

**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**

## **Stormwater Underground Injection Control**

March 24, 2015

*Prepared By:*  
**City of Portland, Bureau of Environmental Services**

## CERTIFICATION

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

<b>Signature</b>	
_____	_____
<b>Name</b>	<b>Title</b>
_____	_____
<b>Signature</b>	<b>Date</b>

## UICMP Organization

This Underground Injection Control Management Plan (UICMP) is organized as follows:

**Chapter 1.0: Introduction and Purpose**, states the purpose of the UICMP and briefly describes the City of Portland (City) UIC system. It also identifies the goals of the UIC Program and summarizes relevant regulatory requirements, legal authority, and the UICMP’s relationship to other documents.

**Chapter 2.0: System Management**, describes the best management practices (BMPs) the City will implement to prevent, minimize, and control pollutants in stormwater prior to discharge to UICs. It also describes how the City will manage the overall UIC Program to ensure effective implementation of the UICMP and compliance with permit conditions.

**Chapter 3.0: System Monitoring**, summarizes the City’s annual stormwater runoff monitoring plan.

**Chapter 4.0: Response**, summarizes the City’s evaluation and response actions to protect groundwater quality when maximum pollutant concentrations (permit-required action levels) are exceeded, or when legal or physical conditions are identified (such as inadequate horizontal setbacks) that pose a risk.

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## APPENDICES

- A City of Portland Decommissioning Procedure
- B Supporting UIC Program documents and information
- C Additional information for BMP ET-2

## LIST OF ACRONYMS

ACWA	Association of Clean Water Agencies
BDS	Bureau of Development Services
BES	Bureau of Environmental Services
BGS	Bureau of General Services
BMP	Best Management Practices
BOD	biological oxygen demand
BOT	Bureau of Transportation
BOT-MO	Bureau of Transportation – Maintenance Operations
BPS	Bureau of Planning and Sustainability
CFR	Code of Federal Regulations
CSSW	Columbia South Shore Well Field
DEQ	Oregon Department of Environmental Quality
EPA	Environmental Protection Agency
HASP	Health and Safety Plan
IPM	Integrated Pest Management
MIP	Maintenance Inspection Program
MS4	Municipal Separate Storm Sewer System
NFPA	National Fire Protection Association
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
OAR	Oregon Administrative Rule
OSHA	Occupational Safety and Health Administration
Parks	Parks and Recreation
QAPP	Quality Assurance Project Plan
SAP	Sampling and Analysis Plan
SDMP	Stormwater Discharge Monitoring Plan
SOM	BES Stormwater Operations & Maintenance
SPCR	Spill Protection-Citizen Response
SWDA	Safe Drinking Water Act
SWMM	Stormwater Management Manual
TSS	total suspended solids
UIC	Underground Injection Control
UICMP	UIC Management Plan
Water	Portland Water Bureau
WHPA	Wellhead Protection Area
WPCF	Water Pollution Control Facility.

## Section 1: Introduction

### 1.1 Purpose

The City of Portland (City) has prepared this Underground Injection Control (UIC) Management Plan (UICMP) in compliance with the requirements of the Water Pollution Control Facilities (WPCF) permit<sup>1</sup> issued to the City by the Oregon Department of Environmental Quality (DEQ) in 2015 (DEQ Permit Number 102830). The UICMP describes the comprehensive management strategy the City will use throughout its second WPCF permit term to prevent and reduce pollutants from public rights-of-way from entering City-owned UICs in order to protect beneficial uses of groundwater, meet WPCF permit requirements, and satisfy requirements of the federal Safe Drinking Water Act (SDWA) and state UIC and groundwater regulatory requirements.

This is the City’s second UICMP, corresponding with the second WPCF permit.

### 1.2 Overview

The City currently has approximately 9,000 UICs that collect stormwater from public rights-of-way and discharge it to the subsurface. In a designated area in Portland, groundwater serves as a backup drinking water supply to the Bull Run reservoirs. The WPCF permit establishes the UIC construction, operation, and maintenance requirements the City must implement to protect groundwater for use as a drinking water resource.

As used in this document, **UIC** means any Class V underground injection control system owned or operated by the City of Portland.

UICs have been used in the Portland area to manage stormwater runoff for more than 60 years. They are most prevalent in areas of the city east of the Willamette River where subsurface soils that support greater infiltration rates are more prevalent. UICs in these areas have become an essential element of stormwater management and in some cases are the only form of stormwater disposal available.

In 1994, the City began installing new UICs to take water out of the combined sewer system as part of its program to control combined sewer overflows (CSOs). Where some form of piped stormwater system exists, UICs help reduce the need to install or increase the capacity of piped stormwater infrastructure. In addition to infrastructure purposes, UICs also quickly and efficiently reintroduce stormwater in the subsurface soils, filter and cool runoff, and reduce direct discharges from piped stormwater systems into local surface water bodies, including Johnson Creek, the Columbia Slough, and the Willamette River.

UICs are also an important component of green infrastructure projects (vegetated stormwater management facilities) because they provide an infiltration point for overflow during large storm

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<sup>1</sup> The full name of the permit is the Water Pollution Facilities Permit for Class V Stormwater Underground Injection Control Systems.

events when stormwater cannot be fully infiltrated through swales, planters, or other surface infiltration systems.

### 1.3 Program Goals

The goals of the UIC Program are to:

1. Ensure that UICs are constructed, operated, and maintained in a manner that meets WPCF permit requirements and protects groundwater for use as a drinking water resource.
2. Use stormwater as a resource by facilitating long term operation of stormwater facilities that support the natural hydrogeologic cycle, provide baseflow for surface waters, and contribute to normative stream flow conditions by reducing storm flow to piped sewer systems.
3. Emphasize management actions that prevent, minimize, and treat pollutants in stormwater before they can be discharged to a UIC.
4. Collect and evaluate stormwater data to verify groundwater protection and WPCF permit compliance, and identify where system improvements are needed.
5. Ensure that UICs that are identified as non-compliant are operated, modified, or decommissioned in a manner that brings them into compliance.

The UIC Program supports the overall mission of the Portland Bureau of Environmental Services (BES) to:

- Protect public health, water quality, and the environment.
- Provide sewage and stormwater collection and treatment services to accommodate Portland’s current and future needs.
- Protect the quality of surface and ground waters and conduct activities that plan and promote healthy ecosystems in our watersheds.

### 1.4 Regulatory Requirements

Congress enacted UIC rules in 1974 under the SDWA and modified the rules in 1999. The U.S. Environmental Protection Agency (EPA) administers these rules under Title 40 of the Code of Federal Regulations (CFR) Parts 144 -148. In Oregon, EPA has delegated the regulation of UICs to DEQ.

Oregon Administrative Rules (OAR) 340-044 were adopted in conformance with the federal SDWA and regulate all groundwater as a potential source of drinking water.

### 1.5 Legal Authority

The City maintains legal authority through the City Charter to implement the programs outlined in the UICMP, as initially demonstrated in the City’s original WPCF UIC permit application.



The City Charter 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 Storm System Discharges, respectively.

## 1.6 Permit Requirements Addressed by the UICMP

Table 1-1 shows where the requirements of the permit template are addressed in the UICMP.

**Table 1-1: Permit Requirements Addressed by the UICMP**

Permit Schedule	Requirement	Where Addressed in UICMP
A	Authorized discharges	System Management, Section 2.1
A	Action levels	System Monitoring, Section 3.2
A	Action level exceedances	Response, Section 4.4
A	Spills (response)	Response, Section 4.5
A	Imminent endangerment	Response, Section 4.6
A	Corrective action	Response, Section 4.2
A	Site control measures and BMPs	System Management, Section 2.2
A	Horizontal setbacks	Response, Section 4.3.1
B	Systemwide assessment	System Management, Section 2.2 Response, Section 4.3 (and the <i>City of Portland Systemwide Assessment</i> )
B	Stormwater monitoring plan	System Monitoring, Section 3.2 (and the <i>Stormwater Discharge Monitoring Plan [SDMP]</i> dated March 24, 2015)
B	Groundwater monitoring	System Monitoring, Section 4.2
B	Annual reporting	System Management, Section 2.3.1
B	Closure – provide notice of	System Management, Section 2.3.2
D	Legal authority	Introduction, Section 1.5
D	Key personnel	System Management, Section 2.4
D	Reporting and correction action for UICs prohibited by OAR 340-044-0015	Response, Section 4.3.2
D	UICs discovered through assessment	Response, Section 4.3.3

Permit Schedule	Requirement	Where Addressed in UICMP
D	UICMP requirements:	
	Stormwater monitoring	System Monitoring, Section 3.2 (and the SDMP) Response, Section 4.4
	Injection system decommissioning/closure	Response, Section 4, and Appendix A ( <i>City of Portland Decommissioning Procedure</i> )
	Employee education and public outreach	System Management, Section 2.2
	Operations and maintenance	System Management, Section 2.2
	Accidental spills/illicit disposal	System Management, Section 2.2 Response, Section 4.5
	Preventing discharge of stormwater from refueling areas, areas of hazardous/toxic material storage/handling, materials storage/handling, or other discharges that may contain pollutants above levels of concern	System Management, Section 2.2 Response, Section 4.3
	Housekeeping practices to protect groundwater quality	System Management, Section 2.2
Facility designs and practices that block discharges to UICs	System Management, Section 2.2 Response, Section 4.5	
D	Adaptive management	System Management, Section 2.5
F	Operations and maintenance	System Management, Section 2.2
F	Program monitoring and records	System Management, Section 2.3.3
F	Reporting and signatory requirements	System Management, Section 2.3.4
F	Duty to Reapply	System Management, Section 2.6

## 1.7 Relationship of the UICMP to Annual Compliance Reports

The UICMP is a comprehensive plan that expresses the overall intent and breadth of the City's stormwater management program for discharges to UICs. It includes implementation tasks and, where possible, schedules. Implementation detail is included in the annual compliance reports the City submits to DEQ by November 1 of each year. The annual compliance reports provide information about best management practices (BMPs) and monitoring activities that have been implemented in the previous permit year (July 1 to June 30). They include reporting on specific tasks completed, as well as other activities that are essential elements for managing stormwater discharges to UICs. The annual compliance reports also identify closure, retrofitting and installation activities planned for implementation in the coming fiscal year.

## **1.8 Supporting Documents/Information**

Appendix B identifies documents and information that relate to and support the UIC Program. These include:

- Federal and state regulations and permits
- City code and administrative rules
- UIC Program documents (describe programmatic actions and management practices that the City implements)
- Documents/information that support specific BMPs in the UICMP

The City updates these documents/information as needed as part of its overall stormwater management and adaptive management processes.

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## Section 2: System Management

### 2.1 Purpose

This chapter describes the BMPs the City will implement to prevent, minimize, and control pollutants in stormwater prior to discharge to UICs. These BMPs are applicable to the entire UIC system on an ongoing basis. The chapter also describes how the City will manage the overall UIC program to ensure effective implementation of the UICMP and compliance with permit conditions. This includes program reporting; program personnel; and adaptive management to assess and modify the program as needed. Specific BMP activities that are implemented throughout the year will be identified in annual reports submitted to DEQ (see Section 2.3.1).

### 2.2 Best Management Practices (BMPs)

The BMPs are grouped into five categories:

Education and Training (ET)	ET-1: Public Education and Outreach ET-2: Employee Education and Training ET-3: Business Outreach and Technical Assistance
Operations and Maintenance (OM)	OM-1: Operation and Maintenance of the UIC System OM-2: Operation and Maintenance in Public Rights-of-Way OM-3: Operation and Maintenance on Other City Properties
Pollution Control (PC)	PC-1: Spill Prevention and Source Control PC-2: Erosion Control
Program Management (PM)	PM-1: Internal City Coordination PM-2: External Coordination
Systemwide Assessment (SA)	SA-1: Inventory and Evaluation of City-owned UICs

Table 2-1 shows the permit requirements that the BMPs address. The BMPs are then provided on the following pages.

**Table 2-1: Permit Requirements Addressed by the BMPs**

Permit Section	Requirement	BMPs
A.7	Site control measures and BMPs	OM-1, PC-1
D.5 <sup>2</sup>	UICMP requirements:	
c	Employee education and public outreach	ET-1, ET-2
d	Operations and maintenance and inspection protocols	OM-1, OM-2, OM-3
e	Accidental spills/illicit disposal	ET-1, ET-3, PC-1, PC-2
f	Preventing discharge of stormwater from refueling	ET-2, ET-3, OM-3, PC-1,

<sup>2</sup> The permit requires the UICMP to include a stormwater monitoring plan and decommissioning (D.5.a and D.5.b). These elements are not considered BMPs, rather are discussed in Chapter 3, Monitoring, and Chapter 4, Response.

Permit Section	Requirement	BMPs
g h	<p>areas, hazardous/toxic material storage/handling areas, materials storage/ handling areas, or other discharges that may contain pollutants above levels of concern.<sup>3</sup></p> <p>Housekeeping practices to protect groundwater quality</p> <p>Facility designs and practices that block discharges to UICs</p>	<p>SA-1</p> <p>ET-2, ET-3, OM-1, OM-2, PC-1, PM-1</p>
F.2	O&M	OM-1, ET-2

## BMP Category: EDUCATION AND TRAINING (ET)

### Purpose

To inform and educate the public, businesses, and City employees about UICs, groundwater protection, WPCF permit conditions; to promote pollution prevention and source control.

### Overview

Education and training is an integral part of the City’s UIC program. The public, businesses, and City staff must be involved, informed, and educated about the issues and solutions if the program is to be effective. This category includes three BMPs:

- **ET-1** provides education and outreach to members of the public living and working in areas served by UICs. It implements public information, education, involvement, and stewardship activities that will raise awareness, foster community stewardship, and promote pollution prevention, stormwater and groundwater management, and environmental protection.
- **ET-2** promotes knowledge of WPCF permit conditions and requirements for City staff responsible for implementing UIC program elements and BMPs, and ensures that City practices related to UICs are protective of groundwater.
- **ET-3** provides outreach and technical assistance to businesses to reduce and control pollutant discharges from industrial and commercial facilities to protect groundwater quality.

### Pollutants Addressed

The pollutants addressed by Education and Training depend on the target audience. Much of the outreach and education does not target specific pollutants, but instead promotes environmental stewardship, pollution prevention, and sustainable stormwater management.

<sup>3</sup> The Systemwide Assessment (2015) did not identify any City owned or operated UICs located in refueling areas, hazardous or toxic material storage or handling areas, or materials storage or handling areas.

**ET-1: Public Education and Outreach**

**Description**

The City conducts a number of public education and outreach programs and activities relevant to stormwater, groundwater, pollution prevention, source control, and watershed protection. These include the following components:

- **Information:** Messages and materials distributed to the public and media. Public awareness is crucial to effectively fostering public stewardship.
- **Education:** Activities designed to increase understanding about stormwater/water quality and motivate the public to make behavioral changes.
- **Involvement:** Involving the public in identifying issues and developing solutions; encouraging and empowering Portland citizens to take an active role in water resource protection.
- **Stewardship:** Enabling citizens to have an active, hands-on role in protecting water quality.

<b>BMP Element</b>	<b>Description</b>
Clean Rivers Education Programs	<p>BES provides free water quality classroom and field science education for grades K through 12; community service projects; teacher workshops; and curriculum resources within the City. These hands-on programs teach students about the causes and effects of water pollution and what individuals can do to protect water resources.</p> <p><b>Responsible Bureau:</b> BES</p>
Watershed Stewardship Activities and Events	<p>BES plans and implements numerous community activities and events (e.g., workshops, educational presentations/activities, training, restoration projects) that address stormwater management and watershed protection throughout the City’s watersheds. The watershed-based approach stresses comprehensive, multi-objective watershed management through inter-jurisdictional coordination within each watershed. Each program includes public education and stewardship focused on specific watershed issues, including coordination and partnerships with watershed councils and other community groups.</p> <p><b>Responsible Bureau:</b> BES</p>
Stormwater/UIC-Related Information	<p>Education and information are provided to the public through inserts in City water/sewer bills, websites, and materials such as fact sheets.</p> <p><b>Responsible Bureaus:</b> BES, Water</p>

**ET-2: Employee Education and Training**

**Description**

UIC program staff coordinate with City bureaus and programs to inform staff that design, construct and maintain UICs of relevant program and permit requirements to ensure that City practices and policies related to UICs on public and private property are protective of groundwater. The City bureaus involved in UIC-related activities include:

- Bureau of Environmental Services (BES)
- Bureau of Development Services (BDS)
- Portland Parks and Recreation (Parks)
- Fire and Rescue (Fire)
- Bureau of Transportation (BOT); Maintenance Operations (BOT-MO)
- Water Bureau (Water)
- Bureau of General Services (BGS)
- Bureau of Planning and Sustainability (BPS)

City staff receive training related to their duties on topics that include:

- OARs for UICs, WPCF permit requirements, rule authorization, and registration requirements
- State and local land-use and development rules and requirements
- Stormwater Management Manual (SWMM) requirements
- Sustainable infrastructure
- Operation and maintenance of UIC systems
- Maintenance and construction practices in public rights-of-way and City properties
- Materials management
- Spill prevention and response
- Erosion, sediment, and pollutant control
- Hazardous materials
- Biological hazards
- West Nile Virus

<b>BMP Element</b>	<b>Description</b>
Education/training for City staff responsible for operations, maintenance, and monitoring of UICs	UIC program staff coordinate with City bureaus and programs to inform staff of relevant program and permit requirements to ensure public UICs are operated, maintained, and monitored in compliance with WPCF permit requirements.  City bureaus/groups responsible for spill prevention and response; source control; operations and maintenance; and monitoring are listed below. Appendix C provides additional information about them.  (continued on next page)



<b>ET-2: Employee Education and Training</b>	
<p>Education/training for City staff responsible for operations, maintenance, and monitoring of UICs</p>	<p><b>BOT</b></p> <ul style="list-style-type: none"> <li>• Maintenance Operations</li> </ul> <p><b>BES</b></p> <ul style="list-style-type: none"> <li>• Pollution Prevention Services</li> <li>• Spill Protection-Citizen Response (SPCR) team</li> <li>• Industrial Stormwater Management Program</li> <li>• Maintenance Inspection Program (MIP)</li> <li>• Investigations and Monitoring</li> <li>• Field Operations</li> <li>• Water Pollution Control Laboratory</li> <li>• Engineering</li> </ul> <p><b>Bureaus responsible for the operation and maintenance of UICs located on their properties:</b></p> <ul style="list-style-type: none"> <li>• Parks</li> <li>• Fire and Rescue</li> <li>• Water</li> <li>• BGS</li> </ul>
<p>Education/training for City staff responsible for planning, design and construction of public and private UICs</p>	<p>UIC program staff coordinate with City bureaus and programs to inform staff of relevant program and permit requirements to ensure City-owned UICs and private stormwater facilities are designed and constructed to meet WPCF permit requirements.</p> <p>City bureaus/groups responsible for planning, design, and construction of public and private UICs are listed below. Appendix C provides additional information about them.</p> <p><b>BES</b></p> <ul style="list-style-type: none"> <li>• Pollution Prevention Services—Plan Review</li> <li>• Engineering Services</li> </ul> <p><b>BDS</b></p> <p><b>BPS</b></p> <p><b>Bureaus responsible for erosion control:</b></p> <ul style="list-style-type: none"> <li>• BDS</li> <li>• BES</li> <li>• Water</li> <li>• BOT</li> </ul>

**ET-3: Business Outreach and Technical Assistance**

**Description**

Since the early 1990s (when the City’s Industrial Pretreatment Program and Industrial Stormwater Management Program began), the City has actively promoted pollution control at the source. This includes education and technical assistance to commercial and industrial businesses to help them implement best management practices and pollution prevention measures. These activities are aimed at both permitted industries and those not under a permit. The City has its own pollution prevention programs and also partners with other organizations.

<b>BMP Element</b>	<b>Description</b>
Sustainability at Work (formerly BEST-Businesses for an Environmentally Sustainable Tomorrow)	This multi-agency program assists industries with green practices that conserve resources and address stormwater and solid waste. Activities include onsite assessments; Innovation in Sustainability Awards; and Sustainability at Work Certification. <b>Responsible Bureau:</b> BPS
Good Housekeeping Fact Sheets	The City distributes good housekeeping BMP fact sheets to industrial and commercial facilities that may or may not be required to obtain a permit under the Industrial Stormwater Management Program (see PC-1). Fact sheets are also available on BES’s Pollution Prevention Services website. Topics include vehicle and equipment washing and maintenance; outside material storage; dust control; erosion and sediment control; sandblasting and painting; outside material storage; and emergency response and spill cleanup plans. <b>Responsible Bureau:</b> BES
Columbia South Shore Well Field (CSSWF) Wellhead Protection Program	The City provides education and technical assistance to businesses within the CSSW to help them implement best management practices and pollution prevention measures to comply with the program requirements (see PC-1). The City works in coordination with the Columbia Corridor Association and Columbia Slough Watershed Council. <b>Responsible Bureaus:</b> Water, Fire, BES
BES Maintenance Inspection Program (MIP)	The City provides site-specific technical assistance to private property owners and managers responsible for operation and maintenance of onsite stormwater management facilities, including UICs. Follow-up inspections are performed to make sure private stormwater facilities are functioning properly and do not adversely affect groundwater. <b>Responsible Bureau:</b> BES

## **Category: OPERATIONS AND MAINTENANCE (OM)**

### **Purpose**

To implement operations and maintenance practices to remove or prevent pollutants from entering City-owned UICs in public rights-of-way and on other City-owned property.

### **Overview**

Operations and maintenance BMPs for City-owned 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). The Operations and Maintenance category includes three BMPs:

- **OM-1** addresses the inspection, maintenance, cleaning, and repair of City-owned UICs in public rights-of-way.
- **OM-2** addresses operation and maintenance activities that are conducted in public rights-of-way and may affect City-owned UICs.
- **OM-3** addresses operation and maintenance of UICs on other City property, as well as good housekeeping practices that may affect UICs

### **Pollutants Addressed**

The pollutants addressed by OM-1, OM-2, and OM-3 may include total suspended solids (TSS) and pollutants that bind to TSS, horticultural chemicals, metals, nutrients, petroleum hydrocarbons, oil and grease, solvents, and floatables (debris and litter).

**OM-1: Operation and Maintenance of the UIC System**

**Description**

Operations and maintenance (O&M) of the UIC system to remove and prevent discharges from entering the UIC system.

The UIC system components managed under this BMP are:

- Sumps
- Sedimentation manholes
- Goosenecks
- Inlets and catch basins
- Sedimentation boxes, vaults
- Vegetated facilities

<b>BMP Element</b>	<b>Description</b>
Inspection, Maintenance, and Repair of UICs	<p>BES’s Stormwater Operations &amp; Maintenance (SOM) group includes designated staff that evaluate system components. Following evaluation, they write work orders to identify needed maintenance activities and priorities in a given area. BOT-MO then schedules the applicable maintenance work. The City’s <i>Stormwater Operations and Maintenance Manual</i> (2013) describes the elements of the City’s stormwater infrastructure and provides guidelines for how each type of facility is managed, including criteria and standards for inspection, cleaning, maintenance, repair, and spill response.</p> <p><b>Responsible Bureaus:</b> BES and BOT-MO</p>
Review and Incorporation of Newly Constructed Public System Components	<p>All development and construction plans that include surface stormwater management facilities that will revert to City ownership (those that manage stormwater from public rights-of-way) undergo plan review by SOM staff, as well as overall plan review by BDS. After construction and a 2-year warranty period, the facilities become City-owned facilities. The City incorporates the new facilities into the stormwater system inspection and maintenance schedules.</p> <p><b>Responsible Bureaus:</b> BES, BDS</p>
Research and Pilot Testing of New O&M Practices	<p>Stormwater facility O&amp;M technologies continue to evolve. BES and BOT-MO staff research and pilot test O&amp;M practices that could improve effectiveness and reduce pollutant discharges. To date, pilot testing has focused on spill control, erosion control, limitation of water use, and product substitution (use of least-hazardous products).</p> <p><b>Responsible Bureaus:</b> BES, BOT-MO</p>

**OM-2: Operation and Maintenance in Public Rights-of-Way**

**Description**

When conducting O&M activities in public rights-of-ways, the City implements work procedures that limit discharges to UICs. The system components managed under this BMP are:

- Paved streets
- Substandard streets (streets not fully improved to City standards)
- Bridges
- Sidewalks
- Utility corridors
- Tree planting strips
- Other right-of-way components

This BMP does not include:

- Private streets
- Components of the UIC system that are covered under OM-1
- Facilities owned and operated by other jurisdictions [e.g., county, Oregon Department of Transportation (ODOT)]

<b>BMP Element</b>	<b>Description</b>
O&M Activities in Public Rights-of-Way	<p>City O&amp;M activities within public rights-of-way include:</p> <ul style="list-style-type: none"> <li>• Street cleaning (sweeping, flushing, leaf collection)</li> <li>• Paving (grinding, saw-cutting, patching, overlay, crack filling)</li> <li>• Concrete work (curbs, sidewalks, bridges, stairways, retaining walls)</li> <li>• Pavement markings and street signage (which involve chemicals, paints, adhesives, etc.)</li> <li>• Snow and ice control and other emergency responses (e.g., flood response)</li> <li>• Cleanup of illegal dumping/other wastes</li> <li>• Vegetation management (e.g., horticultural chemical application, mowing)</li> <li>• Road shoulder maintenance (e.g., re-gravelling, shallow excavation)</li> </ul> <p>When conducting the above O&amp;M activities in public rights-of-ways, the City implements the following work procedures, as appropriate, that limit discharges to UICs:</p> <ul style="list-style-type: none"> <li>• Spill control and prevention</li> <li>• Erosion prevention and sediment control</li> <li>• Control of other pollutants—e.g., waste generated by grinding or saw cutting</li> <li>• Pilot testing of new procedures—e.g., for spill control and prevention, erosion control</li> <li>• Staff training on O&amp;M-related stormwater issues and practices</li> <li>• Outreach to other City bureaus and local agencies to limit pollutant discharges from O&amp;M practices in public rights-of-way</li> </ul>

**OM-2: Operation and Maintenance in Public Rights-of-Way**

O&M Activities in Public Rights-of-Way	The City follows (with modifications) the 2009 ODOT <i>Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices</i> as guidance. <b>Responsible Bureau:</b> BOT-MO
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**OM-3: Operation and Maintenance on Other City Properties**

**Description**

This BMP addresses operations and maintenance related to:

- City buildings (e.g., office buildings, parking structures)
- City properties (e.g., parks, field operations sites)
- Other City infrastructure (e.g., wells, access roads, water reservoirs and tanks, pump stations)

It includes activities such as UIC O&M, fleet vehicle washing, storage and use of toxic materials, and general maintenance.

<b>BMP Element</b>	<b>Description</b>
O&M of UICs on Other City Properties	<p>The following bureaus are responsible for operation and maintenance of UICs located on their properties:</p> <ul style="list-style-type: none"> <li>• Parks: Owns approximately 200 UICs that receive drainage from ballfields, drinking fountains, and parking lots.</li> <li>• Fire: Owns approximately 20 UICs that receive drainage from parking lots.</li> <li>• Water: Owns approximately 40 UICs that receive drainage from water and groundwater storage and supply operations.</li> <li>• BGS: Owns approximately 20 UICs that receive drainage from roof tops, footing drains, and parking lots.</li> </ul> <p><b>Responsible Bureaus:</b> Relevant bureaus</p>
Good Housekeeping Practices at City Properties	<p>The City has the following strategies in place for O&amp;M of City facilities and infrastructure:</p> <ul style="list-style-type: none"> <li>• City bureaus use the Integrated Pest Management (IPM) Program where appropriate to minimize the need for fertilizers, pesticides, and irrigation.</li> <li>• The City stipulates contracting provisions as appropriate to minimize stormwater pollutant discharges.</li> <li>• The City implements sustainable business practices (e.g., Sustainable Procurement Policy, Green Building Policy, Toxics Reduction Strategy).</li> <li>• Discharges from fire response and non-emergency fire training are directed to the sanitary system.</li> <li>• Seismic upgrades to fire stations include eliminating discharges from washing activities to stormwater facilities.</li> </ul> <p><b>Responsible Bureau:</b> Relevant bureaus</p>

## Category: POLLUTION CONTROL (PC)

### **Purpose**

To identify, prevent, minimize, and control activities that can increase pollutant discharges to public UICs. These activities include illegal dumping of solid and liquid wastes (such as paint, used motor oil, or solvents) into catch basins; accidental or unplanned discharges (such as car accidents and firefighting activities); site uses that may generate pollutants; and construction site activities.

### **Overview**

This category includes two BMPs:

- **PC-1** focuses on City programs that control pollutant discharges from spills, illegal disposal, and improper site management, on both public and private sites.
- **PC-2** focuses on erosion control during construction activities, on both public and private sites.

### **Pollutants Addressed**

The type and amount of pollutants addressed by PC-1 depend on the pollutant source(s). For example, automobile accidents can result in the discharge of automotive fluids such as oil and coolants. Pollutants associated with commercial and industrial activities include metals (zinc, copper, lead, iron, manganese), biochemical oxygen demand (BOD), volatile pollutants, TSS, toxics that bind to TSS, solvents, and oil and grease.

The main pollutants addressed by PC-2 are TSS and pollutants (such as metals) that bind to TSS. Construction site controls also reduce the discharge of floatable litter and debris, concrete washwater, bacteria, slurry, and paints.



<b>PC-1: Spill Prevention and Source Control</b>	
<p><b>Description</b>                      Spills, illegal disposal, improper site management, and erosion can increase the discharge of pollutant to public UICs, with potential negative impacts to groundwater. This BMP focuses on spill control and source prevention activities to reduce such pollutant discharges, both within the right-of-way and on public and private sites that may drain to the right-of-way and into public UICs.</p>	
<b>BMP Element</b>	<b>Description</b>
Spill Protection-Citizen Response (SPCR)	<p>SPCR investigates and responds to illicit discharges (e.g., sanitary sewage releases, spills, illegal dumping, and illicit connections) that enter, threaten, or leave Portland’s sewer system, including UICs. SPCR staffs the 24 hour BES spill response hotline; responds to spills and pollution complaints as appropriate; and provides education and technical assistance to property owners. The SPCR <i>Duty Officers Procedures</i> (2014) describes the procedures SPCR follows to ensure timely and appropriate responses. UIC program staff provide oversight and coordination as necessary to ensure cleanup and long-term resolution.</p> <p><b>Responsible Bureau:</b> BES</p>
Spill Control Plans and Inspections on City Properties	<p>City facilities that operate, maintain, and store equipment and supplies (e.g., fleet, water, and wastewater operations) keep site specific spill plans and/or National Fire Protection Association (NFPA) 704 placards containing chemical specific response information. Information typically identifies pollution control, spill prevention, and spill response procedures, and is kept on file with the Oregon State Fire Marshal. Information is publicly available through <i>Community Right to Know Information Access</i>. The Fire Marshal inspects City facilities that meet minimum “reportable quantity” amounts.</p> <p><b>Responsible Bureaus:</b> Each City facility is responsible for implementing its plan.</p>
Spill Containment	<p>New UICs and most existing UICs in City rights-of-way are designed with a sedimentation manhole that allows operators to contain a discharge in the event of an accident or spill. During capital improvement or other City projects located in public rights of way with UICs without sedimentation manholes, UICs are generally upgraded to include them.</p> <p>The <i>Stormwater Management Manual</i> (2014) and <i>Columbia South Shore Well Field Wellhead Protection Area Reference Manual</i> (June 25, 2003; amended July 7, 2010) require certain facilities to construct containment areas or be hydraulically isolated from stormwater drainage areas.</p>
Spill Control	<p>City staff response vehicles are supplied with spill prevention and containment kits. Kits typically include:</p> <ul style="list-style-type: none"> <li>• Absorbent pads</li> <li>• Materials for slowing or stopping minor leaks</li> <li>• Materials to block flows to catch basin inlets or manholes</li> <li>• Cat litter or other clay-based sorbents</li> <li>• Visqueen and hand tools for diking purposes</li> </ul>

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<b>PC-1: Spill Prevention and Source Control</b>	
Source Control Measures ( <i>SWMM</i> )	<p>The City’s <i>SWMM</i> requires structural source control measures for site uses and characteristics that generate, or have the potential to generate, specific pollutants of concern or levels of pollution that may enter the City sewer system, including UICs. These requirements apply to new development, redevelopment, tenant improvements, and changes to site uses or activities.</p> <p><b>Responsible Bureau:</b> BES</p>
Regional Spill Response Committee	<p>This multi-agency committee consults on spill response activities throughout the region and provides coordination. BES chairs the committee, and a UIC Program staff member attends quarterly meetings.</p> <p><b>Responsible Bureau:</b> BES</p>
CSSW Wellhead Protection Program	<p>The City’s CSSW provides emergency and supplemental drinking water to Portland and surrounding areas. The CSSW Wellhead Protection Program focuses on groundwater protection through mandatory BMPs and facility inspections for commercial and industrial facilities located within the CSSW Wellhead Protection Area (WHPA) overlay zone. The Program regulates the storage, handling, use and transport of hazardous materials in the Wellhead Protection Area. The <i>Columbia South Shore Well Field Wellhead Protection Area Reference Manual</i> (June 25, 2003; amended July 7, 2010) identifies program requirements, including structural and operational BMPs to reduce the occurrence of spills and minimize spill impacts. The City also works in partnership with the Columbia Corridor Association and Columbia Slough Watershed Council to provide education and technical assistance to help affected residents and businesses comply with the program requirements (see ET-3).</p> <p><b>Responsible Bureaus:</b> Water, BES, Fire</p>
Prevention of Illegal Dumping	<p>The City implements requirements for curbside collection services (residential garbage, recycling, yard debris, and food scrap collection) and public education/outreach to help prevent illegal dumping. The City also partners with Neighborhood Coalition Offices and Metro to administer neighborhood cleanup collection events.</p> <p><b>Responsible Bureau:</b> BPS</p>
BES Industrial Stormwater Management Program	<p>The City’s Industrial Stormwater Management Program monitors and controls pollutants in stormwater runoff from industrial and commercial facilities. This includes facilities with National Pollutant Discharge Elimination System (NPDES) 1200Z permits, 1200COLS permits, and City discharge authorizations/permits. The City also has the authority to require facilities to address their runoff/discharges to a City-owned UIC. The program routinely inspects both permitted and non-permitted sites to determine if they comply with regulations and provides technical assistance to private industry owners and managers.</p> <p><b>Responsible Bureau:</b> BES</p>

**PC-2: Erosion Control**

**Description**

If not properly managed, construction site activities can result in erosion and the discharge of sediment and construction related pollutants into public UICs. This BMP focuses on erosion control activities both within the right-of-way and on public and private sites that may drain to the right-of-way and potentially impact discharges to public UICs.

Five City bureaus manage erosion, sediment, and pollutant control on construction sites:

- BDS administers and enforces City requirements pertaining to erosion, sediment, and pollutant control for private development.
- The public works bureaus (Water, BES, BOT, and Parks) manage erosion, sediment, and pollutant control for their own public works permit projects.

<b>BMP Element</b>	<b>Description</b>
Title 10 and Erosion Control Manual	Title 10 of City Code (Erosion and Sediment Control Regulations) and the City’s <i>Erosion and Sediment Control Manual</i> (updated March 2008) provide a comprehensive, citywide erosion and pollutant control program for construction sites. The requirements apply to any ground-disturbing activity, regardless of site size, whether or not a permit is required. The same standards apply to private and public sites. The regulations and manual cover site planning, the use of best management practices, and inspection and enforcement measures. <b>Responsible Bureaus:</b> BDS (for private development); BES, Water, BOT, Parks (for their own public works permit projects)
Training and Assistance	The City provides training and assistance on erosion, sediment, and pollutant control requirements to City staff. Publications, information, and advice are also available to the public online and through the BDS Development Services Center. The pre-permit-issuance site meeting program provides the opportunity for the applicant’s team to meet with staff onsite to discuss erosion control issues. <b>Responsible Bureaus:</b> BDS, BES, Water, BOT, Parks
Enforcement Hotline	BDS operates a hotline and website for receiving erosion, sediment, and other complaints. After receiving an erosion-related complaint, BDS (and BES, if needed) identify and implement an appropriate response, which may include education, technical assistance, or enforcement. <b>Responsible Bureaus:</b> BDS, BES

## **Category: PROGRAM MANAGEMENT (PM)**

### **Purpose**

To ensure effective program management, coordination, and reporting.

### **Overview**

The UICMP is far-reaching and complex. A key focus of the City UIC Program is to provide sound program management, coordination, and reporting to ensure effective implementation of the UICMP and compliance with the WPCF permit. This approach involves strong relationships and coordination with multiple City bureaus, state agencies, and other jurisdictions and organizations.

BES administers and manages the WPCF permit and UICMP. The Director of BES provides oversight on behalf of the City.

This category includes two BMPs:

- **PM-1** focuses on internal City coordination.
- **PM-2** focuses on coordination with external partners, including State agencies, other jurisdictions, and outside organizations.

### **Pollutants Addressed**

Program Management does not itself reduce pollutants; rather, it facilitates pollutant reduction by ensuring that the UICMP is effectively managed.

<b>PM-1: Internal City Coordination</b>	
<p><b>Description</b></p> <p>This BMP focuses on effective internal program management, coordination, policy development, and reporting to ensure the City is meeting WPCF permit requirements and providing long-term protection of groundwater. Because the permit is citywide, staff from many City bureaus outside of BES are involved with implementing elements of the UIC program. Good working relationships within the City are essential, and coordinated program guidance are needed for:</p> <ul style="list-style-type: none"> <li>• Development, implementation, and oversight of code, policies, rules, and regulations</li> <li>• Development of consistent design, construction, and maintenance standards for both public and private UICs</li> <li>• Reporting on program elements and compliance, and</li> <li>• Adaptive management (discussed in more detail in Section 2.5 of this UICMP)</li> </ul>	
<b>BMP Element</b>	<b>Description</b>
City Management and Coordination	<p>BES’s UIC Program Manager is responsible for overall project management, compliance reporting, policy development, and coordination within the City of Portland. UIC Program staff ensure that WPCF permit commitments are implemented, evaluated, and reported as required.</p> <p><b>Responsible Bureau:</b> BES</p>
Design and Construction Manuals	<p>The City’s design and construction manuals include requirements and policies concerning the design, construction, registration/authorization, use, and decommissioning of public and private UICs. These include:</p> <ul style="list-style-type: none"> <li>• <i>SWMM</i></li> <li>• <i>Sewer and Drainage Facilities Design Manual</i></li> <li>• <i>Portland Standard Specifications</i></li> <li>• <i>Columbia South Shore Well Field Wellhead Protection Area Reference Manual</i></li> </ul> <p>UIC Program staff work with other bureaus and groups to ensure these documents are consistent with WPCF permit requirements and are updated/revised as needed.</p> <p><b>Responsible Bureau:</b> BES</p>
Policy and Codes	<p>UIC Program staff evaluate the need to develop or revise City Code, policies, administrative rules, and programs on an ongoing basis.</p> <p><b>Responsible Bureau:</b> BES</p>
Annual UICMP Compliance Report	<p>The City submits annual compliance reports to DEQ by November 1 of each year. The purpose of these reports is to convey clear, succinct program information for the previous permit year (July 1 through June 30), in compliance with the annual reporting requirements of the permit. The reports also provide other interested parties with an overview of the UICMP’s implementation status.</p> <p><b>Responsible Bureau:</b> BES</p>

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<b>PM-1: Internal City Coordination</b>	
Annual Monitoring Report	The City submits annual stormwater discharge monitoring reports to DEQ by November 1 of each year. The purpose of these reports is to present the annual compliance monitoring results, data evaluation, and response actions that are performed in accordance with the WPCF permit, <i>Stormwater Discharging Monitoring Plan (SDMP)</i> , and UICMP. <b>Responsible Bureau:</b> BES

**PM-2: External Coordination**

**Description**

The City establishes and maintains strong relationships with external partners, including State agencies, other jurisdictions, and outside organizations. This approach promotes effective coordination among regulated organizations that own and operate public and private UICs and helps ensure effective UIC programs across the state.

<b>BMP Element</b>	<b>Description</b>
Coordination with State Agencies	UIC Program staff coordinate with state agencies (e.g., DEQ, Oregon Water Resources Department) as needed to evaluate the need to develop or revise rules and regulations relevant to the UIC Program. <i>Responsible Bureau: BES</i>
Coordination with other Jurisdictions	The City coordinates and addresses stormwater and UIC issues with other jurisdictions in the state through the Oregon Association of Clean Water Agencies (ACWA). UIC Program staff participate in the ACWA Groundwater Committee to coordinate, discuss, and review UIC-related issues and policies. <i>Responsible Bureau: BES</i>

## Category: SYSTEMWIDE ASSESSMENT (SA)

### Purpose

To identify, evaluate, track, and report on spatial and physical characteristics of existing and new City-owned and operated UICs. This enables the City to evaluate whether drainage entering individual UICs may pose a risk to groundwater, as well as to overall watershed health, as a result of these characteristics.

### Overview

The City's first Systemwide Assessment and UIC database were completed in 2006 and are kept current. As new UICs are discovered, they are evaluated for characteristics that pose risk and, if needed, for corrective action to protect groundwater quality. All new UICs are added to the database and reported to DEQ in the City's UICMP annual reports.

The Systemwide Assessment inventories all City-owned and operated UICs that:

- Receive stormwater or other fluids, including their locations and the estimated vehicle trips per day for each UIC drainage area
- Discharge directly into groundwater
- Do not meet the permit-required horizontal setbacks
- Are prohibited by OAR 340-044-0015(2), including:
  - Motor vehicle maintenance area floor drains
  - Non-motor vehicle maintenance area floor drains
  - Fuel dispensing areas
  - Floor pits
  - Fire station bay drains

In addition, the Systemwide Assessment inventories all commercial/industrial facilities with site activities that have the potential to discharge to these UICs.

This category includes one BMP:

- **SA-1:** Inventory and Assessment of City-owned UICs

### Pollutants Addressed

Systemwide Assessment does not itself reduce pollutants; rather, it facilitates pollutant reduction by tracking UIC system maintenance that directly addresses pollutants. These pollutants may include TSS and pollutants that bind to TSS, horticultural chemicals, metals, nutrients, petroleum hydrocarbons, oil and grease, solvents, and floatables (debris and litter).



**SA-1: Inventory and Assessment of City-Owned UICs**

**Description**

The objectives of the Systemwide Assessment (January 2015) are to identify and evaluate all known public UICs within the City and to assess drainage to each UIC for potential impacts to groundwater for possible correction including UICs that:

- Discharge directly into groundwater
- Do not meet permit-required horizontal well setbacks
- Are prohibited by OAR 340-044-0015(2) (e.g., motor vehicle maintenance area floor drains)
- Receive drainage from commercial/industrial properties that pose a risk of pollutant discharge to a city owned or operated UIC

Ongoing activities necessary to manage the UIC infrastructure include the construction and registration of new UICs, replacement and retrofit of existing UICs, and decommissioning of existing UICs.

Note: Based on the findings of the assessment, corrective actions may be required. Section 4.3 describes potential responses to assessment results.

<b>BMP Element</b>	<b>Description</b>
UIC Evaluation	UIC Program staff evaluate public UICs relative to the factors described above that may create adverse impacts to groundwater and may require corrective action. <i>Responsible Bureau:</i> BES
Database Management	BES staff track, update, and refine information related to the location, physical characteristics, and maintenance activities of existing and new public UICs. <i>Responsible Bureau:</i> BES
UIC System Management	BES staff install, replace, retrofit, and decommission public UICs to comply with permit requirements and maintain functionality of the UIC system. <i>Responsible Bureau:</i> BES

## 2.3 Program Reporting

The City will fulfill reporting requirements specified in the WPCF permit (see Table 2-2), as described in Sections 2.3.1 through 2.3.4 below.

**Table 2-2 Permit Requirements Addressed by Program Reporting**

<b>Requirement</b>	<b>UICMP Section</b>
Annual report	2.3.1
Notice of closure	2.3.2
Monitoring and records	2.3.3
Reporting and signatory requirements	2.3.4
Corrective actions for prohibited UICs	4.3.2
Permit noncompliance that endangers human health or the environment	4.6

### 2.3.1 Annual Report

The City will provide one hard copy and one electronic copy of an annual report to DEQ by November 1 of each year. The annual report will include the following information:<sup>4</sup>

- Results of stormwater monitoring conducted in accordance with the *SDMP*.
- Spreadsheet of all data from sampled UICs provided in the analytical laboratory reports.
- Discussion of any Schedule A, Table 1 action level exceedances and actions taken to address the exceedances.
- Description of any actions taken to implement the UICMP; any proposed modifications to the UICMP; and any additional actions taken to manage the UIC system to ensure groundwater protection.
- Description of any actions included in the UICMP that were not completed and why.
- Identification of any UICs closed, retrofitted, or installed during the year.
- Future (in the next year) plans to install, modify, convert, or close any UIC.
- Changes to key personnel or areas of responsibilities for the permit.
- Identification of any newly discovered UICs.
- Progress reporting on corrective actions.
- In the fifth year annual report and for permit renewal, evaluate and report trends in emerging pollutant types and concentrations.

In addition, if no changes have been made to the systemwide assessment over the previous five years, this will be noted in the fifth-year annual report.

### 2.3.2 Notice of Closure

The City currently notifies DEQ 30 days prior to closing any UIC and provides details of closure(s) quarterly. The City will continue to notify DEQ before converting or closing any UIC by either:

<sup>4</sup> The City may elect to provide some of this information in a separate annual monitoring report, as it has done in the previous permit cycle.

- Identifying future decommissioning plans in the annual report; or
- Notifying DEQ 30 days prior to closure.

### 2.3.3 Monitoring and Records

The City will comply with the record-keeping requirements specified in Section F.3 of the permit, including record contents, inspection, and retention. The City’s procedures are documented in the *SDMP* developed for the UIC monitoring program.

### 2.3.4 Reporting and Signatory Requirements

The City will comply with the reporting and signatory requirements specified in Section F.4 of the permit, including:

- Advance notice of planned physical alterations or additions to permitted facilities or activities, and whether they may result in noncompliance or violations
- Transfers of the permit
- Compliance schedule reporting requirements
- 24-hour and 5-day reporting of any non-compliance that endangers health or the environment in accordance with 40 CFR 144.51(1)(6)
- All other instances of noncompliance
- All other violations

In accordance with 40 CFR 144.32, the Bureau Director (i.e., the principal executive officer for BES), with the exception of permit renewal applications, has authorized the UIC Program Manager to sign and certify permit modification requests, waiver requests, and all required or requested reports and information submitted on behalf of the City to DEQ in a Signatory Delegation Letter dated October 15, 2014.

## 2.4 Program Personnel

BES is responsible for implementing the WPCF Permit and for identifying and managing the regulatory and technical components of the UIC Program citywide and across bureaus. BES has ultimate responsibility for establishing and maintaining compliance with all permit conditions.

Table 2-3 summarizes staff roles and responsibilities for the UIC Program. As required by the WPCF permit, the City will notify DEQ in writing of any changes to the key personnel or areas of responsibility for the permit.

**Table 2-3: Roles and Responsibilities for UIC Program**

<b>BES Position/Staff Member</b>	<b>Area of Responsibility and Authority</b>
Bureau Interim Director: <i>James Hagerman</i> 503-823-5224	<ul style="list-style-type: none"> <li>• Direct UIC policy and program relative to BES bureau and direction.</li> <li>• Provide citywide coordination and implementation of program policies and requirements.</li> <li>• Ensure adequate program resources.</li> </ul>

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<b>BES Position/Staff Member</b>	<b>Area of Responsibility and Authority</b>
<p>Pollution Prevention Services Group Manager: <i>Marveita Redding</i> 503-823-7774</p>	<ul style="list-style-type: none"> <li>• Provide citywide coordination and implementation of program policies and requirements.</li> <li>• Approve UIC Program policies and plans.</li> <li>• Allocate group resources to meet program goals and requirements.</li> </ul>
<p>Environmental Compliance Manager: <i>Matt Criblez</i> 503-823-9803</p>	<ul style="list-style-type: none"> <li>• Provide citywide coordination and implementation of program policies and requirements.</li> <li>• Assist in development of UIC policy and program.</li> <li>• Provide technical and policy support and direction for UIC Program.</li> <li>• Review and approve UIC plans and documents.</li> <li>• Ensure adequate group resources are allocated to UIC Program.</li> </ul>
<p>UIC Program Manager: <i>Barbara Adkins</i> 503-823-5737</p>	<ul style="list-style-type: none"> <li>• Manage overall UIC Program.</li> <li>• Develop, recommend, and oversee implementation of UIC Program, budget, and policies.</li> <li>• Identify and advocate for allocation of adequate resources.</li> <li>• Ensure UIC Program management and regulatory requirements are identified, implemented, and maintained in accordance with BES policy and the WPCF permit.</li> <li>• Ensure that UIC Program personnel have the appropriate qualifications, knowledge, and experience.</li> <li>• Report to BES management on the performance of the UIC Program.</li> <li>• Liaison with DEQ and other interested parties regarding the UIC Program.</li> <li>• Review and approve UIC plans and documents; ensure adequate resources are allocated to the UIC Program.</li> <li>• Assist in the implementation of UICMP Program elements.</li> </ul>
<p>UICMP Program elements collectively implemented by:</p> <p><i>Barbara Adkins, Program Manager</i> 503-823-5737</p> <p><i>Joel Bowker, Hydrogeologist</i> 503-823-6997</p> <p><i>Tracy Rauscher, Environmental Specialist</i> 503-823-7457</p>	<ul style="list-style-type: none"> <li>• Implement UIC System Management BMPs to meet permit requirements and protect groundwater.</li> <li>• Implement UIC monitoring program.</li> <li>• Maintain UIC Database.</li> <li>• Prepare UICMP and SDMP annual reports as required.</li> <li>• Coordinate, communicate, and oversee implementation of the UIC Program and WPCF permit requirements (stormwater sampling, source investigations, response actions, system maintenance) with applicable personnel.</li> <li>• Identify non-compliant UICs and implement corrective actions to meet permit requirements and protect groundwater.</li> <li>• Conduct and oversee data evaluations and groundwater protectiveness demonstrations.</li> <li>• Evaluate existing program, develop and recommend changes as appropriate (i.e., UICMP, SDMP, Decommissioning</li> </ul>

BES Position/Staff Member	Area of Responsibility and Authority
	Procedure). <ul style="list-style-type: none"> <li>• Implement UIC Decommissioning Procedure.</li> <li>• Assist with UIC Program budget needs.</li> </ul>

## 2.5 Adaptive Management

As required by Section D.6 of the WPCF permit, the City will follow an adaptive management approach to assess annually, and modify as necessary, any existing UICMP components and adopt new or revised components to ensure the program is effective, resources are applied appropriately, and groundwater is protected. This includes:

- Assessing the need to further improve groundwater quality and protect groundwater beneficial uses.
- Reviewing available technologies and practices.
- Reviewing monitoring data and analyses as required in Schedule B of the permit.
- Evaluating resources available to implement the program.
- Reviewing BMPs to determine if any adjustments are required.
- Evaluating trends of emerging pollutants and concentrations, in the fifth year of the permit and for the permit renewal application, and addressing significant findings.

The methods the City will use for the annual review and assessment include:

- **Review of BMPs:** As part of preparing the UICMP annual report, UIC Program staff will collect information about BMP implementation during the previous fiscal year from each responsible City bureau. Staff will review this information to determine if all applicable BMP tasks have been implemented and if any adjustments are required.
- **Monitoring Information:** As part of preparing the UICMP annual report, UIC Program staff will review stormwater monitoring results to determine any potential issues or the need for program adjustments.
- **Public Comment:** UICMP Program staff will review and consider any public comment on the UIC Program received during the reporting year.
- **Review of Technologies and Practices:** Several BMPs (e.g., OM-1, OM-2, and OM-3) include the review and assessment of available technologies and practices. In addition, UIC Program staff keep apprised of studies and information that could be relevant to the program.
- **Ongoing Staff Review and Evaluation:** In addition to reviews for the annual reports, UIC Program staff coordinate throughout the year with other responsible City bureaus as needed to assess the status of BMP implementation and identify if any adjustments are needed.

- **Discussions with Other Jurisdictions:** UIC Program staff hold discussions with other jurisdictions about UIC-related issues that may inform possible program adjustments/improvements.

Any adaptive management changes to the UICMP will be reported in the annual reports, as noted in Section 2.3.1, above.

## **2.6 Duty to Reapply**

The City will apply for permit renewal as required in the permit.

## Section 3: System Monitoring

### 3.1 General Purpose and Objectives of Monitoring

System monitoring involves ongoing stormwater discharge monitoring that will be conducted to demonstrate that UICs are operated in a manner that meets WPCF permit requirements, protects groundwater quality, and supports watershed health. It provides both systemwide data and UIC-specific data to identify needed improvements and to respond to potential threats to groundwater quality.

System monitoring objectives are to:

- Monitor the quality of stormwater discharged into UICs located in areas of shallow groundwater.
- Continue to collect and evaluate high quality data to adaptively manage the City’s stormwater management program.
- Use stormwater monitoring data to provide information necessary to identify UICs that may not meet WPCF permit requirements.
- Identify potential system improvements and guide management decisions for future system management and system monitoring activities.

### 3.2 Stormwater Discharge Monitoring Plan

The quality of stormwater runoff, or discharge, entering the City’s UICs is assessed by annually monitoring a subset of the City’s 9,000 UICs. The stormwater sampling and data evaluation methods used in the City’s monitoring program are described in its SDMP (City of Portland, 2015).

Stormwater monitoring results are used to determine whether UICs meet guideline pollutant concentrations, called action levels, which are established in the permit. Action levels are the maximum stormwater pollutants concentrations at the point of injection that are considered protective of human health and the environment. This determination is then used to evaluate if additional action is required to protect groundwater quality. The results of this ongoing work are reported in annual stormwater discharge monitoring reports, and summarized in annual UICMP reports, both submitted to DEQ. Upon issuance of its second WPCF permit, the City will have submitted ten years of data for the period 2005 – 2015.

**Action levels** are the maximum stormwater pollutants concentrations that are considered protective of human health and the environment.

The WPCF permit requires the City to:

- Monitor the quality of stormwater discharged into City-owned UICs to demonstrate that operation meets WPCF permit conditions and protects groundwater quality.
- Prepare and submit to DEQ a SDMP for approval.

The SDMP comprises a Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP), which are summarized in the following sections.

### 3.2.1 Sampling and Analysis Plan (SAP)

The SAP includes the stormwater discharge monitoring sample design, as well as procedures and protocols for field-sampling activities. The intent of the SAP is to ensure that data collected is of known quality and can be used to demonstrate WPCF permit compliance. The SAP includes the following elements:

- **UIC Sample Design** - Describes the basis for developing a UIC monitoring approach that focuses on a subset of UICs in areas of shallow groundwater.
- **Field Sampling Procedures** - Describes the field procedures and protocols for collecting stormwater samples and performing WPCF permit-required laboratory analyses. Standard operating procedures (SOPs) for routine field sampling procedures and field sampling forms are provided.
- **Project Health and Safety Plan (HASP)** - Provides the health and safety protocols to be implemented during stormwater monitoring. The HASP was prepared in accordance with Oregon Occupational Safety and Health Administration (OSHA) regulations and the policies of the City of Portland.
- **Maps** - Provides area and UIC-specific maps showing UIC sampling locations.

### 3.2.2 Quality Assurance Project Plan (QAPP)

The QAPP establishes the minimum quality assurance standards and measures to be followed during sample collection activities and laboratory analyses. These standards and measures will ensure that data of acceptable quality are obtained and project-specific data quality objectives are met.

Information obtained through the implementation of the SAP and QAPP will consist of verified environmental data or information of known and acceptable quality and will be generated in a scientifically-defensible manner, as required.



## Section 4: Response

### 4.1 General Purpose and Objective of Response

One outcome of system monitoring and system management is to identify any UICs that may be a threat to groundwater protection and thus determined to be out of compliance with the permit. When this happens, a corrective action is required to evaluate the threat and may result in either further action to bring the UIC into compliance, or closure of the UIC. The objective of response is to improve or correct conditions at a UIC or group of UICs. The purpose of this chapter is to provide a list of potential corrective actions and identify what circumstances those corrective actions are required to be implemented.

### 4.2 Potential Corrective Actions

Corrective actions are required in the WPCF permit, and specific corrective action response procedures are detailed below in Section 4.3, Assessment Response; Section 4.4, Monitoring Response; Section 4.5, Spill Response; and Section 4.6, Imminent Endangerment. However, the conditions surrounding each potentially non-compliant UIC or group of UICs are site-specific. Therefore, Table 4-1 provides a range of options for evaluating and implementing individual corrective actions. Corrective actions selected to address endangerment of human health or the environment will be coordinated with DEQ for approval. Corrective actions will be reported as part of the UIC annual reporting process.

**Table 4-1: Potential Corrective Actions**

Corrective Action	Description
Source investigation	Investigate/identify potential pollutant sources.
Source specific investigation	Investigate specific known pollutant sources (e.g, telephone poles as a source of pentachlorophenol).
Source control	Implement changes at the location where the pollutant enters stormwater to reduce or eliminate a pollutant.
BMP assessment	Evaluate whether to adjust BMPs currently implemented at the UIC(s) to address a specific exceedance.
UIC System cleaning	Clean the UIC system inlet, stormwater lines, sedimentation manhole (if present), and sump to remove accumulated sediment and debris.
Street sweeping	Sweep public streets in the UIC catchment to the extent practicable. This may include street washing and/or use of high efficiency vacuum equipment.
Public outreach and education	Conduct activities and prepare materials to inform and educate the community about UICs, stormwater, and groundwater

(continued on next page)

Corrective Action	Description
Public outreach and education	protection. Activities may include: open houses, public meetings, door-to-door campaigns, and technical assistance to homeowner, commercial, and/or industrial facilities. Educational materials may include: fact sheets, flyers, bill inserts, and door hangers.
Groundwater Protectiveness Demonstration (GWPD)	Using the DEQ-approved framework, evaluate whether a stormwater pollutant entering an individual UIC or group of UICs may impact groundwater at concentrations above action levels to demonstrate whether groundwater is protected and, if appropriate, that no further action is warranted.
Concentration limit evaluation	Evaluate stormwater discharge action levels to modify the level or develop a variance that is protective of groundwater.
Additional stormwater monitoring	Conduct additional stormwater monitoring to facilitate data interpretation, address stormwater data gaps, or demonstrate groundwater protection.
Regional Assessment of the Problem	Evaluate whether issues affecting one UIC system may affect others in the vicinity or with similar UIC characteristics.
Permit Modification	Request that DEQ modify the WPCF permit for various reasons including but not limited to: language clarification, increased or decreased action levels (i.e., concentration limit variance), or changes to the common or screening pollutant lists.
Structural/engineering controls	Design and implement structural or engineering controls, such as catchbasin retrofits, according to existing BES procedures.
Non-structural or institutional controls	Establish new non-structural or institutional controls using BES and UIC Program plans, policies, and programs.
Groundwater monitoring <sup>5</sup>	Verify whether or not the fate and transport analysis correctly predicts pollutant behavior in the subsurface.
Decommissioning	Close the UIC in accordance with the procedures provided in the City of Portland <i>UIC Decommissioning Procedure</i> (Appendix A).
Cleanup	Develop and implement an appropriate cleanup plan as approved by DEQ.
No Further Action (NFA)	Request that DEQ makes an NFA decision after determining that a site – or one part of a site – poses <i>no unacceptable risks</i> to

<sup>5</sup> Groundwater monitoring is specifically not required under the permit as long as stormwater discharges meet the established action levels required in the permit. A concentration limit evaluation would precede this action. In the event groundwater monitoring is initiated, the City will develop a *Groundwater Monitoring Plan* for DEQ review and approval as required by the permit.

Corrective Action	Description
	human health or the environment.

### 4.3 Assessment Response

Data generated by the Systemwide Assessment are used to identify whether spatial and physical characteristics of UICs could result in drainage that may pose a risk to groundwater. Assessment response then evaluates the appropriate actions to correct the condition and protect groundwater quality. Responses may include a variety of corrective actions, and may apply to individual UICs or groups of UICs that have been identified as needing correction to address potential threats to groundwater and meet WPCF permit requirements.

The permit identifies three instances in which a UIC, evaluated during the Systemwide Assessment, may require corrective action:

- The UIC is found to have inadequate horizontal setbacks (Schedule A, Section 8.b).
- The UIC is prohibited by OAR 340-044-0015(2) (Schedule B, Section 1.e).
- The UIC is not set up to be blocked in the event of a spill (Schedule D, Section 5.h).

The following sections describe the responses required by the WPCF permit that will be implemented for these instances.

#### 4.3.1 Horizontal Setbacks

##### *Existing Systems*

As noted in WPCF permit Schedule A, insufficient horizontal setbacks from a City-owned or operated UIC do not constitute a permit violation. However, if such a UIC is discovered, the City will:

- Within the permit-required timeline, evaluate the UIC for coverage by the City’s existing DEQ-approved GWPD for UICs within permit-specified well setbacks<sup>6</sup>, or perform a new GWPD as appropriate, to evaluate whether potential groundwater well use(s) (e.g., domestic, irrigation, public supply) may be exposed to stormwater pollutants at concentrations above action levels, and demonstrate whether groundwater is protected.

Based upon the results of the GWPD, if needed, the City will perform one of the following corrective actions as soon as practicable within the permit term:

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<sup>6</sup> City of Portland. 2008. Groundwater Protectiveness Demonstration for UICs within Permit-specified Well Setbacks. This technical memorandum demonstrated that stormwater discharges into public UICs (with a vertical separation distance greater than 5 feet) that are located within Permit-specified horizontal setbacks from public and domestic water wells are protective of groundwater quality. DEQ approved the GWPD in October 2008.

- Implement retrofits or passive, structural or technological controls (e.g., berms) to reduce or eliminate pollutants to the UIC, or
- Decommission the UIC as set forth in the City of Portland *UIC Decommissioning Procedure*.

The City will coordinate with DEQ prior to the implementation of any corrective action required by the permit.

Alternately, the City may elect to implement any appropriate corrective actions listed in Table 4-1. In such cases, the City will obtain DEQ written approval prior to implementation.

#### *New Systems*

New systems may be constructed within the permit-required horizontal setback if groundwater protection is demonstrated using actions identified in the WPCF permit. In such a case, the City will provide a GWPD or design the necessary passive, structural or technological controls to protect groundwater quality prior to operating a UIC within the setback.

#### 4.3.2 UICs Prohibited by OAR 340-044-0015(2)

If a UIC prohibited by OAR 340-044-0015(2) is discovered, the City will undertake the following response:

- Notify DEQ verbally or in writing within 24 hours of discovery.
- Cease discharge activity or temporarily divert the discharge away from the UIC to the extent practicable within 5 days of discovery, unless otherwise approved by DEQ in writing.
- Submit a written report to DEQ within 5 days of discovery.
- Close the UIC as soon as possible, or within one year after reporting to DEQ.

#### 4.3.3 UICs Discovered During or After the Systemwide Assessment

If new UICs are discovered during or after the Systemwide Assessment, the City will implement the following response for each newly discovered UIC:

- Submit necessary information to DEQ for its database.
- Include the UIC in the first annual report after discovery.
- Evaluate the UIC for spill prevention.
- Ensure that the UIC is represented by the *SDMP*.

## 4.4 Monitoring Response

Data generated by monitoring are used to identify whether pollutants are present in stormwater at concentrations that pose a potential threat to groundwater quality. Monitoring response then evaluates the appropriate actions to correct the condition and protect groundwater quality (Table 4-1). Response may apply to individual UICs or groups of UICs that have been identified as

needing correction to address potential threats to groundwater and meet WPCF permit requirements.

The permit identifies pollutants that are required to be monitored annually, and results are compared with action levels in WPCF Permit Table 1.

As noted in Permit Schedule A.2, a WPCF permit table action level exceedance is not a permit violation. If analytical results do not exceed relevant WPCF permit table action levels, no response is necessary. However, when analytical results exceed WPCF Permit Table 1 action levels for an individual sample, the City will implement the following response for the UIC that exceeded the action level:

- Attempt to identify the source(s) of the exceedance.
- When source identification is complete, determine whether any additional UICs may be affected.
- Implement one or more of the corrective actions identified in Table 4-1.

If the exceedance is determined to endanger human health of the environment, the City will implement additional response measures, as discussed in Section 4.6.

The City will conduct a verification process/performance evaluation to demonstrate that implementation adequately resolved the condition triggering the corrective action. Corrective action will be completed within the DEQ approved corrective action schedule.

## 4.5 Spill Response

Spills and illicit discharges are reported to SPCR through the spill response hotline or by the Oregon Emergency Response System, or discovered by staff during site inspections by programs such as the City's Industrial Stormwater Management Program or during field work performed by other programs and bureaus. If a spill that could impact a UIC is discovered, the City will undertake the following response:

- Block the spill immediately and initiate containment.
- Attempt to identify the source(s) of the release.
- Determine whether any additional UICs may be affected.
- Clean the UIC system as applicable.
- Identify whether the spill is contained within the UIC or has discharged into soil or groundwater.
- If the spill has been discharged into soil or groundwater, determine the nature and extent of the contamination.
- If contamination has occurred, develop a DEQ approved cleanup plan.
- Implement cleanup plan.

In the event that life and safety issues are identified, HazMat will be notified. If the spill is determined to endanger human health of the environment, the City will implement additional response measures, as discussed in Section 4.6.

## 4.6 Imminent Endangerment

If a discharge resulting from a spill, discharge or identified during annual stormwater monitoring activities, to one or more UICs endangers human health of the environment, the City will implement the following response:

- Inform DEQ with 24-hours of discovery.
- For discharges identified during monitoring activities resulting in imminent endangerment, implement the response measures detailed in Section 4.5.
- For spills or ongoing discharges resulting in imminent endangerment, implement the spills response measures detailed in Section 4.5.
- Coordinate with DEQ to implement one or more of the corrective actions identified in Table 4-1 as soon as practicable.
- Submit a written report to DEQ within 5 days of discovery identifying the incident and its cause, the period of violation if known, the estimated that it will take to correct the incident, and the corrective steps planned to reduce, eliminate and prevent recurrence of the incident.
- Submit annual progress updates as part of the UIC annual report if needed.

## Appendix B: Supporting Documents/Information

### Federal and State Regulations and Permits

Item	Location
Title 40 of the Code of Federal Regulations (CFR) Parts 144 -148 (UIC <i>rules</i> enacted by Congress in 1974 under the federal Safe Drinking Water Act (SDWA); modified in 1999; administered by EPA)	<a href="http://www.ecfr.gov/cgi-bin/text-idx?SID=86bbb6f249b422d54dc0c2ea1db58381&amp;tpl">http://www.ecfr.gov/cgi-bin/text-idx?SID=86bbb6f249b422d54dc0c2ea1db58381&amp;tpl</a>
Oregon Administrative Rules (OAR) Chapter 340, Division 40 and 44 (rules for state UIC Program; adopted in conformance with federal SDWA; administered by DEQ).	<a href="http://www.deq.state.or.us/regulations/rules.htm">http://www.deq.state.or.us/regulations/rules.htm</a>
Water Pollution Control Facility (WPCF) Permit No. 102830. 2015.	Link to be added when document is final.

### City Code and Administrative Rules

Item	Location
Portland City Code, Chapter 17.38: Drainage and Water Quality	<a href="http://www.portlandonline.com/Auditor/Index.cfm?c=28865">http://www.portlandonline.com/Auditor/Index.cfm?c=28865</a>
Portland City Code, Chapter 17.39: Storm System Discharges	<a href="http://www.portlandonline.com/auditor/index.cfm?c=28866">http://www.portlandonline.com/auditor/index.cfm?c=28866</a>
Administrative Rule ENB-4.13: Discharges to the City Storm Sewer and Drainage System	<a href="http://www.portlandonline.com/auditor/index.cfm?c=28044&amp;a=465987">http://www.portlandonline.com/auditor/index.cfm?c=28044&amp;a=465987</a>
Administrative Rule ENB-4.15: BES Enforcement Program	<a href="http://www.portlandonline.com/auditor/index.cfm?c=28044&amp;a=154207">http://www.portlandonline.com/auditor/index.cfm?c=28044&amp;a=154207</a>

### UIC Program Documents

Item	Location
Systemwide Assessment. BES. 2015.	Link to be added when document is final.
UIC Registration Database (in conjunction with Systemwide Assessment). BES. September 2005; updated quarterly.	<a href="http://www.portlandoregon.gov/bes/50442">http://www.portlandoregon.gov/bes/50442</a>
Stormwater Discharge Monitoring Plan (SDMP). BES. 2015. Includes: <ul style="list-style-type: none"> <li>– Sampling and Analysis Plan (SAP)</li> <li>– Quality Assurance Project Plan (QAPP)</li> </ul>	Link to be added when document is final.

Decommissioning Procedure for Underground Injection Control Systems. BES. November 2006; resubmitted December 2006; updated December 2012.	<a href="http://www.portlandoregon.gov/bes/50442">http://www.portlandoregon.gov/bes/50442</a>
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**Documents/Information That Support Specific BMPs**

<b>Item</b>	<b>Location</b>
<b>ET-1: Public Education and Outreach</b>	
Clean Rivers Education Programs	<a href="http://www.portlandoregon.gov/bes/41186">http://www.portlandoregon.gov/bes/41186</a>
Watershed Stewardship Activities and Events	<a href="http://www.portlandoregon.gov/bes/32184">http://www.portlandoregon.gov/bes/32184</a>
<b>ET-3: Business Outreach and Technical Assistance</b>	
Eco-logical Business Program	<a href="http://www.portlandoregon.gov/bes/article/325336?#automotive">http://www.portlandoregon.gov/bes/article/325336?#automotive</a>
Sustainability at Work	<a href="http://www.portlandoregon.gov/sustainabilityatwork/">http://www.portlandoregon.gov/sustainabilityatwork/</a>
Good Housekeeping Fact Sheets	<a href="https://www.portlandoregon.gov/bes/43858">https://www.portlandoregon.gov/bes/43858</a>
Columbia South Shore Well Field Wellhead Protection Area Reference Manual. Cities of Portland, Gresham, Fairview. June 25, 2003; amended July 7, 2010.	<a href="http://www.portlandoregon.gov/water/29880">http://www.portlandoregon.gov/water/29880</a>
Maintenance Inspection Program	<a href="http://www.portlandoregon.gov/bes/45464">http://www.portlandoregon.gov/bes/45464</a>
<b>OM-2: Operation and Maintenance of Public Rights-of-Way</b>	
Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices. ODOT. Revised 2009.	<a href="http://www.oregon.gov/ODOT/HWY/OOM/docs/blue_book.pdf">http://www.oregon.gov/ODOT/HWY/OOM/docs/blue_book.pdf</a>
<b>OM-3: Operation and Maintenance on Other City Properties</b>	
Integrated Pest Management Program	<a href="http://www.portlandoregon.gov/parks/39792">http://www.portlandoregon.gov/parks/39792</a>
Green Building	<a href="http://www.portlandoregon.gov/BPS/41481">http://www.portlandoregon.gov/BPS/41481</a>
Sustainable Procurement	<a href="https://www.portlandoregon.gov/bibs/37732">https://www.portlandoregon.gov/bibs/37732</a>
Toxics Reduction	<a href="http://www.portlandoregon.gov/bibs/article/126149">http://www.portlandoregon.gov/bibs/article/126149</a>



<b>PC-1: Spill Prevention and Source Control</b>	
Duty Officers Procedures. BES. 2014.	<a href="http://www.portlandoregon.gov/bes/article/440714">http://www.portlandoregon.gov/bes/article/440714</a>
Spill Response Hotline	503-823-7180
Community Right to Know Information Access	<a href="http://www.oregon.gov/osp/SFM/pages/cr2k_infoavailable.aspx">http://www.oregon.gov/osp/SFM/pages/cr2k_infoavailable.aspx</a>
City of Portland Stormwater Management Manual. BES. 2014.	<a href="http://www.portlandoregon.gov/bes/64040">http://www.portlandoregon.gov/bes/64040</a>
Columbia South Shore Well Field Wellhead Protection Area Reference Manual. Cities of Portland, Gresham, Fairview. June 25, 2003; amended July 7, 2010.	<a href="http://www.portlandoregon.gov/water/29880">http://www.portlandoregon.gov/water/29880</a>
Prevention of Illegal Dumping	<a href="https://www.portlandoregon.gov/bps/41461">https://www.portlandoregon.gov/bps/41461</a>
Industrial Stormwater Management Program	<a href="http://www.portlandoregon.gov/bes/31844">http://www.portlandoregon.gov/bes/31844</a>
<b>PC-2: Erosion Control</b>	
City of Portland Erosion and Sediment Control Manual. BDS, BES, PDOT, Water. March 2008.	<a href="http://www.portlandoregon.gov/bes/article/474129">http://www.portlandoregon.gov/bes/article/474129</a>
City Code, Title 10	<a href="http://www.portlandonline.com/Auditor/Index.cfm?c=28175">http://www.portlandonline.com/Auditor/Index.cfm?c=28175</a>
Erosion Control Enforcement Hotline	503-823-CODE (2633)
Erosion and Sediment Control Program	<a href="http://www.portlandoregon.gov/bds/article/103078">http://www.portlandoregon.gov/bds/article/103078</a>
<b>PM-1: Internal City Coordination</b>	
City of Portland Stormwater Management Manual. BES. 2014.	<a href="http://www.portlandoregon.gov/bes/64040">http://www.portlandoregon.gov/bes/64040</a>
City of Portland Sewer and Drainage Facilities Design Manual. BES. 2007; errata appended 2011.	<a href="http://www.portlandoregon.gov/bes/article/360710">http://www.portlandoregon.gov/bes/article/360710</a>
City of Portland Standard Construction Specifications. BES, PDOT, Water. 2010.	<a href="http://www.portlandoregon.gov/transportation/article/312962">http://www.portlandoregon.gov/transportation/article/312962</a>
Columbia South Shore Well Field Wellhead Protection Area Reference Manual. Cities of Portland, Gresham, Fairview. June 25, 2003; amended July 7, 2010.	<a href="http://www.portlandoregon.gov/water/29880">http://www.portlandoregon.gov/water/29880</a>

UICMP Annual Compliance Reports	<a href="http://www.portlandoregon.gov/bes/50442">http://www.portlandoregon.gov/bes/50442</a>
UIC Program Annual Monitoring Reports	<a href="http://www.portlandoregon.gov/bes/50442">http://www.portlandoregon.gov/bes/50442</a>
<b>PM-2: External Coordination</b>	
DEQ UIC Program	<a href="http://www.deq.state.or.us/wq/uic/uic.htm">http://www.deq.state.or.us/wq/uic/uic.htm</a>
Oregon Association of Clean Water Agencies (ACWA)	<a href="http://www.oracwa.org/">http://www.oracwa.org/</a>
<b>SA-1: Inventory and Assessment of City-Owned UICs</b>	
Systemwide Assessment. BES. 2015	Link to be added when document is final.
UIC Registration Database (in conjunction with Systemwide Assessment). BES. September 2005; updated quarterly.	<a href="http://www.portlandoregon.gov/bes/50442">http://www.portlandoregon.gov/bes/50442</a>

## **Appendix C: Additional Information for BMP ET-2**

The following information provides more detail about the City bureaus/groups responsible for spill prevention and response; source control; operations and maintenance; and monitoring (as discussed under BMP ET-2).

### **Bureau of Environmental Services (BES)**

- **Pollution Prevention Services:** Implements programs to prevent or reduce pollutants from entering the City’s stormwater system, sanitary system, and waterways within the City.
- **Spill Protection-Citizen Response (SPCR) team:** Responds to and investigates spills and suspicious discharges within the City 24 hours a day.
- **Industrial Stormwater Management Program:** Monitors and control pollutants in stormwater runoff from industrial facilities; implements the NDPES 1200-Z program for DEQ within the City.
- **Maintenance Inspection Program (MIP):** Inspects stormwater management facilities and provides technical assistance to ensure proper operations and maintenance and compliance with the Stormwater Management Manual.
- **Investigations and Monitoring:** Develops and manages environmental (e.g., stormwater, groundwater, sediment) monitoring and sampling projects for BES and other outside agencies.
- **Field Operations:** Provides environmental sampling and monitoring services for a wide range of City projects.
- **Water Pollution Control Laboratory:** Analyzes treatment plant effluent, industrial waste discharges, stormwater, surface water, groundwater, and soil excavated during construction projects, using current EPA methods.
- **Engineering:** Manages maintenance, repair, and expansion of the City’s stormwater and wastewater collection systems.

### **Bureau of Transportation (BOT)**

- **Maintenance Operations:** Supports BES stormwater system maintenance by cleaning catch basins, sedimentation manholes, and UICs.

The following information provides more detail about the City bureaus/groups responsible for planning, design, and construction of public and private UICs (as discussed under BMP ET-2).

### **Bureau of Environmental Services (BES)**

- **Pollution Prevention Services—Plan Review:** Reviews and approves storm and sanitary source control plans for site uses and characteristics that generate, or have the potential to generate, specific pollutants of concern.
- **Engineering Services:** Provides design, construction, repair, and expansion of Portland’s wastewater and stormwater collection system.
  - **Design Services:** Provides project management and engineering design services to ensure each assigned project accomplishes its intended purpose on schedule, at best value, and in a manner consistent with City and bureau mission and values.
  - **Systems Development:**
    - **Development Engineering:** Reviews public works permits, interagency projects, sewer extensions and non-conforming sewers, and assists with large land-use subdivision.
    - **Development Review:** Reviews building permit plans. Plan reviews for sewer and stormwater connections, compliance with the *Stormwater Management Manual*, and collections of connection fees.
  - **Construction Services**
    - **Construction Management:** Oversees the construction and repair of the City’s wastewater and stormwater systems. Makes sure projects are of high-quality construction and constructed safely, cost effectively, within budget and schedule, and with minimum disruption to the public.
    - **Construction Inspection:** Inspects work and materials and conducts other field duties to ensure the project is constructed as designed.
  - **Stormwater Retrofits:** Assists the public with retrofitting homes and businesses to effectively manage stormwater.
  - **Asset Management:** Conducts system analysis, engineering modeling, and geologic analysis to ensure long-term system viability and regulatory compliance
  - **Program Management and Controls:** Implements the capital improvement program; supports Engineering Services with standards and specifications review and approval; supports communication and coordination with Engineering Services.

- **Materials Testing Laboratory:** Provides testing and evaluation services related to construction materials testing, quality control (pipe materials, asphalt mixes, concrete mixes, and precast concrete products), geotechnical analysis, and product review and testing

**Bureau of Development Services**

- Manages implementation of building and development codes

**Bureau of Planning and Sustainability**

- Manages citywide strategic and comprehensive land use planning, planning, and urban design; policy and services to advance green building, waste reduction, composting, and recycling.