Port of Seattle®

PORT OF SEATTLE

MARINE STORMWATER UTILITY STRATEGIC PLAN

2021-2025

CONTENTS

ACRONYMS & ABBREVIATIONS

BMP . . . . . best management practice
CCTV . . . . . closed caption television video
CIP . . . . . capital improvement project
FT . . . . . Fishermen's Terminal
GNET . . . . . GraniteNet
GSI . . . . . green stormwater infrastructure
ISGP . . . . . Industrial Stormwater General Permit
LMS . . . . . Learning Management System
MIC . . . . . Maritime Industrial Center
MMPMG . . . . . Marine Maintenance Project Management Group
MM SWU . . . . . Marine Maintenance Stormwater Utility
MS4 . . . . . Municipal Separate Storm Sewer System
NWSA . . . . . Northwest Seaport Alliance
O&M . . . . . operation & maintenance
OEDI . . . . . Office of Equity, Diversity and Inclusion
PM . . . . . preventative maintenance
Port . . . . . Port of Seattle
SIAMS . . . . . Stormwater Infrastructure Asset Management System
SOP . . . . . standard operating procedure
SPMG . . . . . Seaport Project Management Group
SPU . . . . . Seattle Public Utilities
Utility . . . . . Marine Stormwater Utility

EXECUTIVE SUMMARY

The Marine Stormwater Utility (Utility) of the Port of Seattle (Port) was created in 2014 to support meeting or exceeding regulatory requirements for stormwater leaving Port facilities. The Utility operates under a cost recovery model with all revenue used for the stormwater program associated with Port Maritime properties managed by the Port and by the Northwest Seaport Alliance (NWSA). The first five years of Utility work, 2014 to 2019, focused on building the program's financial backbone, creating policies to document and guide the work, and assessing stormwater infrastructure to obtain baseline data and prioritize future work. During these early years, the Port created a cost-effective, innovative, and award-winning utility.

The year 2020 provided an opportunity to reflect on our brief history and plan for the Utility's future. This strategic plan is the culmination of effort by staff, stakeholders and customers to define guiding principles and prioritize our work for the next five years. This plan is intended to move us forward to better serve customers and ensure a resilient Utility while supporting the Maritime industry.

To support our guiding principles, defined in mission and vision statements, this strategic plan includes six goals with 17 strategies, each with specific tasks.

Mission

Supporting a sustainable Maritime Industry with innovative stormwater management that benefits local communities and marine life.

Vision

Leading the way to a clean, healthy and sustainable Puget Sound.

Goals:

The goals provide focus and efficiency for Utility work to benefit customers and the region while bringing financial stability to future rate changes:.

1. Maintain and improve stormwater infrastructure
2. Reduce stormwater pollution leaving Port properties
3. Pursue innovation and new technologies
4. Strengthen communications with customers, stakeholders and the community
5. Achieve or exceed compliance related to federal, state and local stormwater regulations and legal agreements
6. Improve processes within the current financial system

We intend to revisit this plan each year as the basis for annual business plans that track our progress, and to review the plan every five years to update or change strategies in furtherance of Utility goals.

INTRODUCTION

The Port of Seattle (Port) is a special purpose government district founded in 1911 to promote economic opportunities and quality of life in the Puget Sound region by advancing trade, travel, commerce, and job creation in an equitable, accountable and environmentally responsible manner. The Port owns and operates properties along the Duwamish waterway, Elliott Bay and the Puget Sound, with some portions managed by the Northwest Seaport Alliance (NWSA). The Port's vision is to add 100,000 jobs through economic growth, for a total of 300,000 Port-related jobs in the region, while reducing its environmental footprint.

The Marine Stormwater Utility (Utility) was initiated in 2014 under a cost recovery model to support the Port in meeting stringent and expanding Washington State and local stormwater regulations while benefiting regional water quality. The Utility provides services to customers to meet strict local, state and federal stormwater regulations in support of the Maritime industry. Utility staff completed a full assessment of the stormwater infrastructure system in 2019 to obtain baseline data. This information is used to prioritize infrastructure improvements to meet changing needs and add resiliency in an aging system. The Utility installs green stormwater infrastructure where feasible to reduce the impact of stormwater on water quality while adding habitat and beautifying spaces.

Tide gate inspection at Terminal 10 outfall

In developing this Strategic Plan, the Utility incorporated other Port-wide efforts and priorities associated with core values and equity. For example, the Port created an Office of Equity, Diversity and Inclusion (OEDI) in 2019 to deepen current Port equity efforts and further catalyze organization-wide, systemic change. These efforts were formalized in the Century Agenda to "become a Model for Equity, Diversity, and Inclusion." The OEDI created a strategic plan to implement these changes, and the Utility includes equity into our decision making and work practices.

In 2020, Utility staff created this Strategic Plan with input from customers and stakeholders to focus future efforts and support the Port as "the Greenest, and Most Energy Efficient Port in North America."

Core Values

In addition to the Port's values[1], the Utility adds the following as core values for our specific work:

Collaboration	Work jointly and cooperate with stakeholders
Efficiency	Work effectively to save effort and money
Innovation	Create unique stormwater treatment, practices and controls
Integrity	Adhere to a code of conduct that supports high standards
Safety	Ensure staff work in ways that avoid harm, injury and loss

1 Port of Seattle Values *www.portseattle.org/careers/who-we-are*

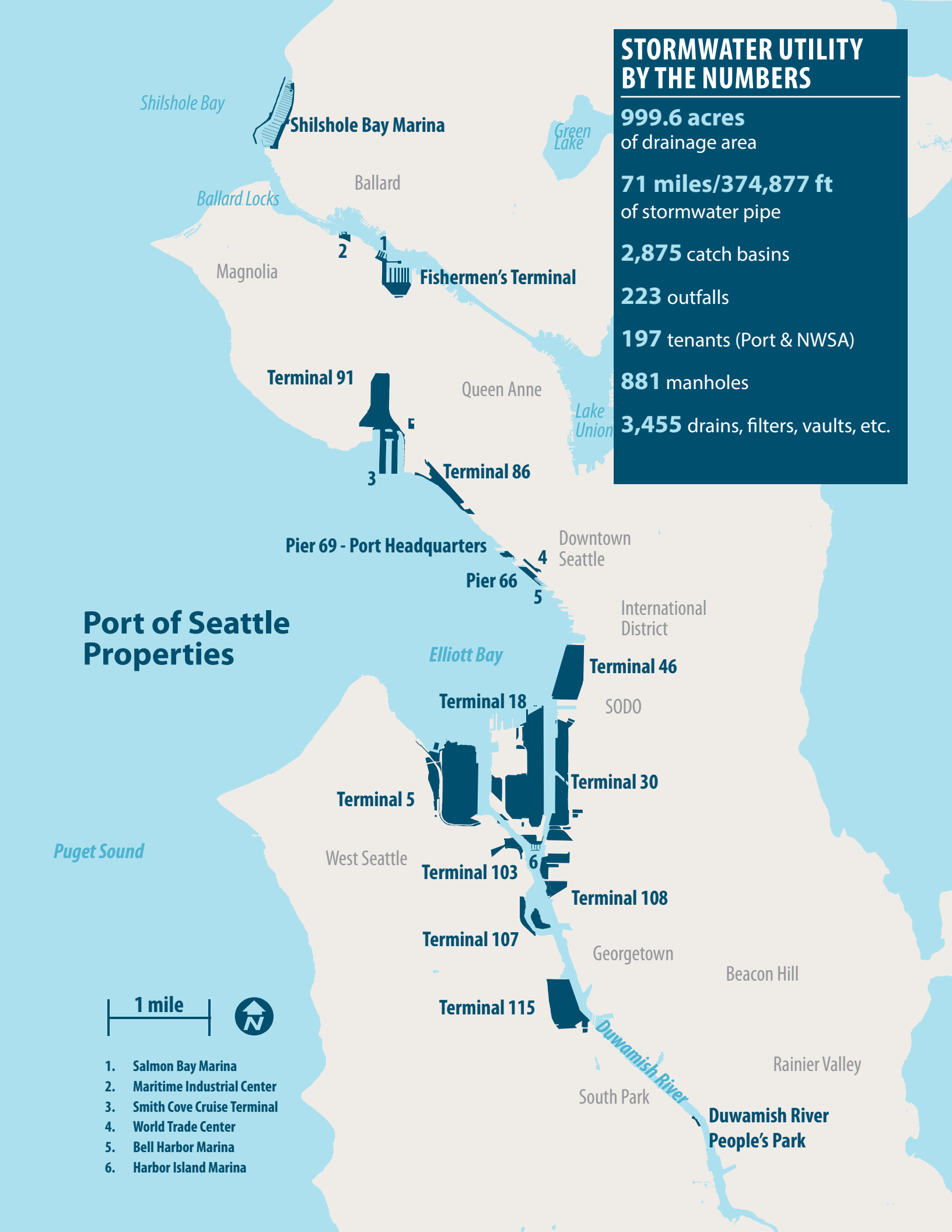
FIRST FIVE YEARS, 2014 – 2019

The idea of creating the Utility began in the late 2000s, was actively discussed by Port leadership in 2012 to 2014, and resulted in the official creation on November 25, 2014, by Commission Resolution No. 3696. Much of the foundational work involved finances, legal issues, and coordinating with the City of Seattle (Seattle Public Utilities, SPU) on the separation of what was to become two stormwater systems: one managed by the Port's Utility, and the other by SPU. While the separation was not physical (i.e., the assets are still connected and discharge to local waterbodies), significant time was spent identifying where one system meets the other, resulting in connection points. There are over 120 connections between the two systems, and additional points are added when identified through infrastructure assessments or other means. We meet with SPU annually to review these connections, highlight changes to stormwater systems including necessary legal agreements, and discuss permit issues associated with regional water quality.

One of the first tasks in forming a Utility was creating a financial system to bill and collect revenue so that budgets could be developed to perform the work of improving water quality from Port Maritime properties. Our rate categories mirror SPU's, but at a lower fee and are similar to categories across the industry. The Utility endeavors to provide essential stormwater services to customers at a better value than when our system was a small part of the much larger SPU system. This is possible because we now have dedicated funding for the Port stormwater system's upkeep and operation and maintenance.

A second task of the new Utility was to hire staff to run the program. While Port departments and systems existed to support the stormwater program, subject matter experts in stormwater and utilities were hired to lead the program. Existing field staff from the Port's Marine Maintenance department, who were already performing stormwater regulatory and operation and maintenance inspections, became part of the new Utility team. Utility office and field staff now total 17 (four office staff and 13 field staff). The Utility office staff work closely with Utility field staff to determine and prioritize the Utility's work, which includes performing baseline assessments of the stormwater pipes to better understand the extent and conditions of the system, and building upon existing stormwater work to meet or exceed stormwater regulations.

Stormwater Utility Team, February 2020


STORMWATER UTILITY BY THE NUMBERS
999.6 acres of drainage area
71 miles/374,877 ft of stormwater pipe
2,875 catch basins
223 outfalls
197 tenants (Port & NWSA)
881 manholes
3,455 drains, filters, vaults, etc.
Port of Seattle Properties
Shilshole Bay
Shilshole Bay Marina
Green Lake
Ballard
Ballard Locks
Magnolia
Fishermen's Terminal
Terminal 91
Queen Anne
Lake Union
Terminal 86
Pier 69 - Port Headquarters
Downtown Seattle
Pier 66
International District
Elliott Bay
Terminal 46
Terminal 18
SODO
Terminal 30
Terminal 5
Puget Sound
West Seattle
Terminal 103
Terminal 108
Terminal 107
Georgetown
Beacon Hill
Terminal 115
Duwamish River
Rainier Valley
South Park
Duwamish River People's Park
1 mile
1. Salmon Bay Marina
2. Maritime Industrial Center
3. Smith Cove Cruise Terminal
4. World Trade Center
5. Bell Harbor Marina
6. Harbor Island Marina

ACCOMPLISHMENTS

Since the Utility's inception in 2014, the focus has been on improving water quality leaving Port Maritime properties. From meeting regulatory requirements, to maintaining over 70 miles of stormwater pipe assets of various condition, to advancing green stormwater infrastructure projects, the Utility has many accomplishments in its brief history. The Utility is proud of its successes in such a short time including:

- Strong and consistent regulatory compliance
- Complete system condition assessments
- Effective repair, maintenance and capital improvement program
- Innovative water quality techniques and green stormwater infrastructure projects
- Strong education, outreach and operational partnerships
- Financial stewardship and stability

Regulatory - Achieve full compliance year after year

The Port holds a Phase I municipal separate storm sewer system (MS4) permit for Maritime properties that includes facilities managed by the Northwest Seaport Alliance (NWSA) and by tenants. Some tenants hold other types of stormwater permits to cover specialized operations, such as Industrial Stormwater General Permits (ISGPs), boat yard and individual stormwater permits, but are universally covered under the Port's MS4 permit. The Port also holds an ISGP for the Marine Maintenance North Operations site, where vehicle maintenance and equipment cleaning are conducted. The Utility supports work to meet requirements for the MS4 permit, including updating stormwater pollution prevention plans, training staff, educating customers and general public outreach, inspecting and maintaining the MS4 and annual reporting. Utility staff support water quality monitoring for the Port's ISGP-permitted facility. The Washington State Department of Ecology issues these stormwater permits and oversees and inspects sites covered under stormwater permits. The City of Seattle stormwater codes also apply to Port properties within city limits; King County code applies to those not within a city jurisdiction. With a bevy of regulations to follow, we work with customers and review internal operations and projects to ensure regulatory compliance.

The Port's illicit discharge detection and elimination system addresses illicit connections and discharges to the MS4, and spill response and reporting is supported by Marine Maintenance Dispatch 24-hour response line with assistance from Port environmental staff. Utility staff has equipment and expertise to respond to and cleanup spills to the MS4 system.

System Assessment - Completed full condition assessment of stormwater system

Upon inception, a top priority of the Utility was to understand the condition of our assets. To accomplish this, equipment was purchased to conduct closed caption television video (CCTV) recording for all 70 plus miles of stormwater pipes between 2016 and 2019. Every condition found, from a small crack, break or root growing through the pipe wall to a full collapse of the pipe, was assigned a score. The pipe asset then received an overall score based on all the conditions found across the length of the pipe. We completed this system assessment at the end of 2019 and now have baseline condition data for all pipe assets, which provides the basis for prioritizing future work to rehabilitate the stormwater system. Some assets have already met the criteria for rehabilitation, attaining a specific subset of scores from the condition assessment, without any work performed. Some assets will need to be cleaned only while other assets will also need a point repair, say to fix a 10-foot break in a 100-foot long pipe, or entirely replaced to meet the criteria for rehabilitation.

Camera used for pipe assessments

CCTV truck cockpit

Pipe Repair - Over 60 critical pipe repairs completed

As a result of assessments, over 60 pipe segments were identified as requiring immediate repair (score of 90 or above) because they were unusable for conveying stormwater or created safety risks from potential holes forming above voids. Utility staff excavated and repaired these assets as soon as feasible under an urgent repair program. In total, we completed these urgent repairs between 2017 and 2020 to ensure continual and safe Port operations.

Screenshot from assessment video showing full pipe collapse

Outfall Rehabilitation - Installed 21 tide gate valves to protect the system from inundation

Because our stormwater conveyance system directly discharges through outfalls into regional waters, outfall rehabilitation became another important focus of initial work. Some outfalls lie below high tide, and as tides rise, river, bay and sound waters can enter the stormwater system. This causes two major concerns: the system can flood parts of a facility, and corrosion and biological growth increases within the pipes. To limit tidal influence on the stormwater system, the Utility installed tide gate valves (or tide valves) on outfalls. A tide valve remains closed, keeping receiving waters from entering the system, and only opens when pressure builds from upstream flows. Through 2020, we installed 21 tide valves throughout the stormwater system.

Pipe repair

Green Stormwater Infrastructure – Delivering resiliency to stormwater management

The Utility strives to go above and beyond stormwater regulations by incorporating green stormwater infrastructure and treatment systems in areas where they are not required by regulation or codes. The Port also participates in Salmon-Safe third-party certification for Maritime parks and public access areas and has been certified since 2008. Stormwater and habitat projects are two important elements in maintaining Salmon-Safe certification , a leading movement to help Pacific salmon thrive.

Installing tide valve

Terminal 86 Bio-filtration Facility – The Utility's first bio-filtration facility

A ponding problem on the Centennial Park bike and pedestrian trail near Terminal 86 provided the opportunity to develop the Utility's first in-ground bio-filtration (rain garden) facility. Rather than simply re-grading and altering a stormwater pipe to reduce ponding at a busy junction in the trail, the Utility evaluated and installed a small rain garden to remove potential pollutants. This added bio-filtration treatment to the stormwater infrastructure, and since it is in a busy public area, provides a visible location for educational signage about rain garden functions.

Bio-filtration facility along Centennial Park

Signage posted adjacent to Rain garden explaining benefits to the environment

Terminal 102 Downspout Oyster Shell Treatment Barrels – Innovative solution to treat stormwater pollution

Oyster shells, which bind heavy metals such as zinc and copper, are used to treat stormwater from roof runoff at Terminal 102 commercial buildings. Zinc and copper are detrimental to aquatic life, particularly endangered salmon. The oyster shells are contained in barrels connected to roof downspouts, and as stormwater flows through, heavy metals and sediment are captured. The oyster shells are changed out each year since effectiveness decreases over time. Typically, newly purchased shells are used, but in September 2020, oyster shells that had been in the barrels were 'refreshed,' employing a media washing machine invented by Utility staff and built by Marine Maintenance. To evaluate treatment effectiveness, water samples are collected, and pollutant levels analyzed from water that enters and leaves the barrels. Data show a 30% to 50% reduction in metal concentrations.

Oyster Barrel and sign at T102

In addition to Terminal 102, oyster shells are used in stormwater treatment at Terminal 46, Marine Maintenance North Operations and Terminal 5 Transit Shed. The media washing machine helps reduce the amount of new oyster shells purchased and increases longevity of the shells in use.

Splash Boxx – Portable planter boxes for commercial and industrial locations

In 2014, the Port installed two 'Splash Boxx'® systems at Terminal 91 to treat runoff from a building with a galvanized roof. Galvanized metal may leach zinc. The Splash Boxx bio-retention system was initially studied as part of a King County Conservation District funded 'Moving Green Infrastructure Forward Project.' In 2019, the Port moved these boxes to treat stormwater at two locations: a roof at Maritime Industrial Center (MIC), and the Marine Maintenance Horton Street south parking lot. This placement of the two systems allows comparison of bio-retention media treatment from different use areas. The soil media is a custom mix of sand, wood chips, and biochar and planted with native, drought tolerant plants. The inflows and outflows are monitored to determine removal effectiveness of zinc, copper, and turbidity. Initial Splash Boxx results reflect 60 to 70% reductions in copper and 85 to 90% reductions in zinc. Average reductions in turbidity for the longer established system were 70%.


Flowers growing in the Splash Boxx


Splash Boxx at MIC

Awards

The Utility won two American Association of Port Authority environmental awards in 2017 and 2019. In 2017, we won the Comprehensive Environmental Management award for the "Formation and Operation of the Marine Stormwater Utility," which summarized the efforts to create the Utility and the first few years of work. In 2019, we won the Environmental Enhancement category award of excellence for the "Innovative Stormwater Operations and Treatment Techniques." This application detailed three techniques developed by the Utility, and by the Port before the Utility was created, including a dock scrubber that recovers wash water with a vacuum, oyster shell treatment barrels to treat roof runoff, and the media washing machine that refreshes used oyster shells for reuse in stormwater treatment systems.

Dock scrubber

The media washing machine also won an internal port-wide innovation award for 2019 quarters one and two, and the annual 2019 award and the people's choice award by Port employees.

Media washing Machine

PRIORITIES

The primary focus of the Utility has been to improve water quality in support of the Port's Century Agenda strategy to be the greenest, and most energy efficient port in North America. Our vision and mission continue with and align with this aspirational goal. In order to be the greenest Port, the Utility has prioritized five key areas: Infrastructure; Sustainability; Climate Change; Equity, Diversity and Inclusion; and Habitat.

Infrastructure

One basic function of the Utility is to move stormwater runoff from facilities through conveyance systems to receiving waters. A complex infrastructure of pipes and structures performs this essential function throughout Port facilities. The first step was to understand the details of the system, including pipe locations, characteristics and conditions, from our completed assessment program. The next step will be to rehabilitate the aging system over time to continue this function but also add components such as green stormwater infrastructure and innovative treatment to remove pollutants and continually improve regional water quality. As a core value, innovation is at the root of our work and helps to meet our vision of leading the way to a clean, healthy and sustainable Puget Sound.

To rehabilitate our stormwater system as guided by the Port's Century Agenda, we will need to repair or replace many existing stormwater pipes through excavation or trenchless technologies, install new stormwater systems, add treatment systems, install green stormwater infrastructure and continue innovating. This work will continue for years to come but prioritization using the data from the assessment program, as well as continuing reassessments will be the key to proactively upgrade the infrastructure.

Sustainability Framework

In 2019, the Port developed a sustainable project framework to evaluate all Port capital improvement projects. The framework includes lifecycle consideration for energy, habitat, waste, and stormwater. Capital projects are screened and placed into three different categories that apply increasing levels of effort to maximize sustainability and environmental benefit. Stormwater is one of eight categories in the framework and Utility staff help evaluate projects and participate on project review teams to ensure compliance with regulations and approve of changes to the stormwater system.

Climate Change/Resilience Planning

Climate change and resilience are complex and emerging issues, and the Port has identified this as a high priority for the future. The Port drafted a climate adaptation plan in 2015[2] to address rising sea levels and intensifying storms and fulfill the Port's role as a steward of the environment and maritime industry. One key result is that the stormwater system is not currently capable of handling sea level rise. The Utility will update the plan to address specific elements for stormwater infrastructure adaptation and resilience considering regional efforts by the City of Seattle, King County, and Washington state. Another element of the Port's climate change planning is greenhouse gas reduction targets that align with the Paris Climate Agreement. These targets include an interim goal to cut emissions in half by 2030. The targets also entail a long-range commitment to deeply "decarbonize" maritime activity and make Port operations carbon neutral or carbon negative by 2050.

Evaluating how climate change will impact our stormwater infrastructure, water quality, and other Port concerns and to plan accordingly is a long-term endeavor. Phasing in system resilience will require in-depth analysis and access to data being compiled by other local, state, federal and international entities. We will collaborate with other Ports and government organizations grappling with this to maximize efforts in addressing the impacts of climate change on coastal communities and the maritime industry. We don't have the answers on climate change or sea level rise, but we can ensure our system is built to adapt to changes to continue to serve our customers and the maritime industry.

2 Port of Seattle. June 19, 2015. Climate Change Adaptation Plan for Port of Seattle Waterfront Properties.

Equity, Diversity and Inclusion

Understanding how the Utility can address the needs of diverse and historically marginalized communities, from underfunded neighborhoods in the Duwamish Valley to Indigenous peoples who have treaty rights to lands and waters that the Port abuts, is a long-term endeavor. Water quality and pollution prevention are important issues for the region, and Black, Indigenous, and other communities of color often suffer disproportionally from pollution. The University of Washington Department of Environmental and Occupational Health Sciences has created a map[3] showing health disparities based on living and economic conditions. Identifying opportunities to improve water quality for these communities will involve direct community engagement, some of which is occurring through the Port's habitat, energy and community enhancement projects.

The Port's OEDI is developing an equity tool to look at historically marginalized communities within the King County region. This tool evaluates the entire region and provides a score for each census block group. This score gives a numeric value to the disparities within the community. Utility staff will collaborate with the OEDI team to ensure that equity continues to develop as an underlying principle of the work we do.

Habitat Collaboration

While the Port has a dedicated habitat team working to restore degraded sites, address habitat and remediation mitigation requirements, and create shared spaces to benefit people and the environment, there are potential interconnections between habitat and stormwater efforts. The Utility and habitat teams collaborate on ongoing and new opportunities that include Salmon-Safe recertification and potential for stormwater-habitat interface and benefits at Port facilities.

ƛ̓uʔəlaltxʷ Village Park and Shoreline Habitat before

after

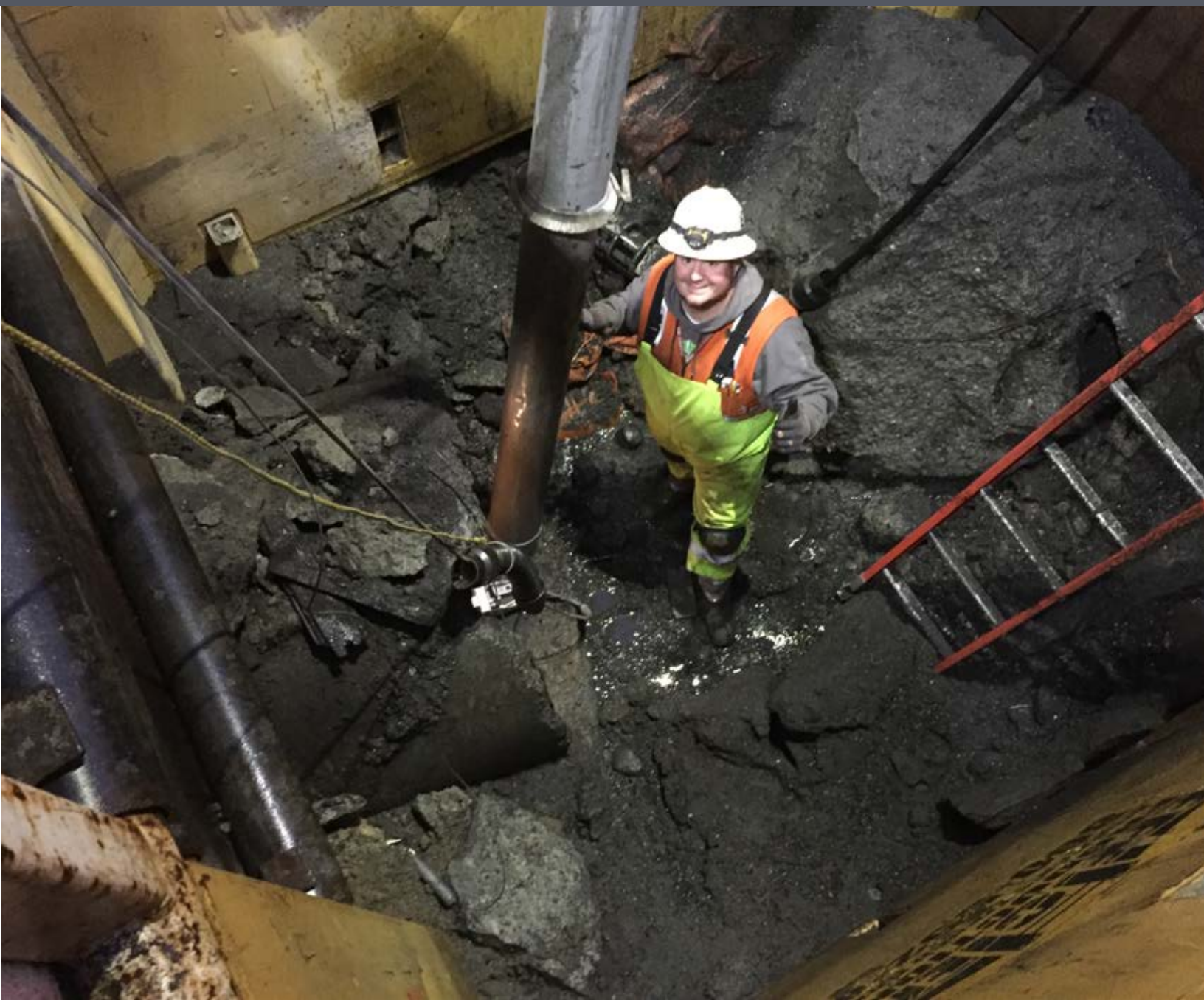
3 https://deohs.washington.edu/washington-environmental-health-disparities-map-project

Duwamish River People's Park and Shoreline Habitat Restoration

Replacing stormwater treatment media in vaults at Terminal 46

UTILITY RATES

The Utility operates on a cost recovery model, and the revenues fund the entirety of the stormwater regulatory and infrastructure program. Bills paid by customers are invested in infrastructure and services to improve water quality, including daily operations, regulatory maintenance, infrastructure assessment and repair, and capital projects including green infrastructure.

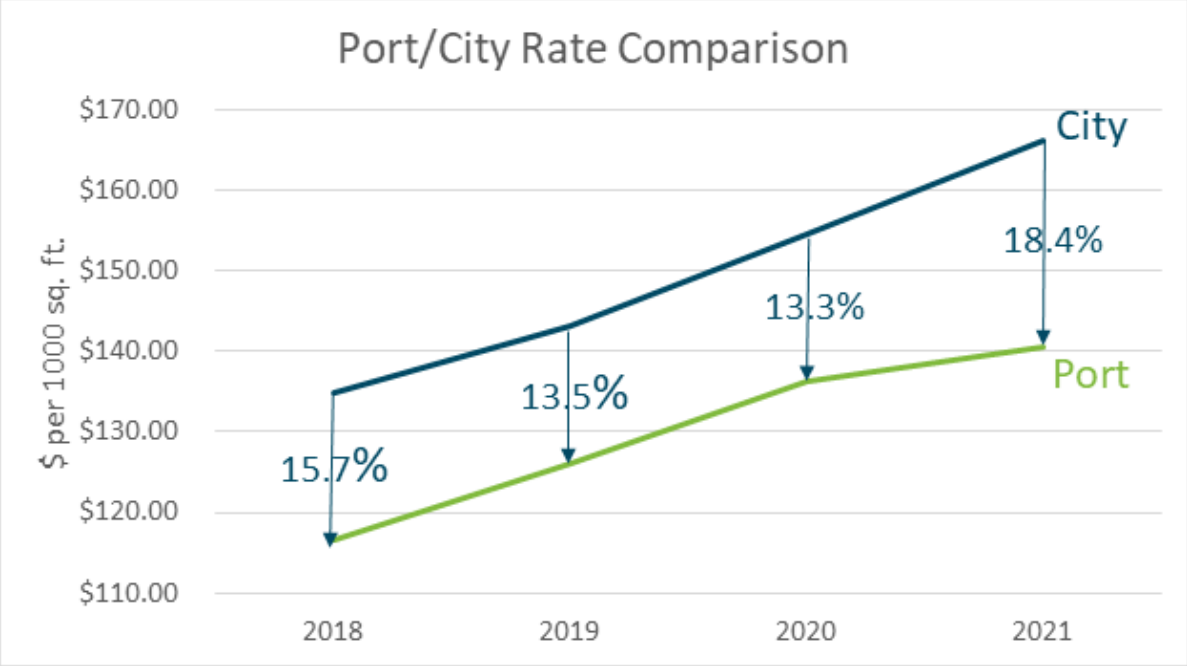


Rates are adjusted each year by reviewing the baseline budget against forecasted spending, typically five years out, and anticipating revenue for the current year. Planning work for the coming year includes new capital projects, increased levels of service to benefit customers, and cost reductions from streamlining operations. A new rate is calculated for this total expenditure. The forecast budget is presented to the Utility's Rate Advisory Committee, which includes Port and NWSA executives, who provide valuable insight and represent Maritime business operations and tenant interests. The Committee provides recommendations for a proposed Utility rate, which is then presented to the Port Commission for final approval before adopting new rates for the coming year.

The table below shows the projected rate path approved in 2020 for the next five years. The rates are subject to Port of Seattle Commission approval annually.

RATE PATH	2021	2022	2023	2024	2025	AVERAGE
SWU Rate Increase	**3%**	**4.6%**	**4.6%**	**4.6%**	**4.6%**	**4.28%**

Since the inception of the Utility, it is a priority to keep our rates lower than SPU to provide customers financial savings while delivering additional services such as proactive infrastructure assessment and repair. The Utility is now able to maintain and improve stormwater infrastructure, which benefits regional water quality, at a lower rate than we previously paid SPU. The graph below shows a comparison of the drainage rates for the "very heavy" rate category for the Port's Utility and SPU.



GOALS AND STRATEGIES

The Utility began work on a strategic plan in late 2019. The effort evolved over six months with assistance from a consultant, Veda Environmental, and a core team that planned and developed material for an internal workshop. The purpose of the workshop was to engage stakeholders in creating the strategic vision, mission, and to identifying priority goals to guide the work during the lifetime of this plan in support of the vision and mission for the future.

To gather information and lay groundwork for the workshop, two surveys were developed to gather input from stakeholders: one for Port Utility and environmental staff, and another for external customers and Port real estate staff. The overall response rate was 45% and this information provided key input for workshop materials. The workshop was convened virtually in August 2020 and involved two three-hour sessions on separate days. The workshop included 16 internal stakeholders from across the Port discussing all aspects of the Utility, and ultimately provided the basis for this document.

In developing the Utility goals, considerations included overall sustainability and tie-in with the Port's Sustainability Framework and Climate Change planning and adaptation. Common themes included innovation and importance of a skilled and knowledgeable team with thorough understanding of stormwater infrastructure and regulations. During the workshops, Port staff contributed to defining six goals in four categories: 1. Operations, Infrastructure & Innovation; 2. Relationships, Collaboration & Communication; 3. Regulatory; and 4. Financial. Seventeen strategies with associated tasks were identified to support each goal. The six goals with 17 strategies are listed below, with detailed tasks, measures and timeframes in the following table. The timeframe refers to the year the associated task will be started with items listed as "annually" starting in 2021. Outcome is included with the intention of revisiting this plan annually to update progress against the measure in addition to directing and/or adding new tasks.

1. Operations, Infrastructure & Innovation

Asset management is a crucial Utility tool for improving water quality. Three goals and six strategies focus on infrastructure maintenance, repair and installation while highlighting sustainability and innovation. Applying a sustainability lens to our work and building resilient infrastructure can support the Utility and the Port in adapting to climate change.

1. **Maintain and improve stormwater infrastructure**

   Strategies:

   1. Bring all infrastructure to rehabilitated status
   2. Develop robust asset management program including continual assessment and reassessment of infrastructure
   3. Build a resilient system and plan for future climate change adaptation

2. **Reduce stormwater pollution leaving Port properties**

   Strategies:

   4. Increase awareness of best management practices (BMPs) across all Maritime properties
   5. Expand use of BMPs across all Maritime properties
   6. Streamline process to more rapidly respond to spills

3. **Pursue innovation and new technologies**

   Strategies:

   7. Support piloting and advancing new technology and creative solutions

2. Relationships, Collaboration & Communication

We cannot operate effectively without relationships with customers, community members, the broader Port and NWSA staff and stakeholders.

4. **Strengthen communications with customers, stakeholders and the community**

   Strategies:

   8. Improve outward facing communication
   9. Improve public and tenant access to information
   10. Improve internal Port and NWSA communications

3. Regulatory

Meeting regulatory requirements is foundational to our work, and exceeding permit requirements supports our mission.

5. **Achieve or exceed compliance related to federal, state and local stormwater regulations and legal agreements**

   Strategies:

   11. Ensure compliance with permit conditions
   12. Streamline tracking and reporting processes for permit compliance
   13. Expand Port staff awareness of regulations
   14. Pursue activities that exceed permit compliance, serve customer needs and protect water quality

4. Financial

We strive to provide reliable and efficient services to our customers to meet regulations while investing in infrastructure to ensure future compliance. One hundred percent of Utility revenue is used to fund Utility programs.

6. **Improve processes within the current financial system**

   Strategies:

   15. Increase transparency in billing and spending
   16. Improve accountable and fiscally responsible programs
   17. Simplify Utility financial reporting structure

Category 1. Operations, Infrastructure & Innovation

Goal 1. Maintain and improve stormwater infrastructure

Strategy #1: Bring all infrastructure to rehabilitated status

Tasks	Measure	Timeframe	Outcome
Increase coordination with SPMG and MMPMG on projects relating to storm-water	Streamlined processes to improve coordination with projects that involve storm-water infrastructure changes – 100% of proposed projects reviewed	Annually	
Rehabilitate 75% of stormwater system by 2035, annual goal	33% rehabilitated (GNET score of less than 30 and cleaned with a month)	2021	
Complete infrastructure upgrade CIP work	Complete T18 outfall project	2021	
	Complete projects in other CIPs	Annually	
Complete contracting for Cure-In-Place Pipe work to support rehabilitation	Executed contract	2021	
Create priority list for infrastructure work including capital program and expense repairs	Priority list in use	2021	
Obtain the grout trailer for repair work	Available and ready to use	2021	
Create dashboard for real-time data analysis of Stormwater Infrastructure Asset Management System (SIAMS)	Dashboard in use	2022	
Create scoring matrix including equity, diversity and inclusion considerations to prioritize infrastructure work	Matrix in use	2022-2023	
Create specification for pipe abandon-ment	Complete specification	2023-2024	
Implement abandoned pipe protocol per specification	Conduct pipe lateral sealing	2025	

Strategy #2: Develop robust asset management program including continual assessment and reassess-ment of infrastructure

Tasks	Measure	Timeframe	Outcome
Create and implement policy to address pipe reassessments	Create initial preventative maintenance (PM) schedule	2021	
Complete SIAMS plan	Full plan document	2021-2022	
Reroute infrastructure and add clea-nouts to improve accessibility to infra-structure	Identify locations needing improved accessibility	2023	
Complete assessment of complex, inac-cessible areas	CCTV video of 100% of pipes	2025	

Strategy #3: Build a resilient system and plan for future climate change adaptation			
Tasks	**Measure**	**Timeframe**	**Outcome**
Conduct study to evaluate impact of climate change on system	Complete study	2023	
Integrate climate resiliency findings into SIAMS	Updated SIAMS plan with climate change planning impact	2024-2025	
Collaborate with municipalities and stakeholders on regional actions	Initiate partnerships and participate in annual meetings	2025	
Goal 2. Reduce stormwater pollution leaving Port properties			
Strategy #4: Increase awareness of BMPs across all Maritime properties			
Tasks	**Measure**	**Timeframe**	**Outcome**
Assess gaps in current BMP training process	Identify target audiences	Annually starting in 2021	
Determine priority list of facilities for BMP training rollout	Create annual list of priority facilities	Annually starting in 2022	
Conduct staff education workshops on BMPs	Complete Staff Brownbag(s)	Annually starting in 2022	
Create scoring matrix for tenants with equity, diversity and inclusion considerations and use to prioritize tenant BMP training	Create annual list of priority tenants	Annually starting in 2022	
Conduct tenant education workshops on BMPs	Complete Tenant Workshop(s)	Annually starting in 2023	
Strategy #5: Expand use of BMPs across all Maritime properties			
Tasks	**Measure**	**Timeframe**	**Outcome**
Provide tenant access to storage BMPs	Secondary containment, tents, covers, etc. available for rent	2021-2022	
Increase maintenance schedules	Additional PMs to perform work	2023	
Identify facilities for additional BMP implementation	List of facilities and appropriate BMP(s) for each	2024	
Strategy #6: Streamline process to more rapidly respond to spills			
Tasks	**Measure**	**Timeframe**	**Outcome**
Train staff in spill reporting protocols	Complete training for relevant staff	Annually	
Develop plan for funding spill investigations, cleanup and reporting	Complete funding plan for spill response and cleanup	2021	
Create uniform procedures for spill reporting across all Port properties	Complete SOP for spill reporting	2021	

Goal 3. Pursue innovation and new technologies			
Strategy #7: Support piloting and advancing new technology and creative solutions			
Tasks	**Measure**	**Timeframe**	**Outcome**
Collaborate on innovations with other stakeholders, municipalities and ports	Share information with stakeholders	Annually	
Develop production line for oyster shell use and reuse	Completed and working production line in use	2022	
Select and test (pilot program) technologies identified by Pure Blue	1 - 2 technologies in place	2022	
Identify areas for innovative/green stormwater treatment opportunities on Port properties & facilities	Identify 2-3 high priority opportunities	2022	
Tie into WA Maritime Blue (innovation center at FT) accelerator program	Collaboration with new businesses	2023	
Install new GSI CIP project(s)	Complete installation	2024	

Bell Harbor Marina at Pier 66

Category 2. Relationships, Collaboration & Communication

Goal 4. Strengthen communications with customers, stakeholders and the community

Strategy #8: Improve outward facing communication

Tasks	Measure	Timeframe	Outcome
Continue Salmon-Safe parks and public access areas certification	Meet annual milestones	Annually	
Apply for environmental awards	Complete applications	Bi-annually	
Present at conferences to enhance visibility	Completed presentation	Bi-annually	
Demonstrate the work / benefits of the Utility to near-port neighbors/community	Exhibit at community events	Annually starting in 2022	
Sponsor art project to paint Splash Boxxes	Completed art project	2022	
Enhance visibility of the benefits of SWU in local communities	Social media posts	Quarterly starting in 2022	
	New signage installed	2024	
	Stormwater and water quality integrated in Port communications	2024	

Strategy #9: Improve public and tenant access to information

Tasks	Measure	Timeframe	Outcome
Update webpage with SWU info	Updated website live	Annually	
Identify equity, diversity and inclusion benefits of stormwater program	List of elements that may benefit BIPOC and underrepresented populations	2022	
Outreach and education on stormwater programs to Duwamish community	1 - 2 events per year	Annually starting in 2023	

Strategy #10: Improve internal Port and NWSA communications

Tasks	Measure	Timeframe	Outcome
Attend other department meetings to describe SWU work	Attend 1 - 2 departments per year	Annually	
Coordinate with NWSA stakeholders	Quarterly meetings	Annually	
Coordinate with MM SWU crews	Monthly meetings	Annually	
Coordinate with consultant team(s)	Monthly meetings	Annually	
Expand/improve current tenant move in-move out agreement system	Create and implement checklist for tenant turnover	2021	
Habitat and stormwater collaboration	T25 habitat project coordination	2021-2022	
	Other habitat opportunities	2024	

Category 3. Regulatory

Goal 5. Achieve or exceed compliance related to federal, state and local stormwater regulations and legal agreements

Strategy #11: Ensure compliance with permit conditions

Tasks	Measure	Timeframe	Outcome
Conduct all required inspections and actions for MS4 permit	All requirements completed and documented in annual report	Annually	
Fulfill all requirements for Industrial permit	All requirements completed and documented in annual report	Annually	

Strategy #12: Streamline tracking and reporting processes for permit compliance

Tasks	Measure	Timeframe	Outcome
Finalize and configure electronic field data collection software	Purchase and configuration of software	2021	
Implement electronic field data collection software	Field crews use new software	2022	

Strategy #13: Expand Port staff awareness of regulations

Tasks	Measure	Timeframe	Outcome
Develop onboarding plan for new staff	New staff complete training within first 3 months	Annually	
Develop online/LMS training for staff	Training launched in LMS	2021	
Track stormwater trainings for all required staff	Annual training taken by 100% of all required staff	2021	

Strategy #14: Pursue activities that exceed permit compliance, serve customer needs and protect water quality

Tasks	Measure	Timeframe	Outcome
Define activities that exceed compliance with MS4 permit	Checklist of elements that exceed permit compliance	2021	
Develop craft specific handbooks that go beyond O&M manual requirements	Finalize handbooks to each craft	2021	
Implement craft specific orientation to new handbook	Complete 30-min craft specific overviews of handbook	2022	

Category 4. Financial

Goal 6. Improve processes within the current financial system

Strategy #15: Increase transparency in billing and spending

Tasks	Measure	Timeframe	Outcome
Quarterly summary report of SWU work performed	Quarterly summary completed	Annually starting in 2022	
Develop Utility Rate table for 2022 with 5-year forecast	Complete table	2021	
Determine if credits can be given to tenants for stormwater improvements	Complete research; if feasible, complete policy	2021	
Create dashboard for real-time data analysis of billing information	Dashboard in use	2021	
Monthly billing report out to BU	Monthly report completed	Annually starting in 2022	

Strategy #16: Improve accountable and fiscally responsible programs

Tasks	Measure	Timeframe	Outcome
Create auditable revenue system	Updated revenue system with simplified connection to Business Unit expense	2022	
Incorporate equity, diversity and inclusion elements into contract decisions	Meet Port goals	2021	
Develop contingency for allocations	Cash balance available in stormwater fund	2022	
Build 6-month O & M reserve per Port policy	Cash balance available in stormwater fund	2023	
Develop capital reserve	Cash balance available in stormwater fund	2025	

Strategy #17: Simplify Utility financial reporting structure

Tasks	Measure	Timeframe	Outcome
Evaluate subclass structure	Recommend changes to Finance	2022	
Eliminate subclasses	Reduce and/or combine subclasses	2023	
Automate and simplify rate model	Embedded rate model in budget system	2023	

Port of Seattle®

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