Underground Injection Control Management Plan

■

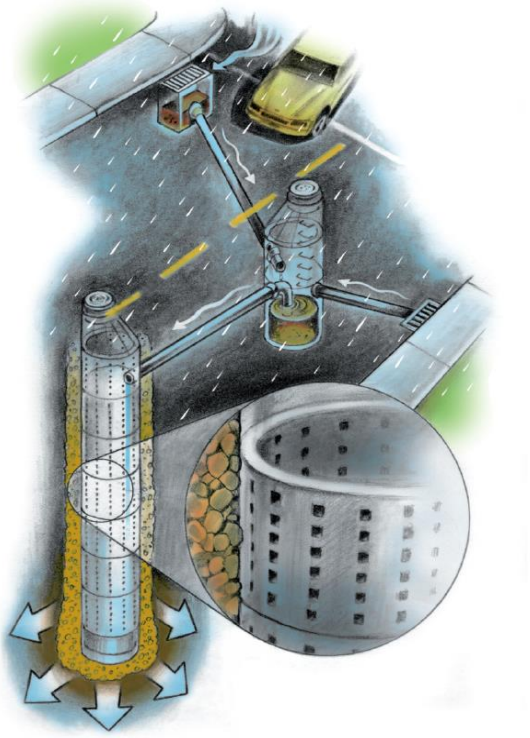
Annual Report No. 10

Fiscal Year 2014 – 2015
(July 1, 2014 – June 30, 2015)

Water Pollution Control Facilities (WPCF) Permit

Class V Stormwater Underground Injection Control Systems

DEQ Permit Number 102830



November 1, 2015

Prepared by

ENVIRONMENTAL SERVICES
CITY OF PORTLAND
working for clean rivers

— CITY OF PORTLAND —
ENVIRONMENTAL SERVICES

1120 SW Fifth Avenue, Room 1000, Portland, Oregon 97204 ▪ Nick Fish, Commissioner ▪ Michael Jordan, Director

November 1, 2015

Mr. Matt Kohlbecker, R.G.
UIC Senior Hydrogeologist
Oregon Department of Environmental Quality, Northwest Region
2020 Southwest Fourth Avenue, Suite 400
Portland, Oregon 97201

Subject: Submittal of UICMP Annual Report No. 10
City of Portland
DEQ Water Pollution Control Facilities Permit No. 102830

Dear Matt:

The City of Portland's Bureau of Environmental Services is pleased to submit the *Underground Injection Control Management Plan Annual Report No. 10 – Fiscal Year 2014-2015*. This annual report was prepared in accordance with the City's 2005 Water Pollution Control Facilities (WPCF) permit (DEQ Permit No.102830) for the City's Class V Stormwater Underground Injection Control Systems (UIC).

As required by Schedule D(1) of the WPCF permit, the City prepared a *UIC Management Plan* (UICMP), which was submitted to DEQ for approval on December 1, 2006 and revised in December 2012 (Version 2). The UICMP describes the activities the City would implement throughout the permit term (June 1, 2005 – May 31, 2015) to protect groundwater and meet WPCF permit requirements.

DEQ issued a WPCF permit to the City on May 19, 2015 for a second permit term (June 1, 2015 – May 31, 2025). In accordance with the new permit requirements, the City prepared a revised UICMP, which DEQ approved on March 24, 2015. Because the revised UICMP did not go into effect until May 19, 2015, this annual report continues to report on the activities identified in the City's 2012 UICMP.

The *UICMP Annual Report No. 10* summarizes programmatic activities implemented by the City in fiscal year (FY) 2014-15 (July 1, 2014 – June 30, 2015) and proposed activities for the coming FY 2015-16. Completed activities, key accomplishments, and activities for the coming fiscal year are organized and described relative to the following four UIC program elements:

- **System Management** summarizes citywide actions implemented under five BMP categories to prevent, minimize, and control pollutants prior to infiltration conducted during FY 14-15. It also identifies the main projected activities for FY 15-16.

- **System Monitoring** summarizes the results of UIC monitoring conducted under the *Stormwater Discharge Monitoring Plan* (SDMP) and submitted in the tenth-year *Stormwater Discharge Monitoring Report* (November 1, 2015).

- **Evaluation and Response** provides an overview of evaluation and response actions conducted during FY 14-15 and the main projected activities for FY 15-16.

- **Corrective Actions** summarizes the corrective actions implemented during FY 14-15 and projected main activities for FY 15-16 to address UICs that do not meet permit requirements.

The report also contains the following appendices:

Appendix A: UICs Added and Removed from Service during FY 14-15 (including closure reports for decommissioned UICs, provided on separate CD)
Appendix B: Completed Category 3 Corrective Actions
Appendix C: Spills That Have Occurred within Areas Serviced by UICs

If you have questions or need additional information, please call me at 503-823-5737. I look forward to our continued collaboration on implementing the WPCF Permit.

Sincerely,

Barbara Adkins
UIC/MS4 Section Manager
City of Portland
Bureau of Environmental Services

Enclosures:
- *Underground Injection Control Management Plan Annual Report No.10* - 1 hard copy (w/enclosed electronic copy)
- *Appendix A closure reports* (separate CD)

cc: UIC project file w/enclosures

City of Portland, Oregon

Water Pollution Control Facilities (WPCF) Permit For
Class V Stormwater Underground Injection Control Systems

Permit Number: 102830

Underground Injection Control Management Plan Annual Report No. 10

Fiscal Year 2014-2015
(July 1, 2014 – June 30, 2015)

November 1, 2015

Prepared By:
City of Portland, Bureau of Environmental Services

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Executive Summary

Introduction

This *Underground Injection Control Management Plan (UICMP) Annual Report No. 10* is submitted to the Oregon Department of Environmental Quality (DEQ) to fulfill reporting requirements for the City of Portland's Water Pollution Control Facility (WPCF) Permit for Class V Stormwater Underground Injection Control Systems (UICs). The report summarizes UIC program activities during the tenth permit reporting year (July 1, 2014 through June 30, 2015).

Background

DEQ issued the WPCF permit to the City on June 1, 2005. As required by the permit, the City prepared a *UIC Management Plan* (UICMP), which was submitted to DEQ for approval on December 1, 2006 and revised in December 2012 (Version 2). The UICMP describes the activities the City will implement throughout the permit term (June 1, 2005 – May 31, 2015) to protect groundwater and meet WPCF permit requirements. The permit also requires the City to submit a UICMP annual report that summarizes the status of implementing the UICMP and each of its components.

DEQ issued a WPCF permit to the City on May 19, 2015 for a second permit term (June 1, 2015 – May 31, 2025). In accordance with the new permit requirements, the City prepared a revised UICMP, which DEQ approved on March 24, 2015. Because the revised UICMP did not go into effect until May 19, 2015, this annual report continues to report on the activities that are identified in the 2012 UICMP.

The UICMP and the annual report are organized into the following four major program elements:

- **System Management** includes ongoing, programmatic activities (best management practices [BMPs]) that prevent, minimize, or control pollutants.
- **System Monitoring** includes ongoing actions to demonstrate that UICs are operated in a manner that protects groundwater and meets WPCF permit conditions.
- **Evaluation and Response** describes the process and criteria used to identify, evaluate, and prioritize actions needed to protect groundwater and meet permit requirements.
- **Corrective Action** includes the processes to evaluate, rank, select, and implement appropriate corrective actions to address UICs that do not meet WPCF permit requirements.

This annual report describes the activities that occurred in FY14-15 in each of these four areas. Key accomplishments are summarized below and described in more detail in the body of the report.

Key Accomplishments

System Management

- Submitted quarterly *UIC Registration Database* updates to DEQ on September 1, 2014, December 1, 2014, March 1, 2015, and June 1, 2015.
- Completed corrective actions for Category 3 UICs with inadequate separation distance from groundwater.
- Received and responded to 31 calls regarding spills located within or near an area where UICs are the primary method for stormwater disposal.
- Continued to provide oversight to ensure that commercial and industrial facilities comply with requirements under the Columbia South Shore Well Field Wellhead Protection Program.
- Continued to provide education, outreach, and technical assistance to residents and businesses affected by the Columbia South Shore Well Field Wellhead Protection Program, in conjunction with the Columbia Corridor Association and Columbia Slough Watershed Council.
- In accordance with the City's *Stormwater Management Manual* requirements, issued permits for approximately 1,391 source control measures (citywide) at sites with high-risk characteristics or activities.
- Conducted 4,775 erosion control-related inspections of private construction sites (citywide).
- Inspected 993 active public construction projects with erosion control components (citywide).
- Responded to 17 erosion control complaints.
- Through the Clean Rivers Education Program, involved approximately 10,485 students (citywide) in hands-on activities that teach them about the causes and effects of water pollution and how individuals can help protect water resources.
- Participated in numerous community activities and events involving stormwater management and watershed protection issues and actions.
- Continued to educate employees on permit requirements and groundwater protection.
- Continued to develop employee training and public education.
- Cleaned 1,179 sedimentation and sump manholes.

- Swept major arterials four to six times during the year.

- Continued evaluation of the review and approval process for private UICs to achieve a more streamlined and consistent registration process for both public and private UICs.

System Monitoring

- Submitted year 10 (October 2014 – May 2015) UIC compliance monitoring locations to DEQ on August 29, 2014.

- Implemented year 10 stormwater compliance monitoring. Thirty UIC locations were sampled in year 10 and tested for common and priority pollutants as defined by the permit.

- Compiled and evaluated year 10 stormwater data. There were no year 10 annual mean concentration exceedances of the permit's maximum allowable discharge limits (MADLs).

- Prepared and submitted the *Annual Stormwater Discharge Monitoring Report – Year 10 – October 2014 – May 2015* to DEQ (November 1, 2015).

- Performed a preliminary stormwater discharge trend analysis for the 10 years of data, using box plots to identify potential differences in pollutant concentrations.

- Prepared and submitted year 11 (July 2015 – June 2016) UIC monitoring locations to DEQ (submitted Oct 2015).

Evaluation and Response

- Reviewed UICs that previously received a "no further action" (NFA) designation to ensure that no major changes have occurred in the City's depth to groundwater estimates and monitoring data and confirm groundwater protectiveness.
- Identified and evaluated additional UICs with potentially inadequate separation as new data became available. Performed compliance determinations on UICs identified to have potentially inadequate separation distance.

- Identified no new Category 4 UICs in year 10.

Corrective Action

- Completed all Category 3 UIC corrective actions, in accordance with the scope of the *Systemwide Assessment Follow-Up Actions Workplan*. No new Category 3 UICs were identified during FY 14-15.

1 Introduction

1.1 Overview

The Oregon Department of Environmental Quality (DEQ) issued the City of Portland's Water Pollution Control Facility (WPCF) Permit for Class V Stormwater Underground Injection Control Systems (UICs) on June 1, 2005 (Permit No. 102830).

As required by Schedule D(1) of the WPCF permit, the City prepared a *UIC Management Plan* (UICMP), which was submitted to DEQ for approval on December 1, 2006 and revised in December 2012 (Version 2). The UICMP describes the activities the City will implement throughout the permit term (June 1, 2005 – May 31, 2015) to protect groundwater and meet WPCF permit requirements. (See Section 1.2 for additional information about the UICMP.)

The WPCF permit also requires the City to submit a UICMP annual report that summarizes the status of implementing the UICMP and each of its components. Accordingly, this annual report summarizes activities that occurred during the tenth fiscal year of permit implementation (July 1, 2014 through June 30, 2015).

DEQ issued a WPCF permit to the City on May 19, 2015 for a second permit term (June 1, 2015 – May 31, 2025). In accordance with the new permit requirements, the City prepared a revised UICMP, which DEQ approved on March 24, 2015. Because the revised UICMP did not go into effect until May 19, 2015, this annual report continues to report on the activities that are identified in the 2012 UICMP.

Table 1-1 summarizes the WPCF permit requirements for the annual report and identifies where the requirements are addressed in this annual report.

Table 1-1
Summary of WPCF Permit Annual Report Requirements[a]

Requirement	Permit Reference	Where Requirement is Addressed in Annual Report
General Requirements		
The Permittee must notify the Department of any changes in key personnel or areas of responsibility	D(5)(b)	Section 1.7
Unusual conditions encountered	D(15)(a)(i)	No unusual conditions were encountered.
Permit violations that may have occurred	D(15)(a)(ii)	No permit violations have occurred.
Minor and/or major permit modifications	D(15)(a)(vi)	Section 1.8
A demonstration of legal authority to implement the UICMP	D(15)(i)	Section 1.6
A discussion of significant land use changes that alter traffic volume, patterns of potential pollutants to a Permittee owned or operated public UIC. If the affected public UIC is a permanent trend monitoring point, then the Permittee must discuss the impact to the trend analyses and identify, for Department approval, a replacement UIC for trend analysis.	D(15)(j)	Included in *Annual Stormwater Discharge Monitoring Report - Year 10* (November 2015) if appropriate.
The status of implementing the UICMP and each of its components	D(15)(d)	Section 1.9
A discussion of any proposed changes to the UICMP or its components	D(15)(f)	Section 1.10
System Management		
Employee Training and Public Education program must be developed and implemented to educate Permittee's personnel and the public of the permit conditions and requirements	D(10)(d)	Section 2.4
…summarize any public UIC discovered or identified during or after the system-wide assessment	C(20)(b)	Section 2.2
A list of newly constructed …. public UICs during the reporting period	D(15)(k)	Section 2.2
A summary of BMPs implemented during the annual reporting period and the results of those BMPs and a description of BMPs to be employed during the next reporting year	D(15)(h)	Sections 2.2 through 2.6
Summarize the decommissioning of motor vehicle floor drains that discharge to public UICs.	C(13)(d)	Not applicable; no floor drains identified as draining to public UICs.
A summary of maintenance activities and supporting data	D(15)(c)	Information on inspections, cleaning, and repair activities included in Section 2.5. Any O&M conducted as a response action is described in *Stormwater Discharge Monitoring Plan*.

Requirement	Permit Reference	Where Requirement is Addressed in Annual Report
System Monitoring		
Any other information, finding, condition, spills and/or action that is relevant to the management of the Permittee's public UICs or groundwater protection during operation of the public UICs	D(15)(n)	Sections 3 and 4
A summary and analysis of BMP monitoring accumulated during the annual reporting period	D(15)(l)	Section 3
Provide BMP monitoring results in the annual UICMP reports	D(10)(c)(iv)	Section 3
Provide a brief overview summary of the monitoring results provided in the annual monitoring report for the reporting period	D(15)(b)	Section 3
Include a comparison of the data to data from previous annual reporting periods	D(15)(g)	Section 3
Violations (i.e., exceedances of permit established limits)	F(4)(d)	Section 3
Corrective Actions		
Identify Category 2 UICs	C(12)(d) C(20)(c)	As of November 1, 2011, all corrective actions for Category 2 UICs have been completed.
Identify Category 3 UICs	C(12)(e)	Sections 4 and 5 and Appendix B.
Identify Category 4 UICs	B(7)(j)	Sections 3, 4, and 5
Provide a summary of the UIC system management for the reporting period, including: (iii) Corrective actions taken to prevent further permit violations (iv) Other corrective actions taken or initiated	D(15)(a)	Section 5
An updated prioritized list of non-compliant public UICs with implementation and completion schedules	D(15)(a)(v)	Section 5 and Appendix B.
A discussion of any compliance response action taken during the reporting period	D(15)(e)	Included in *Annual Stormwater Discharge Monitoring Report – Year 10* (November 2015) and summarized in Section 5.
Provide a prioritized list of all non-compliant public UICs by category. Include a prioritized subset of the non-compliant public UICs that must be corrected during the CIP year.	D(15)(m)	Section 5
Any part of the UIC system placed under a Department Order for a regional corrective action and the nature of the Department Order (if applicable)	D(15)(a)(vii)	Section 5
[a] Where applicable, permit requirements are grouped by the UICMP categories developed by the City of Portland.		

1.2 Overview of the UICMP

As required by the WPCF permit, the UICMP identifies and discusses the best management practices (BMPs) the City will employ throughout the permit period to protect groundwater quality, support watershed health, and meet permit conditions. These include structural, non-structural, and institutional controls. In accordance with the permit, the UICMP also includes the following:

- UIC Registration Database
- Operations and Maintenance (O&M) Plan
- BMP Monitoring Program
- Employee Training and Public Education
- Spill Prevention and Pollution Control (SPPC) Plan
- Abandonment, Decommissioning, or Alteration of Public UIC Injection Systems Plan

The UICMP also meets the requirements of OAR 340-044-0018(3)(b)(C). These requirements specify that municipalities with 50 or more stormwater injection systems must prepare and implement a written UIC management plan that includes a systemwide assessment, system controls, monitoring, and a plan for record keeping and reporting.

The UICMP is organized into the following four major elements:

- **System Management** includes ongoing, programmatic activities (best management practices, or BMPs) that prevent, minimize, or control pollutants before they can be discharged to a UIC. BMPs are organized into the following five categories:

  - System Inventory and Assessment (SA)
  - Pollution Control (PC)
  - Education and Training (ET)
  - Operations and Maintenance (OM)
  - Policy and Regulation (PR)

- **System Monitoring** includes ongoing actions to demonstrate that UICs are operated in a manner that protects groundwater and meets WPCF permit conditions.

Information collected through implementation of System Management and System Monitoring activities are used to identify program improvements or UICs that may require additional evaluation, response action, or corrective action.

- **Evaluation and Response** uses data and information from System Management (e.g., UIC location, depth to groundwater) and System Monitoring (e.g., results of maximum allowable discharge limits [MADL] monitoring) activities to assess UIC compliance status. It also defines the process and criteria used to identify, evaluate, and prioritize actions necessary to protect groundwater and meet permit requirements.

- **Corrective Action** addresses UICs shown to be non-compliant with WPCF permit requirements through the Evaluation and Response process. It includes the process used to evaluate, rank, select, and implement appropriate corrective actions. A variety of corrective actions are available, including options that do not involve construction (such as institutional controls or an assessment to demonstrate protectiveness), structural/engineering controls, and UIC closure.

1.3 Relationship of the UICMP to the UIC Program and UICMP Annual Reports

The UICMP is a comprehensive plan that describes the City's overall UIC program. It includes processes, tasks, and, where possible, implementation schedules. In many cases, however, it is difficult to determine implementation details years in advance because so many variables are involved. For that reason, UICMP implementation details are included on a yearly basis in the UICMP annual reports. This annual report provides information about key accomplishments during FY14-15 (July 1, 2014 to June 30, 2015) and identifies activities planned for implementation in the next fiscal year (FY15-16) where applicable.

1.4 Other UIC Program Documents

The WPCF permit requires the City to prepare a variety of documents that together describe the programmatic actions and management practices the City will implement to protect groundwater and meet permit requirements. Some of these documents are included as appendices to the UICMP, while others were submitted to DEQ separately. Table 1-2 shows the relationship of these documents to the four major UICMP elements.

1.5 Other Program Reporting Requirements

In addition to the UICMP annual report, the City fulfills reporting requirements specified in the WPCF permit by submitting the following reports to DEQ. (Some of these requirements will be changing under the new permit issued May 19, 2015).

- *Annual Stormwater Discharge Monitoring Locations* (due September 1 of each year)
- *Annual Stormwater Discharge Monitoring Report* (due November 1 of each year)
- Interim compliance reporting:
  - Detection of priority pollutant screen (PSS) pollutants
  - Exceedance of MADLs for individual sampling events
  - Exceedance of annual mean concentration for any MADL
  - Quarterly UIC database update reports

Table 1-2
UIC Program Documents Related to UICMP Elements

UICMP Element/Document	Submittal Information
System Management	
Systemwide Assessment	Submitted July 15, 2006 Revised 2015; DEQ approval March 24, 2015
UIC Registration Database	Submitted September 1, 2005 and updated quarterly
UIC Management Plan	Submitted December 1, 2006; DEQ approval October 6, 2008 Revised December 2012 (Version 2) Revised 2015; DEQ approval March 24, 2015; in effect May 19, 2015
UIC Management Plan Five Year Review Report	Submitted November 1, 2010
Operations and Maintenance Plan	Submitted December 1, 2006 (UICMP Appendix B) DEQ Public Comment Period: June 24-July 24, 2008 DEQ UICMP Approval: October 6, 2008
Spill Prevention and Pollution Control Plan	Submitted December 1, 2006 (UICMP Appendix C) DEQ Public Comment Period: June 24-July 24, 2008 DEQ UICMP Approval: October 6, 2008
Decommissioning Procedure for Underground Injection Control Systems	Final submitted December 1, 2006 (UICMP Appendix D) DEQ Public Comment Period: June 24-July 24, 2008 DEQ UICMP Approval: October 6, 2008 DEQ Permit Modification to update the Decommissioning Procedure (UICMP Appendix D): October 4, 2011
WPCF UIC Minor Permit Modification No. 1	DEQ Approval: November 6, 2006
WPCF UIC Major Permit Modification No.1	DEQ Approval: December 10, 2009
WPCF UIC Minor Permit Modification No. 2	DEQ Approval: July 27, 2011
WPCF UIC Minor Permit Modification No. 3	DEQ Approval: July 14, 2011
WPCF UIC Major Permit Modification No. 2	DEQ Approval: October 4, 2011
WPCF UIC Major Permit Modification No.3	DEQ Approval: April 19, 2012
WPCF UIC Major Permit Modification No. 4	DEQ Approval: December 6, 2012

UICMP Element/Document	Submittal Information
System Monitoring	
Stormwater Discharge Monitoring Plan (SDMP) - *Sampling Design Plan* - *Quality Assurance Project Plan (QAPP)* - *Sample Analysis Plan (SAP)*	Submitted July 15, 2005 Final submitted August 30, 2006 DEQ Public Comment Period: June 24-July 24, 2008 DEQ Approval: October 6, 2008 DEQ Permit Modifications to revise SDMP monitoring requirements: Modification No. 1: November 6, 2006 Modification No. 2: October 4, 2011 Modification No.3: April 19, 2012 Revised December 2012 (Version 2) Revised 2015 (as part of UICMP); DEQ approval March 24, 2015; in effect May 19, 2015
BMP Monitoring Program	Submitted December 1, 2006 (UICMP Appendix E) DEQ Public Comment Period: June 24-July 24, 2008 DEQ UICMP Approval: October 6, 2008
Annual Stormwater Discharge Monitoring Report – Year 1 (October 2005 - May 2006)	Submitted July 15, 2006
Annual Stormwater Discharge Monitoring Report – Year 2 (October 2006 - May 2007)	Submitted July 15, 2007
Annual Stormwater Discharge Monitoring Report – Year 3 (October 2007- May 2008)	Submitted July 15, 2008
Annual Stormwater Discharge Monitoring Report – Year 4 (October 2008- May 2009)	Submitted July 15, 2009
Annual Stormwater Discharge Monitoring Report – Year 5 (October 2009- May 2010)	Submitted July 15, 2010
Annual Stormwater Discharge Monitoring Report – Year 6 (October 2010- May 2011)	Submitted July 15, 2011
Annual Stormwater Discharge Monitoring Report – Year 7 (October 2011- May 2012)	Submitted November 1, 2012
Annual Stormwater Discharge Monitoring Report – Year 8 (October 2012- May 2013)	Submitted November 1, 2013
Annual Stormwater Discharge Monitoring Report – Year 9 (October 2013- May 2014)	Submitted November 1, 2014

UICMP Element/Document	Submittal Information
System Monitoring (continued)	
Annual Stormwater Discharge Monitoring Report – Year 10 (October 2014- May 2015)	Submitted November 1, 2015
Evaluation and Response/Corrective Actions	
Corrective Action Plan (CAP)	Submitted July 15, 2006 DEQ Public Comment Period: June 24 – July 24, 2008 DEQ Approval: October 6, 2008
Corrective Action Plan Update	Submitted November 1, 2010
Corrective Actions: Category 1 Underground Injection Control Systems	Submitted July 15, 2005; completed July 2006
Compliance Determination Procedure	Submitted December 1, 2006 (UICMP Appendix F) DEQ Public Comment Period: June 24-July 24, 2008 DEQ UICMP Approval: October 6, 2008
Prioritization Procedure	Submitted December 1, 2006 (UICMP Appendix G) DEQ Public Comment Period: June 24-July 24, 2008 DEQ UICMP Approval: October 6, 2008
Evaluation and Response Guidelines	Submitted December 1, 2006 (UICMP Appendix H) DEQ Public Comment Period: June 24-July 24, 2008 DEQ UICMP Approval: October 6, 2008
Systemwide Assessment Follow-up Actions Workplan	Submitted December 1, 2006 DEQ Approval: October 6, 2008
Category 4 UIC Corrective Actions – Groundwater Protectiveness Demonstrations (UICs identified in sampling year 2)	Submitted May 30, 2008 DEQ No Further Action Determination – May 30, 2008
Category 4 UIC Corrective Actions – Groundwater Protectiveness Demonstrations (UICs identified in sampling year 3)	Submitted March 30, 2009 DEQ No Further Action Determination – May 30, 2009
Category 4 UIC Corrective Actions – Groundwater Protectiveness Demonstrations (UICs identified in sampling year 5)	Submitted April 4, 2011 DEQ No Further Action Determination – March 18, 2011
Category 4 UIC Corrective Actions – Groundwater Protectiveness Demonstrations (UICs identified in sampling year 6)	Submitted August 21, 2013 DEQ No Further Action Determination – September 5, 2013
Evaluation of Vertical Separation Distance – Groundwater Protectiveness Demonstration	Submitted May 27, 2008 DEQ Approval: June 5, 2008

UICMP Element/Document	Submittal Information
Evaluation and Response/Corrective Actions (continued)	
Decision Making Framework for Groundwater Protectiveness Demonstrations	Submitted June 19, 2008 DEQ Approval: October 20, 2008
Category 3 UICs – Groundwater Protectiveness Demonstration – Vertical Separation Distance ≥5 Feet – No Further Action Request	Submitted June 18, 2008 DEQ Approval: October 6, 2008
Ubiquitous Pollutants – Groundwater Protectiveness Demonstration	Submitted July 17, 2008 DEQ Approval: October 6, 2008
UICs within Permit-Specified Well Setbacks – Groundwater Protectiveness Demonstration – No Further Action Request	Submitted July 24, 2008 DEQ Approval: October 6, 2008
City of Portland Parks UICs Groundwater Protectiveness Demonstration No Further Action Request	Submitted July 13, 2009 DEQ Approval: October 21, 2009
Category 2 UIC Corrective Actions Request for Timeline Extension City of Portland WPCF Permit No. 102830	Submitted February 19, 2010 DEQ Approval: February 25, 2010
Groundwater Protectiveness Demonstration and Request for Approval of 5- foot Separation Distance for Three Category 2 UIC Corrective Actions	Submitted May 14, 2010 DEQ Approval: August 5, 2010
Groundwater Protectiveness Demonstration and Request for Approval of 5-foot Separation Distance for New UICs	Submitted July 20, 2011 DEQ Approval: July 28, 2011
Groundwater Protectiveness Demonstration and Request for Approval of Maintaining Category 3 UICs (Non-compliant due to less than 5 feet of Vertical Separation Distance)	Submitted May 31, 2012 DEQ Approval: June 14, 2012
Notification of Completion of Category 3 UIC Corrective Actions	Submitted May 29, 2015
Annual UICMP Reports	
Underground Injection Control Management Plan – Annual Report No. 1 - Fiscal Year 2005-2006 (July 1, 2005 – June 30, 2006)	Submitted December 1, 2006

UICMP Element/Document	Submittal Information
Annual UICMP Reports (continued)	
Underground Injection Control Management Plan – Annual Report No. 2 - Fiscal Year 2006-2007 (July 1, 2006 – June 30, 2007)	Submitted November 1, 2007 DEQ Approval: October 14, 2008
Underground Injection Control Management Plan – Annual Report No. 3 - Fiscal Year 2007-2008 (July 1, 2007 – June 30, 2008)	Submitted November 1, 2008
Underground Injection Control Management Plan – Annual Report No. 4 - Fiscal Year 2008-2009 (July 1, 2008 – June 30, 2009)	Submitted November 1, 2009
Underground Injection Control Management Plan – Annual Report No. 5 - Fiscal Year 2009-2010 (July 1, 2009 – June 30, 2010)	Submitted November 1, 2010
Underground Injection Control Management Plan – Annual Report No. 6 - Fiscal Year 2010-2011 (July 1, 2010 – June 30, 2011)	Submitted November 1, 2011
Underground Injection Control Management Plan – Annual Report No. 7 - Fiscal Year 2011-2012 (July 1, 2011 – June 30, 2012)	Submitted November 1, 2012
Underground Injection Control Management Plan – Annual Report No. 8 - Fiscal Year 2012-2013 (July 1, 2012 – June 30, 2013)	Submitted November 1, 2013
Underground Injection Control Management Plan – Annual Report No. 9 - Fiscal Year 2013-2014 (July 1, 2013 – June 30, 2014)	Submitted November 1, 2014
Underground Injection Control Management Plan – Annual Report No. 10 - Fiscal Year 2014-2015 (July 1, 2014 – June 30, 2015)	Submitted November 1, 2015

1.6 Legal Authority

The Charter of the City of Portland grants broad authority to the City "to exercise any power or authority granted to the City by statute *** and [provides that the City] may do any other act necessary or appropriate to carry out such authority, or exercise any other power implied by the specific power granted." Such authority includes, among other things, "all powers commonly known as the police power to the same extent as the State of Oregon has or could exercise said power and make and enforce *** [as] necessary or appropriate water, local, police, sanitary and safety laws and regulations." *Chapter 2-105, Charter of the City of Portland, Oregon*

In addition, the Portland City Code addresses regulation of stormwater discharges, building requirements, zoning, erosion and sediment control and public improvements in Chapters 10, 17, 24, 29, and 33. Chapters 17.38 and 17.39 specifically address Drainage and Water Quality and Stormwater Discharges, respectively.

1.7 UIC Program Staff

1.7.1 Key Roles and Responsibilities

The WPCF permit designates the Bureau of Environmental Services (BES) as the bureau responsible for implementing the WPCF permit and for identifying and managing the regulatory and technical components of the UIC program citywide and across bureaus. Key staff roles and responsibilities for the UIC program are summarized in the November 1, 2010, *UIC Management Plan Five Year Review Report.*

1.7.2 Personnel Changes

There were no personnel changes in FY 2014-15.

1.8 Minor and/or Major Permit Modifications

There were no minor or major permit modifications to the first-term permit in FY 2014-15. DEQ issued a second-term permit (June 1, 2015 – May 31, 2025) to the City on May 19, 2015.

1.9 Status of Implementing the UICMP and Its Components

This annual report provides the status of implementing the UICMP and it components.

1.10 Proposed Changes to the UICMP or Its Components

In accordance with the requirements of the second-term permit, the City prepared a revised UICMP, which DEQ approved on March 24, 2015.

1.11 City Budget and Funding

The City of Portland has invested more than $1.224 billion in stormwater management services and facilities over the past 20 years.[1] The revenue requirements for FY14-15 totaled approximately $108.3 million, allocated as follows:

Major Program Category	Requirements	Percentage Share
Enforcement and Development Review	$ 13.4 million	12%
Watershed Program & Habitat Restoration	13.9 million	13%
Facilities Operations and Maintenance	21.5 million	20%
Capital Improvements*	59.5 million	55%
Total Revenue Requirements	**$ 108.3 million**	
* Includes debt service, facilities planning and engineering, construction engineering, and construction contracts.		

Eighty-eight 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), service charges, permit fees, and regulatory charges and penalties. More details on City revenues are provided below.

In FY 2015-16, the City plans to invest $118.4 million in stormwater management services and facilities. Direct monthly user fees will pay for 86 percent of these investments.

Stormwater Management Charges

City Council approves revised stormwater monthly user fees and stormwater system development charges (SDCs) at the start of each fiscal year. Monthly user 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:

	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
Single-Family Residential Charge	$21.79	$22.36	$23.90	$24.88	$25.72
Residential rate per 1,000 square feet of impervious area	$9.08	$9.32	$9.96	$10.36	$10.72
Non-residential rate per 1,000 square feet of impervious area	$9.66	$9.97	$10.55	$10.97	$11.19

At the close FY 2014-2015, City Council increased the monthly stormwater management charge for single-family residences from $25.72 to $26.59. The residential rate increased from $10.72 to $11.08 per 1,000 square feet of impervious surface per month, and the commercial rate increased from $11.19 to $11.55 per 1,000 square feet of impervious area per month.

[1] The 20-year time period reflects the implementation period of the City's NPDES MS4 permit.

Stormwater System Development Charges
The methodology for assessing system development charges (SDCs) for new development and significant redevelopment includes two components. One component represents the charge for stormwater facilities that handle runoff from individual properties. For FY 2014-15, this onsite portion was assessed based on $176.00 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 FY 2014-15, the rates were $5.66 per linear foot and $3.04 per vehicle trip. At the end of permit FY2014-15, City Council increased the rates for stormwater system development charges to $183.00 per 1,000 square feet of impervious area, $5.84 per linear foot of frontage, and $3.12 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.

1.12 Organization of the Annual Report

The remainder of this annual report contains the following sections:

Section 2: System Management, identifies citywide actions implemented under the five BMP categories to prevent, minimize, and control pollutants prior to infiltration. Where relevant, it also identifies projected main activities for FY15-16.

Section 3: System Monitoring, summarizes compliance monitoring [as detailed in the *Annual Stormwater Discharge Monitoring Report, Year 10, October 2014-May 2015* (November 1, 2015)].

Section 4: Evaluation and Response, identifies evaluation and response actions conducted during FY14-15 and projected main activities for FY15-16.

Section 5: Corrective Actions, summarizes the corrective actions implemented during FY14-15 and projected main activities for FY15-16 to address UICs that do not meet permit requirements.

Appendix A identifies UICs added and removed from service during FY14-15 (including closure reports for decommissioned UICs, provided on a separate CD).
Appendix B identifies completed Category 3 corrective actions.
Appendix C identifies spills that occurred within areas serviced by UICs.

2 System Management

2.1 Overview

The System Management program element involves a series of actions, called best management practices (BMPs) that serve to prevent, minimize, and control pollutants in stormwater prior to discharge to a UIC. These BMPs are organized into the following five general BMP categories and are applied to the entire UIC system on an ongoing basis.

- System Inventory and Assessment
- Pollution Control
- Education and Training
- Operations and Maintenance
- Policy and Regulation

2.2 System Inventory and Assessment (SA)

Ongoing activities necessary to provide stormwater drainage infrastructure include the registration and construction of new UICs, replacement of existing UICs, and decommissioning of existing UICs. Ongoing system inventory and assessment activities are important to manage all known public UICs within the City of Portland and to assess drainage to each UIC for potential impacts to groundwater. This BMP category focuses on updating and refining information related to the location and physical characteristics of existing and new UICs. It fulfills two WPCF requirements:

- Develop and implement a comprehensive *UIC Registration Database*.
- Evaluate UICs relative to the factors that could present a risk to groundwater quality.

SA-1: Install, replace, retrofit, and decommission UICs as needed to provide public infrastructure for stormwater management. Maintain a comprehensive system inventory/data management system to register new UICs and track the location, physical characteristics, and status of all public UICs.

2.2.1 SA-1: Key Accomplishments for FY14-15

- Submitted quarterly *UIC Registration Database* updates to DEQ on September 1, 2014, December 1, 2014, March 1, 2015, and June 1, 2015.

- Identified 60 new public UIC[2] records in quarterly *UIC Registration Database* updates:
  - 11 new UIC records in the September 1, 2014 database update
  - 9 new UIC records in the December 1, 2014 database update
  - 4 new UIC records in the March 1, 2015 database update
  - 36 new UIC records in the June 1, 2015 database update

  These UIC records are listed in Appendix A.

- Removed 35 public UIC records in quarterly UIC *Registration Database* updates. The removals may have been decommissioned or identified through field investigations as not existing. These records are listed in Appendix A.

- During FY 14-15, 41 UICs were decommissioned. Some of these closures were conversions of UICs to sedimentation manholes; because of how they were entered in the database, it cannot be determined if they were removed. Thirty-seven closure reports for the 41 decommissioned UICs are included on CD as part of Appendix A of this report.

2.2.2 SA-1: Projected Main Activities for FY15-16

- Continue to regularly update the *UIC Registration Database* to include new and decommissioned UICs and other relevant information.

[2] Some UICs identified as new facilities in quarterly reports may not be recently discovered or newly constructed UICs. UICs may be identified as new as a result of database management. For example, correcting a database identifier for a facility from a sedimentation manhole to a UIC would trigger the UIC to appear as a new sump in the BES database, even though the facility itself is not new.

SA-2: Evaluate the location of public UICs relative to factors that may create adverse impacts to groundwater.

2.2.3 SA-2: Key Accomplishments for FY14-15

- Completed implementation of actions identified in *Systemwide Assessment Follow-up Actions*, specifically for UICs with inadequate separation distance from groundwater (see Sections 4 and 5).

2.2.4 SA-2: Projected Main Activities for FY15-16

- Evaluate newly constructed or identified UICs for the four characteristics that may potentially create adverse impacts to groundwater. Incorporate the resulting information into the Evaluation and Response process, as appropriate.

- Integrate new system data into the *UIC Registration Database*, as appropriate.

2.3 Pollution Control (PC)

Activities and practices such as spills, illegal disposal, improper site management, and erosion can increase the discharge of pollutants to public UICs, with potential negative impacts to groundwater. This BMP category focuses on reducing such pollutant discharges from both public and private sites and activities. It fulfills two WPCF permit requirements:

- Implement a *Spill Prevention and Pollution Control (SPPC) Plan*.
- Identify activities conducted on commercial/industrial properties or SARA Title III facilities that may result in a violation of MADLs in stormwater discharging to a public UIC.

PC-1: Identify, prevent, minimize, and control activities and practices that can increase pollutant discharges to public UICs.

2.3.1 PC-1: Key Accomplishments for FY14-15

Spill Prevention and Pollution Control (SPPC) Plan

- Continued to implement the SPPC Plan (submitted in December 2006), which includes improving ongoing citywide pollution control activities to identify and control activities on private properties, including commercial/industrial properties and SARA Title III facilities where site activities (e.g., illegal disposal, improper storage and handling of materials, and erosion) could result in a violation of MADLs in stormwater discharging to a UIC.

Spill Protection-Citizen Response (SPCR) Team

SPCR staff responds immediately to emergency spills and investigates pollution complaints regarding spills, illegal disposal, improper site management, and erosion. Citizens can call in reports on a dedicated spill response hotline 7 days a week, and staff is available 24 hours a day to respond to spills, slicks, and other suspicious or inappropriate discharges. The program refers problems to other enforcement agencies as appropriate. The SPCR team also provides education and technical assistance to property owners to improve site management and address work practices that may impact stormwater discharges. SPCR staff support the entire City, including areas that use UICs for management of stormwater.

- In FY14-15, received 31 calls regarding spills located within or near an area where UICs are the primary method for stormwater disposal. Only three of these spills reached a UIC system. Upon inspection, all of the spills were determined to have minimal to no impact. All of the systems were cleaned and inspected as appropriate. Appendix C shows this information in table format, including date, release type, volume, location, identification of the closest City-owned UIC catch basin, and if the spill entered a City-owned UIC.

- BES continued a communication protocol with the Portland Fire Bureau. The Fire Bureau contacts the BES duty officer to report events or possible impacts to street catch basins. Upon receiving the call or page, the duty officer contacts the Fire Bureau to identify if the duty officer is needed by the fire responders.

- BES continued communication with the Portland Bureau of Transportation (PBOT) tow contact person concerning the ongoing requirement to have companies on the City's towing contract completely clean vehicle debris from tow sites.

- BES and the Water Bureau continued to implement Columbia South Shore Well Field (CSSW) Protection Area signage. The signs list the BES spill response hotline number and read: "TO REPORT SPILLS CALL (503) 823-7180."

Regional Spill Response Committee

- The Regional Spill Response Committee continued its coordination meetings during FY2014-15. The committee includes representatives from the Oregon Department of Environmental Quality (DEQ), Water Environment Services (WES), Port of Portland, City of Gresham, City of Milwaukie, City of Portland Water Bureau and Fire Bureau, and BES. BES chairs, and UIC staff attend, all meetings.

Columbia South Shore Well Field Wellhead Protection Program

The City 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). The program focuses on groundwater protection through the implementation of mandatory spill containment BMPs and facility inspections for commercial and industrial facilities located within the Columbia South Shore Well Field Wellhead Protection Area (WHPA) overlay zone. The program also includes education and outreach efforts to affected

residents and businesses and one-on-one technical assistance to businesses to help them comply with program requirements. Program requirements include structural and operational BMPs to reduce the occurrence of spills and minimize spill impacts.

- Conducted 316 groundwater-related inspections in the wellhead protection area (including Gresham and Fairview); of these, 164 were regulated businesses. Conducted 70 plan reviews.

- Provided education and outreach to affected residents and businesses to help them comply with requirements of the program, in conjunction with the Columbia Corridor Association and Columbia Slough Watershed Council. Activities included:
  - Made 3,134 individual outreach contacts
  - Provided technical assistance to 35 businesses.
  - Published newsletter articles on the protection program.
  - Distributed free spill kits, required signs, secondary containment pallets, and stormdrain covers.
  - Maintained the CCA and PortlandOnline webpages on the Groundwater Protection Program and requirements.

Source Control Measures

The City's *Stormwater Management Manual* (SWMM) requires storm and sanitary source controls for site uses and characteristics that generate, or have the potential to generate, specific pollutants of concern. These requirements apply to new development projects, redevelopment projects, tenant improvements, and existing sites proposing new offsite discharges.

- The City conducted 450 land use reviews and early assistance meetings for source control measures at sites subject to SWMM requirements and issued permits for approximately 1,391 source control measures at sites with high-risk characteristics or activities. These numbers are citywide and are not limited to areas draining to UICs. (Note: When the SWMM is applied, drainage from high-risk areas is prohibited from draining to public UICs, and stormwater is managed onsite.)

- Continued review of Chapter 4 of the SWMM to identify potential source control requirement updates.

Erosion Control

- There were 4,557 active private construction permits subject to erosion control inspection (citywide). The Bureau of Development Services (BDS) conducted 4,775 erosion control-related inspections of private construction sites (citywide). (Even though a permit is active, there may be times when no activities that require erosion control inspection are occurring.) This number includes only approved inspections.

- All private development sites with qualifying ground disturbance areas were inspected for temporary and permanent erosion control measures at the beginning and near or at

completion of the project. At interim checks conducted during the course of regular building inspections, the inspector notes any identified erosion control deficiencies, and the site operator is required to implement corrective action.

- There were 993 active public construction projects (citywide) with erosion control components. In general, public sites are inspected daily during construction.

- Erosion control complaints (received through the complaint hotline or staff referrals) were tracked through the City's building permit tracking program, TRACS. A total of 17 cases were opened and responded to, with 13 cases closed (citywide).

- Continued the pre-permit-issuance site meeting program, where the applicant's team can choose to meet with staff onsite to discuss erosion control and other sensitive site issues. No applicants requested a pre-permit-issuance site visit this fiscal year.

Prevention of Illegal Disposal

- To help prevent illegal dumping, continued to implement curbside collection services (residential garbage, recycling, yard debris and food scrap collection). Continued the City's partnership with Neighborhood Coalition Offices and Metro to administer neighborhood cleanup collection events; on average, about 50 events take place throughout the city.

2.4 Education and Training (ET)

This BMP category fulfills the WPCF permit requirement for an employee training and public education program to educate City personnel and the public of the conditions and requirements of the permit.

ET-1: Implement public education activities that will raise awareness of groundwater protection and promote pollution prevention and control.

2.4.1 ET-1: Key Accomplishments for FY14-15

Clean Rivers Education Program

This program involves hands-on activities that teach students about the causes and effects of water pollution and what individuals can do to protect water resources. The programs also provide community service projects, teacher workshops, and curriculum resources. A number of the programs focus on stormwater and pollution prevention. An estimated 10,485 students participated in these activities citywide.

- Reached 5,168 students (grades K-12) with classroom programs that provide hands-on, interactive science education about stormwater and other environmental issues.

- Involved 3,727 students (K-12) in education field programs that offer watershed investigations and field assessments, stormwater tours, boat tours, and restoration experiences. Of these, students in 71 classes combined education with natural area restoration service projects.

- Provided canoe trips to 385 students in the Columbia Slough watershed. These included classroom studies and stewardship projects related to stormwater pollution.

- Checked out stormwater and watershed curriculum kits and field equipment to five Portland elementary and middle school teachers.

- Presented Stormwater - Soak it Up, a 75-minute classroom program for grades 4-12 and special interest groups, totaling 306 students and teachers.

- Presented Tours of Stormwater Solutions to 292 students. Students visited bioswales, stormwater planters, ecoroofs, porous pavement, and creative downspout disconnections.

- Presented Watershed Awareness to 474 students in 22 classes, grades 3-6. This program focuses on common non-point sources of pollution and pollution prevention.

- Continued the permanent storm drain curb marker program. Participating community and school volunteers also distributed doorhangers with stormwater pollution prevention messages and clean river tips to nearby residences. Number of participants: 20.

- Targeted schools with onsite stormwater facilities for extended outreach. Students learned about stormwater pollution prevention and their school's sustainable stormwater facilities and participated in maintenance activities for their facilities. Number of students: 48.

- Presented *Futures Working for Clean Rivers* career education programs and field programs to 65 students in the Columbia Slough watershed.

Stewardship Activities and Community Events

- Sponsored, co-sponsored, and participated in numerous community activities and events throughout the City's watersheds that involved stormwater management and watershed protection issues and actions (e.g., workshops, educational presentation and activities, training, restoration projects). More than 24,000 people took part in these activities.

Stormwater-related Information

- Included inserts in City water/sewer bills mailed to more than 200,000 customers:
  - First quarter: "Portland Has Changed a Lot since the 1930s" provided information about the city's aging sewer system and current projects to replace older sewers in danger of failing.
  - Second Quarter: "Finding Green Solutions" provided information about green infrastructure and BES's stormwater discount program (Clean River Rewards).
  - Third Quarter: "Living in a Floodplain" provided information about resources for residents living in a floodplain.
  - Fourth Quarter: "Working for Clean Rivers" provided information about what residents can do at home to protect water quality, including not using garden chemicals and reporting spills.

- Updated and posted fact sheets, brochures, and educational materials on the BES website about sustainable stormwater management (163,250 page views); Treebate incentive for planting yard trees (17,991 page views); Green Street Stewards Program (35,565 page views); Native Plant Resources (7,783 page views); and Brownfield Program (36,614 page views).

- The Green Street Steward Program continued to educate and recruit volunteer Green Street Stewards. In FY14-15, the program reached over 1,585 individuals through tabling events and trainings. Twenty-two people volunteered to become Green Street Stewards and adopt 63 Green Street facilities (citywide).

- Distributed a variety of educational materials at community meetings and events.

Eco-logical Business Program

- Continued to work with the Regional Pollution Prevention Outreach Team (P2O Team), Automotive Eco-Logical Advisory Subcommittee, and Landscape Eco-Logical Advisory Subcommittee for the Portland metropolitan region to certify businesses under the Eco-Logical Business Program (EcoBiz). Program activities in Portland in FY 2014-15 included:

  - Re-certified three landscape service businesses.

  - Recertified nine automotive maintenance and auto body repair shops.

  - Completed the BMP manual and certification checklist for the stormwater facility maintenance sector. Continued revision of the Automotive Program checklist.

  - Made a presentation at the Portland chapter of the Oregon Landscape Contractor Association (OLCA), staffed information booth at the annual OLCA conference and attended monthly OLCA - Portland Chapter meetings.

- Organized two sustainability-focused events for auto shop owners, called "Keep Your Shop in Tune."

- Staffed information booth at the Green Neighborhoods Festival at Peninsula Park.
- Continued to participate in local environmental events, including the annual sustainability fair and the Green Neighborhoods Festival at Peninsula Park to promote the use of certified businesses.

- Worked with students attending Portland State University and their Community Environmental Services program to conduct outreach and technical assistance to 40 auto shops in East and Northeast Portland. Outreach was coordinated with Neighborhood Prosperity Initiative (NPI) organizations, including Division Midway Alliance, The Rosewood Initiative, and Historic Parkrose.

Sustainability at Work

- Sustainability at Work (formerly the BEST Business Center) continued to assist Portland businesses with resources and information to help them green their operations. The program is run by the City of Portland in partnership with Metro, Pacific Power, and the Energy Trust of Oregon. The program conducted the following activities in FY14-15:

  - Conducted site visits at 268 businesses, providing assistance across a broad range of topics, including water conservation, stormwater management, hazardous waste, energy efficiency, renewable power, alternative transportation, and waste prevention. Assisted an additional 648 businesses on these topics by phone and email.

  - Distributed an e-newsletter twice monthly to 4,000 Sustainability at Work customers, providing tips, case studies, and best practices in the above-mentioned topic areas.

  - Collaborated with Sustainable Business Oregon to implement the statewide Innovation in Sustainability Awards, which recognize Portland's most sustainable businesses. Fifteen awards were presented.

  - Administered Sustainability at Work Certification, recognizing businesses that have taken measurable steps to conserve resources and reduce their greenhouse gas emissions. To date, 223 businesses have been certified.

ET-2: Conduct employee training to ensure that UICs on public property are designed, constructed, operated, and closed in ways that meet WPCF permit requirements and protect groundwater.

2.4.2 ET-2: Key Accomplishments for FY14-15

- Continued to educate employees on groundwater protection and permit requirements.
- Continued to develop employee training and public education.
- Provided ongoing coordination with bureaus that own UICs Responded to UIC site-specific questions and discussed O&M practices.
- Conducted quarterly training for new duty officer staff on the BES spill response hotline and staff response duties.

2.4.3 ET-2: Projected Main Activities for FY15-16

- Continue to develop information focused on groundwater protection and UICs for City staff.
- Continue to coordinate with various BES groups to identify any UIC process issues and data gaps.
- Continue to coordinate with BDS development review staff on UIC design standards and on the review and approval process for UICs registered on private property.
- Continue to work with other bureaus to coordinate with and provide training on source control, operations and maintenance, spill prevention and response, and development review.
- Continue evaluation of existing training approaches and schedules and revise/update as needed.

2.5 Operations and Maintenance (OM)

Operations and maintenance BMPs for City UICs are important in order to both remove pollutants from UICs (e.g., UIC cleaning) and prevent pollutant discharges into UICs (e.g., street sweeping). This BMP category identifies O&M practices both for UICs located in City-managed rights-of-ways and for UICs on other City-owned property. It fulfills the WPCF permit requirement to implement an O&M Plan for public UICs.

OM-1: Implement operations and maintenance practices to remove or prevent pollutants from entering public UICs located in City-managed rights-of-ways and on other City-owned property.

2.5.1 OM-1: Key Accomplishments for FY14-15

Facility Maintenance

- Implemented the UICMP *Operations and Maintenance Plan*.
- Continued discussions with other City bureaus to standardize operations and maintenance procedures for UICs on City property, based on the O&M templates established in the City's *Stormwater Management Manual*.
- Made debris screen/inlet inspection/maintenance visits to 350 locations citywide (multiple visits to some locations after major rain events). (This number includes, but is not limited to, UIC-specific visits.)
- Cleaned approximately 14,157 catch basins and inlets (citywide).
- Cleaned 1,179 sedimentation and sump manholes.
- Repaired or constructed 216 inlets and inlet leads and 684 linear feet of culvert (citywide).
- Continued to implement retrofits to the existing storm drainage system (roadside ditches to swales or porous shoulder).
- Continued to evaluate UIC stormwater quality monitoring data to evaluate the relationship between stormwater quality, maintenance frequency, and traffic volumes.

Street Sweeping

- Swept major arterials four to six times during the year.

Portland Bureau of Transportation Maintenance Operations (PBOT Maintenance Operations) BMPs

- Continued to implement BMPs within the right-of-way to protect water quality, including:
  - Following ODOT's *Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices.*
  - Using the trenchless liner repair system.
  - Using bio-pillows for sediment control on impervious surfaces to trap sediment during all sediment-disturbing activities.
  - Using low-disturbance sign installation methods to avoid or minimize digging.
  - Using mild cleaners, with no solvents, to clean signs.
  - Monitoring weather conditions during asphalt grinding.

- Hand-applying asphalt where necessary to prevent these materials from entering the storm drain system.
- Using rubberized mats on inlets to prevent fog seal material from entering the system.
- Using water-based asphalt emulsions and biodegradable asphalt release agents.

- Continued to pilot test alternative methods, products, and practices to reduce pollutant discharges.

Site-specific O&M actions conducted as a response action are discussed in Section 4: Evaluation and Response.

2.5.2 OM-1: Projected Main Activities for FY15-16

- Continue to use UIC stormwater quality monitoring data to evaluate the relationship between stormwater quality, maintenance frequency, and traffic volume. Where appropriate, adjust current O&M Plan maintenance schedules and targets.

- Continue to standardize operations and maintenance procedures for UICs on City property, based on the O&M templates established in the *Stormwater Management Manual*. Develop applicable tracking systems.

2.6 Policy and Regulation (PR)

The development of policies, codes, and administrative rules is a key element in providing long-term protection of groundwater. This BMP category includes City initiatives, such as policies that promote the implementation of green streets as alternatives or retrofits for UICs, as well as code and administrative rules pertaining to groundwater protection.

PR-1: Review and modify City policies, codes, and regulations to enhance groundwater protection.

2.6.1 PR-1: Key Accomplishments for FY14-15

Development Review Process and UICs

- Continued evaluation of the review and approval process for private UICs, identifying issues and process gaps and identifying strategies for a more streamlined and consistent registration process for both public and private UICs.

Regional Coordination

- The City participated in the ACWA (Association of Clean Water Agencies) Groundwater Committee, including discussing monitoring proposals and permit negotiations with other municipal permittees and tracking the issuance of individual municipal WPCF permits.

Stormwater Management Manual Revision

- Participated in quarterly meetings for System Planning and *Stormwater Management Manual* revisions.

Administrative Rules

- Amended City of Portland Administrative Rules ENB-4.13 *Administrative Rules for Discharges to the City Storm Sewer and Drainage System* and ENB-4.15 *Enforcement Rules* in January 2015.

Land Acquisition

- Acquired one acre of land in the Willamette Watershed and one-half acre of conservation easement area in the Johnson Creek Watershed as part of the Grey to Green Land Acquisition Program.

2.6.2 PR-1: Projected Main Activities for FY15-16

- Participate in the UIC rules revision process (OAR 340-044 and 340-040) when initiated by DEQ and OWRD.
- Participate in the DEQ General WPCF UIC Permit development process.
- Participate in the 2016 SWMM revision process.
- Continue to coordinate the review and approval process for private UIC registrations and development issues.

3 System Monitoring

The System Monitoring program element involves ongoing UIC monitoring conducted to demonstrate that UICs are operated in a manner that meets WPCF permit requirements and protects groundwater as a drinking water resource. System Monitoring includes two types of monitoring:

- Stormwater discharge monitoring of a representative subset of UICs, as identified in the *Stormwater Discharge Monitoring Plan* (SDMP). This is subsequently referred to as compliance monitoring and is discussed in section 3.1 below.

- Monitoring to determine the effectiveness of BMPs in controlling pollutant discharges to UICs and to identify technologies that can be used to improve stormwater quality. BMP monitoring to demonstrate reductions in pollutant discharges for a variety of structural and non-structural BMPs is documented in the *Effectiveness Evaluation of Best Management Practices for Stormwater in Portland Oregon* (September 2006). Since then, continued UIC monitoring has shown that stormwater discharge limits are in compliance with the permit and that the BMPs currently in use are meeting requirements.

3.1 Compliance Monitoring

3.1.1 Key Accomplishments for FY14-15[3]

- Submitted year 10 (October 2014 – May 2015) UIC compliance monitoring locations to DEQ on August 29, 2014.

- Implemented year 10 stormwater compliance monitoring. Thirty UIC locations were sampled in year 10 and tested for common and priority pollutants as defined by the permit.

- Compiled and evaluated year 10 stormwater data. There were no year 10 annual mean concentration exceedances of the permit's maximum allowable discharge limits (MADLs)[4].

- Prepared and submitted the *Annual Stormwater Discharge Monitoring Report – Year 10 – October 2014 – May 2015* to DEQ (November 1, 2015). The report results are summarized in Section 3.1.2, below.

- Performed a preliminary stormwater discharge trend analysis for the 10 years of data, using box plots to identify potential differences in pollutant concentrations.

- Prepared year 11 (July 2015 – June 2016) UIC monitoring locations (submitted to DEQ in October 2015), with 15 compliance monitoring locations. These UICs will be the first

[3] See the *Annual Stormwater Discharge Monitoring Report – Year 10 – October 2014 – May 2015* (November 1, 2015) for detailed monitoring results.
[4] Permit Modification No. 4 (dated December 6, 2012) increased MADLs one order of magnitude for four constituents [pentachlorophenol, di(2-ethylhexyl)phthalate, benzo(a)pyrene, and total lead].

sampled under the new WPCF permit, issued to the City on May 19, 2015, and new *Stormwater Discharge Monitoring Plan*, approved by DEQ March 24, 2015.

3.1.2 UIC Stormwater Year 10 Monitoring Summary

The City of Portland's UIC monitoring program was implemented in accordance with the SDMP, Version 2 (2012). The monitoring program was designed to be representative of the estimated 9,000 City-owned/operated UICs. Thirty UIC locations were sampled to implement the required year 10 monitoring (i.e., compliance monitoring) described in the SDMP: Panel 5 (15 rotating UIC locations sampled in permit years 5 and 10) and Panel 6 (15 stationary UIC locations sampled in permit years 1 through 7 and year 10.[5]

UIC monitoring locations were selected on the basis of two traffic flow categories: <1,000 trips per day (TPD) and ≥1,000 TPD. Year 10 locations included fifteen UIC locations in the <1,000 TPD category and fifteen locations in the ≥1,000 TPD category.

Year 10 Results[6]

Three sampling events were completed between October 1, 2014 and May 30, 2015. Stormwater discharge samples were analyzed for common pollutant and priority pollutant screen (PPS) analytes (e.g., metals, volatile organic compounds, semivolatile organic compounds, polycyclic aromatic hydrocarbons, and pesticides) as defined by the permit.

- All nine common pollutants and ten PPS analytes were detected in year 10. One benzene concentration (5.68 ug/L) exceeded the MADL (5 ug/L) at one location. This analyte was not detected upon resampling.

- Twenty-nine ancillary pollutants (i.e., analytes derived from the analytical methods for common pollutants) were generally detected at low concentrations. The five ancillary pollutants detected at the highest frequencies (>50%) during individual sampling events are polycyclic aromatic hydrocarbons (PAHs). PAHs are expected in urban rights-of-way. Generally, sources include fresh and used petroleum products associated with motor vehicle combustion, exhaust, and wear and tear; they also include other sources such as wood preservatives and cigarette filters.

Maximum Allowable Discharge Limit (MADL) Exceedances

- No common pollutants were detected in year 10 at concentrations above their respective MADLs. One PPS pollutant (benzene) was detected above its MADL at one location, but was not detected upon resampling.

[5] Panel 6 was initially required to be sampled throughout the term of the permit (i.e., 10 years). However, in April 2012, DEQ approved a major permit modification authorizing the City to discontinue sampling in years 8 and 9. Sampling was again required in Year 10.

[6] A full discussion of monitoring methodology and results can be found in the *Annual Stormwater Discharge Monitoring Report—Year 10* (November 2015).

Annual Geometric Mean Concentrations

- No UIC locations had annual geometric mean concentrations that exceeded MADLs for any pollutant.

- The annual geometric mean is calculated for pollutants detected at a concentration ≥50 percent of the MADL for an individual sampling location in at least one sampling event. Benzene and zinc were detected at one location each at concentrations ≥50 percent of their MADLs in year 10. Neither geometric mean concentration exceeded its MADL value.

Preliminary Trend Analysis

The following general observations were made for PCP, DEHP, B(a)P, lead, chromium, and arsenic:

- Concentration ranges are similar for years 1 through 10.
- Patterns for both traffic categories (<1,000 TPD and ≥1,000 TPD) have similar concentration ranges between the two permit years (5 and 10) in which Panel 5 and 6 locations were sampled.
- Most annual geometric mean concentrations of the evaluated compounds are less than 50 percent of their respective MADLs for both years 5 and 10.
- Pollutant concentrations are flat or downward trending.

Year 10 Response Actions

- One location had an exceedance of benzene during PPS sampling. After a site inspection, the location was resampled, and the analyte was non-detect. Based on all other monitoring, no new source investigations were initiated in response to year 10 monitoring results.

Category 4 UICs

- No new Category 4 UICs were identified in year 10.

- A total of 17 locations have been identified as Category 4 UICs based on sampling results during years 1 through 10 for one or more of the following pollutants: PCP, DEHP, or B(a)P

Additional Monitoring

- No UICs had annual geometric mean concentrations that exceeded the MADL for a pollutant in year 10; therefore, no carry-over monitoring from year 10 will be required in year 11 (under the new WPCF permit).

3.1.3 Projected Main Activities for FY15-16

- Select UIC locations for year 11 monitoring, representing Panel 1 and supplemental panel (SP) locations from the first permit term and new UIC locations in shallow groundwater.

- Implement year 11 UIC compliance monitoring in accordance with the new WPCF permit (May 19, 2015) and the new permit SDMP (2015).

- Document, analyze, and report results of the 2015-2016 (year 11) stormwater monitoring in the *Annual Stormwater Discharge Monitoring Report – Year 11*. That report will be submitted to DEQ by November 1, 2016 (per the 2015 WPCF permit).

- Continue to work with DEQ to demonstrate through the SDMP-required compliance monitoring that discharges to public UICs meet permit action levels[7] and are protective of groundwater quality (see Section 4).

- Initiate planning and selection of new permit-required monitoring locations for year 12 for compliance with new permit.

[7] Under the new WPCF permit, MADLs have been replaced with action levels. These values are consistent with the MADL values; however, exceedance of an action level is not necessarily a permit violation.

4 Evaluation and Response

The Evaluation and Response program element uses data and information from System Management (e.g., UIC location, depth to groundwater) and System Monitoring (e.g., results of stormwater discharge monitoring) activities to assess UIC compliance status. It also defines the process and criteria used to identify, evaluate, and prioritize actions necessary to protect groundwater and meet permit requirements.

4.1 Decision Making Framework for Groundwater Protectiveness Demonstrations

During FY 07-08, a Groundwater Protectiveness Demonstration (GWPD) tool was developed by the City and approved by DEQ. This tool is a solute transport spreadsheet model that evaluates the reduction of stormwater pollutant concentrations entering the UIC by unsaturated soil before the infiltrated stormwater reaches groundwater. The tool is used to evaluate the fate and transport of pollutants in different geologic units by modifying the appropriate physical and chemical input parameters to characterize the properties of the geologic materials and pollutants.

In June 2008, the City submitted the *Decision Making Framework for Groundwater Protectiveness Demonstrations* to DEQ (approved October 20, 2008), which includes the protocols for applying the GWPD tool to UICs that fall within four specific categories identified during permit negotiations and permit implementation:

- UICs with inadequate vertical separation distance
- UICs located within permit-specified horizontal setbacks from domestic or public water wells
- UICs with stormwater concentrations exceeding permit-specified MADLs at end-of-pipe where stormwater enters the UIC
- UICs that have ubiquitous stormwater pollutants (e.g., PCP in stormwater)[8]

The City applied the decision-making framework to evaluate the four categories identified above. As a result, the City received "no further action" (NFA) determinations for UICs identified within those categories. Specific details about the framework development and applications for NFAs can be found in *UICMP Annual Reports No. 3, 4, 5, and 6* and in the reports listed in Table 1-2.

[8] Ubiquitous pollutants are defined as "pollutants frequently detected in stormwater as a result of their widespread, non-point source origin, such as PCP associated with treated wood utility poles found throughout the urban environment" (*Ubiquitous Pollutants Groundwater Protectiveness Demonstration*, submitted to DEQ July 17, 2008). They have also been defined as "a pollutant detected in the City's Year 1 and Year 2 Stormwater Discharge Monitoring Program at a detection frequency of > 75% and with a concentration of ≥50% of the MADL (*Decision Making Framework for Groundwater Protectiveness Demonstrations*, submitted to DEQ July 19, 2008).

As part of this UICMP annual report, UICs that received an NFA designation in each of the four categories were reviewed to verify that the previous NFA decisions are still protective of groundwater and ensure that additional analyses do not need to be performed (decision verification process). The following key assumptions of the GWPD were used as the basis of the review:

- **Vertical separation distance:** Separation distances are calculated using the most current total UIC depth and USGS-generated depth to groundwater estimates for the Portland area. If the depth-to-groundwater estimates are revised or modified, separation distances must be recalculated, and the minimum 5-foot separation distance must be verified.
- **Results of the stormwater discharge monitoring program**: Results must be reviewed to ensure that:
  - Pollutants detected are similar in concentration and frequency of detection to those identified in Year 1 – Year 8 monitoring.
  - New pollutants of interest are not identified.
  - Significant increases in pollutant concentrations or pollutant concentration trends are not identified.

In FY 12-13, the City worked with DEQ on two changes that affected the decision verification process: 1) Permit Modification No. 4 (December 6, 2012), and 2) approval of a shallow groundwater protectiveness demonstration. These two changes had the following results:

- MADL concentrations for four common pollutants (pentachlorophenol, di(2-ethylhexyl)phthalate, benzo(a)pyrene, and lead) were increased by an order of magnitude.
- The required separation distance was reduced from 10 feet to 5 feet for all new UIC installations.
- Direct discharge to groundwater is no longer prohibited.

In FY 14-15, all work on Category 3 UICs was completed. Because of the previous two changes and the completed Category 3 work, a number of Category 3 and Category 4 UICs are no longer considered to be out of compliance. As a result, these UICs do not require the original NFA designation and therefore do not require a decision verification process to be applied to them. In the future, the decision making framework will be reviewed, and updates will be made as appropriate to reflect these changes. Until this is completed, the decision verification process is still a valid way to document that the depth to groundwater values and the City's monitoring data (used as part of prior protectiveness demonstrations) are still consistent and valid, and that groundwater is still being protected.

Sections 4.2 to 4.4 provide the results of the decision verification process.

4.2 Further Evaluation of UIC Separation Distance

The WPCF permit (including Permit Modification No. 4) requires that UICs more than 5 feet deep must have a minimum separation distance of 5 feet between the bottom of the UIC and seasonal high groundwater unless otherwise approved by DEQ. See section 5.1 of this report for a current summary of UICs with inadequate vertical separation distance.

4.2.1 Decision Verification

During FY14-15, the City identified no new Category 3 UICs.

In FY14-15 all work associated with Category 3 UICs was completed (see Appendix B). Section 5 of this report provides further details about the completion of all work associated with the Category 3 list.

In previous years, the permit required a decision verification process to be applied to UICs that have a vertical separation distance between $\geq$ 5 feet and < 10 or are located in a City of Portland park, and that previously received an NFA confirmation. As discussed above, the City continued to apply the verification process to ensure that no major changes have occurred in the City's depth to groundwater estimates and monitoring data.

- **Verification of vertical separation distance:** USGS depth to groundwater data were used in combination with existing construction information to calculate vertical separation distance between the bottom of the UIC and seasonal high groundwater. All vertical separation distances are reported and updated as part of the UIC database quarterly updates.
- **Verification of stormwater discharge monitoring results:** In general, pollutants detected in year 10 monitoring are similar to detections, frequency, and concentration ranges in years 1 - 9. Common pollutants detected in year 1 - 10 data are generally at low concentrations and below their respective MADLs. Concentration ranges for pentachlorophenol, DEHP, and lead are similar for years 1 -10. Concentrations are generally low and within narrow ranges at individual UIC locations. Concentrations for the $\geq$1,000 trips per day (TPD) traffic category appear to be slightly higher than the <1,000 TPD traffic category in years 1- 10.

  For details, refer to *Annual Discharge Monitoring Report – Year 10 (October 2014 – May 2015).*

4.2.2 Key Accomplishments for FY14-15

- Completed work for UICs requiring corrective actions (see Section 5).
- Identified and evaluated all UICs with potential inadequate separation as new data became available. Performed compliance determinations on UICs identified to have potentially inadequate separation distance.

4.2.3 Projected Main Activities for FY15-16

- Continue identification and evaluation of UICs as new data become available.
- Perform compliance determinations on any new UICs identified with potentially inadequate separation distance.
- Review and update as appropriate the *Decision Making Framework for Groundwater Protectiveness Demonstrations* to reflect the changes implemented as part of *Permit Modification No.4*.
- Apply the protocols in the *Decision Making Framework for Groundwater Protectiveness Demonstrations* to any new UICs as appropriate to determine if groundwater is protected or corrective action is required.

4.3 Further Evaluation of Stormwater Pollutants Exceeding MADLs

The WPCF permit requires the City to notify and report stormwater discharges that exceed the MADLs defined in Table 1 of the permit. Notification and reporting requirements of individual stormwater event and annual mean MADL exceedances are described in the *Quality Assurance Project Plan* (QAPP; City of Portland, 2006). In addition, annual monitoring reports must include (per Permit Schedule B, Section 7) identification and discussion of any exceedance of an individual storm event MADL or annual mean MADL concentration, including:

> (1) Any potential cause of the exceedance, to the extent practicable and if known; and
>
> (2) Actions taken during the wet season to reduce the concentration of the pollutant of concern.

Actions taken to assess the potential cause of the exceedance were evaluated in general accordance with *UICER Guideline No. 2: MADL Exceedances* and are described below. Actions taken during the wet season to reduce concentrations are described as response actions in Section 4.5.

4.3.1 Decision Verification

As discussed previously, Permit Modification No. 4 increased MADL levels for four common pollutants (pentachlorophenol, di(2-ethylhexyl)phthalate, benzo(a)pyrene, and lead) by an order of magnitude. As a result, UICs previously identified as Category 4 are no longer Category 4. To maintain consistency and confirm protectiveness, however, the decision verification process was still applied through the following steps:

- **Verification of vertical separation distance:** USGS depth to groundwater data (as described in Section 4.2) were used in combination with existing construction information to calculate vertical separation distance between the bottom of the UIC and seasonal high groundwater. Based on current USGS depth to groundwater information, all previous locations still have >10 feet vertical separation distance and meet the conditions of the groundwater protectiveness demonstration.

- **Verification of stormwater discharge monitoring results:** In general, pollutants detected in year 10 monitoring are similar to detections, frequency, and concentration ranges in years 1 - 9. Common pollutants detected in year 1 - 10 data are generally at low concentrations and below their respective MADLs. Concentration ranges for pentachlorophenol, DEHP, and lead are similar for years 1 - 10. Concentrations are generally low and within narrow ranges at individual UIC locations. Concentrations for the ≥1,000 trips per day (TPD) traffic category appear to be slightly higher than the <1,000 TPD traffic category in years 1- 10.

  For details, refer to *Annual Discharge Monitoring Report – Year 10 (October 2014 – May 2015).*

4.3.2 Key Accomplishments for FY14-15

- During priority pollutant screen (PPS) monitoring, an exceedance of benzene was observed. As followup, the location was resampled, and the analyte was not detected. This is described in more detail in section 3.

- No new Category 4 UICs were identified in FY14-15.

4.3.3 Projected Main Activities for FY15-16

- Implement year 11 stormwater compliance monitoring, and report exceedances in accordance with the new WPCF UIC permit and QAPP.

4.4 Further Evaluation of UICs near Domestic Wells

The WPCF permit requires that stormwater discharges meet the MADLs defined in Table 1 of the permit for UICs that are located:

- Less than 500 feet from a domestic well;
- Within a 2-year time of travel of a public water well; or
- Less than 500 feet from public water well without a delineated time of travel.

Stormwater quality discharge limits established in the WPCF permit are designed to protect groundwater as a drinking water resource in accordance with OAR 340-040.

4.4.1 Decision Verification

Previously, 398 UICs were identified within the permit-specified setbacks from confirmed and unconfirmed drinking water wells. These locations have received NFAs based on groundwater protectiveness demonstrations. The decision verification process was applied through the following steps:

- **Verification of vertical separation distance:** USGS depth to groundwater data were used in combination with existing construction information to calculate vertical separation distance between the bottom of the UIC and seasonal high groundwater. Based on that information, seven locations were identified with < 5 feet vertical separation distance and have been identified for corrective actions, as described in section 5. The remaining locations were determined to have > 5 feet vertical separation distance and still meet the conditions of the groundwater protectiveness demonstration.

- **Verification of stormwater discharge monitoring results:** In general, pollutants detected in year 10 monitoring are similar to detections, frequency, and concentration ranges in years 1 - 9. Common pollutants detected in year 1 - 10 data are generally at low concentrations and below their respective MADLs. Concentration ranges for pentachlorophenol, DEHP, and lead are similar for years 1 - 10. Concentrations are generally low and within narrow ranges at individual UIC locations. Concentrations for the ≥1,000 trips per day (TPD) traffic category appear to be slightly higher than the <1,000 TPD traffic category in years 1- 10.

  For details, refer to *Annual Discharge Monitoring Report – Year 10 (October 2014 – May 2015).*

4.4.2 Key Accomplishments for FY14-15

- Completed corrective actions on Category 3 UICs identified as having inadequate separation distance and located near domestic wells (see Appendix B).

4.4.3 Projected Main Activities for FY15-16

- Collect year 11 stormwater quality data. Compliance stormwater monitoring data will be used to evaluate the quality of stormwater entering UICs and confirm that groundwater is protected. Projected timeline: July2015 – June 2016.

- Evaluate stormwater quality data. Continue evaluation of the results of the annual compliance monitoring program (described in the SDMP). Projected timeline: July 2015 – November 1, 2016.
  - Identify pollutants, if any, that exceed permit limits during individual sampling events or annual geometric mean concentration (see Section 4.3).
  - Verify the results of the *UICs within Permit-Specified Well Setbacks - Groundwater Protectiveness Demonstration – No Further Action Request.* This document was prepared by the City of Portland Bureau of Environmental Services and submitted to DEQ for approval in July 2008. DEQ's approval was obtained on October 6, 2008.

4.5 Response Actions

Response actions are intended to reduce elevated stormwater discharge concentrations at the surface in order to meet permit discharge limits. Meeting permit limits (i.e., MADLs) at the "end of pipe" demonstrates compliance with state and federal requirements for the protection of "underground sources of drinking water" and "waters of the state." Response actions are intended to be implemented in a timely manner and are considered interim in nature, until a final compliance determination is made or a final corrective action is implemented.

Implementation of *UIC Evaluation and Response Guidelines* (UICER) Nos. 1 through 8 (see UICMP - Appendix H) is considered to be applicable and appropriate response actions. UICER guidelines implemented since July 2011 are described in this section.

4.5.1 Key Accomplishments for FY14-15

- Benzene was detected above MADL at one location during PPS sampling. Upon resampling, a non-detect was observed (see Section 3).

4.5.2 Projected Main Activities for FY15-16

- Implement actions, as needed and appropriate, in response to any year 11 individual stormwater discharge monitoring MADL exceedances, unusual conditions observed during UIC sampling, inspections, or citizen complaints.

5 Corrective Actions

The Corrective Actions program element addresses UICs that are determined to be non-compliant with WPCF permit requirements through the Evaluation and Response process. This program includes the processes used to evaluate, rank, select, and implement appropriate corrective actions. A variety of corrective actions are available, including options that do not involve construction (such as institutional controls or an assessment to demonstrate protectiveness), structural/ engineering controls, and UIC closure.

5.1 Summary of UICs with Inadequate Separation Distance

UICMP Annual Report No 3 identified 308 Category 3 UICs. That group included 186 Category 3 UICs with < 5 feet vertical separation distance that would require corrective action; 119 Category 3 UICs that received NFA designations through the use of a groundwater protectiveness demonstration (GWPD); and three locations determined to be compliant based on updated construction information. For a summary of UICs with inadequate separation distance prior to FY 09-10, refer to *UICMP Annual Report No 4*.

In early 2009, the USGS modified the depth to groundwater information for the City of Portland. As a result of that modification, the City identified changes to the list of Category 3 UICs reported in *UICMP Annual Report No.4*. Updated information was reported to DEQ through written correspondence titled *Changes to USGS Depth to Groundwater Data Modifications to Category 3 UIC List* (April 1, 2009). As a result of those changes, the prioritized Category 3 list of UICs with < 5 feet vertical separation distance was updated to 190 UICs.

Since *UICMP Annual Report No. 4,* two of the 190 UICs were removed from the Category 3 list. Twenty-two UICs located in City of Portland parks have also received an NFA designation (October 21, 2009) through application of the GWPD. In FY10-11, 33 UICs were removed from the Category 3 list through either completion of a corrective action or determination of permit compliance. In FY11-12, 9 UICs were removed from the Category 3 list through either completion of a corrective action or determination of permit compliance, and two new locations with less than 5 feet of separation distance were added. As part of major Permit Modification No. 1, one of the Category 2 UICs was included in the Category 3 list.

In FY 12-13, the City completed a groundwater protectiveness demonstration (GWPD) that showed that UICs with less than 5 feet separation distance are protective of groundwater. This allowed for the removal of 73 UICs from the Category 3 list. As part of the GWPD approval, the City agreed to increase separation distance on the seven UIC locations located within drinking water well setbacks. The City also agreed to add a sedimentation manhole in series to 47 UICs that have less than 5 feet of separation distance and currently do not have a sedimentation manhole. These changes brought the final total to 54 Category 3 UICs that still required a corrective action.

In FY 13-14, design work was implemented for the UICs requiring corrective actions. Three UICs were removed from the list, bringing the total Category 3 UICs to 51 that still required a corrective action to 51.

In FY 14-15, the identified corrective actions were completed on the remaining 51 Category 3 UICs, as identified in Appendix B. There are no remaining Category 3 UICs.

5.2 Category 3 UICs

The permit defines Category 3 UICs as those identified as non-compliant following completion of the 2006 *Systemwide Assessment*. The permit requires Category 3 corrective actions to be completed within three full CIP cycles following the annual report date for the reporting period in which the non-compliant public UICs are reported as discovered, or in accordance with a DEQ-approved regional corrective action. As previously described, all Category 3 corrective actions were completed in FY 14-15. Appendix B contains a full list of corrective actions.

During FY14-15, the City's WPCF UIC permit was renewed. As part of the renewal process, an updated *Systemwide Assessment* was completed and approved by DEQ March 24, 2015. As part of the *Systemwide Assessment*, the City updated its coverage of identified drinking water wells located within the City of Portland. As a result, one UIC (ADT473) that has less than 5 feet of separation distance was identified within 500 feet of a drinking water well. As a result, the City evaluated the OWRD dataset and determined that the spatial location information provided for the identified well (17346 Lucy Reeder Rd) was not consistent with the provided address. It was determined that the provided address was correct and the spatial location was incorrect. Based on this correction, ADT473 was determined to be greater than 500 feet from a drinking water well and is therefore not identified for corrective actions. As a result, no new Category 3 UICs were identified during FY14-15.

5.2.1 Key Accomplishments for FY14-15

- Completed all Category 3 UIC corrective action, in accordance with the scope of the *Systemwide Assessment Follow-Up Actions Workplan*. No new Category 3 UICs were identified during FY 14-15 (see discussion above).

5.2.2 Projected Main Activities for FY15-16

- No corrective actions have been identified for FY 15-16.

5.3 Category 4 UICs

The permit defines Category 4 UICs as those that become non-compliant by failing to meet the annual geometric mean MADL within one wet season after the exceedance or failing to satisfy any groundwater protection conditions of permit Schedule A.

5.3.1 Key Accomplishments for FY14-15

- Based on the results of the year 10 stormwater monitoring data, no new Category 4 UICs were identified (see Section 4.3.2).

5.3.2 Summary of Category 4 UICs

Previously Identified Category 4 UICs

UICs in which the annual mean concentration exceeds the MADL for two consecutive years are identified as Category 4 UICs. Table 5-1 lists Category 4 UICs that have been identified throughout the permit term. (No Category 4 UICs were identified in years 4, 7, 8, and 9.) Category 4 UICs are reported in the annual *Stormwater Discharge Monitoring Report*.

Corrective actions for the Category 4 UICs listed in Table 5-1 were identified, evaluated, and selected in accordance with the *Corrective Action Plan* (CAP) (2006). The corrective action for these Category 4 UICs was a groundwater protectiveness demonstration (i.e., risk assessment), performed in accordance with *UICER Guideline No. 6: Groundwater Protectiveness Demonstration*. The groundwater protectiveness demonstrations were developed with DEQ input, and the final documents were reviewed and approved by DEQ (see Section 4.1).

Category 4 UICs Identified in Year 10

Following completion of the year 10 monitoring, no new Category 4 UICs were identified.

5.3.3 Projected Main Activities for FY15-16

- Evaluate whether any year 11 UICs will be identified as requiring actions as a result of exceedences.

Table 5-1
Category 4 UICs Identified through Year 10

Location Code	Approximate Address	BES UIC No.	Traffic Category (TPD)	Estimated Separation Distance Between UIC and Groundwater (ft)[a]	Year of Category 4 UIC Designation	Pollutant for Category 4 UIC Designation
P1_1	6940 N. Macrum Ave.	AAG769	< 1000	73	Year 2	PCP
P6_1	3500 SE 112th Ave.	ADW577	≥ 1000	64	Year 2	PCP
P6_7	608 NE 87th Ave.	ADV645	< 1000	148	Year 2	PCP
P6_14	4289 NE Prescott St.	ADQ252	≥ 1000	64	Year 2	PCP
P2_5	10150 SE Ankeny St.	ADR885	≥ 1,000	158	Year 3	PCP
P2_13	4107 SE Reedway St.	ADU790	≥ 1,000	58	Year 3	PCP
P2_14	8409 N. Woolsey Ave.	AAH289	≥ 1,000	55	Year 3	PCP
SP3_6	490 NE 133rd Ave.	ADS048	≥ 1,000	96	Year 5	PCP
SP3_8	12198 SE Holgate Blvd.	ADW251	≥ 1,000	8	Year 5	PCP
P5_15	5190 N Vancouver Ave.	ADP960	≥ 1,000	129	Year 6	PCP
SP4_2	8335 SE Division St	ADP094	≥ 1,000	106	Year 6	PCP
SP4_10	10475 SE Division St	ADW349	≥ 1,000	97	Year 6	PCP
SP5_2[b]	17020 SE Division St	ADS798	≥ 1,000	32	Year 6	PCP
SP5_9[b]	14741 SE Stark St	AMP103	≥ 1,000	78	Year 6	PCP/DEHP
SP5_10[b]	3341 SE 122nd Ave	ADW625	≥ 1,000	32	Year 6	PCP/DEHP
P1_10[b]	10647 E Burnside St	ADR905	≥ 1,000	118	Year 6	PCP/DEHP
P5_5	10331 Se Clinton St	ADW558	≤1000	84	Year 6	B(a)P

a The estimated separation distance is defined as the approximate depth in feet from the bottom-most perforation in the UIC to the approximate seasonal-high groundwater level. The bottom-most perforation is defined as the bottom of the UIC minus 2 feet. Two feet were added to all separation distance calculations to account for the standard depth of the sediment trap ring on standard City UIC design.

b UIC location exceeded a MADL for the first time in Year 6, but was identified as a Category 4 UIC in lieu of sampling for a second consecutive year in Year 7.

Appendix A
UICs Added and Removed from Service during FY14-15

(Closure reports are provided on separate CD)

Appendix A: UICs Added and Removed from Service during FY 14 -15

Date UIC Reported	BES Unit ID	UIC DEQ ID	EPA UIC Classification	Current Status	UIC Location	Traffic Volume	Pre-treatment Type	Action Type
9/1/2014	AQM914	10102-9757	Class V Injection Well	UC	10224 NE TILLAMOOK ST	< 1000	SED MH	Add
9/1/2014	AQM910	10102-9758	Class V Injection Well	UC	10354 SE CENTER ST	< 1000	SED MH	Add
9/1/2014	AQM913	10102-9759	Class V Injection Well	UC	7632 NE TILLAMOOK ST	> 1000	SED MH	Add
9/1/2014	ABA039[b]	10102-9760	Class V Injection Well	AC	15122 NE BRAZEE ST	< 1000	No SED MH	Add
9/1/2014	AQN074	10102-9761	Class V Injection Well	UC	5130 NE SIMPSON ST	< 1000	SED MH	Add
9/1/2014	R00389	10102-9762	Class V Injection Well	UC	4831 NE Brazee St	< 1000	Swale	Add
9/1/2014	R00390	10102-9763	Class V Injection Well	UC	2505 NE 46th Ave	< 1000	Swale	Add
9/1/2014	R00391	10102-9764	Class V Injection Well	UC	2305 NE 46th Ave	< 1000	Swale	Add
9/1/2014	R00392	10102-9765	Class V Injection Well	UC	2106 NE 47TH AVE	< 1000	Swale	Add
9/1/2014	R00393	10102-9766	Class V Injection Well	UC	2030 NE 47th Ave	> 1000	Swale	Add
9/1/2014	R00394	10102-9767	Class V Injection Well	UC	1906 NE 47TH AVE	< 1000	Swale	Add
12/1/2014	AQN698[b]	10102-9768	Class V Injection Well	AC	10515 SE BUSH ST	< 1000	No SED MH	Add
12/1/2014	R00396[a]	10102-9769	Class V Injection Well	UC	SE 141st Ave S. of E. Burnside	< 1000	Swale	Add
12/1/2014	R00397	10102-9770	Class V Injection Well	UC	NE Siskiyou St E 82nd Ave	< 1000	SED MH	Add
12/1/2014	R00398	10102-9771	Class V Injection Well	UC	NE Siskiyou SE E 82nd Ave	< 1000	SED MH	Add
12/1/2014	R00399	10102-9772	Class V Injection Well	UC	NE Siskiyou St E 82nd Ave	< 1000	SED MH	Add
12/1/2014	R00400	10102-9773	Class V Injection Well	UC	NE Siskiyou St E 82nd Ave	< 1000	SED MH	Add
12/1/2014	AQP364	10102-9774	Class V Injection Well	AC	13620 SE ELLIS ST	< 1000	SED MH	Add
12/1/2014	R00402[a]	10102-9775	Class V Injection Well	UC	3817 SE 115th AVE	< 1000	Swale	Add
12/1/2014	AQP716[b]	10102-9776	Class V Injection Well	AC	6340 SE 159TH DR	> 1000	No SED MH	Add
3/1/2015	AQQ081	10102-9777	Class V Injection Well	AC	5200 NE ALBERTA ST	> 1000	No SED MH	Add
3/1/2015	APJ116	10102-9778	Class V Injection Well	AC	10421 N LOMBARD ST	> 1000	SED MH	Add
3/1/2015	AQQ082	10102-9779	Class V Injection Well	AC	10421 N LOMBARD ST	< 1000	No SED MH	Add
3/1/2015	AQQ083	10102-9780	Class V Injection Well	AC	10421 N LOMBARD ST	< 1000	No SED MH	Add
6/1/2015	R00408	10102-9781	Class V Injection Well	UC	SE Bush St & SE 54th Ave	< 1000	No SED MH	Add
6/1/2015	R00409	10102-9782	Class V Injection Well	UC	SE Gladstone St & SE 62nd Ave	< 1000	SED MH	Add
6/1/2015	AQT793	10102-9783	Class V Injection Well	AC	5326 SE 122ND AVE	> 1000	SED MH	Add
6/1/2015	AQT796	10102-9784	Class V Injection Well	AC	5123 SE 122ND AVE	> 1000	SED MH	Add
6/1/2015	AQT756	10102-9785	Class V Injection Well	AC	6457 NE 66TH AVE	< 1000	SED MH	Add
6/1/2015	AQT757	10102-9786	Class V Injection Well	AC	6015 NE 80TH AVE	< 1000	SED MH	Add
6/1/2015	AQT758	10102-9787	Class V Injection Well	AC	6135 NE 80TH AVE	< 1000	SED MH	Add
6/1/2015	AQT759	10102-9788	Class V Injection Well	AC	6135 NE 80TH AVE	< 1000	SED MH	Add
6/1/2015	AQT762	10102-9789	Class V Injection Well	AC	4030 NE 142ND AVE	< 1000	SED MH	Add
6/1/2015	AQT766	10102-9790	Class V Injection Well	AC	5436 SE 109TH AVE	< 1000	SED MH	Add
6/1/2015	AQT767	10102-9791	Class V Injection Well	AC	5433 SE 111TH AVE	> 1000	SED MH	Add

6/1/2015	AQT769	10102-9792	Class V Injection Well	AC	11246 SE HAROLD ST	> 1000	SED MH	Add
6/1/2015	AQT773	10102-9793	Class V Injection Well	AC	5440 SE 114TH PL	< 1000	SED MH	Add
6/1/2015	AQT779	10102-9794	Class V Injection Well	AC	5706 SE 115TH AVE	< 1000	SED MH	Add
6/1/2015	AQT782	10102-9795	Class V Injection Well	AC	5732 SE 122ND AVE	> 1000	SED MH	Add
6/1/2015	AQT783	10102-9796	Class V Injection Well	AC	5601 SE 122ND AVE	> 1000	SED MH	Add
6/1/2015	AQT785	10102-9797	Class V Injection Well	AC	12230 SE HAROLD ST	> 1000	SED MH	Add
6/1/2015	AQT788	10102-9798	Class V Injection Well	AC	5432 SE 122ND AVE	> 1000	SED MH	Add
6/1/2015	AQT790	10102-9799	Class V Injection Well	AC	12122 SE HAROLD ST	> 1000	SED MH	Add
6/1/2015	AQT792	10102-9800	Class V Injection Well	AC	5403 SE 122ND AVE	> 1000	SED MH	Add
6/1/2015	AQT765	10102-9801	Class V Injection Well	AC	10405 SE HAROLD ST	> 1000	SED MH	Add
6/1/2015	AQT816	10102-9802	Class V Injection Well	AC	5000 SE 122ND AVE	> 1000	SED MH	Add
6/1/2015	AQT798	10102-9803	Class V Injection Well	AC	5025 SE 122ND AVE	> 1000	SED MH	Add
6/1/2015	AQT799	10102-9804	Class V Injection Well	AC	12150 SE RAYMOND ST	< 1000	SED MH	Add
6/1/2015	AQT800	10102-9805	Class V Injection Well	AC	4919 SE 122ND AVE	> 1000	SED MH	Add
6/1/2015	AQT801	10102-9806	Class V Injection Well	AC	4950 SE 122ND AVE	> 1000	SED MH	Add
6/1/2015	AQT802	10102-9807	Class V Injection Well	AC	4857 SE 122ND AVE	> 1000	SED MH	Add
6/1/2015	AQT803	10102-9808	Class V Injection Well	AC	12199 SE LIEBE ST	< 1000	SED MH	Add
6/1/2015	AQT804	10102-9809	Class V Injection Well	AC	4745 SE 122ND AVE	> 1000	SED MH	Add
6/1/2015	AQT805	10102-9810	Class V Injection Well	AC	4754 SE 122ND AVE	> 1000	SED MH	Add
6/1/2015	AQT807	10102-9811	Class V Injection Well	AC	13000 SE HOLGATE BLVD	< 1000	SED MH	Add
6/1/2015	AQT809	10102-9812	Class V Injection Well	AC	11603 SE FOSTER RD	> 1000	SED MH	Add
6/1/2015	AQT810	10102-9813	Class V Injection Well	AC	11603 SE FOSTER RD	> 1000	SED MH	Add
6/1/2015	AQT811	10102-9814	Class V Injection Well	AC	11741 SE FOSTER RD	> 1000	SED MH	Add
6/1/2015	AQT812	10102-9815	Class V Injection Well	AC	11540 SE FOSTER RD	> 1000	SED MH	Add
6/1/2015	ACP068	10102-5509	Class V Injection Well	AC	6862 SE TOLMAN ST	< 1000	SED MH	Add
6/1/2014	R00135	10102-9482	Class V Injection Well	NB	SE 75th Ave & SE Lafayette St	< 1000	Swale	Remove
6/1/2014	R00136	10102-9483	Class V Injection Well	NB	SE 75th Ave & SE Lafayette St	< 1000	Swale	Remove
6/1/2014	R00143	10102-9515	Class V Injection Well	NB	NE 128th Ave & NE Wasco St	< 1000	SED MH	Remove
6/1/2014	R00173	10102-9546	Class V Injection Well	NB	1437 SE 174th Ave	> 1000	SED MH	Remove
6/1/2014	R00180	10102-9553	Class V Injection Well	NB	4711 NE 101st Ave	< 1000	Swale	Remove
6/1/2014	R00236	10102-9609	Class V Injection Well	NB	NE 81st Ave and NE Tillamook St	< 1000	SED MH	Remove
6/1/2014	R00268	10102-9641	Class V Injection Well	NB	SE 75th Ave & SE Lafayette St	< 1000	Swale	Remove
3/1/2015	ACK357	10102-5892	Class V Injection Well	AC	4918 SE 122ND AVE	> 1000	No SED MH	Remove
3/1/2015	ACQ013	10102-5279	Class V Injection Well	AC	11716 SE FOSTER RD	> 1000	No SED MH	Remove
3/1/2015	ADW229	10102-5764	Class V Injection Well	AC	5436 SE 109TH AVE	< 1000	No SED MH	Remove
3/1/2015	ADW230	10102-5765	Class V Injection Well	AC	5440 SE 111TH AVE	> 1000	No SED MH	Remove
3/1/2015	ADW256	10102-5887	Class V Injection Well	AC	4745 SE 122ND AVE	> 1000	No SED MH	Remove
3/1/2015	ADW257	10102-5888	Class V Injection Well	AC	4754 SE 122ND AVE	> 1000	No SED MH	Remove

3/1/2015	ADW258	10102-5889	Class V Injection Well	AC	4857 SE 122ND AVE	> 1000	No SED MH	Remove
3/1/2015	ADW260	10102-560	Class V Injection Well	AC	12199 SE LIEBE ST	> 1000	No SED MH	Remove
3/1/2015	ADW261	10102-5891	Class V Injection Well	AC	4919 SE 122ND AVE	> 1000	No SED MH	Remove
3/1/2015	ADW265	10102-5895	Class V Injection Well	AC	12150 SE RAYMOND ST	> 1000	No SED MH	Remove
3/1/2015	ADW266	10102-5896	Class V Injection Well	AC	5000 SE 122ND AVE	> 1000	No SED MH	Remove
3/1/2015	ADW267	10102-5897	Class V Injection Well	AC	5025 SE 122ND AVE	> 1000	No SED MH	Remove
3/1/2015	ADW269	10102-574	Class V Injection Well	AC	5211 SE 122ND AVE	> 1000	No SED MH	Remove
3/1/2015	ADW271	10102-5900	Class V Injection Well	AC	5403 SE 122ND AVE	> 1000	No SED MH	Remove
3/1/2015	ADW272	10102-5901	Class V Injection Well	AC	5404 SE 122ND AVE	> 1000	No SED MH	Remove
3/1/2015	ADW273	10102-5902	Class V Injection Well	AC	5436 SE 122ND AVE	> 1000	No SED MH	Remove
6/1/2015	ADW274	10102-5903	Class V Injection Well	AC	5500 SE 122ND AVE	> 1000	No SED MH	Remove
3/1/2015	ADW275	10102-5904	Class V Injection Well	AC	12122 SE HAROLD ST	> 1000	No SED MH	Remove
3/1/2015	ADW303	10102-5272	Class V Injection Well	AC	11501 SE FOSTER RD	> 1000	No SED MH	Remove
3/1/2015	ADW304	10102-5273	Class V Injection Well	AC	11741 SE FOSTER RD	> 1000	No SED MH	Remove
3/1/2015	ADW312	10102-5280	Class V Injection Well	AC	11540 SE FOSTER RD	> 1000	No SED MH	Remove
3/1/2015	ADW313	10102-5281	Class V Injection Well	AC	5601 SE 122ND AVE	> 1000	No SED MH	Remove
3/1/2015	ADW321	10102-5311	Class V Injection Well	AC	5732 SE 122ND AVE	> 1000	No SED MH	Remove
9/1/2014	ADW597	10102-890	Class V Injection Well	AC	11847 SE POWELL BLVD	> 1000	unknown	Remove
9/1/2014	AMY454	10102-623	Class V Injection Well	AC	12815 SE POWELL BLVD	> 1000	No SED MH	Remove
9/1/2014	ANB098	10102-788	Class V Injection Well	AC	13317 NE EUGENE ST	< 1000	No SED MH	Remove
3/1/2015	ANB179	10102-868	Class V Injection Well	AC	6015 NE 80TH AVE	> 1000	No SED MH	Remove
3/1/2015	ANB182	10102-869	Class V Injection Well	AC	6135 NE 80TH AVE	> 1000	No SED MH	Remove

[a] Hybrid type design consisting of green facility with overflow to underlying rock gallery as per the City of Portland's stormwater management manual.

[b] Exist UIC not previously registered found thru field inspection or research.

Appendix B
Completed Category 3 Corrective Actions

Appendix B: Completed Category 3 Corrective Actions			
Hansen UIC Node Number	**DEQID**	**Location**	**Completed Corrective Action**
ANA889	10102-1036	11305 SE HAROLD ST	UIC decommissioned. Installed new sedimentation manhole and UIC system.
ANA899	10102-1041	1801 NE MARINE DR	UIC Decommissioned. Inlet constructed and connected to existing storm sewer system.
ANA900	10102-1042	1839 NE MARINE DR	UIC Decommissioned. Inlet constructed and connected to existing storm sewer system.
ADV974	10102-1316	10900 NE MARX ST	UIC Decommissioned. Connection to storm sewer system added.
AAC311	10102-1919	1445 NE MARINE DR	UIC Decommissioned. Inlet constructed and connected to existing storm sewer system.
AMY402	10102-263	11246 SE HAROLD ST	UIC decommissioned. Installed new sedimentation manhole and UIC system.
ADV384	10102-3106	8111 NE HOLMAN ST	Sedimentation manhole added to UIC system.
ADV193	10102-5267	5710 SE 115TH AVE	Shallowed existing UIC to create minimum 5 feet of separation distance and added one new shallow UIC.
ADW303	10102-5272	11501 SE FOSTER RD	Sedimentation manhole added to UIC system.
ADW304	10102-5273	11741 SE FOSTER RD	Sedimentation manhole added to UIC system.
ACQ013	10102-5279	11716 SE FOSTER RD	Sedimentation manhole added to UIC system.
ADW312	10102-5280	11540 SE FOSTER RD	Sedimentation manhole added to UIC system.
ADW313	10102-5281	5601 SE 122ND AVE	Sedimentation manhole added to UIC system.
ADW321	10102-5311	5732 SE 122ND AVE	Sedimentation manhole added to UIC system.
ADV188	10102-5464	10310 SE ELLIS ST	Sedimentation manhole added to UIC system.
ADW286	10102-5590	3039 SE TOLMAN ST	UIC decommissioned.
ADW260	10102-560	12199 SE LIEBE ST	Sedimentation manhole added to UIC system.
ADW269	10102-574	5211 SE 122ND AVE	Sedimentation manhole added to UIC system.
ADW229	10102-5764	5436 SE 109TH AVE	Existing UIC converted to sedimentation manhole and new UIC installed with minimum 5 feet of separation distance
ADW230	10102-5765	5440 SE 111TH AVE	Sedimentation manhole added to UIC system.
ADW233	10102-5768	5500 SE 104TH AVE	UIC decommissioned. Installed new sedimentation manhole and UIC system.
ADW256	10102-5887	4745 SE 122ND AVE	Sedimentation manhole added to UIC system.
ADW257	10102-5888	4754 SE 122ND AVE	Sedimentation manhole added to UIC system.
ADW258	10102-5889	4857 SE 122ND AVE	Sedimentation manhole added to UIC system.
ADW261	10102-5891	4919 SE 122ND AVE	Sedimentation manhole added to UIC system.
ACK357	10102-5892	4918 SE 122ND AVE	Sedimentation manhole added to UIC system.
ADW264	10102-5894	5450 SE 114TH PL	Existing UIC converted to sedimentation manhole and new UIC installed with minimum 5 feet of separation distance
ADW265	10102-5895	12150 SE RAYMOND ST	Sedimentation manhole added to UIC system.
ADW266	10102-5896	5000 SE 122ND AVE	Sedimentation manhole added to UIC system.
ADW267	10102-5897	5021 SE 122ND AVE	Sedimentation manhole added to UIC system.
ADW271	10102-5900	5403 SE 122ND AVE	Sedimentation manhole added to UIC system.
ADW272	10102-5901	5404 SE 122ND AVE	Sedimentation manhole added to UIC system.
ADW273	10102-5902	5436 SE 122ND AVE	Sedimentation manhole added to UIC system.
ADW274	10102-5903	5500 SE 122ND AVE	Sedimentation manhole added to UIC system.
ADW275	10102-5904	12122 SE HAROLD ST	Sedimentation manhole added to UIC system.
ADU725	10102-5915	4908 SE 122ND AVE	Field visit confirms sedimentation manhole exists as part of system, no action required.
AMR771	10102-6110	4736 SE 115TH AVE	Shallowed existing UIC to create a minimum 5 feet of separation distance.
ADU749	10102-619	12220 SE HOLGATE BLVD	Shallowed existing UIC to create a minimum 5 feet of separation distance.
ADT433	10102-6298	12323 SE HOLGATE BLVD	Shallowed existing UIC to create a minimum 5 feet of separation distance.
ADT451	10102-6312	4490 SE 125TH AVE	Shallowed existing UIC to create a minimum 5 feet of separation distance.

ADT453	10102-6314	12920 SE HOLGATE BLVD	Field visit confirms sedimentation manhole exists as part of system, no action required.
ADT454	10102-6315	12830 SE HOLGATE BLVD	Field visit confirms sedimentation manhole exists as part of system, no action required.
ANA587	10102-709	13008 SE HOLGATE BLVD	Stormwater facility added to UIC system.
ANA596	10102-714	13033 SE HOLGATE BLVD	Stormwater facility added to UIC system.
ANA598	10102-715	4425 SE 130TH AVE	UIC decommissioned. Installed new sedimentation manhole and UIC system.
ANB108	10102-791	11020 NE MARX ST	UIC Decommissioned. Connection to storm sewer system added.
ANA841	10102-855	9956 SE HAROLD ST	Field visit confirms sedimentation manhole exists as part of system, no action required.
ANB179	10102-868	6015 NE 80TH AVE	Sedimentation manhole added to UIC system.
ANB182	10102-869	6135 NE 80TH AVE	Sedimentation manhole added to UIC system.
ANB185	10102-870	6245 NE 80TH AVE	Stormwater facility added to UIC system.
APJ198	10102-9243	848 N TOMAHAWK ISLAND DR	Sedimentation manhole added to UIC system.
AAV769	10102-9474	4022 NE 142ND AVE	Sedimentation manhole added to UIC system.
ANW740	10102-9478	6457 NE 66TH AVE	Sedimentation manhole added to UIC system.
AMQ114	10102-9498	8801 N VANCOUVER AVE	Inlet removed and connected to private system.

Appendix C
Spills That Have Occurred within Areas Serviced by UICs

Appendix C: Spills That Have Occurred within Areas Serviced by UICs

Date	Release Type	Volume	Spill Location	Did Fluids Reach City-owned UIC? (Y/N)	Closest City-owned UIC Catch Basin
07/01/14	Oil	unknown	5507 NE 19th Ave	unknown	ADP761
09/24/14	Oily Substance	unknown	SE 164th and Salmon St	unknown	ADP035
09/26/14	Oil	1 gal	5233 N Amherst ST	No	ADN700
09/27/14	Auto fluids	minimal	138th and Division St	No	ADS682
10/01/14	Paint & other liquids	unknown	5001 NE 82nd Ave	No	ADQ342
10/04/14	Fuel	<10 gal	6433 N Michigan Ave	No	ADP288
10/06/14	Oil Staining/Garbage	minimal	8404 N Clarendon Ave	No	ADN396
11/06/14	Transmission Fluid	unknown	10235 NE Prescott St	No	APH000 ANY917
11/08/14	Construction Wash Water and/or Food Cart Rinse Water	unknown	1505 NE Alberta St	Yes	ADQ088
12/19/14	Auto fluids	unknown	6441 SE 82nd Ave	unknown	ADV037
12/23/14	Oil	2 gal	5526 SE 68th Ave	No	ADU931
01/06/15	Auto fluids	1/2 qt	7416 N Seward St	No	AAJ970 ADP125
01/13/15	Fuel	10-15 gal	3456 NE 78th Ave	No	ADN580
02/03/15	Auto fluids	minimal	7105 SE Mitchell St	No	ADU608
02/13/15	Sawdust	unknown	1411 NE Saratoga Street	No	ADP406 ADP415
03/01/15	Oil	minimal	4137 NE 8th Ave	No	AAT167 AAT198 ADQ466
03/08/15	Raw Sewage	10-15 gal	SE 84th Ct Between SE Insley and Ellis	No	ADV065
03/12/15	Fuel	<1 gal	6201 NE 22nd Ave	No	AAN252 ADP771
03/23/15	Wash Water	minimal	1020 N Winchell St	No	ADN919
03/24/15	Wash Water	unknown	4535 N Lombard St	Probably	ADN729
04/06/15	Used RV Wash Water	unknown	1818 SE Mill St	Yes	ADP107 AQU776
04/08/15	Oil	minimal	1250 N Baldwin	unknown	ADN937
04/30/15	Oil	1/2 gal	14262 NE Brazee St	No	ADQ612
05/13/15	Unknown Liquid, likely Heating Oil	30 gal	9022 NE Irving St	No	ADV646
05/18/15	Auto Fluids	unknown	7824 SE 66th Ave	No	ADV912
05/29/15	Auto Fluids	N	9953 SE Pine St	No	ADR871
06/12/15	Auto Fluids	unknown	10711 SE Boise St	No	AMS261
06/16/15	Construction Foam	minimal	525 N Jarrett	No	ADP599
06/17/15	Auto Wash Water	unknown	6013 SE 82nd Ave	No	ADV047

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