

Terminal 18 Stormwater Outfall Renewal and Replacement

Marine Stormwater Utility

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Port of Seattle Commission

Adopts Resolution 3696 forming Utility in November 2014 including stormwater rates for 2015 – 2017

LONG RANGE PLAN **CENTURY AGENDA**
 BE THE GREENEST, AND MOST ENERGY EFFICIENT PORT IN NORTH AMERICA

STRATEGY 4

OBJECTIVE 13
 MEET OR EXCEED AGENCY REQUIREMENTS FOR STORM WATER LEAVING PORT-OWNED OR OPERATED FACILITIES

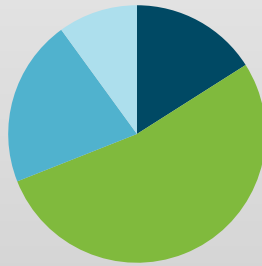
Stormwater Service Charge Per 1,000 Square Feet Billable Area			
Stormwater Rate Category	2015	2016	2017
Undeveloped (0%-15% Impervious Coverage)			
Regular	\$ 28.05	\$ 29.17	\$ 30.34
Low Impact	16.42	17.08	17.76
Light (16%-35% Impervious Coverage)			
Regular	43.37	45.11	46.91
Low Impact	34.12	35.48	36.90
Medium (36%-65% Impervious Coverage)			
Regular	63.00	65.52	68.14
Low Impact	50.68	52.71	54.81
Heavy (66%-85% Impervious Coverage)	84.53	87.91	91.42
Very Heavy (86%-100% Impervious Coverage)	99.98	103.98	108.14



Stormwater Utility established to protect Puget Sound

Utility Revenue & Goals

Utility Revenue Breakdown



- NWSA
- NWSA tenants
- Port
- Port tenants

- Collected \$4.7 million in 2016, ~\$5 million in 2017

- Assess all 78 miles of infrastructure by 2019
- Invest in asset rehabilitation to improve water quality

Provide triple bottom line benefits

Terminal 18 Stormwater

- Drainage area roughly 175 acres (nearly 9 Safeco Fields)
- Most site drainage enters Duwamish East Waterway through 13 Port-owned outfalls
- Outfalls were installed ~50 years ago



Largest active container terminal

T-18 Stormwater System



East Waterway Outfall Locations

Existing Outfall Conditions



Broken Pipes



Ponded water in the pipes



Missing tide gates

Visible conditions under the dock

Current Assessment / Scope of Work

- Focus from last manhole to end of pipe
- Repair broken and cracked pipe
- Realign pipe grade or slope
- Install new tide gate valves



Outfall pipe.wmv



New tide gate installation

Current Conditions and Repair

Project Schedule

- Commission Authorizations
 - Design & partial construction authorization 2nd Qtr 2017
 - Full Construction authorization 4th Qtr 2017
- Construction activities
 - Non disruptive construction activities summer 2017
 - Repair and replacement construction phased between 2018 and 2020

Schedule phased over 4 years

2017 Construction

Activities

- Cured-in-place pipe (CIPP)
- Tide gate valves where CIIP performed

Budget

- 2017 design and construction activities = \$1M
- Capital plan = \$4M, 2017-2020



Cure-in-place pipe installation

Perform non-disruptive work early