

Completion Summary for City of Portland Outfall Basin 46

1 Summary

The City of Portland (City) has been addressing source control concerns related to the City conveyance systems for more than four decades, and several City programs have evolved to meet changing regulatory requirements and watershed health objectives. Following the 2000 listing of Portland Harbor on the National Priorities List, the City initiated a new partnership with the Oregon Department of Environmental Quality (DEQ) Cleanup Program to identify specific sources of contaminants to City stormwater conveyance systems in the harbor that were not being adequately controlled. This report summarizes the results of this collaborative effort in Outfall Basin 46.

Outfall 46 is located at approximately River Mile (RM) 10.4 on the east side of the Willamette River, at the Union Pacific Railroad (UPRR) Albina Yard. The outfall formerly drained an approximate 80-acre stormwater basin that included open space along the bluff in the Overlook neighborhood and a portion of UPRR Albina Yard. As of December 2011, the City's Combined Sewer Overflow (CSO) Abatement Program diverted the entire basin drainage area to the Columbia Boulevard Wastewater Treatment Plant (WWTP) via the new East Side Big Pipe tunnel. Therefore, there is no longer a stormwater drainage basin affiliated with Outfall 46. Figure 1 shows the pre-CSO Abatement Program drainage boundary in Basin 46.

Early CSO design plans anticipated that diversion to the tunnel would be just upstream of the UPRR Albina Yard. Therefore, the City conducted source investigations in Basin 46 including collecting and analyzing inline solids and stormwater samples to evaluate contaminant sources that would continue to discharge to the river and contaminant sources in the diverted area that could exceed current City wastewater discharge limitations and prohibitions. Subsequently, the CSO Abatement Program decided to send stormwater from the entire basin to the East Side Big Pipe tunnel.

Results of the solids investigation did not indicate major sources to the basin. The stormwater screening data indicated a source of polycyclic aromatic hydrocarbons (PAH) and copper to the City conveyance system. However, the City concluded that further source tracing was not warranted because the basin contained a known source of these contaminants (the UPRR Albina Yard) that was being evaluated under DEQ Cleanup Program oversight and concentrations did not indicate a potential WWTP concern.

Given that the entire basin was diverted in 2011, Outfall 46 does not represent a current source to the Willamette River. Therefore, the City has met the remedial investigation (RI)/source control measure (SCM) objectives for Basin 46.

2 Introduction

This Completion Summary presents a weight-of-evidence evaluation of whether further source investigation is needed in Basin 46, and the rationale for concluding that current and future discharges from the basin are not likely to be significant sources of contaminants to river sediment. The purpose of this report is to demonstrate that, for Basin 46, the City has met the joint RI/SCM objectives of the August 13, 2003, intergovernmental agreement (IGA) between the City and DEQ.

This report is included in Appendix A of the *Municipal Stormwater Source Control Report for Portland Harbor*, which provides additional background and detail regarding the City's harborwide source control efforts, including regulatory and non-regulatory programs to address current and future sources and to minimize recontamination potential.

3 Outfall and Basin Setting

3.1 Basin Location and Configuration

Outfall 46 discharged to the east side of the Willamette River at approximately RM 10.4. The City diverted the entire basin to the East Side Big Pipe tunnel in 2011 as part of the City's CSO Abatement Program. Before the CSO diversion, the outfall conveyed stormwater from an approximate 80-acre drainage basin. Figure 1 shows the location of the outfall, the pre-diversion drainage basin boundaries, and an overview of the associated stormwater conveyance system. Additional detail on the Outfall 46 stormwater conveyance system and associated drainage basin is included in the technical memorandum *City Outfall Basin 46 Inline Solids Sampling in the Vicinity of the Union Pacific Railroad Albina Yard* (BES, 2006).

3.2 Land Use and Potential Upland Sources

The former Basin 46 stormwater system is located in the historical Albina area. Land-use in the pre-diversion drainage area consists of open space, residential, and general employment along the Overlook neighborhood bluff east of N. Greeley Avenue and heavy industrial operations at the UPRR Albina Yard west of N. Greeley Avenue. The basin also included small portions of paved rights-of-way (see Figure 1).

Sites that were identified as potential sources before the 2011 CSO diversion included two DEQ Cleanup Program sites, as listed in DEQ's Environmental Cleanup Site Information (ECSI) database. A source control evaluation is underway at the UPRR site. DEQ has identified the other site (Industrial Battery) as a low priority for conducting a stormwater pathway evaluation because the former building and contaminated soils were removed. DEQ issued a No Further Action determination for this site in 1995 and the site is currently vacant and undeveloped. Table 1 lists the associated contaminants of interest (COI) and the status of the stormwater evaluations at these sites.

Table 1. DEQ Cleanup Program Sites in Former Basin 46

DEQ Cleanup Program Site	Site Contaminants of Interest	Site Stormwater Pathway Evaluation ⁽¹⁾
UPRR – Albina Yard (ECSI #178)	PAHs, TPH, metals ⁽²⁾	Source Control Evaluation In Progress
Industrial Battery Building (ECSI #935)	Lead ⁽³⁾	Need for Source Control Evaluation to be Determined/ Low Priority

Notes:

TPH = total petroleum hydrocarbons; DEQ = Oregon Department of Environmental Quality; UPRR = Union Pacific Railroad; ECSI = Environmental Cleanup Site Information, PAHs = polycyclic aromatic hydrocarbons

(1) Source: DEQ Milestone Report, Figure 1b, “Status of Stormwater Source Control Evaluations, January 2013” (DEQ, 2013).

(2) Site contaminants of interest are those identified in Appendix Q (Source Control Inventory Tables) of the Portland Harbor RI/FS Draft Feasibility Study (FS) (Anchor et al., 2012).

(3) Source: DEQ ECSI database (DEQ, 1995).

Industrial sites covered or historically covered by National Pollutant Discharge Elimination System (NPDES) stormwater regulations also were considered as potential sources of pollutants to the City conveyance system. Table 2 lists one site in the basin that historically held NPDES permits to discharge to the pre-diversion Basin 46 conveyance system.

Table 2. Historical NPDES Permit Coverage in Basin 46

Address	Company	Permit Type	Time Period
2745 N Interstate	Union Pacific Railroad Albina Yard	Stormwater (1200-T)	1993 – 1996
		Stormwater (1200-Z)	1997 – Present ⁽¹⁾

Notes:

NPDES = National Pollutant Discharge Elimination System

(1) Following the 2011 diversion, permit coverage was not required for those drainage areas that discharged to former Basin 46. The permit continues to cover other discharges to the river via non-City outfalls.

3.3 Outfall Setting

Outfall 46 is not located in or adjacent to any reach identified by the U.S. Environmental Protection Agency as an area of potential concern (AOPC) for contaminant concentrations in river sediment.

4 Basin Screening and Source Investigations

In 2005, the City conducted an inline solids investigation in Basin 46 to evaluate whether major contaminant sources were present and the potential need for additional source tracing.

Following the investigation, the City identified Basin 46 as a Priority 4 for additional source tracing based on the inline solids results and an analysis of inriver sediment concentrations in the vicinity of the outfall (BES, 2006); Priority 4 basins are considered the lowest priority for identifying sources.

As part of the City's stormwater screening evaluation in 2008 (BES, 2010), the City collected stormwater samples from the downstream end of the basin (i.e., representing cumulative discharges to the system) and analyzed the samples for a broad array of contaminants to verify the conclusions of the inline solids investigation. The objective of the investigation was to determine whether contaminant concentrations in stormwater indicated a potential need for additional site source control. Based on this evaluation and using a conservative screening approach, PAHs and copper were identified as potentially warranting further source tracing in Basin 46. Subsequent review of upland site status as part of the stormwater screening evaluation indicated the UPRR Albina Yard was the likely source of PAHs and copper to the basin, based on identified site COIs. Given that a stormwater pathway evaluation was underway at this site and the entire basin was slated for diversion in 2011, the City concluded that no further source tracing was needed in this basin (BES, 2010).

Table 3 lists investigations and evaluations completed by the City in the Basin 46 conveyance system.

Table 3. City Investigations in the Basin 46 Stormwater Conveyance System

Data Collection Period	Purpose	Documentation
2005	Collect solids samples from the conveyance system to evaluate potentially significant contaminant sources with the basin and to determine additional source investigation priority.	City Outfall Basin 46, Inline Solids Sampling in the Vicinity of the Union Pacific Railroad Albina Yard. Technical Memorandum No. OF 46-1 (BES, 2006).
2008	Evaluate stormwater data from City outfalls to identify additional source tracing needs.	Stormwater Evaluation Report, City of Portland Outfall Project (BES, 2010)

5 Completion of Source Identification

The entire Basin 46 drainage was diverted to the City's WWTP in 2011; therefore, additional source tracing is not warranted in the basin.

6 Basin Source Controls

As a result of the 2011 diversion of the former Basin 46 to the City WWTP, there is no longer a drainage basin affiliated with Outfall 46.

7 Conclusion

The City concludes that it has met the RI/SCM objectives of the IGA and requests a source control decision from DEQ for Basin 46.

8 References

- Anchor et al. 2012. Portland Harbor RI/FS Draft Feasibility Study. Prepared for The Lower Willamette Group by Anchor QEA, LLC, Windward Environmental, LLC, Kennedy/Jenks Consultants, and Integral Consulting, Inc. February 2012.
- BES. 2006. City Outfall Basin 46 Inline Solids Sampling in the Vicinity of the Union Pacific Railroad Albina Yard. Technical Memorandum No. OF 46-1. City of Portland, Bureau of Environmental Services. June 28, 2006.
- BES. 2010. Stormwater Evaluation Report. City of Portland, Bureau of Environmental Services. February 2010.
- DEQ. 1995. DEQ Site Summary Full Report – Details for ECSI Site ID 935, Industrial Battery Building. DEQ Environmental Cleanup Site Information (ECSI) Database, updated August 1995; accessed February 16, 2013.
<http://www.deq.state.or.us/lq/ECSI/ecsidetail.asp?seqnbr=935>
- DEQ. 2013. Milestone Report, Upland Source Control at the Portland Harbor Superfund Site. Prepared by the Oregon Department of Environmental Quality. January 2013.

List of Figures

Figure 1: Basin 46 Pre-Diversion Overview

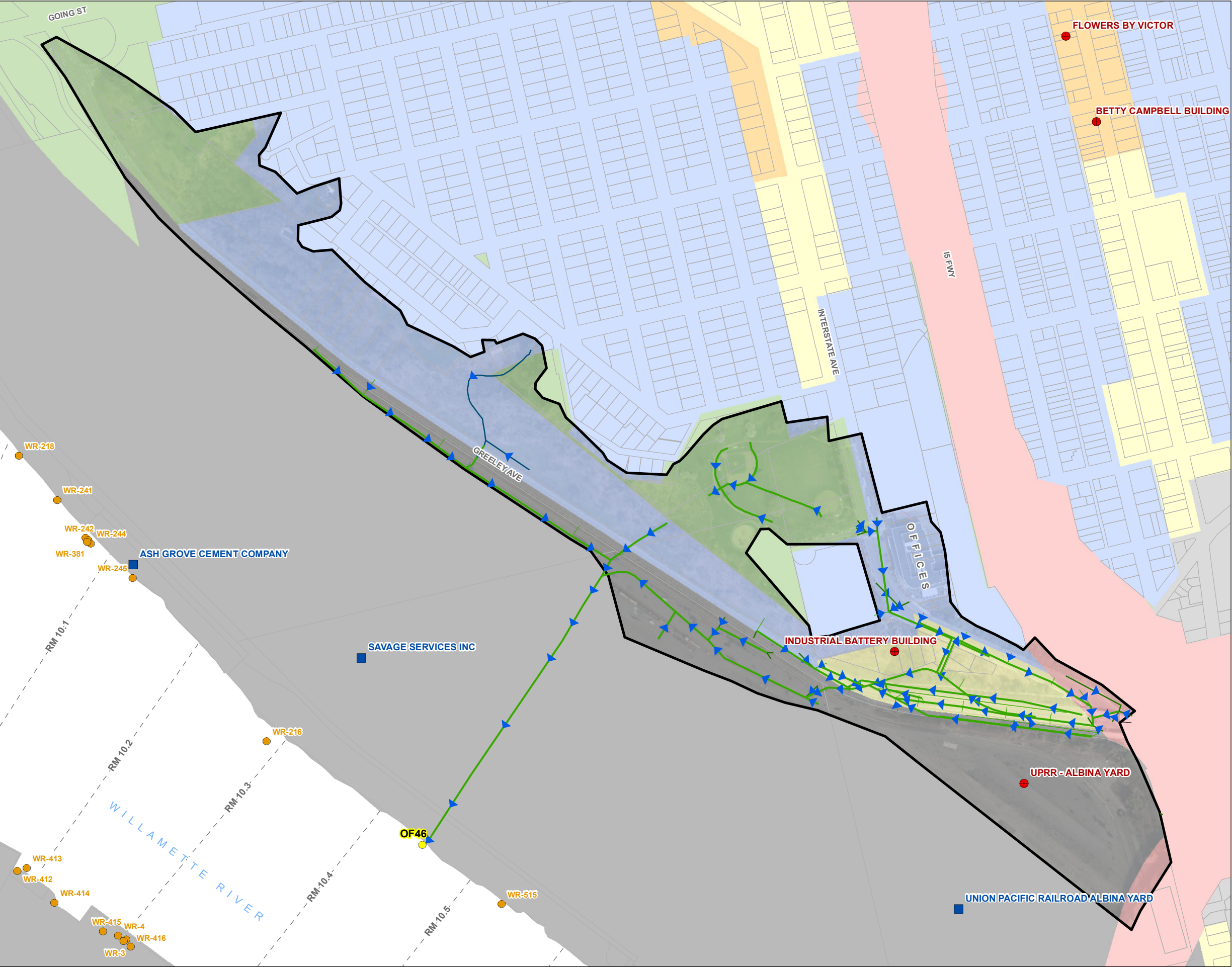
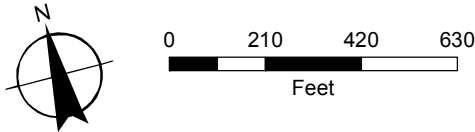


FIGURE 1
Basin 46
Pre-Diversion Overview

- Basin 46, Pre-Diversion
- DEQ ECSI Site
- NPDES Stormwater Permit
- Conveyance System**
 - Storm Line
 - Ditch
 - City Outfall
 - Non-City Outfall
- Land Use/Zoning**
 - Heavy Industrial
 - Light Industrial
 - General Employment
 - Commercial
 - Residential
 - Parks and Open Space
 - Major Transportation
- All Other Data**
 - River Mile (RM)
 - Tax Lot
 - Discharges to City Outfall
 - Portland Harbor Hydroboundary



MAP NOTES:
Date: December 31, 2013
Data Sources: BES, METRO, Air Photo Taken 2012

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