted or chipped vegetative debris to create mulch, and disposed of metal and miscellaneous garbage at appropriate facilities.
- Property and Development Services staff contacted 15 tenants to inform them of their status with the Port’s catch basin insert program. Tenants participating in the program had previously agreed to allow the Port to install catch basin inserts in addition to one year of free maintenance. After one year, the tenant is responsible for maintaining the insert at their expense. The Port is tracking tenant response to this program.
- In addition to tenant catch basin maintenance, Property and Development Services staff continued to conduct catch basin cleaning and filter replacement at the following sites:
 - Ship repair parking lot;
 - Port Center parking lot;

- Navigation facility
- Terminal 5 Entry Road
- McCarthy Park

- Properties Maintenance staff worked to clear vegetation around several outfalls and culverts on industrial park properties during the permit year to provide better access for inspections and illicit discharge monitoring.

- Properties Maintenance staff continued to provide a scrap metal recycling bin for tenant use at the Properties Maintenance facility.

OPERATIONS AND MAINTENANCE

Port-OM2	Evaluate operations and maintenance of Port roads and vehicle maneuvering areas to determine water quality impacts. Recommend procedures or practices to reduce the discharge of pollutants to the stormwater system.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- Marine Facilities Maintenance conducted street sweeping at Terminals 2, 4 and 6 annually with additional sweeping conducted as needed. Maintenance crews and contractors placed swept materials in storage bins to prevent contact with stormwater runoff. The Port appropriately profiled and disposed of these materials.
- Properties Maintenance staff continued to conduct routine pavement maintenance throughout the year, including surface repairs and painting. Crews continued to use specialized tools and techniques to properly handle waste and cleaning products.
- Property and Development Services staff continued contracts for parking lot sweeping for two lots at Port Center at the Swan Island Industrial Park. Sweeping is conducted every other week.
- Properties Maintenance applied deicing chemical to sidewalks at McCarthy Park only on an as-needed basis based during severe weather for safety issues.
- Properties Maintenance installed approximately 60 catch basin filter inserts to the catch basins at Terminal 4. These will be added to the regular maintenance schedule.
- PDX Maintenance staff conducts deicing activities in accordance with PDX's NPDES Anti-icing/Deicing Waste Discharge Permit, No. 101647. PDX staff continued to implement the Deicing and Anti-Icing Runoff Control Plan to set the strategy for controlling, collecting, and disposing of deicing and anti-icing materials. PDX Deicing Permit co-permittees carried out stormwater BMPs in their routine activities, including the use of glycol recovery vehicles, forced-air deicing methods for aircraft, employment of a two step chemical application process for pavement deicers, varying aircraft deicing material mix ratios based on ambient temperatures (to be performed by the airlines).
- PDX maintenance staff conducted the following sweeping activities: on the airfield one to two times per week; Frontage Road at PDX two times per week; Airport Way on two times per week; and PDX parking lots two times per week.
- PDX maintenance staff removed runway rubber utilizing a machine that contained and recycled the water used in the cleaning of the runway surface, eliminating surface water runoff from the process.

- PDX maintenance staff maintains indoor storage areas, equipment wash-bays, debris unloading areas, and toluene recovery systems associated with its pavement maintenance operations.

OPERATIONS AND MAINTENANCE

Port-OM3	Review landscape maintenance practices. Recommend the use of vegetation that reduces the need for pesticides, herbicides, fertilizers, and water, where practical.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- Properties Maintenance staff continued to require all chemical applicators to obtain and maintain licenses issued by the Oregon Department of Agriculture (ODA), which requires that pesticide applicators receive 40 hours of continuing education training per 5-year license term.
- Properties Maintenance staff continued to be responsible for the landscaping and Properties Maintenance of the Port's industrial parks, marine terminals, and mitigation sites. Properties Maintenance staff employed a program of integrated pest management (IPM), which provides the framework for all pesticide and fertilizer applications. The IPM program establishes a threshold of acceptable appearance, damage, infection, etc. for landscaped areas. Once that threshold has been crossed, corrective measures are taken using the least toxic, most effective methods/materials available.
- The Property and Development Services Department continued to implement the Integrated Pest Management and Work Schedules Program (IPMWS) for Port-owned mitigation sites. The IPMWS identifies problem plant species at each site, provides a profile for each species, recommends control methods, and outlines monitoring protocol schedules.
- Port maintenance staff continued to work to minimize the use of pesticides, fertilizers, and irrigation water in the course of its maintenance activities. Examples of measures employed and guidelines established to accomplish this included the following:
 - Adherence to manufacturer's instructions for storage, handling, and application of chemicals;
 - Following guidelines provided by agencies such as the U.S. Department of Agriculture (USDA), Oregon Department of Agriculture, Portland Parks and Recreation Department, and the Multnomah County Vector Control;
 - Proper disposal of pesticide containers, dead vermin and pests, and other related wastes;
 - Increased emphasis on manual and mechanical methods for weed removal;
 - Selection of herbicide products that are approved for aquatic use and with limited persistence in soil;
 - Selection of plants that are well-suited to site conditions with few pest problems;
 - Use of mulch and drip irrigation systems to conserve water and improve water retention;
 - No fertilizer use airside (inside the security fence) at PDX;

- When appropriate, use of slow-release fertilizer products that minimize “application overages” and help prevent nitrate leaching into the groundwater;
- Use of mycorrhizae (symbiotic fungi) to improve water uptake by plants;
- Improvements in chemical application techniques:
 - Emphasis on spot-spraying as opposed to broadcast spraying
 - Use of small fertilizer spreaders at curbsides to reduce “over spray” and the potential for fertilizers entering stormwater systems
- Planting (or replanting) of areas without groundcover, such as constructed areas where vegetation has not been established;
- Mowing at critical times during the growing season to maximize native seed release and limit weed release;
- Use of alternative mosquito control methods:
 - Provide bat houses to increase bat presence on sites
 - Improve habitat for dragonfly/damselfly species
- Apply techniques to minimize chemical applications, including:
 - Biological controls;
 - Physical controls (e.g., mowing, burning, flooding, grazing);
 - Cultural selection (i.e., the selection of the proper plant species for the area); and
 - Field surveys to assess pest conditions and limit unnecessary chemical applications.
- Properties Maintenance staff discontinued the use of insecticides on industrial park property.
- Properties Maintenance staff made efforts to improve native species diversity and establishment, especially along watercourses. Examples of such efforts include the following:
 - Planting robust native plants that require less irrigation and long-term care than non-natives;
 - Preferentially choosing bio-engineering methods for erosion control near streams and other sensitive areas;
 - Fencing out foraging animals from sensitive areas; and
 - Continuing a program (in cooperation with BES) to remove invasive species along riparian corridors.
- PDX maintenance staff, responsible for landscaping at PDX facilities, continued to implement a number of landscape maintenance practices aimed at improving stormwater quality at the airport, including the following:
 - Maintaining the integrity and function of bioswales by keeping them full with healthy, mature vegetation;
 - Limiting the amount of turf and shrub fertilizer that falls on hard surfaces (e.g., sidewalks, roads, parking lots) by using small fertilizer spreaders, and blowing unintentional applications to these areas back onto the target areas; and
 - Using slow-release nitrogen fertilizers to limit leaching into groundwater and runoff into surface waters.

- The Port continued to implement the Riverbank Management Plan (initiated in 1998), which provides the basis for planning, maintenance and construction decisions along the riverbanks at marine terminals. The plan calls for ongoing surveying, monitoring, and BMP implementation and recommends the use of native plant species for revegetation of riverbank areas.
- Marine Facility Maintenance staff continued to be responsible for maintaining the railyards, asphalt areas, and portions of the riverbank at Terminal 6.
- Environmental Affairs Department maintains a list of pesticides used on Port property. Maintaining a reference list allows for staff to determine usage of particular products and comply with new regulatory requirements for specific usage or restrictions.

INDUSTRIAL AND COMMERCIAL CONTROLS

Port-IND1	Develop a program to reduce the discharge of pollutants to the stormwater system from existing and developing industries on Port property, particularly focused on those that are not already regulated by other NPDES requirements.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- Port Ordinance No. 361, an ordinance regulating stormwater, authorizes Port staff to inspect tenant facilities, restrict connections to the MS4, and impose penalties to known violators.
- Agreements and contract provisions were implemented to control pollutant discharges to the Port's stormwater system. These include, but are not limited to, construction dewatering agreements, storage tank use agreements, environmental specifications for construction projects, right-of-entry permits, operating permits, and mobile fueling permits.
- Environmental Affairs continued to record tenants on Port-leased property with and without NPDES permit responsibilities.
- Property and Development Services and PDX Properties staff continued to include stormwater language into tenant leases.

ILLCIT DISCHARGES CONTROLS**Port-ILL1 Review required spill response procedures in each operating area. Refine procedures as necessary, including improving interagency coordination.****KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)**

- The Port continued to rely on emergency response plans in dealing with emergency situations at Port facilities. The plans establish roles and responsibilities within the organization for emergency/spill response and cover other important information, such as reporting procedures, “reportable quantities,” agency and internal notification requirements, hazardous waste concerns, and general safety. The Port implements the following plans that establish reporting protocols for spills, define roles and responsibilities, identify notification requirements, and address other general environmental issues:
 - Portland International Airport Spill Response Plan
 - Portland International Airport Spill Prevention Control and Countermeasures (SPCC) Plan
 - Portland International Airport Stormwater Pollution Control Plan
 - Marine Terminal 6 Spill Response Plan
 - Marine Terminal 6 Stormwater Pollution Control Plan
- Emergencies and spills on Aviation properties are reported directly to the PDX Communications Center.
- Emergencies and spills on Marine and other properties are reported to the Marine Security Office and to the Spill Response Coordinator in Marine who then contacts one of the Port’s designated contractors for cleanup and conducts any required agency reporting.
- Emergency contact information is posted on the first page of the Port telephone directory and can be accessed through the PortNet computer network.
- The Port continued to require construction specifications, *Environmental Practices for Construction*, for Port contractors, which include measures for spill prevention and response.
- PDX environmental staff, the Port spill response contractors, and PDX Aircraft Rescue and Firefighting participated in a spill response drill.
- The Marine/Properties Spill Response Coordinator remained an active member of the City of Portland’s Regional Spill Committee.

- Marine staff continued to participate in spill response programs through the Maritime Fire and Safety Association and the Clean Rivers Co-op.
- The Marine Spill Response Coordinator distributed the Emergency On-Call Schedule to Port and Marine security employees.

ILLICIT DISCHARGES CONTROLS

Port-ILL2	Provide information to employees and tenants on where and how to properly dispose of oil, antifreeze, pesticides, herbicides, paints, solvents, and other potentially harmful materials.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- The Property and Development Services continued a public outreach campaign to prevent stormwater pollution at storm drains through the use of curb/pavement decals and posters. The decals which say “Dump No Waste, Drains to Stream” are glued to the pavement next to catch basins as a reminder that polluted stormwater drains directly to rivers. Property and Development Services staff installed 75 markers on catch basins at Portland International Center (PIC), 30 at Rivergate Industrial Park and 5 at Swan Island Industrial Park.
- The Port’s Risk Management group maintains a Port-wide online inventory of hazardous materials Material Safety Data Sheets (MSDS) used on Port properties.

ILLICIT DISCHARGES CONTROLS**Port-ILL3 Detect and control illicit connections and discharges to the stormwater system.****KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)**

- PDX, Marine and Properties and Development Services Staff continued to implement the Illicit Discharge Detection and Elimination Program. The procedures outlined in the program cover the following topics:
 - Enforcement of Port Ordinance 361;
 - Dry season field monitoring;
 - Priority and schedule of major outfall inspections; and
 - Investigation of potential illicit discharges.
- PDX environmental staff conducted dry season inspections at PDX and PIC in summer 2004 by inspecting a total of 11 monitoring locations in summer 2004. PDX has increased the inspections of “priority” outfalls to include all nine drainage basins on PDX property. Photographs of each monitoring location were taken as documentation. No illicit discharges were discovered.
- Marine staff conducted dry season inspections at 11 outfalls on marine terminals in summer 2004. Three outfalls were observed with discharges and water samples were collected at two outfalls. One outfall was inaccessible and not enough flow was present in the manhole to collect a sample. Sources of the other flows were not determined.
- Property and Development Services staff conducted dry season inspections at 29 outfalls at the Swan Island and Rivergate industrial parks in summer 2004.
 - Thirteen outfalls were inspected at the Rivergate industrial park. Staff increased their observations from four priority outfalls to thirteen in order to do a more comprehensive inspection. Five outfalls at Rivergate had summer flows. Discharges from two outfalls were determined to be on the list of permitted discharges, discharge from one outfall was the result of improper structural(?) BMPs and the Port notified the tenant. The tenant hired a contractor to have the pipes cleaned. The sources of discharge from two outfalls were not determined.
 - Sixteen outfalls at Swan Island industrial park were inspected. Two outfalls were observed with flows. Discharge from one outfall was determined to be on the list of allowable discharges, and discharge from the other outfall was attributed to City staff performing maintenance work on the sewer. This potential illicit discharge was referred to the City’s illicit discharge coordinator.

ILLICIT DISCHARGE DETECTION

Port-ILL4	Reduce the potential for illegal dumping through active property management.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- Property and Development Services and PDX continued to secure much of its property with fences and locked gates, limiting access to potential violators. In areas where public access must be maintained, the Port posts signs with warnings against illegal dumping.
- Property and Development Services maintenance staff continued to conduct weekly security checks at industrial park property and conduct weekly garbage pick-ups. If trash is dumped on or near a mitigation site, the Port hires a contractor to remove it immediately. If a vehicle is abandoned on or near a site, the Port has it towed. If hazardous waste is found, Port staff coordinate with the City and other agencies, as appropriate, to properly isolate and dispose of the waste. Garbage dumped on properties not owned by the Port is reported to the City of Portland. Through an interagency agreement, the City of Portland is also responsible for removing illegally dumped materials found in public right-of-ways (roads).
- Property and Development Services staff continued to coordinate with staff from the Port's operating areas to investigate violations, search for abandoned waste, and identify responsible parties.
- PDX Ground Transportation Office staff continued to patrol the taxi hold parking areas for trash and illegal dumping.
- PDX continued offering appropriate waste disposal measures by providing dumpsters for tenants' scrap metals and other solid waste materials during the annual "Spring Cleanup" event.
- PDX, Properties and Marine continued to use environmental contractors for the disposal of hazardous materials.
- Environmental Affairs staff coordinated a clean up day at three Port properties. Approximately 35 Port staff picked up approximately 600 pounds of garbage along the 1.8 miles of riverbank at Terminal 5, Terminal 6 and Swan Island Industrial Park.

NEW DEVELOPMENT STANDARDS

Port-ND1	Apply practical erosion and sediment controls to reduce pollutant discharges at construction sites on properties being developed by the Port.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- The Port holds the following permits which regulate erosion control activities on Port properties:
 - NPDES 1200-CA Stormwater Discharge Permit, File No. 101018. The Port set contract specifications for construction projects that include requirements to prepare an erosion and sediment control plan (ESCP). The ESCPs are reviewed and approved by Port engineering and environmental staff. The provisions of the approved ESCP are ensured through specific enforcement of Port contracts. Port and City inspectors regularly inspect Port projects for conformance with the ESCP and jurisdictional requirements. If projects are determined to have inadequate ESCP implementation, Port staff work with the contractors to meet the requirements of the ESCP.

PDX Environmental staff addressed erosion control compliance issues during tenant meetings, pre-construction meetings, weekly construction meetings, and weekly site inspections.

Engineering continued to include Environmental Practices for Construction in the construction specifications for Port contractors. These specifications apply to all Port construction projects and address a variety of concerns, including erosion and sediment control. The specifications reference the City of Portland's Erosion Control Manual.

Environmental Affairs staff created the *Environmental Practices for Port Construction Guidance Manual* as a tool for Port construction inspectors and environmental staff. The manual details and illustrates proper and improper best management practices for minimizing impacts to water resources from construction projects.

- NPDES Dewatering Discharge Permit, No. 101588. This permit regulates the discharge of treated excavation wastewater at the PDX and PIC facilities to the storm sewer system. PDX Environmental staff prepared a Dewatering Guidance for Port Staff in order to outline responsibilities under the Dewatering Permit.

- Environmental Affairs staff continued to coordinate the Construction Issues Coordination Group meetings. The group, consisting of staff from PDX, marine, engineering, construction, legal and environmental, meets monthly to improve Port-wide communication on general environmental construction issues.
- Property and Development Services staff provided guidance to engineering staff on planting plans for erosion control at construction sites, promoting the use of native herbaceous species that are fast germinators.
- Construction of Toyota Logistics Services, Inc.'s new auto handling facility at Terminal 4 was completed. The redeveloped facility was designed to lessen environmental impacts due to stormwater runoff. The stormwater management system directs runoff to bioswales or an oil and solids removal system. Rainwater is collected from the roof and recycled to the toilets. In addition, 1,700 linear feet of restored riverbank will improve wildlife habitat, control erosion and filter stormwater. The Toyota facility received Leadership in Energy and Environmental Design (LEED) certification in 2004.
- PDX environmental staff reviewed Port and tenant aviation construction projects for environmental issues, providing design input to ensure all appropriate environmental safeguards were implemented

STRUCTURAL CONTROLS

Port-STR1	When warranted and appropriate based on available water quality monitoring data, develop procedures for construction, maintenance, and monitoring of water quality facilities.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- Operating area staff continued to be responsible for evaluating practices at their respective facilities, and for updating site-specific plans, as needed. The Port's operating areas implement the following permits and plans:
 - NPDES Anti-icing/Deicing Waste Discharge Permit, No. 101647 (PDX)
 - NPDES Construction Excavation Waste Water Discharge Permit, No. 101588 (PDX)
 - NPDES 1200-CA Stormwater Discharge Permit, No. 107018 (Port-wide)
 - NPDES 1200-COLS Industrial Stormwater Discharge Permit, No. 107220 (PDX)
 - NPDES 1200-COLS Industrial Stormwater Discharge Permit, No. 111492 (Terminal 6)
 - NPDES 1200-Z Industrial Stormwater Discharge Permit, No. 103594 (Terminal 6)
 - City of Portland Pretreatment Permit, No. 400-131 (PDX)
 - PDX Anti-Icing/Deicing Management Plan
 - Terminal 6 Stormwater Pollution Control Plan
 - PDX Stormwater Pollution Control Plan
- PDX completed the Stormwater Pollutant Load Model Report for Portland International Airport in May 2005 as part of the Strategic Environmental Evaluation for the 2000 PDX Master Plan. The purpose of the modeling effort was to compare existing stormwater pollutant loading to loading associated with four potential development alternatives. The model also provides a basis for evaluating stormwater treatment options.

OTHER ACTIVITIES

Port-OA1	Coordinate with applicable agencies working on regulatory aspects of water quality protection, including watershed management, combined sewer overflows, solid waste and recycling, and industrial waste and source control. Cooperate with agencies to implement new source or non-point source control practices where water quality data indicate the need for stormwater quality improvement.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- The Port continued to dedicate extensive staff time and resources towards coordination with agencies and organizations that work on water quality issues. Environmental affairs and operating area staff regularly attend public meetings, hearings, and other forums that involve stormwater issues. Port staff are also active members of community workgroups and advisory committees.
- The Port remained actively involved with the following organizations with projects aimed at improving source and non-point source control practices:
 - Columbia Slough Watershed Council
 - Columbia Slough Watershed Council Action Plan Implementation Committee
 - Columbia Slough Watershed Council Action Plan Administrative Committee
 - Oregon Association of Clean Water Agencies
 - Urban Ecosystem Research Consortium
 - Stakeholder Forum on Federal Wetlands Mitigation
 - Mosquito Control Stakeholders Group
 - Willamette River Restoration Initiative
 - City of Portland's River Renaissance
 - City of Portland Watershed Science Advisory Group
 - City of Portland's South Shore Wellfield Wellhead Protection Program
 - City of Portland Bureau of Environmental Services Revegetation Program
 - City of Portland Stormwater Advisory Committee
 - Smith and Bybee Lakes Wetlands Management Committee
- The Port continued to coordinate with a variety of public agencies on stormwater-related projects and programs. These agencies included the following:
 - U.S. Army Corps of Engineers
 - Oregon Department of State Lands
 - Oregon Department of Environmental Quality
 - Multnomah County Drainage District
 - Multnomah County Vector Control
 - City of Portland Bureau of Environmental Services
 - City of Portland Water Bureau
 - Metro

OTHER ACTIVITIES

Port-OA2 Promulgate policy and practices to address stormwater pollution issues on all Port property.

KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

- Environmental Affairs and environmental staff within the operating areas provide guidance on the development, refinement, and implementation of environmental policies, procedures, and practices to benefit stormwater quality.
- The Port continued to implement the Port-wide Environmental Policy, adopted by the Port of Portland Commission February 2000:

“The Port of Portland will achieve its mission through responsible environmental stewardship and proactive environmental programs. The Port will integrate environmental considerations into all aspects of its strategic planning and business decision-making.”

This general policy is promulgated by the Environmental Affairs Department and sets the stage for the Port’s many environmental programs. The Port’s Environmental Policy, along with more specific policies and procedures (e.g., Environmental Water Resources Policy and related procedures) are made available to Port staff through the Port’s EMS. Other plans and programs, which also address stormwater pollution issues, remain in effect, including the Tenant Management Program, the Natural Resource Assessment and Management Plan (NRAMP), and the Riverbank Management Program.

- Environmental Affairs and environmental staff within the operating areas track compliance with stormwater regulations and support efforts to meet the Port’s Environmental Objectives and Targets.
- Environmental Affairs continued to update and improve its GIS data to include stormwater facilities and land-use information. Through its GIS system, the Port has developed maps for planning and evaluating stormwater issues and policies.
- The Port continued to develop and implement its EMS, which integrates the Port’s environmental policy into planning for and operating its business. The following list represents significant elements of the EMS that were continued through the permit year.
 - Environmental Procedures—The Port continued to develop, refine, and implement environmental procedures that describe how to carry out policies and programs and manage environmental permits.

- Environmental Objectives and Targets—The Port established and reported progress on its 2004-2005 environmental objectives and targets in the Port’s Environmental Annual Report.
- EMS Management Review—The Port conducted an EMS Management Review to assess the suitability, adequacy and effectiveness of the Port’s EMS. Included in this review were the Port’s environmental policy and practices.
- Environmental Water Resources Policy—The Port worked to improve consistency in BMP development, documentation, interpretation, implementation, and evaluation through new written procedures.
- Property and Development Services continued to implement the Mitigation Management Program. Mitigation sites are designed to provide a number of wildlife and community benefits, and are based upon adaptive management techniques. The Plan includes detailed maintenance and monitoring schedules for five mitigation sites.

OTHER ACTIVITIES

Port-OA3	Monitor stormwater to characterize typical discharges to the Port's municipal system.
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KEY ACCOMPLISHMENTS, PERMIT YEAR TEN (FY 2004-2005)

The Port continued to provide financial support through an intergovernmental agreement to the City of Portland for monitoring, as required by the Municipal Permit. Monitoring results are included in the City of Portland's section.

- Although not specific to the MS4 Permit, monitoring data is collected under the following permits and submitted to DEQ:
 - NPDES Anti-icing/Deicing Waste Discharge Permit, No. 101647 (PDX)
 - NPDES Construction Excavation Waste Water Discharge Permit, No. 101588 (PDX)
 - NPDES 1200-COLS Industrial Discharge Permit, No. 107220 (PDX)
 - NPDES 1200-COLS Industrial Discharge Permit, No. 111492 (Terminal 6)
 - NPDES 1200-Z Industrial Discharge Permit, No. 103594 (Terminal 6)
- The Port completed the first phase of implementing the new Port-wide environmental monitoring data software. Data collected is related to 1200-COLS and 1200-Z permits, illicit discharge investigations and deicing and dewatering permits. Data is being tracked according to sample site, parameter and associated permit for Port-wide analysis. The Port coordinates with contracted analytical laboratories to obtain data in electronic format that feeds the database.
- Property and Development Services monitored the water quality at the Vanport wetland site. The site will be tested every other year for the following water quality parameters: PAHs, heavy metals, coliform bacteria, and nutrients. Results are analyzed internally to determine project effectiveness.

8.4 Proposed Changes to the SWMP Components

As part of the Interim Evaluation Report required by Section B(2)(b) of the Permit, the Port is in the process of completing a review of BMPs with those staff responsible for BMP implementation. As part of this process, the Port is in the process of revising the SWMP including changing some of the specific BMPs. The Port plans to restructure the SWMP for simplification and to more closely align BMPs with specific permit requirements. The BMP numbering system will be eliminated and BMPs will be referred to by name. These changes will be recommended to DEQ as part of the Interim Evaluation Report due in May 2006.

APPENDIX A

NPDES-Permitted Tenant List 2004-05

**Port of Portland
NPDES-Permitted Tenant List 2004-05**

Port Property	Tenant Name	Tenant Legal Permit Name	Address	Permit Type
Terminal 2	Stevedoring Services of America, Inc.	Stevedoring Services of America, Inc.	3556 NW Front Ave.	1200-Z
Terminal 4	Kinder Morgan Bulk Terminal 4	Kinder Morgan Bulk Terminals, Inc.	11040 N Lombard St.	Individual non-process wastewater
Terminal 4	International Raw Materials	International Raw Materials, LTD	11040 N Lombard St.	1200-Z
Terminal 4	Toyota Logistics Services, Inc.	Toyota Logistics Services, Inc.	11020 N Lombard St.	1200-Z
Terminal 5	Columbia Grain, Inc.	Columbia Grain, Inc.	15660 N Lombard St.	1200-Z
Terminal 5	Portland Bulk Terminal 5	Kinder Morgan Bulk Terminals, Inc.	1550 N Lombard St.	1200-Z
Terminal 6	Auto Warehousing Company	AWC Port Services, Inc.	6347 N. Marine Dr.	1200-COLS
Terminal 6	Glovis America, Inc.	Glovis America, Inc.	8235 N. Marine Dr.	1200-COLS
Portland International Center	Yoshida Foods International	Yoshida Foods International Limited Partnership	8440 NE Alderwood	1200-COLS

Appendix

CITY OF PORTLAND NPDES STORMWATER PERMIT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) DISCHARGE PERMIT

Oregon Department of Environmental Quality
Northwest Region
2020 SW 4th Avenue, Portland OR 97201-4987
Telephone: 503-229-5263

Issued pursuant to Oregon Revised Statute 468B.050 and the Federal Clean Water Act

ISSUED TO CO-PERMITTEES:
City of Portland
Multnomah County
Port of Portland

SOURCES COVERED BY THIS PERMIT:
All Existing and New Discharges of Storm Water from the Municipal
Separate Storm Sewer System

RECEIVING STREAM INFORMATION:
Basin: Willamette, Columbia
Subbasin: Lower Willamette, Tualatin
Streams: Willamette River*#, Columbia River* #, Columbia Slough*#,
Tualatin River #, Fanno Creek*#, Balch Creek, Johnson Creek*
County: Multnomah

- * These water bodies have been designated water quality limited or discharge into water quality limited water bodies.
- # Total Maximum Daily Loads (TMDLs), Wasteload Allocations, and Load Allocations have been established for these water bodies. The TMDLs for the Tualatin subbasin and the Columbia Slough establish Wasteload Allocations for urban storm water. See Tualatin Subbasin TMDL approved by EPA on 7 August 2001 and Columbia Slough TMDL approved by EPA November 25, 1998. These allocations are addressed in Schedule D.

EPA REFERENCE NO.: ORS 108015
Issued in response to Application No. 989553 received on February 29, 2000.

This permit is issued based on the land use findings in the permit record.

Signed 03/08/2004
Neil Mullane, Administrator, Water Quality Program
Northwest Region

Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the co-permittee is authorized to implement a storm water management program to reduce the contribution of pollutants in storm water to the maximum extent practicable (MEP), to address where applicable TMDL wasteload allocations, and to discharge storm water to waters of the State, in conformance with all the requirements and conditions set forth in the attached schedules as follows:

	<u>Page</u>
Schedule A – Controls and Limitations.....	2
Schedule B – Monitoring and Reporting Requirements.....	2
Schedule C – Compliance Schedules	not applicable
Schedule D – Special Conditions	5
Schedule E – Pretreatment Program Conditions	not applicable
Schedule F – General Conditions	10

Unless authorized by another National Pollutant Discharge Elimination System permit, other direct and indirect discharge to public waters is prohibited.

SCHEDULE A

Controls and Limitations for Storm Water Discharges from Municipal Separate Storm Sewer Systems

- 1) Each co-permittee must implement all applicable provisions in the Storm Water Management Plan (SWMP).

For the City of Portland, the SWMP is the following:

- a) The 1995 SWMP approved under the previous NPDES permit, with co-permittee changes made in annual compliance reports; modifications to the permit approved by the Department on April 29, 1998; and proposed BMP revisions included in the co-permittees' permit renewal submittal to the Department on February 29, 2000; and,
- b) Any changes made to this proposed SWMP in accordance with Schedules B(1)(c), B(2)(b), D(2)(b), D(2)(d), and D(2)(e).

Applicable provisions are those relating to requirements, programs, and operations of the municipal separate storm sewer system (MS4) over which the co-permittee has jurisdiction or control.

The SWMP describes a program that includes best management practices (BMPs), monitoring triggers, narrative conditions, and other elements designed to reduce the introduction of pollutants into waters of the State from the MS4 to the maximum extent practicable. The SWMP also includes evaluation and reporting requirements designed to measure the effectiveness of the control measures and other programs.

- 2) The co-permittee must reduce the discharge of the pollutants from the MS4 to the maximum extent practicable (MEP). Compliance with the permit and implementation of the SWMP is deemed to be compliance with this MEP requirement, unless or until the Department reopens the permit as provided in Oregon Administrative Rule (OAR) 340-045-0040 and 0050 to require additional controls.
- 3) The co-permittee must effectively prohibit non-storm water discharges into the MS4 unless such discharges are otherwise permitted by an existing NPDES permit. Unless identified by any co-permittee, or the Department, the following non-storm water discharges need not be addressed by the co-permittee's illicit discharge program, provided appropriate control measures, if needed, to minimize the impacts of such sources are developed under the SWMP: water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated groundwater infiltration; uncontaminated pumped ground water; discharges from potable water sources; start up flushing of groundwater wells; aquifer storage and recovery (ASR) 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; 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, the state's environmental cleanup law; and discharges or flows from emergency fire fighting activities where discharges or flows from fire fighting are identified as not a significant sources of pollutants to waters of the state.

SCHEDULE B

Monitoring and Reporting Requirements

- 1) Monitoring Component Requirements
 - a) The co-permittees must conduct the monitoring as described in the monitoring component of the approved SWMP to fulfill the reporting requirements described in Schedule B(2). Co-permittees must conduct monitoring necessary to track the long-term progress of the SWMP towards achieving improvements in receiving water quality, including progress towards meeting pollutant load reduction benchmarks associated with TMDL parameters as specified in Schedule D(2)(d). The monitoring component of the SWMP must explain how the proposed monitoring program fulfills each of the primary program objectives listed in (i) through (vi) below. To achieve the objectives listed below, the permittee's monitoring

activities must include some level of MS4 discharge monitoring and in-stream monitoring, unless the permittee demonstrates that alternative sources of data can adequately support conclusions associated with these objectives.

- i) Determine the status of implementing the components of the SWMP;
- ii) Evaluate the effectiveness of BMPs for specific source controls;
- iii) Evaluate the source of specific pollutants;
- iv) Assess the chemical, biological, and physical effects of MS4 runoff on receiving waters;
- v) Characterize MS4 runoff discharges; and
- vi) Evaluate long-term trends in receiving water quality associated with storm water discharges.

The plan must address ongoing long-term monitoring and may address short-term special studies. The results of the monitoring component must be used to support the adaptive management process and lead to refinements of the SWMP.

- b) The following information must be included in the monitoring component of the SWMP:
 - i) Program monitoring:
 - (1) A list of activities to be monitored, and
 - (2) A list of monitored performance indicator metrics (e.g., number of miles of streets swept, number of cross-connections found, tons of material removed from storm sewers, etc.).
 - ii) Environmental monitoring:
 - (1) A list of monitoring sites;
 - (2) A list of constituents to be analyzed;
 - (3) The media sampled;
 - (4) Sample collection frequency and any targeted conditions (such as hydrologic or meteorological); and
 - (5) Protocols for quality assurance/quality control for sample collection and analysis must be consistent with the quality assurance protocols described in the Department's 303(d) list data requirements.
- c) Each co-permittee must review their monitoring components to ensure that they support the primary program components listed in Schedule B. Each co-permittee must submit any necessary proposed improvements and/or modifications to their monitoring component(s) consistent with any changes to a revised SWMP proposed in the second annual report. The Department may, upon review of any annual report submittal, require revisions to the monitoring component described therein to ensure the requirements of this section are met.
- d) In the event the co-permittee is unable to collect or analyze any sample or pollutant parameter due to circumstances beyond the co-permittee's control, a written explanation of the circumstances that prevented the collection or analysis must be submitted to the Department in the annual report. The co-permittee must exercise due diligence in collecting and analyzing all samples as required by Schedule B. Circumstances beyond the control of the co-permittee may include abnormal climatic conditions (e.g., fewer storms in the annual reporting period than typically are representative of climatic conditions, or the lack of sufficient dry weather in between sampling events.); weather conditions that make the collection or analysis of samples unsafe or impracticable (e.g., storms of such intensity that sampling would present an unreasonable safety risk); or unavoidable equipment failures caused by weather conditions or other conditions beyond the reasonable control of the co-permittee (provided that operator error is not a condition beyond the control of the co-permittee).

2) Reporting Requirements

a) Annual Report

The co-permittees must submit by November 1 of each year a system-wide report for the time period July 1 through June 30. The report must be coordinated between the co-permittees by the City of Gresham. The second of these annual reports must fulfill the requirements of Schedule B(1)(c) and B(2)(b). Each annual report must contain:

- i) The status of implementing the components of the storm water management program;

- ii) Proposed changes to the SWMP components, including new BMPs identified through implementing adaptive management. Such proposed changes must be consistent with 40 CFR §122.26(d)(2)(iii). A timeline for the implementation of new BMPs must also be included in the report;
- iii) A summary of total storm water program expenditures and funding sources over the reporting fiscal year, and those anticipated in the next fiscal year;
- iv) A summary of data, including monitoring data that is accumulated throughout the reporting year;
- v) A summary describing the number and nature of enforcement actions, inspections, and public education programs;
- vi) Identification of water quality improvements or degradation;
- vii) Demonstration of continued legal authority to implement the programs outlined in the SWMP; and
- viii) An overview, as related to MS4 discharges, of concept planning, land use changes and new development activities that occurred within UGB expansion areas during the previous year, those forecast for the following year, and an evaluation for consistency with the requirements of Schedule D(2)(c)(i)(2).

b) Requirements for 2nd year annual report-SWMP revision

The co-permittees submitted SWMPs designed to reduce pollutant discharges from the MS4 to the maximum extent practicable as part of their permit renewal application package in 2000. As explained in Schedule A above, by implementing the SWMP and other provisions of this permit, including any improvements and modifications to the SWMP as required by this permit, the co-permittees will be deemed to be in compliance with Schedules A(1), A(2), A(3), D(2)(d), and (D)(2)(e). The SWMP and its improvements and modifications cover the duration of the permit.

In addition to the annual reporting requirements listed in Schedule B(2)(a), the second annual report must contain the following:

- i) An evaluation of, and proposed revisions to, the previously submitted SWMP which addresses the requirements of Schedules D(2)(b) and B(1)(c).
- ii) A description of the current source identification components of the SWMP and the rationale regarding the adequacy of these components.
- iii) For each of the listed non-storm water discharges [Schedule A(3)] expected to occur in a co-permittee's area, the co-permittee must identify the appropriate control measures and the rationale for the selection of these control measures (or the rationale for why control measures are deemed not necessary).
- iv) The required information regarding TMDL pollutants as described in Schedule D(2)(d)(v) and the corresponding proposed revisions to the SWMP, and/or the required information regarding 303(d) listed pollutants as described in Schedule D(2)(e) and the corresponding proposed revisions to the SWMP.
- v) An executive summary of the SWMP, no more than 15 pages in length, that describes the main elements of the SWMP.
- vi) Maps providing updated information as described in 40 CFR §122.26(d)(1)(iii)(B), where applicable.

The Department may, upon review of this report submittal, require revisions to the SWMP described therein to ensure that the requirements of Schedule B(2)(b) are met.

c) MS4 Permit Renewal Submittal

180 days prior to permit expiration the co-permittees must submit a permit renewal application package that synthesizes the implementation and findings of the current permit cycle to support the proposed SWMP for the renewed permit. The application documents must evaluate the adequacy of the SWMP in reducing pollutants to the maximum extent practicable. This application must contain:

- i) An updated evaluation of the SWMP as outlined in Schedule D(2)(b), including proposed changes to the plan and the underlying rationale for the proposal(s).
- ii) An updated estimate of total annual storm water pollutant loads for the original pollutants of concerns listed in the Part 2 of the original application, or other storm water pollutants on the 303(d) list as directed by the Department. The permittee will be notified of such a requirement no later than two (2) years prior to the expiration of the permit.
- iii) Estimates of the changes of various land use areas within the co-permittees jurisdictional boundaries, the storm water runoff from those changed areas for the appropriate design storm criteria, and volume

- and percentage of storm water runoff from those changed areas that is treated using structural and nonstructural controls that have occurred since the previous permit renewal submittal.
- iv) A suggested storm water management program focus, if appropriate, (e.g. land use, storm water system function, system management practice) for the next permit cycle.
 - v) For each of the listed non-storm water discharges [Schedule A(3)] expected to occur in a co-permittee's area, the co-permittee must identify the appropriate control measures and the rationale for the selection of these control measures (or the rationale for why control measures are deemed not necessary).
 - vi) An evaluation of overall program effectiveness, including non-structural BMP activities. This analysis will include an analysis of monitoring and other data, including a water quality trend analysis and a discussion of likely or potential factors for the presence of observed trends in water quality.
 - vii) A fiscal evaluation summarizing program expenditures for the current permit term and projected program allocations for next permit cycle based on the proposed SWMP.
 - viii) If TMDL wasteload allocations were established at the time of permit issuance, an evaluation of progress towards achieving applicable waste load allocations to the maximum extent practicable. Progress will be measured through the TMDL performance measures and benchmarks established in accordance with Schedule D(2)(d).
 - ix) Any evaluation conducted on the effectiveness of activities designed to reduce, to the maximum extent practicable, pollutants on the Department's 2002 303(d) list for waterbodies to which the co-permittee's MS4 discharges storm water. Although such an evaluation is not a requirement of this permit, the co-permittee may choose to demonstrate progress in reducing potential future TMDL pollutants.
 - x) Maps providing updated information as described in 40 CFR §122.26(d)(1)(iii)(B), where applicable.
 - xi) A description and summary of the public involvement process and response to on the revised draft SWMP.
 - xii) An update of the source identification portions of the co-permittees' original Parts 1 and 2 NPDES MS4 Permit Application.

SCHEDULE D Special Conditions

1) Adequate Legal Authority

Each co-permittee must maintain adequate legal authority, through ordinance(s), interagency agreement(s) or other means, to effectively implement and enforce the provisions of this permit. The legal authority must enable the co-permittee to:

- a) Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity.
- b) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer.
- c) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water.
- d) Control through interagency agreements among the co-permittees the contribution of pollutants from one portion of the municipal system to another portion of the municipal system.
- e) Require compliance with conditions in ordinances, permits, contracts or orders.
- f) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.

2) Storm Water Management Plan (SWMP)

- a) Adaptive Management

Adaptive management is the appropriate process for assessing new opportunities for improving program effectiveness in controlling storm water pollution to the maximum extent practicable. The co-permittees are required to use adaptive management to assess options for improving controls on storm water discharges. Co-permittees must use the monitoring data and analyses required under this permit as well as applicable information from other sources in the adaptive management process. Where TMDL wasteload allocations have been established for pollutant parameters associated with the co-permittee's MS4 discharges, the co-permittees must use the estimated pollutant load reductions (benchmarks) established in the SWMP to guide the adaptive management process. The co-permittees must also use the evaluation of progress towards these TMDL benchmarks, due with the permit renewal submittal [Schedule B(2)(c)(viii)], to guide the adaptive management process in the next permit term. Any revisions to control measures derived from the adaptive management process must be implemented by the co-permittees, to the maximum extent practicable.

Adaptive management requires the co-permittees to assess and modify, as necessary, any or all existing SWMP components and adopt new SWMP components to optimize reductions in storm water pollutants to the maximum extent practicable, through an iterative process. The iterative process includes routine assessment of the need to further improve water quality and protection of beneficial uses, review of available technologies and practices to accomplish the needed improvement, and evaluation of resources available to implement the technologies and practices. Changes to the SWMP are considered a part of adaptive management, and such changes do not require modification of this permit, unless new data or information is obtained that demonstrates significant new, or previously unknown, water quality impacts from storm water discharged by the co-permittee's MS4. In such instances, the co-permittee or Department may initiate a permit modification action in accordance with OAR 340-045-0040 and 0055.

b) Evaluation of SWMP

The specific components that established the basis for the co-permittee's original SWMPs are given in the federal rules at 40 CFR §122.26(d)(2)(iv)(A) through (D) and in Schedule D(2)(c) of this permit.

The co-permittees must review Schedule D(2)(c) and, for each component, determine whether implementation of the components in the SWMP as submitted is sufficient to reduce the discharge of pollutants to the maximum extent practicable. The co-permittees must submit to the Department details on how each of the components are, or will be, addressed and the rationale for the continued existing or revised level of implementation. (If certain components are not included in the plan, then the rationale for exclusion must also be submitted.) The level of implementation for each component must, when practicable, have measurable performance indicators to assist with the reporting on the status of implementation as part of the annual reports.

During this evaluation, it may be found that the SWMP will need improvement and/or modification to ensure continued reduction of pollutants to the maximum extent practicable. The results of the evaluation, including any proposed revisions to the SWMP, must be reported to the Department as described in Schedule B(2)(b).

c) Required SWMP Elements

- i) A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls. At a minimum, the description must include:
 - (1) A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers.
 - (2) A description of 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. Controls to reduce pollutants in discharges from municipal separate storm sewers containing construction site runoff are addressed in paragraph Schedule D(2)(c)(iv).

- (3) A description of 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.
 - (4) A description of 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.
 - (5) A description of 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 (this program can be coordinated with the program developed under Schedule D(2)(c)(iii)).
 - (6) A description of 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.
- ii) A description of a program, including a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The proposed program must include:
- (1) A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description must address all types of illicit discharges, however the following category of non-storm water discharges or flows must be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, discharges from potable water sources, start up flushing of groundwater wells, aquifer storage and recovery (ASR) wells, potable groundwater monitoring wells, draining and flushing of municipal potable water storage reservoirs, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential 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, the state's environmental cleanup law; and discharges or flows from emergency fire fighting activities where discharges or flows from fire fighting are identified as not significant sources of pollutants to the waters of the state.
 - (2) A description of 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;
 - (3) A description of 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 e. coli, 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.
 - (4) A description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer.
 - (5) A description of 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.
 - (6) A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials.
 - (7) A description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary.
- iii) A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities,

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 a substantial pollutant loading to the municipal storm sewer system. The program must:

- (1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.
 - (2) Describe a monitoring program for storm water discharges associated with the industrial facilities identified in Schedule D(2)(c)(iii), 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).
- iv) A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system that must include:
- (1) A description of procedures for site planning which incorporate consideration of potential water quality impacts.
 - (2) A description of requirements for nonstructural and structural best management practices.
 - (3) A description of 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.
 - (4) A description of appropriate educational and training measures for construction site operators.
- d) Total Maximum Daily Loads (TMDLs)
The requirements of this section apply to co-permittees' MS4 discharges to receiving waters with established TMDLs and associated allocations as noted on page 1 of this permit. It is the intent of this section to ensure that pollutant discharges for those parameters listed in the TMDL are reduced to the maximum extent practicable. This would be deemed as achieving adequate progress toward achieving assigned wasteload allocations (WLAs) given in the TMDLs to these MS4 sources.
- i) Progress towards reducing TMDL pollutant loads must be evaluated by the co-permittee through the use of performance measures and pollutant load reduction benchmarks developed and listed in the SWMP.
 - (1) Performance measures are estimates of the effectiveness of various best management practices (BMPs) implemented by the co-permittees as per the SWMP; and they are not numeric effluent limits. Performance measures must, where appropriate, be pollutant reduction estimates. The performance measures for the BMPs addressing TMDL pollutants may be based on the same metrics developed in accordance with the program effectiveness monitoring requirements in Schedule B(1)(b)(i).
 - (2) A benchmark is a total pollutant load reduction estimate for each parameter or surrogate, where applicable, for which a WLA is established at the time of permit issuance. A benchmark is used to measure the overall effectiveness of the storm water management program in making progress toward the wasteload allocation (this estimate will be related to the statistical variability of the underlying data and may be stated as a range), and is intended to be a tool for guiding adaptive management activities. A benchmark is not a numeric effluent limit; rather it is a goal that is subject to the maximum extent practicable standard. The co-permittees must provide the rationale for the proposed benchmark, which includes an explanation of the relationship between the benchmarks and the TMDL wasteload allocations. Any limiting factors related to the development of a benchmark, such as data availability and data quality, must also be included in this rationale.
 - ii) The SWMP must describe a program that includes BMPs, monitoring triggers, narrative conditions, or other elements, designed to achieve reductions in the TMDL pollutants. The SWMP must include a specific strategy for implementing monitoring designed to enable the co-permittees to gauge the effectiveness of the SWMP in reducing TMDL pollutant loads to the maximum extent practicable.

- iii) When the co-permittees apply for permit renewal, the co-permittees must include an evaluation of the effectiveness of the storm water management program with respect to all pollutant parameters addressed in an applicable TMDL. This evaluation must assess progress towards meeting the pollutant load reductions (benchmarks) using the reporting and monitoring programs and other methods described in Schedules B(1), B(2) and D(2)(d)(v) of this permit. If the co-permittees have failed to meet the estimated pollutant load reductions during the permit term, they must use the adaptive management process described in Schedule D(2)(a) of this permit to reassess the SWMP and determine what additional or alternative control measures are practicable. The co-permittees must update the SWMP to include these measures. The co-permittees must submit the evaluation and any SWMP revisions to the Department as specified in Schedule D(2)(d)(v).
- iv) If within three (3) years following permit issuance a TMDL is approved by the Environmental Protection Agency (EPA) and the TMDL has wasteload allocations assigned to storm water within the geographic area covered by this permit, the co-permittees must, at the time of the next permit renewal application, complete a review and strategy development, and propose changes, if appropriate, to the SWMP to address the urban storm water discharges.
- v) If, at the time of permit issuance, TMDL wasteload allocations have been established for pollutant parameters associated with the MS4's discharges, each co-permittee must, as appropriate, review their SWMP to determine its adequacy in reducing TMDL pollutant discharges to the maximum extent practicable and develop pollutant load reduction benchmark(s) and performance measures in the SWMP as defined in Schedule D(2)(d)(i)(1) and (2). As part of the SWMP review and benchmark and performance measure development process, the co-permittees must document, and subsequently report in accordance with Schedule B(2)(b), the following information:
 - (1) A description of the methodology and rationale used to develop and select pollutant reduction benchmarks and performance measures. The methodology must address current estimated discharge loadings and TMDL wasteload allocations.
 - (2) Any proposed modifications to the SWMP resulting from the adaptive management process [Schedule D(2)(a)] necessary to give reasonable assurance that the SWMP is designed to reduce TMDL pollutants to the maximum extent practicable. This must include selection of control measure(s) and any assumptions related to the proposed control measures.
 - (3) Any proposed modifications to the monitoring component of the SWMP that are necessary to ensure adequate data and information are collected to assess SWMP implementation, control measure effectiveness, progress towards the pollutant load reduction benchmarks, discharge characterization, and impacts on receiving waters.
 - (4) A description of the public participation process, including a summary of material public comments and the responses to those comments.
- e) 303(d) Listed Pollutants

The requirements of this section apply to receiving waters without established TMDL wasteload allocations. The co-permittee must qualitatively review the pollutants that are on the 2002 303(d) list that are relevant to the co-permittee's MS4 discharges. This review and corresponding summary of proposed actions must be incorporated into the second year annual report. The review and summary must accomplish the following:

 - i) Determine whether there is a reasonable likelihood for storm water from the MS4 to cause or contribute to water quality degradation of receiving waters through the discharge of pollutants on the 2002 303(d) list. Provide the rationale for the conclusion, including the results of an evaluation.
 - ii) If the discharges from the MS4 is a contributor to specific listed pollutants, determine and describe the relationship between the 303(d) listed pollutant and the MS4 discharges.
 - iii) Determine whether the BMPs in the existing SWMP are effective to address the 303(d) pollutants. If not, describe how the plan could be adapted to more appropriately address these pollutants. A summary of the rationale for this determination must also be included in the report.

If sufficient information is not available to make the determinations required above, the co-permittee must compile pertinent information necessary to adequately complete these determinations.

- f) Public Involvement

If not already established, a public involvement component of the SWMP must be developed and implemented that entails the following elements:

- i) A process for obtaining input from the public on significant on-going adaptive management changes to the SWMP and new information and data that may form the basis for such proposed changes. This process may be a notice in a local paper that includes information on the proposed change and how to comment, or a review by an advisory group that has broad community representation, or other established process described in the SWMP for obtaining public input.
 - ii) A process for obtaining input from the public on the information and analysis submitted to the Department in the second annual report [see Schedule B(2)(b)]. The co-permittees must include in the second annual report a summary of material public comments and how these comments were addressed.
 - iii) A process for obtaining public input and addressing material public comments on the revised draft SWMP submitted to the Department with the permit renewal application [see Schedule B(2)(c)]. This submittal must also include a summary of material public comments and how these comments were addressed. The public input solicitation process must entail, at a minimum, a public notice placed in a local newspaper outlining how the public can provide comments to the MS4 on the proposed SWMP revision.
- 3) Each co-permittee must be responsible for the portion of the system-wide report applicable to their individual jurisdiction. Each co-permittee is responsible for compliance with the permit only within its jurisdiction, and is not responsible for compliance outside its jurisdiction.
 - 4) All storm water must be managed in accordance with the current SWMP approved by the Department. Minor changes to management activities as described in the approved SWMP may be made without written approval of the Department. Utilizing the adaptive management process in Schedule D(2)(a) may result in minor changes, which are modifications of implementation tasks within a management component of the SWMP that do not change the intent or overall implementation schedule of that activity. Modifications to implementation tasks that change the intent or overall implementation schedule of SWMP activities are considered significant changes, and cannot be made without the prior written approval of the Department. All changes to the SWMP must be summarized in the annual report required by Schedule B(2)(a).
 - 5) Permit coverage may be terminated for a single co-permittee without terminating coverage for other co-permittees.

**SCHEDULE F
NPDES PERMIT GENERAL CONDITIONS
FOR MUNICIPAL SEPARATE STORM SEWER SYSTEMS**

SECTION A. STANDARD CONDITIONS

1. Duty to Comply

The co-permittees must comply with all conditions of this permit insofar as those conditions are applicable to each co-permittee, either individually or jointly. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025 and is grounds for enforcement action; permit termination, suspension or modification; or denial of a permit renewal application.

2. Penalties for Violations of Permit Conditions

ORS 468.140 allows the Director to impose civil penalties up to \$10,000 per day for violation of a term, condition, or requirement of a permit. In addition, ORS 468B.990 classifies a willful or negligent violation of the terms of a permit or failure to get a permit as a misdemeanor and a person convicted thereof is punishable by a fine of not more than \$25,000 or by imprisonment for not more than one year, or by both. Each day of violation constitutes a separate offense.

3. Duty to Mitigate

The co-permittees must take all reasonable steps to minimize or prevent any discharge in violation of this permit, which has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the co-permittee must correct any adverse impact on the environment or human

health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non complying discharge.

4. Duty to Reapply

If any or all of the co-permittees wish to continue the discharge of storm water regulated by this permit after the permit expiration date, the co-permittee must apply for and have the permit renewed. The application must be submitted at least 180 days before the expiration date of this permit.

The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

This permit may be modified, suspended, revoked and reissued, or terminated with respect to a co-permittee for cause including, but not limited to, the following:

- a. The violation of any term, condition, or requirement of this permit, a rule, or a statute;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts; or
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by any or all of the co-permittees for a permit modification or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

6. Toxic Pollutants

The co-permittees must comply with any applicable effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants for storm water within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort or any exclusive privileges.

8. Permit Reference

Except for effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The co-permittees must at all times properly operate and maintain all MS4 facilities and systems of treatment and control (and related appurtenances) within the co-permittee's jurisdiction which are installed or used by the co-permittees to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures.

2. Removed Substances

Solids and other pollutants removed in the course of maintaining the MS4 must be recycled, reused and/or disposed of in such a manner as to minimize pollutants entering public waters, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein must be representative of the monitored activity. All samples must be taken at the monitoring points specified in this permit. Monitoring points may not be changed without notification to and the approval of the Department.

2. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit or subsequent permit actions.

3. Penalties of Tampering

The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit will, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or by both.

4. Additional Monitoring by the Co-Permittees

If a co-permittees monitors any pollutant specified in Schedule B at any sample point specified in Schedule B of this permit more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the annual report required by Schedule B. Such increased frequency must also be indicated.

5. Retention of Records

The co-permittees must retain records of all monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Department at any time.

6. Content of Records

Records of monitoring information must include:

- a. The date, exact place, time and methods of sampling or measurements;
- b. The name(s) of the individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The name(s) of the individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

7. Inspection and Entry

The co-permittees must allow the Department, or an authorized representative upon the presentation of credentials, to:

- a. Enter upon the co-permittees, premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Access and copy at reasonable times any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
- d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by State Law, any substances or parameters at any location within the MS4.

SECTION D. REPORTING REQUIREMENTS

1. Anticipated Noncompliance

The co-permittees must give advance notice to the Department of any planned changes in the permitted facilities or activities that may result in noncompliance with permit requirements.

2. Transfers

This permit may be transferred, in whole or part, to a new co-permittee(s) provided the transferee(s) acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the commission. No permit may be transferred to a third party without prior written approval from the Director or designated representative. The co-permittee(s) must notify the Department when a transfer of property interest takes place that results in a change of co-permittee(s).

3. Compliance Schedule

Reports of compliance or noncompliance with or any progress reports on interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each

schedule date. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

4. Duty to Provide Information

The co-permittees must furnish to the Department, within a reasonable period of time, any information that the Department may request to determine compliance with this permit. The co-permittees must also furnish to the Department, upon request, copies of records required to be kept by this permit.

When a co-permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, they must promptly submit such facts or information.

5. Signatory Requirements

All applications, reports or information submitted to the Department must be signed and certified in accordance with 40 CFR §122.22.

6. Falsification of Reports

ORS 468B.990 provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance will, upon conviction, be punished by a fine of not more than \$25,000 per violation, or by imprisonment for not more than one year per violation, or by both.

SECTION E. DEFINITIONS AND ACRONYMS

1. *CFR* means Code of Federal Regulations.
2. *Clean Water Act or CWA* means the Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483 and 97-117; 33 U.S.C. 1251 et seq.
3. *Department* means Department of Environmental Quality.
4. *Director* means Director of the Department of Environmental Quality.
5. *Flow-Weighted Composite Sample* means a sample formed by collection and mixing discrete samples taken periodically and based on flow.
6. *Grab Sample* means an individual discrete sample collected over a period of time not to exceed 15 minutes.
7. *Illicit Discharges* means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.
8. *Major Outfall* means a municipal separate storm sewer outfall that discharges from a single pipe with an inside diameter 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage *area* of more than 50 acres); or for municipal separate storm sewers that receive storm water from lands zoned for industrial activities (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).
9. *mg/L* means milligrams per liter.
10. *mL/L* means milliliters per liter.
11. *MS4* means a municipal separate storm sewer system.
12. *Municipal Separate Storm Sewer* means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):
 - a) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State Law) having jurisdiction over disposal of sewage, industrial wastes, storm water or other wastes, including special districts under State Law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian Tribal organization, or a designated and approved management agency under §208 of the CWA that discharges to waters of the United States;
 - b) Designed or used for collection or conveying storm water;
 - c) Which is not a combined sewer; and
 - d) Which is not part of a Publicly Owned Treatment Works (POTW) as defined by 40 CFR §122.2.
13. *Outfall* means a point source as defined by 40 CFR §122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal

separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

14. *Permit* means the NPDES municipal separate storm sewer system (MS4) permit specified herein, authorizing the co-permittees listed on Page 1 of this permit to discharge from the MS4.
15. *Storm Water* means storm water runoff, snowmelt runoff, and surface runoff and drainage.
16. *Storm Water Management Plan or SWMP* means the program developed by the co-permittees to satisfy 40 CFR §122.26(d)(1) and (2) as described in the Part 1 and 2 NPDES Permit application and amendments, and approved by the Department.
17. *Year* means calendar year except where otherwise defined.