



2022 STORMWATER MANAGEMENT PROGRAM (SWMP) PLAN

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2022

STORMWATER MANAGEMENT
PROGRAM (SWMP) PLAN

City of Shoreline
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TABLE OF CONTENTS

SECTION	PAGE
1 INTRODUCTION	7
1.1 THE NPDES PROGRAM	7
1.2 THE WESTERN WASHINGTON PHASE II MUNICIPAL STORMWATER PERMIT	7
1.3 PURPOSE OF THE STORMWATER MANAGEMENT PROGRAM PLAN	7
1.4 CITY COORDINATION AND RESPONSIBILITIES	8
1.5 THE SURFACE WATER MANAGEMENT UTILITY – OTHER ACTIVITIES	9
1.6 PERMIT IMPLEMENTATION TIMING	9
2 STORMWATER PLANNING (S5.C.1)	15
2.1 PERMIT REQUIREMENTS	15
2.2 CURRENT AND PLANNED ACTIVITIES	15
3 PUBLIC EDUCATION AND OUTREACH (S5.C.2)	16
3.1 PERMIT REQUIREMENTS	16
3.2 CURRENT AND PLANNED ACTIVITIES	16
4 PUBLIC INVOLVEMENT AND PARTICIPATION (S5.C.3)	20
4.1 PERMIT REQUIREMENTS	20
4.2 CURRENT AND PLANNED ACTIVITIES	20
5 MS4 MAPPING AND DOCUMENTATION (S5.C.4)	21
5.1 PERMIT REQUIREMENTS	21
5.2 CURRENT AND PLANNED ACTIVITIES	22
6 ILLICIT DISCHARGE DETECTION AND ELIMINATION (S5.C.5)	22
6.1 PERMIT REQUIREMENTS	22
6.2 CURRENT AND PLANNED ACTIVITIES	22
7 CONTROLLING RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT, AND CONSTRUCTION SITES (S5.C.6)	23
7.1 PERMIT REQUIREMENTS	23
7.2 CURRENT AND PLANNED ACTIVITIES	23
8 OPERATIONS AND MAINTENANCE (S5.C.7)	25
8.1 PERMIT REQUIREMENTS	25
8.2 CURRENT AND PLANNED ACTIVITIES	25
9 SOURCE CONTROL PROGRAM FOR EXISTING DEVELOPMENT (S5.C.8)	29
9.1 PERMIT REQUIREMENTS	29
9.2 CURRENT AND PLANNED ACTIVITIES	29
10 COMPLIANCE WITH TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS (PERMIT SECTION 7)	30
11 MONITORING AND ASSESSMENT (PERMIT SECTION 8)	30
11.1 PERMIT REQUIREMENTS	30
11.2 CURRENT AND PLANNED ACTIVITIES	30

TABLES

TABLE 1. CITY ORGANIZATIONAL RESPONSIBILITIES FOR THE NPDES PROGRAM	8
TABLE 2. STORMWATER MANAGEMENT PROGRAM IMPLEMENTATION TIMELINE	9
TABLE 3. EDUCATION AND OUTREACH GENERAL AWARENESS PROGRAMS	17
TABLE 4. EDUCATION AND OUTREACH STEWARDSHIP PROGRAMS	19
TABLE 5. PUBLIC INVOLVEMENT AND PARTICIPATION PLANNED ACTIVITIES	20
TABLE 6. STORMWATER ASSETS INSPECTION FREQUENCY	26

1 Introduction

1.1 The NPDES Program

The National Pollutant Discharge Elimination System (NPDES) is a program created under the Federal Clean Water Act, with authority over NPDES Permits within Washington State given to the Washington State Department of Ecology (Ecology). Ecology issues Permits to governmental and private entities. The intent of the NPDES program is to protect and restore water quality in lakes and streams so that they can support “beneficial uses” such as fishing and swimming. Governmental and private entities wishing to discharge water or wastewater to surface waters regulated by the Federal Government (“waters of the state”) must obtain permits and comply with the conditions of the permit.

1.2 The Western Washington Phase II Municipal Stormwater Permit

The City of Shoreline (City) has been operating under a Western Washington Phase II Municipal Stormwater Permit (Permit) since 2007. The current Permit covers the period from August 1, 2019, to July 31, 2024. The Permit allows a municipality to discharge stormwater from a municipal separate storm sewer system (MS4) into receiving “waters of the state,” as long as they implement programs to reduce pollutants in stormwater to the maximum extent practicable (MEP), apply all known and reasonable technologies (AKART) to address stormwater pollutants, and protect receiving waters from degradation.

1.3 Purpose of the Stormwater Management Program Plan

This document is the City of Shoreline’s 2022 Stormwater Management Program (SWMP) Plan. The purpose of the document is to comply with requirements of the *Western Washington Phase II Municipal Stormwater Permit* (NPDES Permit). Specifically, under Section 5.C of the NPDES Permit (the Permit), the City of Shoreline must prepare the SWMP Plan to inform the public of the planned SWMP activities for the upcoming calendar year. This SWMP Plan covers the period between January 1, 2022, and December 31, 2022, and must be posted on the City’s website by May 31, 2022.

This SWMP Plan follows the organization of Section 5.C of the 2019-2024 Permit, and is broken into the eight elements of the Permit:

- S5.C.1, Stormwater Planning
- S5.C.2, Public Education and Outreach
- S5.C.3, Public Involvement and Participation
- S5.C.4, MS4 Mapping and Documentation
- S5.C.5, Illicit Discharge Detection and Elimination
- S5.C.6, Controlling Runoff from New Development, Redevelopment & Construction Sites
- S5.C.7, Operations and Maintenance
- S5.C.8, Source Control Program for Existing Development

Coverage of Section 7, Compliance with Total Maximum Daily Load Requirements, and Section 8, Monitoring and Assessment, is also included in this document.

The Permit requires the City to submit an Annual Report by March 31st of each year that details actions taken in the previous year to achieve compliance. The full text of the Permit is available at: www.shorelinewa.gov/stormwaterpermit.

1.4 City Coordination and Responsibilities

The City’s Surface Water Utility (Utility) in the Public Works Department holds the primary responsibility for developing and implementing the stormwater program and tracking Permit requirements. Permit conditions require internal coordination and documentation of activities across several City work groups and departments. In 2022, Utility staff will coordinate City efforts and will meet with staff from other work groups and departments regularly to ensure that on-going and planned activities meet Permit requirements. It is anticipated that activities required for Permit compliance will be carried out largely by the Public Works, Planning and Community Development, City Manager’s Office, and Administrative Services departments (Table 1). The Fire and Police departments will be involved to a lesser extent. Internal coordination between the City departments occurs regularly as issues arise and more formally through annual NPDES Internal Coordinators group meetings.

TABLE 1. CITY ORGANIZATIONAL RESPONSIBILITIES FOR THE NPDES PROGRAM

City Department – Work Group	NPDES Responsibilities
Public Works – Surface Water Utility	Administers, develops, and coordinates the NPDES program within the City and other NPDES jurisdictions, including: <ul style="list-style-type: none"> ○ Stormwater Planning ○ Public Education and Outreach and Involvement ○ Illicit Discharge Detection and Elimination ○ Stormwater incident response ○ Private facility inspections ○ Inspection & maintenance of City stormwater facilities ○ Pollution prevention practices/source control ○ Municipal staff training ○ Permit-required reporting, including Annual Report
Public Works – Streets Maintenance	Maintenance of City owned or operated stormwater facilities; pollution prevention practices; stormwater incident response
Public Works – Grounds Maintenance	Maintenance of City owned or operated stormwater facilities; pollution prevention practices
Public Works – Engineering Division	Conducts stormwater site plan review; implements surface water capital program; develops and maintains stormwater standards for redevelopment and other new construction (via the Engineering Design Manual (EDM)); conducts construction stormwater inspections (in ROW)
Planning & Community Development	Permit Center is first point of contact for new or redevelopment projects and distributes Notice of Intent; conducts construction stormwater site inspections
City Manager’s Office – Customer Response Team	Stormwater incident response; code enforcement for stormwater violations
Administrative Services – Information Services	Maintains and updates map of the municipal separate storm sewer system (MS4)
Administrative Services – Parks, Facilities, and Fleet	Maintenance of City owned stormwater facilities; pollution prevention practices
Police and Fire Departments	First responder to stormwater incident if called

1.5 The Surface Water Management Utility – Other Activities

This SWMP Plan details planned activities that fall under the purview of the Permit and does not address all activities and programs implemented by the City to address stormwater runoff issues. Stormwater management is one part of the City’s overall surface water management strategy. The Surface Water Utility conducts a suite of programs that reduce flooding, protect and improve water quality, and protect and restore aquatic habitat in the City’s streams and lakes. Although not directly required, flood reduction and aquatic habitat restoration efforts can often further stormwater management goals. For details on Surface Water Utility activities beyond this SWMP Plan, see the City website at <http://www.shorelinewa.gov/surfacewater>.

1.6 Permit Implementation Timing

The Permit allows for phased implementation of stormwater management programs and actions. Table 2 provides a Permit implementation schedule and due dates for the full term of the current Permit from 2019 through 2024. Permit requirements with deadlines between 2019 and 2021 were completed on time and are highlighted green. The City will continue to implement ongoing activities throughout the remainder of the current Permit term.

TABLE 2. STORMWATER MANAGEMENT PROGRAM IMPLEMENTATION TIMELINE

Permit Section	Permit Requirements	Permit Deadlines					
		2019	2020	2021	2022	2023	2024
S4	Compliance with Standards						
S4.F	Response to violations of Water Quality Standards	Notification and possible adaptive management may occur at any time.					
S5.A	Stormwater Management Program Plan						
	Update SWMP Annually		3/31/2020	3/31/2021	3/31/2022	3/31/2023	3/31/2024
	Continue to track SWMP costs	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
	Continue to coordinate internally and externally	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing

S5.C.1 Stormwater Planning							
	Convene inter-disciplinary team		8/1/2020				
	Respond to Annual Report questions for 2013-2019 permit cycle			3/31/2020			
	Respond to Annual Report questions for current permit cycle					3/31/2023	
	Assess barriers to LID-implementation		3/31/2020	3/31/2021	3/31/2022	3/31/2023	3/31/2024
	Complete Receiving Water Assessment				3/31/2022		
	Complete Receiving Water Prioritization				6/30/2022		
	Develop Stormwater Management Action Plan					3/31/2023	
S5.C.2 Public Education and Outreach							
	Continue to build general awareness each year for at least one target audience and one subject area	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
	Evaluate existing behavior change program		7/1/2020				
	Based on evaluation, use social marketing practices to further develop behavior change program strategy			2/1/2021			
	Begin to implement behavior change program strategy			4/1/2021			
	Evaluate and report on the behavior change program						3/31/2024

	Continue to provide stewardship opportunities	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
S5.C.3	Public Involvement and Participation						
	Provide opportunities to participate in SMAP and SWMP development	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
	Post Annual Report and SWMP Plan on Shoreline's website		5/31/2020	5/31/2021	5/31/2022	5/31/2023	5/31/2024
S5.C.4	MS4 Mapping and Documentation						
	Continue GIS-based mapping program	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
	Begin collecting size and materials for all known MS4 outfalls		1/1/2020				
	Complete mapping of all known connections from MS4 to private systems					8/1/2023	
	Electronic mapping format with fully described mapping standards			8/1/2021			
S5.C.5	Illicit Discharge Detection and Elimination (IDDE)						
	Continue to implement ongoing program to address illicit discharges, spills, and connections into the MS4	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
	Field screen 12% of MS4 each year		12/31/2020	12/31/2021	12/31/2022	12/31/2023	12/31/2024
	Submit IDDE data in Annual Report per Appendix 12		3/31/2020	3/31/2021	3/31/2022	3/31/2023	3/31/2024

S5.C.6 Controlling Runoff from New Development, Redevelopment and Construction Sites							
	Continue to implement and document program for construction/post construction runoff controls	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
	Adopt Appendix 1 equivalent, i.e. Ecology's 2019 SWMMWW				6/30/2022		
S5.C.7 Operations and Maintenance							
	Continue to implement and document program to regulate and conduct maintenance activities	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
	Update maintenance standards as protective as 2019 SWMMWW. Develop own standards that are not in SWMMWW				6/30/2022		
	Document practices, policies, and procedures to reduce stormwater impacts from all lands owned/maintained by permittee				12/31/2022		
	Update SWPPP for heavy equipment maintenance or storage yards, if necessary				12/31/2022		

S5.C.8 Source Control Program for Existing Development							
	Adopt and implement code/ordinance that requires pollution prevention source control BMPs for pollution generating activities/lands				8/1/2022		
	Establish an inventory of sites that have the potential to generate pollutants to the municipal stormwater system				8/1/2022	Ongoing	Ongoing
	Implement inspection program for sites on the inventory.					1/1/2023	Ongoing
	Annually inspect 20% of sites on the inventory.					1/1/2023	Ongoing
	Implement a progressive enforcement policy to require compliance					1/1/2023	Ongoing
	Train staff; document trainings					Ongoing	Ongoing
S8.A Regional Status and Trends Monitoring							
	One-time payment to implement regional small streams and marine nearshore areas status and trends monitoring in Puget Sound	12/1/2019					
	Notify Ecology which option for regional status and trends monitoring is chosen	12/1/2019					

	Annual payment to implement regional small streams and marine nearshore areas status and trends monitoring in Puget Sound		8/15/2020	8/15/2021	8/15/2022	8/15/2023	
S8.B	Stormwater Management Program (SWMP) Effectiveness and Source Identification Studies						
	One-time payment to implement effectiveness and source identification studies	12/1/2019					
	Notify Ecology which option for effectiveness and source identification studies is chosen	12/1/2019					
	Annual payment to implement effectiveness and source identification studies		8/15/2020	8/15/2021	8/15/2022	8/15/2023	
S9.	Reporting Requirements						
	Submit annual report of previous year's activities.		3/31/2020	3/31/2021	3/31/2022	3/31/2023	3/31/2024
G3	Notification of Discharge, Including Spills						
	Notify Ecology within 24 hours any discharge into or from the MS4 which could constitute a threat to human health, welfare, or the environment	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
G18	Duty to Reapply						
	Apply for permit renewal at least 180 days prior to expiration						2/2/2024

G20	Non-Compliance Notification						
	Notify Ecology within 30 days of becoming aware of permit non-compliance	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing

2 Stormwater Planning (S5.C.1)

2.1 Permit Requirements

Section S5.C.1 of the Permit requires the City to implement a Stormwater Planning program to inform and assist in the development of policies and strategies as water quality management tools to protect receiving waters. The specific requirements are:

- Convene an inter-disciplinary team to inform and assist in the development, progress, and influence of the Stormwater Planning program.
- Coordinate with long-range plan updates. Describe how stormwater management needs and protection/improvement of receiving water health are (or are not) informing the planning update processes and influencing policies and implementation strategies.
- Continue to require Low Impact Development (LID) principles and LID best management practices (BMPs) and annually assess and document any newly identified administrative or regulatory barriers to implementation of LID principles or BMPs.
- Implement Stormwater Management Action Planning:
 - Document and assess existing information related to local receiving waters and contributing area conditions to identify which receiving waters are most likely to benefit from stormwater management planning. Submit a watershed inventory and include a brief description of the relative conditions of the receiving waters and the contributing areas.
 - Develop and implement a prioritization method and process to determine which receiving waters will receive the most benefit from implementation of stormwater facility retrofits, tailored implementation of SWMP actions, and other land/development management actions.
 - Develop a Stormwater Management Action Plan (SMAP) for at least one high priority catchment.

2.2 Current and Planned Activities

Stormwater Planning is a new permit requirement introduced in the 2019-2024 Permit. Although the City has engaged in various stormwater planning efforts for many years (e.g., basin planning), the new permit requires the City to look at a broad range of water quality tools available to protect receiving waters. The City will also continue to require LID principles and BMPs when updating, revising, and developing new local development-related codes, rules, standards, or other enforceable documents.

2.2.1 S5.C.1.b Coordination with long-range plan updates

An inter-disciplinary team will identify how stormwater impacts on water quality were addressed (if at all) in the Comprehensive Plan and in other locally initiated or state-mandated, long-range land use plans that are used to accommodate growth or transportation during the 2019-2024

permit term. In 2022, the City will begin to charter and develop an update to the City's Comprehensive Plan; this effort will include coordination with the Surface Water Utility.

2.2.2 S5.C.1.c Low impact development code-related requirements

The City will continue to require LID principles and BMPs when updating, revising, and developing the City's Engineering Design Manual (EDM) as well as new local development-related codes, rules, standards, or other enforceable documents. The City will also continue to assess any newly identified administrative or regulatory barriers to implementation of LID principles or BMPs during the annual review and update of the EDM.

2.2.3 S5.C.1.d Stormwater Management Action Planning

In 2021, the City executed a contract with a consultant to provide supporting professional services for the Stormwater Management Action Planning. In 2022, the City and consultant team completed work on the receiving water assessment and will complete receiving water prioritization by 6/30/2022, and begin to develop a Stormwater Management Action Plan (due in 2023).

3 Public Education and Outreach (S5.C.2)

3.1 Permit Requirements

Section S5.C.2 of the Permit requires the SWMP to include a stormwater education and outreach program designed to:

- Build general awareness about methods to address and reduce impacts from stormwater runoff.
- Effect behavior change to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.
- Create stewardship opportunities that encourages community engagement in addressing the impacts from stormwater runoff.

3.2 Current and Planned Activities

The City's Surface Water Utility has several programs in place to help residents and businesses understand stormwater pollution as a significant water quality concern. The City provides outreach to residents, schools, businesses, and government on ways to reduce actions that negatively impact our environment.

In addition to local programs and events, Shoreline is an active participant in regional education and outreach activities through Stormwater Outreach for Regional Municipalities (STORM) and Stormwater Outreach Group (SOG). Efforts of these groups include developing regional stormwater education campaigns and evaluation.

The City tracks education and outreach efforts, and formal tracking of the programs offered in 2021 can be found in Appendix B of the 2021 NPDES Annual Report. For the 2022 period, the City will continue to implement an education and outreach program designed to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts and encourage the public to participate in stewardship activities. To support our efforts, the City has hired a consultant to support various education and outreach activities, including:

- Graphic design and language services to support educational material development.
- Data collection and analysis support for the City's behavior change program.

3.2.1 S5.C.2.a.i General Awareness

- Table 3 (below) lists target audiences and behaviors that are currently being addressed by the City’s education and outreach programs. These programs fulfill the Permit requirement to build general awareness. Due to the ongoing pandemic and accompanying public health restrictions on social gatherings which appear likely to continue well into 2022, in-person events are not listed in Table 3 for 2022. Surface Water education and outreach at public events will be re-introduced into the City’s General Awareness programs as soon as public health restrictions allow. Additionally, the City has contracted with a consultant to support our Surface Water Public Education and Outreach programs and activities.

TABLE 3. EDUCATION AND OUTREACH GENERAL AWARENESS PROGRAMS

Item	Target Audience	Goal and/or Behaviors Promoted
Surface Water Utility Website	General Public; Businesses	Reduce contaminants entering the storm drain system through educational information accessible on the City’s website.
Surface Water Utility Annual Report	General Public	Raise awareness of stormwater impacts and ways residents can reduce these impacts, including proper pet waste disposal, fixing car leaks, proper car washing procedures, natural yard care, and low-impact development. Promotes stewardship programs. SWU Report is sent once annually to all SWM ratepaying customers.
Puget Sound Starts Here Month	General Public	Raise awareness of stormwater impacts and ways residents can reduce these impacts, including proper pet waste disposal, fixing car leaks, proper car washing procedures, and natural yard care.
Presentations on rain gardens and native vegetation landscaping	General Public; Land Owners; Contractors	Raise awareness of low impact development and incentives for these retrofits.
Local Source Control/ Pollution Prevention Program	Businesses	Work with businesses to develop practical methods of reducing or eliminating discharge of non-stormwater materials into the stormwater system.
”Salmon Safe” pollution prevention column in the City’s monthly Currents news publication	General Public	Raise awareness of stormwater impacts and ways that citizens can reduce these impacts.

Item	Target Audience	Goal and/or Behaviors Promoted
Water Quality-focused education posts on Social Media (Facebook, Twitter)	General Public	Raise awareness of stormwater impacts and ways residents can reduce these impacts, including proper pet waste disposal, fixing car leaks, proper car washing procedures, natural yard care, hazardous waste disposal, and low-impact development. Will also promote stewardship programs, regional stormwater messaging, and local environmental events. On average, post 3 social media posts/month.
Park signage and pet waste stations encouraging people to pick up their pet waste (park rule or ordinance cited)	General Public; Dog Owners	Increase awareness of the importance of picking up pet waste.
Park signage and educational postcards discouraging waterfowl feeding to reduce fecal pollution in lakes and ponds	General Public; park goers	Increase awareness of impacts of waterfowl feeding on water quality.
SWM Fee Educational Waiver	K-12 Shoreline Public Schools Students	Increase awareness of water quality, stormwater impacts, and pollution prevention behaviors

3.2.2 S5.C.2.a.ii Behavior Change

In 2020, the City evaluated the effectiveness of the Soak It Up LID Rebate Program, the City’s ongoing behavior change campaign. From this evaluation, the City opted to develop a strategy and schedule to more effectively implement the existing Soak It Up LID Rebate Program. This new strategy and schedule was implemented in 2021, with annual technical assistance workshops offered to help interested program participants site, design, construct, plant, and maintain Soak It Up rain gardens and native vegetation landscape beds. In 2022, continuing program evaluation will use social marketing methods to determine if the workshops are effectively reducing barriers. This strategy and schedule were established by February 1st, 2021, as mandated by the NPDES Permit. Workshops began in February 2021, ahead of the April 1st, 2021, Permit deadline. Additional details are provided in Table 4, below.

TABLE 4. BEHAVIOR CHANGE PROGRAMS

Item	Target Audience	Goal and/or Behaviors Promoted
Soak It Up Program	General Public; Land Owners; Businesses	Continue rebate program for rain garden retrofits and native vegetation landscaping to community residents and businesses.
Rain Garden and Native Landscaping Technical Assistance Workshops	General Public; Land Owners; Businesses	Education on the technical skills needed to install and maintain rain gardens and native vegetation landscapes

3.2.3 S5.C.2.a.iii Stewardship

The City will continue to offer its Storm Drain Marking, Adopt-A-Drain, and Environmental Mini-Grant programs in 2022. Citizens, community groups, and school groups can volunteer to mark storm drains with “No Dumping” medallions through the Storm Drain Marking program. Utility staff coordinate, track, and provide support for marking efforts. The Adopt-A-Drain Program is a volunteer-based opportunity for residents to help care for Shoreline’s utility infrastructure of 7,000+ storm drains. Volunteers are provided with instructions and tools, by request, to care for a storm drain or multiple drains on their street or walking route. Tasks include monitoring and removing debris from the storm drain(s) approximately once a week during the storm season (especially during peak leaf-dropping season) and tracking hours performed. The commitment term is for six months, October through March. The City also offers Environmental Mini-Grants for community groups to implement projects that preserve, restore, and enhance the environment and benefit the community. Additional details are provided in Table 5, below.

TABLE 5. EDUCATION AND OUTREACH STEWARDSHIP PROGRAMS

Item	Target Audience	Goal and/or Behaviors Promoted
Adopt-A-Drain Program	General Public; Businesses	Provides volunteer opportunities and education on how to protect and care for storm drains and water quality.
Storm Drain Marking (Medallions) Program	General Public; Businesses	Provides volunteer opportunities and education on storm drains and water quality protection.

Environmental Mini Grant Program	General Public; Homeowners; Schools	Provides funding for community groups to implement projects that benefit the environment and community, such as riparian habitat restoration, ecosystems and stormwater education, natural yard care, and litter removal projects.
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4 Public Involvement and Participation (S5.C.3)

4.1 Permit Requirements

Section S5.C.3 of the Permit requires the City to provide ongoing opportunities for the public to participate in the decision-making processes involving the development, implementation, and update of the City’s SWMP Plan and SMAP. The City is required to post the NPDES annual report, including the SWMP Plan, on the City’s website by May 31st each year.

4.2 Current and Planned Activities

The City of Shoreline values public input on its stormwater programs. The City will provide ongoing opportunities for public involvement and participation through a variety of avenues as described below.

4.2.1 S5.C.2.a-b Involving the Public in the SWMP and SMAP

This SWMP Plan and the NPDES annual report will be posted on the City’s website no later than May 31st of each year. Public comments can be made directly at www.shorelinewa.gov/stormwaterpermit.

In 2022, the City’s SMAP team will develop and implement a webpage “story map” to educate and inform the public about SMAP efforts with an attached electronic survey to solicit public feedback on priority watersheds, stormwater concerns, preferred improvements, and demographic information. The survey information will be used for the prioritization step of the SMAP process.

In 2022, the Surface Water Utility will continue to strategize how to create more opportunities for the public, including overburdened communities, to participate in the developing and implementing the City’s SMAP and SWMP update.

TABLE 6. PUBLIC INVOLVEMENT AND PARTICIPATION PLANNED ACTIVITIES

Item	Description	Schedule
Revise SWMP Plan	The SWMP Plan outlines actions to be taken within the year to comply with the NPDES Permit. The SWMP Plan is open for public comment year-round.	Annually, by March 31 st

Post Annual Report on City website	The annual report is submitted to Department of Ecology by March 31 st each year. The final Report, including the SWMP Plan and other supplemental documentation if applicable, is posted on the City's website.	Annually, by May 31 st
Public Involvement in the City's SWMP Plan	The City encourages public comment on the SWMP Plan via website, email, or any other written form.	Ongoing
Public Involvement in the City's SMAP	The City will inform and seek input from the public to be used in SMAP-related prioritizations. The public will be reached using a web-based "story map" and survey; the story map and survey will be advertised through social media, direct emails, local media, the City's monthly newsletter, and the Utility's annual report mailed to all customers.	Story map and survey were first made available to the public in January 2022, and is expected to remain open through early April 2022

Other avenues for public input include:

- All Utility webpages (webpage count = 29) provide contact information for the most relevant City staff (based on webpage topics) – including staff name, title, email, and phone number. Utility staff frequently receive public input in this manner.

Some of the main Utility webpages include:

- [Surface Water Utility | City of Shoreline \(shorelinewa.gov\)](http://shorelinewa.gov/surface-water-utility)
- [Services | City of Shoreline \(shorelinewa.gov\)](http://shorelinewa.gov/services)
- [Projects | City of Shoreline \(shorelinewa.gov\)](http://shorelinewa.gov/projects)
- [Get Involved | City of Shoreline \(shorelinewa.gov\)](http://shorelinewa.gov/get-involved)
- [More Information | City of Shoreline \(shorelinewa.gov\)](http://shorelinewa.gov/more-information)

5 MS4 Mapping and Documentation (S5.C.4)

5.1 Permit Requirements

Section S5.C.4 of the Permit requires the SWMP to include an ongoing program for mapping and documenting the municipal separate storm sewer system (MS4). The program includes:

- Continue mapping the MS4, including MS4 outfalls, discharge points, receiving waters (other than groundwater), stormwater treatment and flow control BMPs/facilities owned or operated by the City, tributary conveyances to all known outfalls and discharge points (24-inch diameter or larger), connections between other municipalities or public entities, and all connections authorized after February 16, 2007.

- New mapping requirements for the 2019 Permit include collecting data for size and material for all known MS4 outfalls (S5.C.4.b.i) as well as all known connections from the MS4 to privately-owned stormwater systems (S5.C.4.b.ii).

5.2 Current and Planned Activities

The City maintains and updates a GIS database that contains all known outfalls, receiving waters, stormwater facilities, and all known connections. Field verification of the mapped drainage system occurs through the City’s inspection programs and basin planning efforts.

5.2.1 S5.C.4.a-e Ongoing and New Mapping

Standard procedures are in place for documenting new connections to the MS4, changes/alterations to the existing system, and changes based on field verification. Ongoing work in 2022 related to Permit requirements includes the following:

- Size and material of outfalls and pipes are collected as standard procedure, starting prior to January 1, 2020 (for compliance with S5.C.4.b.i), and continuing throughout 2022.
- Prior to 2021, the City started mapping all known connections from the MS4 to privately-owned stormwater system (S5.C.4.b.ii); this work will continue throughout 2022, in preparation for the August 1, 2023 permit deadline.
- The City has already completed work prior to the August 21, 2021, deadline to fulfill the requirement for electronic (GIS) mapping of the MS4 with fully described mapping standards (S5.C.4.c).

Maps and GIS datasets are available for download from the City’s website and are available in electronic format to Ecology and other entities upon request.

6 Illicit Discharge Detection and Elimination (S5.C.5)

6.1 Permit Requirements

Section S5.C.5 of the Permit requires the City to have an ongoing program designed to prevent, detect, characterize, trace and eliminate illicit connections and illicit discharges into the City’s stormwater drainage system.

6.2 Current and Planned Activities

One of the largest threats to the City’s receiving waters is illicit discharge. The City of Shoreline has an ongoing illicit discharge detection and elimination (IDDE) program to fulfill this requirement. The IDDE program has grown over the years and includes a variety of techniques and methods as described below.

6.2.1 S5.C.5.a-e Ongoing IDDE Program

Certain sections of Chapter 13.10 Surface Water Utility of the Shoreline Municipal Code (SMC) enable implementation of the City’s IDDE Program.

In almost all cases, the City seeks voluntary compliance through education and outreach to the general public and technical assistance to business owners through the Local Source Control/Pollution Prevention program. The City will escalate its response as necessary to ensure compliance, utilizing the City’s Code Enforcement Officer.

The City has developed and implemented an ongoing IDDE program to detect, respond to, and remove illicit discharges and connections to the City's MS4. The City responds to and investigates reports of illegal dumping, spills, illicit discharges, and illicit connections. The City also maintains a spill response hotline (206.801.2700) for citizens to call and report illicit discharges or spill complaints. The hotline is advertised on the City's website at <http://www.shorelinewa.gov/spillresponse>.

The City is required to screen an average of 12% of its stormwater system each year. The City will continue to fulfill this requirement through its inspection programs (right-of-way, stormwater facilities, and ditch) and stormwater infrastructure condition assessments.

6.2.2 S5.C.5.f Staff Training

In 2022, City all staff responsible for IDDE response and spill control will attend an online and in-person field training on best practices and procedures. Going forward new staff will be trained on IDDE response and spill control procedures via an internal in-person training program, and an internal biennial on-line refresher training will be implemented for the staff who have already attended an in-person training.

6.2.3 S5.C.5.g Recordkeeping

The City uses Cityworks, a Computerized Maintenance Management System (CMMS), to track efforts made in identifying, reducing, and eliminating spills, illicit discharges, and illicit connections. Cityworks meets the 2019-2024 Permit recordkeeping requirements. The City will either enter data directly into Ecology's WebIDDE database or submit data in unzipped xml format for future Annual Reports.

7 Controlling Runoff from New Development, Redevelopment, and Construction Sites (S5.C.6)

7.1 Permit Requirements

S5.C.6 of the Permit requires that the City implement and enforce a program to reduce pollutants in stormwater runoff from new development, redevelopment, and construction site activities. The program applies to private and public development, including transportation projects.

7.2 Current and Planned Activities

The City will continue to control pollutant loads and reduce peak flows from construction and development sites as described in the sections below.

7.2.1 S5.C.6.a-b Controlling Runoff from New Development, Redevelopment, and Construction Sites Ordinance/Regulatory Mechanism

Shoreline Municipal Code (SMC) 13.10.200 and the City of Shoreline's *Engineering Development Manual* (EDM) adopt the *2019 Stormwater Management Manual for Western Washington* (2019 SWMMWW) and the Minimum Requirements (MR) found in Appendix 1 of the NPDES Phase II Permit. Division 3 of the EDM also addresses stormwater management as follows:

- Chapter 19 – Stormwater Manual Additional Requirements: Adopts more stringent requirements in addition to Ecology's 2019 SWMMWW for the City.

- Chapter 21 – Surface Water Project Classifications: Defines the minimum submittal requirements for the following project classifications:
 - Small Impact Projects (MR2 only)
 - Medium Impact Projects (MR1 through MR5)
 - Large Impact Projects (MR1 through MR9)
- Chapter 22 – Construction Stormwater Pollution Prevention Plan (SWPPP): Defines the requirement for MR2 and requires a SWPPP for all development.

7.2.2 S5.C.6.c Review and Inspect Development/Redevelopment Projects

The current permitting process includes site plan review, inspections, and enforcement mechanisms for compliance. The City’s Site Development Permit Checklist currently includes the following stormwater requirements:

- Plan, details, and profile of drainage system
- Erosion control
- Surface water report
- Geotechnical or soils report
- Drainage system maintenance information or manual
- Declaration of (stormwater) covenant
- Stormwater Pollution Prevention Plan (SWPPP)

Construction (a.k.a. “Right-of-Way”) inspectors (Public Works Department) and Combination (a.k.a. “Building”) inspectors (Planning and Community Development Department) conduct the erosion control and BMP/facility inspections for public projects in the ROW, City CIP projects, and private building projects as required by S5.C.6.c.ii through v. The City utilizes TRAKiT to document construction and development-related inspections to meet requirements of S5.C.6.c.vi through vii. Starting in 2020 and extending into 2021, the City implemented process improvements to better meet the inspection and recordkeeping requirements of S5.C.6.c. In 2022, the recently improved inspection and internal monitoring processes are in place; Surface Water Utility staff will monitor data and audit documentation for the inspections and meet on a monthly basis with inspector supervisors to discuss monthly monitoring results to ensure inspectors are correctly adhering to the City processes developed for Permit compliance.

The City of Shoreline requires covenants for inspection and maintenance on all new stormwater facilities built to meet permit requirements enacted by Ordinance No. 768 – Shoreline Municipal Code 13.10, Surface Water Management Code, effective December 20, 2016. The City utilizes the maintenance standards in the *2019 SWMMWW*.

7.2.3 S5.C.6.d Notice of Intent (NOI)

The City will continue to direct representatives of proposed new development and redevelopment to the Washington State Department of Ecology for electronic NOI submittal when necessary. The EDM also describes when a NPDES Construction Stormwater General Permit is required and directs representative of proposed new development and redevelopment to Ecology’s website for applying for a NOI. In addition, permit checklists contain NOI information.

7.2.4 S5.C.6.e Staff Training

Staff responsible for inspecting construction, development, and redevelopment sites are Certified Erosion and Sediment Control Lead (CESCL) certified. Training will be kept up to date for employees involved in any aspect of planning, development, inspection, or enforcement of stormwater runoff controls.

8 Operations and Maintenance (S5.C.7)

8.1 Permit Requirements

The Permit requires the City to implement and document a program to regulate maintenance activities and to conduct maintenance activities to prevent or reduce stormwater impacts. The program includes:

- Implementing maintenance standards that are as protective, or more protective, than those in the SWMMWW.
- Maintenance of stormwater facilities regulated by the City.
- Maintenance of stormwater facilities owned or operated by the City.
- Implement practices, policies, and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the City.
- Implement a training program for staff addressing the importance of protecting water quality during operations.
- Implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards and material storage facilities owned or operated by the City.
- Track and maintain records of inspections and maintenance and repair activities.

8.2 Current and Planned Activities

The City of Shoreline currently operates its operation and maintenance (O&M) programs with the goal of reducing potential impacts to water quality. These programs use a variety of methods to meet that goal. In 2018, the Utility developed the City of Shoreline's Surface Water Operations and Maintenance Manual (O&M Manual) in accordance with the SWMMWW. The Public Works Department adheres to the O&M Manual for all stormwater O&M activities. The Surface Water Utility implements a rigorous stormwater system inspection, maintenance, and cleaning program, which is described in the O&M Manual. The City inspects several hundred public and private stormwater facilities on a rotating inspection cycle, to assure facilities are maintained after construction is complete. Through this inspection program, the City strives to assure that stormwater facilities are functioning as designed.

All City departments adhere to Shoreline Municipal Code (SMC) 20.80.085 and the City's Integrated Pest Management Plan for use of pesticides, herbicides and fertilizers on City-owned property. Additionally, all City Maintenance Yards operate under a SWPPP and are regularly inspected to assure compliance with the SWPPP.

8.2.1 S5.C.7.a Maintenance Standards

The City uses the 2019 SWMMWW for maintenance standards as well as following the ESA Regional Roads Maintenance Program Guidelines. The Utility's O&M Manual is regularly reviewed and updated as needed to ensure it is accurate, completed, current, and in compliance with requirements.

8.2.2 S5.C.7.b Maintenance of stormwater facilities regulated by the City

The City annually inspects all private stormwater facilities that were permitted and constructed in accordance with requirements adopted per the 2007-2012, 2013-2019, and 2019-2024 Permits to ensure that stormwater assets installed in order to comply with Permit requirements are maintained according to the maintenance standards per the respective covenant for each site.

Beginning in 2009 with the creation of the Surface Water Utility, the City began utilizing a stormwater maintenance covenant as an enforcement mechanism. Each covenant documents maintenance expectations and is based on the version of the SWMMWW which was adopted by the City at the time of permitting. The City uses Cityworks to track and document all private facility inspections and enforcement actions.

In 2020 the City of Shoreline implemented a new development requirement intended to require flow control for smaller-scale project sites that would not trigger flow control solely under SWMMWW requirements. Smaller-site flow control BMPs constructed under this new requirement began coming into operation in 2021. City staff have interpreted that flow control BMPs installed for such smaller scale sites that were required solely to satisfy the additional Shoreline requirement and not SWMMWW requirements are not subject to the Permit requirements for S5.C.7.b since they were not required under the City's adoption of the SWMMWW to satisfy the requirements of S5.C.6.b.ii. Accordingly, such BMPs are added to, and included in, the City's overall private facility inspection program but are not included under those sites accounting for the permit required annual facility inspections per permit section S5.C.7.b.

8.2.3 S5.C.7.c Maintenance of stormwater facilities owned or operated by the Permittee

The City has established stormwater inspection programs designed to achieve a minimum of 95% of the annual inspections through the following programs (see Table 6):

- Right-of-Way Inspections: includes catch basins and ditches that transfer surface water runoff from right-of-way pavement.
- Parks and Facilities Stormwater Inspections: involves inspection of all stormwater infrastructure on City-owned properties.
- Regional/Residential Facility Inspections: involves inspection of all stormwater infrastructure on site.

City owned and operated pipes with a diameter of 12 inches or larger were initially assessed through City basin planning efforts and currently through the CCTV inspection program.

TABLE 7. STORMWATER ASSETS INSPECTION FREQUENCY

Inspection Program	Asset	Frequency of Inspection
Right-of-Way	Catch Basins	Every 2 years (1/2 annually)
	Ditch	Every 3 years (1/3 annually)
Regional	Catch Basins	Annually
	Bioretention	
	Swales	
	Facilities (ponds, tanks, wetlands, pump stations)	
	Control Structures	

Inspection Program	Asset	Frequency of Inspection
	Culverts Contech Filters Aquafilter Vault Vortechs Ditch	
Residential	Catch Basins Facilities (ponds, tanks, pump stations) Control Structures	Every 2 years (1/2 annually)
Parks and Facilities	Catch Basins Facilities (ponds, tanks) Ditch Swale Filters Vaults Permeable Pavements	Annually

The City continues to perform spot checks of known surface water “hot spots” before and after major storm events, and throughout periods of moderate and light rainfall.

8.2.4 S5.C.7.d Reduction of Municipal Operations Stormwater Impacts

The City of Shoreline is committed to using applicable BMPs associated with runoff control during routine maintenance. The City continues to follow the ESA Regional Roads Maintenance Program Guidelines and adheres to SMC 20.80.085.

Starting in 2020 and continuing into 2022, the City is reviewing and documenting the practices, policies, and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the City, and road maintenance by the City. This work is expected to be completed by the December 31, 2022, deadline per the requirements of S5.C.7.d.

8.2.5 S5.C.7.e Staff Training

The City coordinated a Certified Erosion and Sediment Control Lead (CESCL) certification and re-certification in 2019. The City also provides training related to facility SWPPP documents to the Streets, Parks, Grounds, and Wastewater maintenance crews that use these facilities. The City will continue to provide such training as needed throughout 2022.

8.2.6 S5.C.7.f Stormwater Pollution Prevention Plans (SWPPPs)

The City has SWPPPs on file for Hamlin Maintenance Yard and North Maintenance Facility. SWPPPs for Hamlin Yard and North Maintenance Facility were updated in 2021 and will continue to be updated as needed. In 2021, the City took ownership of a new maintenance facility, known

as the Linden Maintenance Facility, which is the base for the City's Wastewater Maintenance crew. Currently at the Linden Maintenance Facility there is no storage of materials or uncovered cleaning and maintenance of heavy equipment that could impact surface waters and water quality. As such there is no SWPPP for that facility, if in the future the purpose of the facility changes in a way that would require the implementation of SWPPP an appropriate plan will be developed and implemented.

SWPPP inspections occur annually.

8.2.7 S5.C.7.g Maintenance Records

The City uses Cityworks, a Computerized Maintenance Management System (CMMS), to track inspections and maintenance/repair activities.

9 Source Control Program for Existing Development (S5.C.8)

9.1 Permit Requirements

Section S5.C.8 requires the City to implement a new program designed to prevent and reduce pollutants in runoff from areas that discharge to the City's MS4. The program requires the City to:

- Implement and enforce an ordinance that requires source control BMPs for pollutant generating sources on existing development as identified in Appendix 8 of the Permit.
- Establish an inventory that identifies institutional, commercial, and industrial sites that have the potential to generate pollutants to the City's MS4.
- Implement an inspection program for sites identified on the inventory.
- Implement a progressive enforcement policy that requires sites to comply with stormwater regulations.
- Maintain a training program for staff who are responsible for implementing the source control program.

9.2 Current and Planned Activities

The City currently implements a Local Source Control/Pollution Prevention Assistance outreach program, providing assistance to businesses to develop practical methods of reducing or eliminating discharge of non-stormwater materials into the stormwater system.

In 2021, the City executed a contract with a consultant to provide supporting professional services for the Source Control for Existing Development (SCED) Program (sometimes also known as Business Source Control or BSC Program). This team has made major progress on multiple key work items. In 2022, the City and consultant team will continue work to implement this program per the Permit requirements. Key work items in 2022 include implementing the SCED update for City municipal code (due August 1, 2022, per S5.C.8.b.i), and finalizing the initial SCED program inventory (due August 1, 2022, per S5.C.8.b.ii). Work done in 2022 for this program will also include preparing to implement the inspection program (due January 1, 2023, per S5.C.8.b.iii), and developing a progressive enforcement policy (due January 1, 2023, per S5.C.8.b.iv).

10 Compliance with Total Maximum Daily Load (TMDL) Requirements (Permit Section 7)

The City is not required to implement actions for compliance with TMDLs as of February 2022, the City is currently not affected by any TMDLs listed in Appendix 2 of the Permit.

11 Monitoring and Assessment (Permit Section 8)

11.1 Permit Requirements

Section 8 of the Permit covers Regional Status and Trends Monitoring and SWMP Effectiveness and Source Identification Studies. The City meets the current Permit requirements for Monitoring and Assessment as follows:

- Pay annually into a collective fund to implement regional status and trends monitoring (per S8.A.2.a)
- Pay annually into a collective fund to implement Stormwater Management Program (SWMP) effectiveness and source identification studies (per S8.B.2.a).
- Submit records of SWMP activities tracked and/or maintained in response to requests by the Stormwater Action Monitoring (SAM) coordinator (per S8.B.3).

11.2 Current and Planned Activities

In 2013, the City of Shoreline opted to contribute to the Regional fund for the Status and Trends Monitoring and Effectiveness Studies for the Permit term. Stormwater Action Monitoring (SAM) is the regional stormwater monitoring program implemented through the collective funds. The Stormwater Work Group (SWG) sets priorities and oversees the budget for SAM. City staff continue to participate in the SWG as one of six local jurisdiction representatives. This group works to identify objectives for monitoring stormwater, to develop an approach to provide needed information about stormwater impacts and the effectiveness of stormwater management actions, and to share results in a way that helps the region make better decisions. Updates on this work are provided through SAM newsletters and the SWG Reporter. See their webpages at <https://ecology.wa.gov/About-us/Our-role-in-the-community/Partnerships-committees/Stormwater-Work-Group> and <https://ecology.wa.gov/Regulations-Permits/Reporting-requirements/Stormwater-monitoring/Stormwater-Action-Monitoring>.

The City will continue to pay into the collective fund. The annual payments for the City (as of the most recent invoice received dated May 2021) are as follows:

- Puget Sound Status and Trends: \$9,107
- Effectiveness Studies and Source Identification: \$16,644