CITY OF
BAINBRIDGE ISLAND

Stormwater System Plan (SWSP)
October 2024



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GLOSSARY OF ABBREVIATIONS AND ACRONYMS

AKART	All known, available and reasonable methods of prevention, control and treatment
APWA	American Public Works Association
BIBI	Benthic Index of Biotic Integrity
BIFD	Bainbridge Island Fire Department
BIMC	Bainbridge Island Municipal Code
BMP	Best management practice
CAP	Climate Action Plan
CIP	Capital Improvement Plan
COBI	City of Bainbridge Island
Comp Plan	City of Bainbridge Island Comprehensive Plan
CSWGP	Construction Stormwater General Permit
DE	Development engineering
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FTE	Full-time equivalent
GHG	greenhouse gas
GIS	geographic information system
GMA	Growth Management Act
HR	Human Resources
IDDE	Illicit Discharge Detection and Elimination
ILA	Interlocal Agreement
IPCC	Intergovernmental Panel on Climate Change
IPM	Integrated Pest Management
ISGP	Industrial Stormwater General Permit
ISU	Impervious surface unit
KPHD	Kitsap Public Health District
LID	Low impact development
LM	Land management strategy
LU	Land use

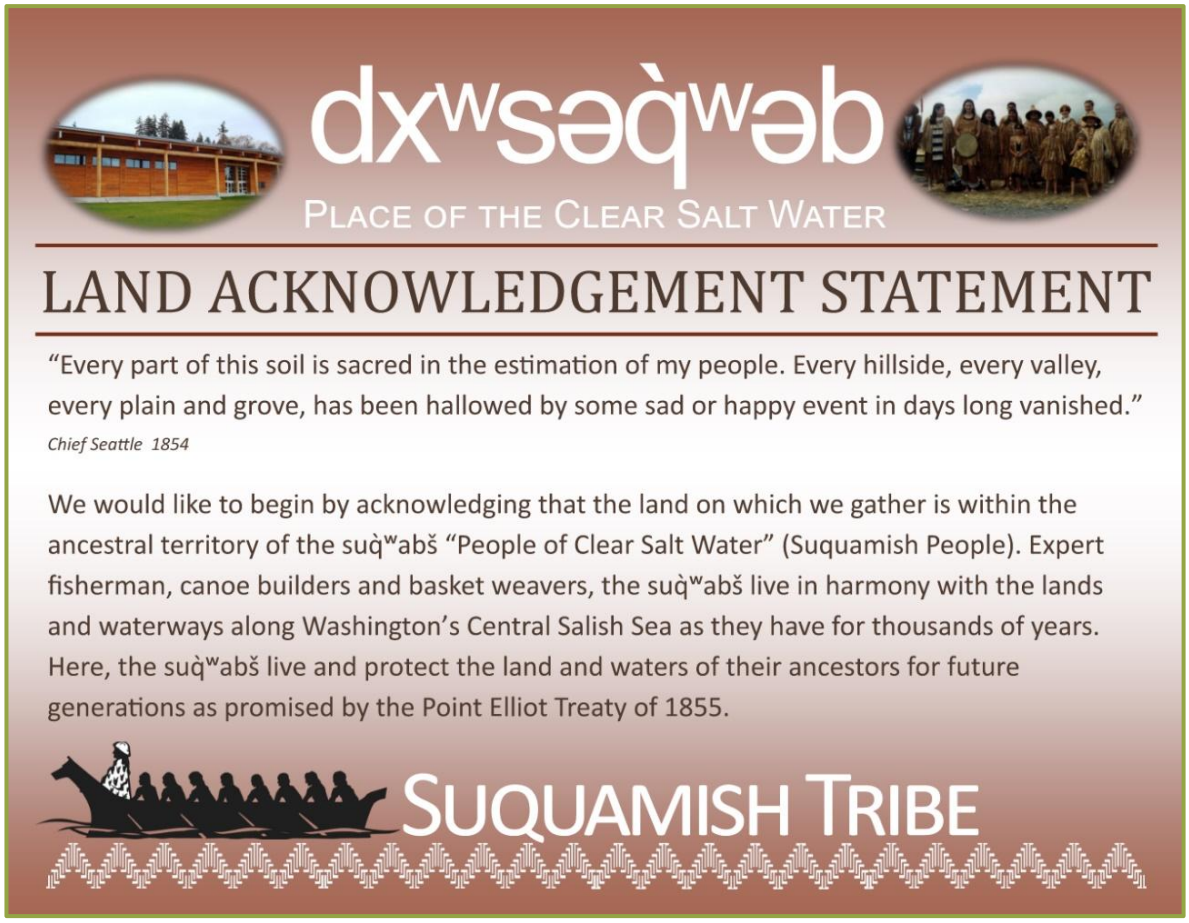
MEP	Maximum Extent Possible
MS4	Municipal Separate Storm Sewer System
N/A	Not applicable
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
PCD	Planning & Community Development Department
Permit	Western Washington Phase II Municipal Stormwater Permit
Phase II Permit	Western Washington Phase II Municipal Stormwater Permit
PPA	Pollution Prevention Assistance
PSSH	Puget Sound Starts Here
RCP	Representative concentration pathway
RCW	Revised Code of Washington
R&M	Annual Drainage Repair and Maintenance Program
SAM	Stormwater Action Monitoring
SAR	Site Assessment Review
SE	Stormwater Management Program Enhancement
sf	Square feet
SMAP	Stormwater Management Action Plan
SOP	Standard operating procedure
SRES	Special Report on Emissions Scenarios
SSWM Utility	Storm and Surface Water Utility
STORM	Stormwater Outreach for Regional Municipalities
SWG	Stormwater Work Group
SWMP	Stormwater Management Program
SWPPP	Stormwater Pollution Prevention Plan
SWSP	Stormwater System Plan
TMDL	Total Maximum Daily Load
UGA	Urban Growth Area
UIC	Underground injection control
UW CIG	University of Washington Climate Impacts Group
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife

WQ	Water quality
WQFMP	Water Quality & Flow Monitoring Program
WR	Water resources
WRIA	Water Resource Inventory Area
WSPER	West Sound Partners for Ecosystem Recovery
WSSOG	West Sound Stormwater Outreach Group

ACKNOWLEDGEMENTS

This Stormwater System Plan (SWSP) was produced with respect of indigenous tribe sovereignty and rights through the combined contributions of stakeholders, consultants, and City of Bainbridge Island staff, appointed and elected officials.

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EXECUTIVE SUMMARY

This Stormwater System Plan is the most recent effort by the City intended to achieve the City of Bainbridge Island Comprehensive Plan policy U 13.1, to maintain a comprehensive storm drainage plan that identifies problems, proposes solutions, provides a strategy for implementation and funding, and establishes design and development guidelines.

To inform this plan, staff and consultants reviewed the Storm and Surface Water Utility Fund and City programs supporting the Storm and Surface Water Utility including: Capital Improvement and Repair and Maintenance Programs, Stormwater Management Program, Water Quality and Flow Monitoring Program, Climate Change Adaptation and Mitigation Program, and Sanitary Sewer Pretreatment Program.

Based on existing data and reporting, the Storm and Surface Water Utility is meeting regulatory requirements with a few minor exceptions, and is serving the community well by keeping the roads free of flooding and engaging with people to act in ways that are protective of water quality. Also, currently the Storm and Surface Water Utility Fund has a healthy unencumbered balance of over six million dollars thanks to rate fee payers.

The Stormwater System Plan contains over 150 unique specific recommendations as well as many more recommendations and suggestions offered within the text. The recommendations present opportunities for the City of Bainbridge Island to continue to adequately meet state and federal regulations as the minimum measure to protect water quality and also to meet some greater City goals and become a recognized leader in water resource management. Based on estimated costs for the recommendations and the current substantial Storm and Surface Water Utility Fund budget and estimated future revenues, conceptually the City could afford to pay for each and every recommendation.

There are many possibilities for the City to increase innovation and investment in stormwater infrastructure thereby protecting and improving surface water conditions. A consistent theme throughout the Stormwater System Plan is the wealth of opportunities to create greater consistency and capacity throughout the existing stormwater management program with a heavy emphasis on increased staffing and establishing asset management policies and procedures. This is evident through data analysis and is consistently supported by staff opinion.

The overarching takeaway is that the City would highly benefit from developing and implementing an adaptive long-term plan and establishing levels of service for the Storm and Surface Water Utility. The Stormwater System Plan, particularly the recommended next steps identified in Chapter 6, serves as a starting place and offers a road map that identifies multiple paths down which the City may endeavor toward producing a resultant comprehensive storm drainage plan that will include a thorough evaluation and estimation of Storm and Surface Water Utility asset conditions and priorities based on quality data, modern science, and community input.

SWSP DOCUMENT ORGANIZATION

The Stormwater System Plan (SWSP) document is organized as follows across six chapters and seven appendices.

Chapter 1: Introduction and Background

The introductory first chapter leads into the purpose and objectives of the SWSP, providing background information including brief overviews of local water quality concerns, stormwater applicable regulations, plans, programs, and Storm and Surface Water Management Utility (SSWM) infrastructure and fund.

Chapter 2: Stormwater Management Program

The second chapter presents an assessment and recommendations for compliance with the Federal Clean Water Act through the National Pollutant Discharge Elimination System (NPDES) regulatory requirements as well as opportunities to realize greater aspirations as demonstrated by the City's Comprehensive Plan and Climate Action Plan.

Chapter 3: Climate Change Adaptation and Stormwater Management

The third chapter concentrates on climate change as it relates to stormwater management by providing a review of projected climate trends, anticipated impacts on water resources, and identifies relevant Climate Action Plan goals, and offers recommendations related to stormwater management and adapting to climate change.

Chapter 4: SSWM Utility Improvements

The fourth chapter discusses identifying and prioritizing stormwater infrastructure improvement project opportunities to address surface water and stormwater issues, such as reducing runoff, flooding, and erosion, protecting and restoring water quality, improving wildlife habitat, and preparing for climate change and community growth.

Chapter 5: Staff and Funding Capacity Assessment and Recommendations

The fifth chapter focuses on current and future staffing and funding capacities and resources for the SSWM Utility.

Chapter 6: Suggested Next Steps

The sixth and final chapter provides suggestions for the next steps to adopt and implement the recommendations presented in Chapters 2 through 5 over the next six years and beyond, and to continue to develop the more comprehensive storm drainage plan desired per the Comprehensive Plan.

Appendices A–G

Appendix A is an easy reference compilation of the 2017 Comprehensive Plan goals/policies and 2020 Climate Action Plan goals/actions that are most relevant to stormwater management.

Appendix B coincides with Chapter 2 to provide table views of all the Stormwater Management Program (SWMP) recommendations alongside all the assessment information including the Phase II Permit language stating the requirements for the City's SWMP as well as the listed relevant 2017 Comprehensive Plan goals/policies and 2020 Climate Action Plan goals/actions.

Appendix C coincides with Chapter 2 to provide a table view of the costs associated with all the SWMP recommendations presented in Chapter 2.

Appendix D coincides with Chapter 2 to offer additional information related to the SWMP mapping and documentation recommendations.

Appendix E coincides with Chapters 2 and 4 and is the Stormwater Management Action Plan (SMAP) prepared to comply with the 2019–2024 Phase II Permit.

Appendix F coincides with Chapter 3 to provide a table view of the climate change adaptation and stormwater management recommendations alongside the assessment information including the listed relevant 2017 Comprehensive Plan goals/policies and 2020 Climate Action Plan goals/actions.

Appendix G is a Department of Ecology issued redlined version of the draft 2024–2029 Western Washington Phase II Municipal Stormwater Permit that provides insights into likely future new and updated requirements for the City to plan for.

CHAPTER 1: INTRODUCTION AND BACKGROUND

Water resources play a vital role in the culture and quality of life on Bainbridge Island in Puget Sound. People who visit, live, and do business on the island appreciate and rely on the natural beauty and bounties of the marine saltwater encompassing the island, the freshwater in the many wetlands and streams across the island, and the groundwater we drink from the aquifers below the island. Protecting these water resources is important to sustain this community that is especially vulnerable to water quality and quantity issues.



Addressing Water Quality Concerns

The waters and aquatic habitats of Puget Sound and the streams that flow to it are not what they once were in terms of quality and quantity. Water quantity and quality has changed over the past couple centuries due to changes in human population and the resulting built environment and activities of the population. Water quantity is less in some places and higher in other places, often the opposite of what is desired by the people in those places. Water quality is degraded by excessive amounts of metals, nutrients, suspended solids, and fecal coliform bacteria; and these pollutants arrive in water because they are released into the environment in an uncontrolled manner by people. The known primary source of release into the environment is through point source pollution, or piped stormwater runoff.

Stormwater runoff is the rain and melted snow/ice that falls onto built and natural landscapes and flows off rooftops, streets, and other surfaces. Pollutants on these surfaces such as pet waste, dirt, pesticides, metals, litter, yard waste, automotive fluids, chemicals, soaps, etc., meet stormwater as it flows downstream, discharging to streams, lakes, and other water bodies.

The Clean Water Act of 1972 established a national priority policy to protect and restore water quality for beneficial uses; then the subsequent National Pollutant Discharge Elimination System (NPDES) established the mechanism to obligate state and local governments and private industries to play primary roles in the protection and restoration of water quality, especially with managing stormwater discharges. The City of Bainbridge Island discharges stormwater to waters of the United States, primarily Puget Sound, and is therefore obligated to manage those stormwater discharges according to federal and state regulations. The City recognizes the significance of water resources and stormwater management as demonstrated both through compliance with regulations and through policies and goals codified into the City's Comprehensive Plan.

Development of this Stormwater System Plan

In late 2018, Bainbridge Island City Council initiated a request and budget for an island-wide stormwater study to be completed by a consultant and paid from the Storm and Surface Water Management (SSWM) Utility Fund. The requested study focus was intended to identify "areas of concern" that could inform future stormwater related improvements; "areas of concern" meaning places on island lacking proper stormwater facilities resulting in polluted stormwater flowing into streams, groundwater, and Puget Sound. Furthermore, the requested study would evaluate the current system and programs and identify deficiencies and opportunities to improve conveyance and treatment of stormwater runoff.

Public Works Department was assigned the task of selecting and working with a consultant on the study and plan. The selected consultant was Herrera Environmental Consultants, Inc. (Herrera) due to their depth of experience with stormwater systems and policy, Washington Department of Ecology regulations and requirements, and similar plans developed for other jurisdictions in Washington.

In short, the study involved: interviewing various City staff, reviewing stormwater regulations and COBI's compliance with those regulations, exploring COBI's Comprehensive Plan and Climate Action Plan to identify complimentary policies and goals to stormwater regulations, examining existing stormwater infrastructure system data, and considering financial aspects for stormwater management programs and projects. The study ultimately revealed that the infrastructure and management programs are generally adequate but are limited by capacity constraints, both physically and philosophically. The final result of the study is this Stormwater System Plan (SWSP) and throughout the SWSP are recommendations offered as suggested strategies to address identified "areas of concern."

Purpose and Objectives of the SWSP

The purpose of the SWSP is to assess COBI's Stormwater Management Program and stormwater management related activities in relation to regulatory requirements and greater COBI policies and goals; and identify opportunities in the form of recommendations for activities that will reduce impacts of stormwater runoff, support regulatory compliance, and achieve elements of the Comprehensive Plan and Climate Action Plan.

The primary objectives of the SWSP are:

- Offer a single comprehensive resource guide for stakeholders, staff, and decision makers for sustainable and adaptive stormwater management on Bainbridge Island.
- Support full compliance of the NPDES Western Washington Phase II Municipal Stormwater Permit and Industrial Stormwater General Permit and achievement of several Comprehensive Plan goals and policies.
- Review impacts of climate change on stormwater management on Bainbridge Island and identify adaptation measures and activities to apply to minimize impacts.
- Assess current stormwater management activities and suggest priority actions to meet present and future service demands and regulatory requirements.
- Inform strategy, transparency, and equity in identifying and prioritizing stormwater infrastructure asset improvement projects; including enhancements to address deficiencies in asset inventory data, tracking, and reporting.
- Evaluate capacity of resources for effectual stormwater management.
- Propose improvements to policies and procedures in planning and enforcement mechanisms to successfully achieve the objectives therein.

Applicable Regulations and Plans

Regulatory requirements and plans exist that dictate and guide intentional stormwater management on Bainbridge Island to protect people, property, wildlife, and water quality. The primary applicable federal and state regulations and COBI Plans connected to surface water and stormwater management include the following:

- Clean Water Act & National Pollutant Discharge Elimination System
- Endangered Species Act
- Growth Management Act
- City of Bainbridge Island Comprehensive Plan
- City of Bainbridge Island Climate Action Plan
- City of Bainbridge Island Capital Improvement Plan

Other applicable regulations and plans related specifically to stormwater management on Bainbridge Island are reviewed in Chapter 2 for Stormwater Planning.

Clean Water Act & National Pollutant Discharge Elimination System

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. The ultimate goal of the CWA if for waters of the United States to be fishable and swimmable; indicators of safety, livelihood, and recreation that contribute to high quality of life.

The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. The EPA's National Pollutant Discharge Elimination System (NPDES) permit program addresses water pollution by regulating point sources that discharge pollutants to waters of the United States. Point sources are discrete conveyances such as pipes or human-made ditches. Individual homes that are connected to a municipal stormwater system do not need a NPDES permit; industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. The NPDES permit program authorizes state and local governments to perform many permitting, administrative, and enforcement aspects of the program.

In Washington State, NPDES Permitting is regulated by Washington State Department of Ecology (Ecology) under the authority of the EPA. Ecology requires different NPDES Permits for various types of businesses and industries that discharge to surface waters of the State (e.g., cities, school districts, wastewater treatment plants, construction, industrial, boatyards, agriculture, mining, etc.).

COBI maintains multiple NPDES permits for stormwater and wastewater (sewage) discharges. For stormwater, COBI is authorized to discharge to surfaces waters by complying with the following permits as issued by Ecology:

- Western Washington Phase II Municipal Stormwater Permit – for the City's small municipal separate storm sewer system (MS4)
- Construction Stormwater General Permit – for City projects that meet permit criteria
- Industrial Stormwater General Permit – for the City's Operations and Maintenance Facility

Western Washington Phase II Municipal Stormwater Permit

Under Ecology's NPDES Municipal Stormwater General Permit program in Washington State, cities and counties that own or operate a small municipal separate storm sewer system (MS4) serving a population of more than 100,000 (based on the 1990 Census) are required to be covered under the Phase I Municipal Stormwater Permit. MS4 owners and operators serving populations of 1,000 to 100,000 (based on the 1990 Census) are required to be covered under the Phase II Municipal Stormwater Permit. Ecology issues a Western Washington Phase II Municipal Stormwater Permit and an Eastern Washington Phase II Municipal Stormwater Permit.

COBI owns and operates a MS4 and discharges stormwater directly into streams, wetlands, and Puget Sound, which are Waters of the United States protected by the Federal Clean Water Act. COBI's MS4 discharges have been covered by the Western Washington Phase II Municipal Stormwater Permit

(Permit or Phase II Permit) since 2007. COBI must comply with all Permit sections and general conditions; principally, to protect water quality, reduce the discharge of pollutants from the MS4 to the maximum extent practicable, and meet Washington State's All Known and Reasonable Treatment (AKART) requirements. The City's American Public Works Association (APWA) Accredited Public Works Department oversees and coordinates Permit compliance for the City.

The Permit provides general and prescriptive guidance for accomplishing compliance and Section 5 requires the City to develop and implement a Stormwater Management Program (SWMP). SWMP requirements continue to grow and become more stringent with each new Permit reissuance every five years. Chapter 2 offers assessment of and recommendations for COBI's SWMP.

To further understand current and anticipated future Permit requirements, Appendix B and Appendix G may be reviewed. Appendix B summarizes Chapter 2 SWMP assessment and recommendations alongside current Permit language. Appendix G is a copy of the draft language for the upcoming 2024–2029 Permit that is a redline version of the current 2019–2024 Permit.

Construction Stormwater General Permit

Ecology requires regulated construction sites that meet certain thresholds to get coverage under the Construction Stormwater General Permit (CSWGP). Operators of regulated construction sites are required to develop stormwater pollution-prevention plans (SWPPPs); implement sediment, erosion, and pollution-prevention control measures; regularly inspect and monitor the site; conduct discharge monitoring; and report to Ecology.

COBI projects (public infrastructure) and COBI permitted projects (private infrastructure) may be covered by a CSWGP. Those projects may be referenced in Ecology's Water Quality Permitting and Reporting Information System (PARIS).

Industrial Stormwater General Permit

Ecology requires regulated industrial facilities that meet certain thresholds to get coverage under the Industrial Stormwater General Permit (ISGP). Similar to the CSWGP, operators of regulated industrial facilities are required to develop SWPPPs; implement sediment, erosion, and pollution-prevention control measures; regularly inspect and monitor the site; conduct discharge monitoring; and report to Ecology.

COBI Operations and Maintenance Facility located at 7305 NE Hidden Cove Road is covered by the ISGP as of 2022.



Endangered Species Act

The federal Endangered Species Act (ESA) is intended to protect threatened or endangered species from extinction. Among many species listed under the ESA, four of them are present in watersheds in and around Bainbridge Island. Puget Sound Chinook salmon, Puget Sound rockfish, and Puget Sound steelhead are listed as threatened species, and the Southern Resident killer whale is listed as an endangered species under the ESA. The ESA prohibits the "take" of all listed species, including a take that could result from the COBI's stormwater facility operations or private development stormwater management activities that are permitted by COBI.

Growth Management Act

The Washington State Growth Management Act (GMA) is a series of state statues, first adopted in 1990, that requires fast-growing cities and counties to develop a comprehensive plan to manage their population growth. The GMA establishes a series of goals that should act as the basis of all comprehensive plans, including goals related to the environment and water resources. The City's Comprehensive Plan includes many policies and goals relevant to stormwater management over various chapters/elements.

City of Bainbridge Island Comprehensive Plan

COBI prepared and adopted its first Comprehensive Plan in 1994, as required per the GMA. Since its initial adoption, the City of Bainbridge Island Comprehensive Plan (Comp Plan) has been updated in 2004 and 2017; and a periodic update for 2024 is currently underway. Part of periodic update may

include addressing levels of service by identifying minimum standards for public facilities and services required to adequately serve the population.

The 2017 Comp Plan consists of the following chapters/elements:

- Land Use Element
- Economic Element
- Environmental Element
- Water Resources Element
- Housing Element
- Transportation Element
- Capital Facilities Element
- Utilities Element
- Cultural Element
- Human Services Element

The 2017 Comp Plan chapters that are most relevant to stormwater management are: Water Resources Element, Environmental Element, Utilities Element, Land Use Element, and Capital Facilities Element. For easy reference, Appendix A provides the compilation of the 2017 Comprehensive Plan goals and policies most relevant to stormwater management.

This Stormwater System Plan aims to help achieve **Comprehensive Plan policy U 13.1: "Maintain a comprehensive storm drainage plan that identifies problems, proposes solutions, provides a strategy for implementation and funding, and establishes design and development guidelines."**

City of Bainbridge Island Climate Action Plan

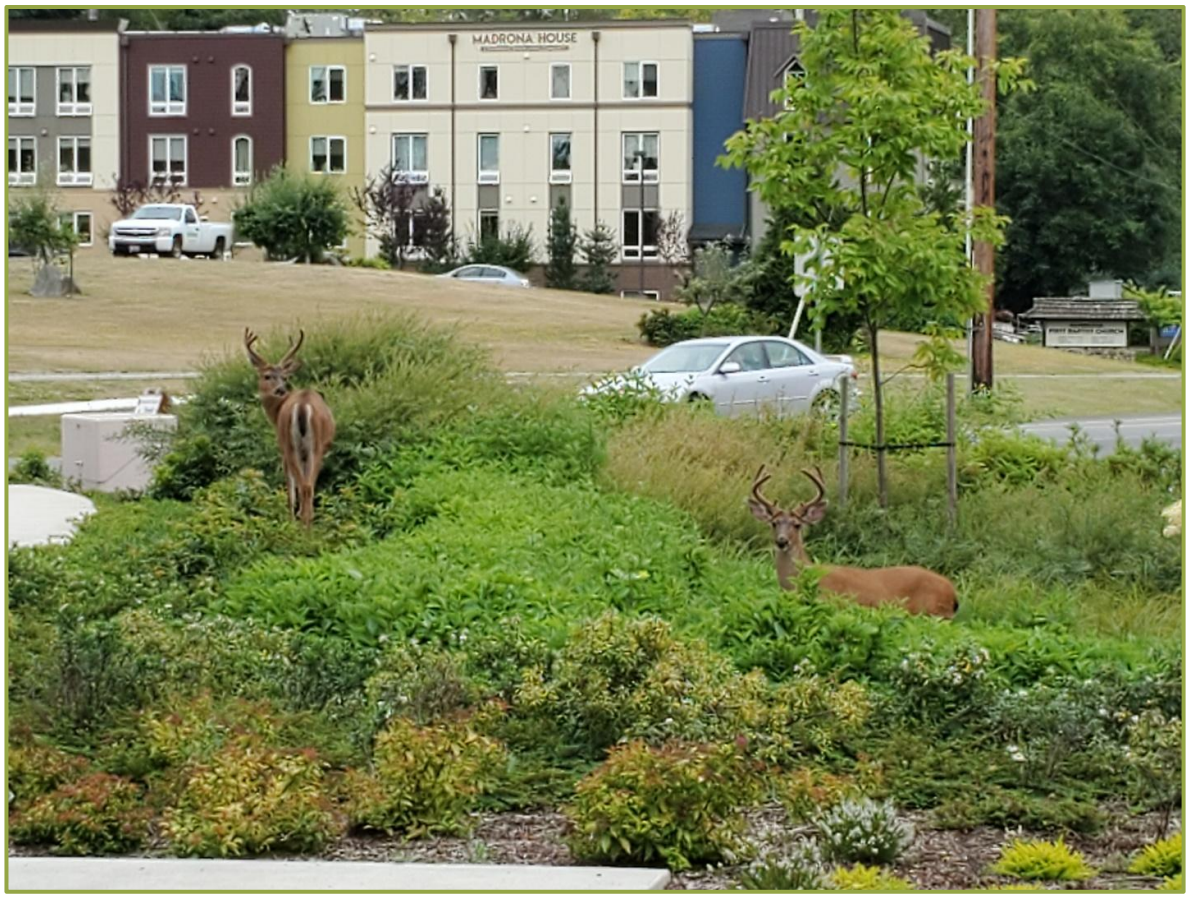
The COBI 2020 "Climate Action Plan: A Plan for Mitigating and Adapting to Climate Change on Bainbridge Island" (CAP) is a comprehensive roadmap that outlines specific actions that COBI and the community can undertake to reduce greenhouse gas (GHG) emissions and increase our resilience as the climate changes.

The CAP has three overarching goals:

- Mitigation: Reduce GHG emissions by 90% by 2045 compared to 2014 levels with interim milestones of 25% reduction by 2025 and 60% by 2035.
- Adaptation: Ensure that Bainbridge Island is climate savvy and can withstand the impacts of climate change.
- Community Engagement: Inspire community action and partner with local and regional organizations to take meaningful and equitable climate change mitigation and adaptation actions.

The CAP sections that are most relevant to stormwater management are: Section 5, Buildings; Section 6, The Natural Environment; Section 7, Waste; Section 8, Community Engagement; Section 9, Implementation; and CAP Appendix B, Comments from Community Workshops.

For easy reference, Appendix A provides the compilation of the 2020 Climate Action Plan goals, strategies, and actions most relevant to stormwater management.



City of Bainbridge Island Capital Improvement Plan

The Capital Improvement Plan (CIP) represents an important element in the City's long-range and strategic planning. The CIP is a multi-year planning tool used to identify needed capital projects for preservation and improvements to the City's owned and operated infrastructure, and to coordinate the financing and timing of these improvements.

CIP projects are organized into categories: Transportation Projects, Non-motorized transportation Projects, Fleet and Equipment, Facility Projects, Water Projects, Sewer Projects, and Storm and Surface Water Management (SSWM) Projects.

The CIP and SSWM Utility projects are discussed further in Chapter 4.

Storm and Surface Water Utility

Storm and surface water is managed by the City as a utility. This section briefly reviews the Storm and Surface Water Utility (SSWM Utility) establishment, SSWM Utility infrastructure, SSWM Utility Fund revenues and expenditures, SSWM Utility fee rate structure and preliminary SSWM Utility fee rate comparison.

SSWM Utility Establishment

The SSWM Utility was created and established by Ordinance No. 86-27, passed on July 16, 1986, and is enforced through BIMC 13.24, Storm and Surface Water Utility. The purpose of the SSWM Utility is to help meet the following objectives:

- Compliance with federal and state regulations, surface water management, and water quality regulations and legislation
- Promote and protect public health, safety, and welfare
- Minimize water quality degradation by preventing siltation, contamination, and erosion of waterways
- Ensure the safety of public roads and rights-of-way
- Protect aquifers
- Minimize property damage
- Encourage the preservation of natural drainage systems
- Promote educational and recreational opportunities
- Foster other beneficial public uses

The SSWM Utility is primarily funded by annual fees assessed to each developed property on Bainbridge Island pursuant to RCW 35.67.020 for the furnishing of service to those served or receiving benefits, or to be served or to receive benefits from, any drainage facility or contribute surface water runoff within the city. Paid SSWM Utility fees support public service programs and projects to meet the objectives of the SSWM Utility by addressing impacts from stormwater runoff such as flooding, erosion, point-source and non-point source pollution, and wildlife habitat degradation. Public programs and projects supported by the SSWM Utility Fund include the Stormwater Management Program (SWMP), Capital Improvement Plan (CIP), and operations, maintenance, and repair of public stormwater infrastructure.



SSWM Utility Infrastructure

The Storm and Surface Water Utility includes a complex system of natural drainage and built drainage infrastructure in developed areas of the island in public right-of-way and public easements. Land uses associated with development creates impervious surfaces where precipitation of rain and snowmelt becomes stormwater that runs off the land rather than infiltrate into the ground and aquifer. Unfortunately, stormwater is often contaminated by the common pollutants that result from the people, vehicles, buildings, and activities in developed areas.

All stormwater infrastructure is designed to collect and convey, and in some cases control the flow and treat the stormwater. Basically, stormwater is collected in catchments such as catch basins and inlets with open grates, then the stormwater is conveyed downstream in closed pipes and/or open ditches to a receiving water such as streams and Puget Sound. Sometimes, control and treatment may be part of a stormwater system, to slow down the flow and remove pollutants before the stormwater is allowed to flow, or outfall, to receiving waters. An example of a flow control facility is a detention pond and an example of a treatment facility is a bioretention swale.

Stormwater infrastructure on Bainbridge Island is either publicly or privately operated and maintained depending on where it is located, who the infrastructure primarily benefits, and what legal agreements are in place. Figure 1-1, shows where stormwater infrastructure exists around the island, with the largest amount of infrastructure in the mostly developed Winslow Subarea.

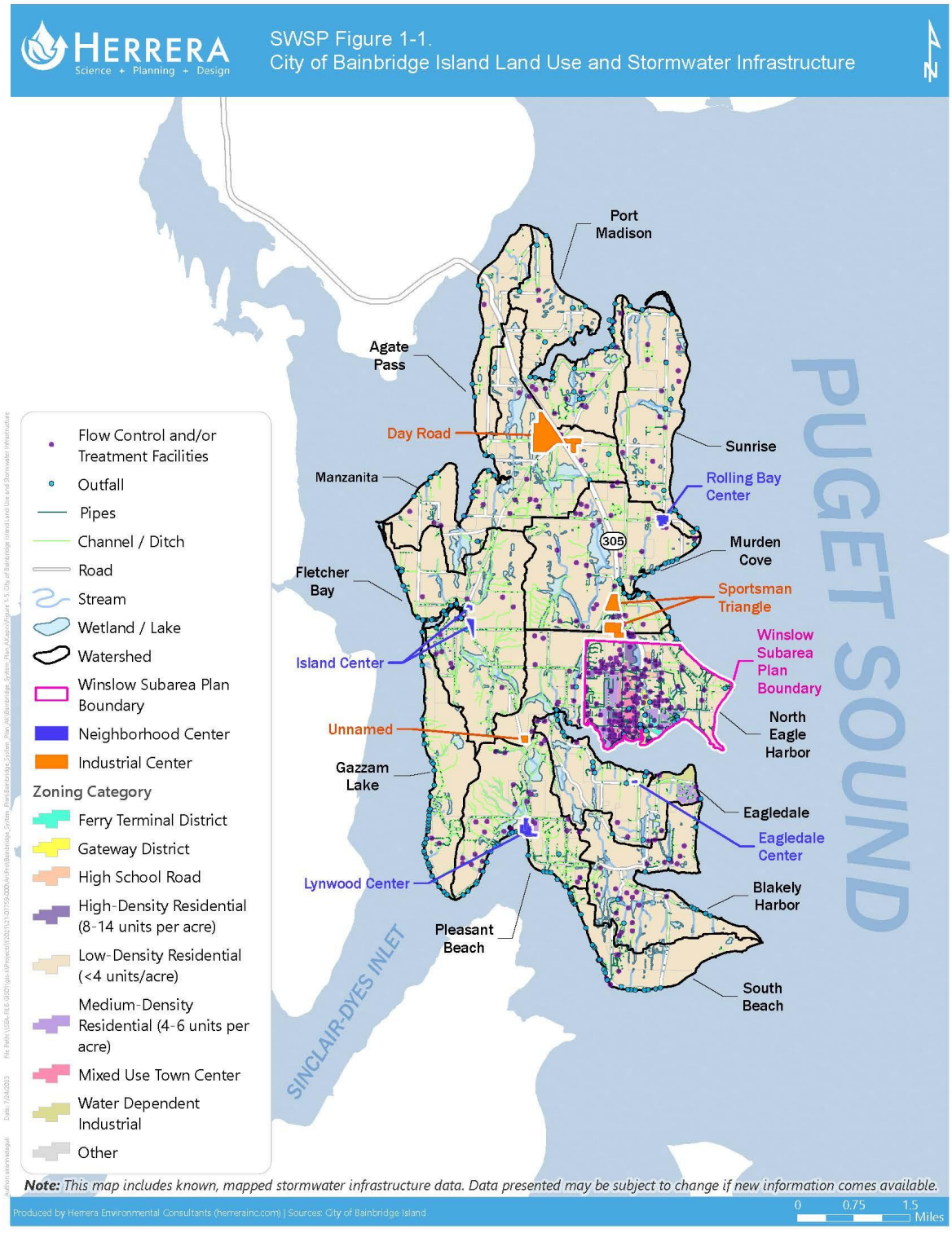


Figure 1-1. City of Bainbridge Island Land Use and Stormwater Infrastructure.

The City's stormwater infrastructure mapped asset inventory, as of 2022 data, consists of the following, which at this time is known to be not fully complete or accurate:

- 2,388 catch basins (1,944 of which are identified as MS4)
- 761,582 linear feet, or 144 miles, of open channel conveyances (e.g.,ditches)
- 501,340 linear feet, or 95 miles, of closed conveyance (e.g.,pipes)
- 423 culvert pipes
- 380 stormwater control and/or treatment facilities (194 are identified as MS4)

These asset numbers are a combination of publicly and privately owned assets. Currently, ownership assignments are not fully known or recorded for many mapped and inventoried assets, which is problematic for many reasons. Improved asset inventory mapping and asset management organization and planning is highly recommended. Specific recommendations related to mapping and asset management can be found in the MS4 Mapping and Documentation Assessment and Recommendations section in Chapter 2, and Appendix D. Also in Chapter 2 are recommendations for SSWM Utility infrastructure operations and maintenance. Then improvements to SSWM Utility infrastructure are discussed in Chapter 4.

Privately owned stormwater infrastructure is operated and maintained by the property owners, and is enforced by Bainbridge Island Municipal Code (BIMC) 15.21, Stormwater Facilities Maintenance Program. COBI has a Private Stormwater Facility Inspection Program that works to verify adequate long-term operation and maintenance for privately owned flow control or treatment facilities. Some SSWM Utility Fund revenues are used to support private inspections and technical assistance offered as free public service to help educate property owners to know how to follow BIMC 15.21 to prevent private systems from failure and adversely impacting public stormwater infrastructure such as through flooding and contamination.

Publicly owned stormwater infrastructure, or SSWM Utility, or MS4, is operated and maintained by Public Works Department and is financed by the SSWM Utility Fund.

SSWM Utility Fund

The SSWM Utility Fund revenues are derived primarily from SSWM Utility fees, and also from grants, operational transfers, and other miscellaneous revenues. Fund actual revenues for the years 2019 through 2023 and budgeted revenues for 2023 and 2024 are summarized in Table 1-1.

Table 1-1. Summary of SSWM Utility Fund Actual and Budgeted Revenues 2019–2024.							
	Actual					*Budgeted*	
Revenues	**2019**	**2020**	**2021**	**2022**	**2023**	***2023***	***2024***
SSWM Utility Fee	$2,646,100	$2,687,641	$2,751,032	$2,868,303	$3,189,583	$3,100,000	$3,288,000
Grants	$45,244	–	$72,610	$139,821	$138,020	$75,000	$770,000
Operational Transfer In	–	–	$50,000	–	–	–	$176,000
Other Miscellaneous	$53,085	$21,854	$13,575	$72,742	$312,319	$107,000	$185,000
Total Revenues	**$2,744,429**	**$2,709,495**	**$2,887,218**	**$3,080,866**	**$3,639,922**	***$3,282,000***	***$4,419,000***

The SSWM Utility Fund expenditures include staff salaries and benefits, infrastructure maintenance and improvement projects, and overhead costs. SSWM Utility Fund actual and budgeted expenditure categories and totals for the years 2019 through 2024 are summarized in Table 1-2. These expenditures were further analyzed for Stormwater Management Program (SWMP) cost tracking in Chapter 2 and for capacity assessment and recommendations in Chapter 5.

SSWM Utility Fund revenues and expenditures fluctuate year by year mostly because of changes in SSWM Utility fee rates, grant opportunities, private and public project permitting and schedule timing, and staff capacity. Table 1-3 displays the summary of SSWM Utility Fund actual and budgeted revenues, expenditures, and ending balances 2019 through 2024.

Table 1-2. Summary of SSWM Utility Fund Actual and Budgeted Expenditures 2019–2024.

Expenditure Categories	Expenditure Category Groups for SWMP Cost Tracking Assumptions	Actual					*Budgeted*	
		2019	**2020**	**2021**	**2022**	**2023**	***2023***	***2024***
Salaries	Staff	$692,330	$652,207	$673,029	$698,527	$722,191	*$740,916*	*$916,556*
Benefits		$276,948	$260,046	$260,658	$261,645	$268,657	*$263,471*	*$306,283*
Computer Software & Equipment	Overhead	–	$2,490	$450	$1,213	$3,913	*$2,100*	*$500*
Rents		$113,009	$137,786	$109,737	$107,862	$109,782	*$115,510*	*$124,611*
Insurances		$24,023	$25,918	$25,635	$46,525	$45,847	*$61,500*	*$81,600*
Permits		$40,545	$34,137	$12,686	$53,839	$48,833	*$68,000*	*$68,000*
Debt Service		$52,430	$52,176	$51,923	$51,669	$51,416	*$51,416*	*$51,162*
Other Misc. Expenses		$2,454	$12,152	$2,585	$4,154	$5,404	*$10,230*	*$24,600*
Taxes and Other Operational Assessment		$202,167	$200,465	$206,142	$225,246	$274,689	*$232,500*	*$240,000*
Repairs	CIP	$154,423	$31,352	$183,178	$300,786	$120,665	*$343,618*	*$582,949*
Capital Projects		$106,136	$58,392	$175,783	$92,349	$664,389	*$2,791,826*	*$4,475,871*
Intergovernmental Professional Services	Professional Services	$21,965	$21,966	$19,629	$21,970	$23,294	*$25,000*	*$25,000*
Professional Services		$23,549	$41,265	$98,730	$304,145	$190,360	*$360,264*	*$192,135*
Utilities	O&M	$26,031	$13,789	$23,318	$15,095	$12,994	*$28,890*	*$29,770*
Training		$8,892	$2,237	$2,821	$2,933	$5,509	*$5,750*	*$5,750*
Supplies		$51,363	$71,493	$50,129	$85,515	$54,259	*$55,700*	*$58,500*
Fuel		$16,785	$12,286	$19,119	$25,034	$24,401	*$29,500*	*$32,451*
Total Expenditures	–	**$1,813,050**	**$1,630,157**	**$1,915,554**	**$2,298,507**	**$2,940,937**	**$5,186,191**	**$7,161,738**

Table 1-3. Summary of SSWM Utility Fund Actual and Budgeted Revenues, Expenditures, and Ending Balances 2019–2024.

	Actual					*Budgeted*	
Revenues	**2019**	**2020**	**2021**	**2022**	**2023**	***2023***	***2024***
Total Revenues	$2,744,429	$2,709,495	$2,887,218	$3,080,866	$3,639,922	*$3,282,000*	*$4,419,000*
Total Expenditures	$1,813,050	$1,630,157	$1,915,554	$2,298,507	$2,940,937	*$5,186,191*	*$7,161,738*
Revenue Minus Expenditures	$931,379	$1,079,338	$971,664	$782,359	$698,985	*($1,904,191)*	*($2,742,738)*
Ending Fund Balance	**$2,702,737**	**$3,782,075**	**$4,753,740**	**$5,536,099**	**$6,235,083**	*$4,330,892*	*$1,588,154*

SSWM Utility Fee Rate Structure

The SSWM Utility fee rate structure is based on land use zoning and impervious surface for developed properties.

The SSWM Utility annual fee rate, set forth in BIMC 13.24.110, Storm and Surface Water Utility – Utility Service Charge Calculation, is calculated by impervious surface unit (ISU), or 3,000 square feet (sf) of impervious ground cover, by zoning as described below:

- Single family residential property will be charged one ISU.
- Single family residential parcels that contain an additional structure that is equal to or exceeds 3,000 sf of impervious ground cover will be assessed an additional service charge for each such structure.
    - Other developed property parcels within mixed use condominium properties that include both residential and nonresidential properties will be deemed to contain one equivalent ISU per condominium unit.
- Multifamily and other developed property parcels service charge is calculated using the following equation:

$$Utility\ Fee^{a} = \frac{Actual\ impervious\ ground\ cover}{3{,}000\ sf} \text{ x Single family service charge}$$

[a] Fractions shall be rounded to the nearest whole number but not less than one ISU per developed property.

In summary, the SSWM fee rate calculated for a developed single-family residential property parcel is only 1 ISU, and developed non-single-family property parcels are measured and calculated for their total ISU amount at 1 ISU per 3,000 sf impervious surface.

SSWM Utility fee reductions may be requested by filling out and submitting to the City an Application for a Service Charge Adjustment. Reductions are determined based on BIMC 13.24.131, Storm and Surface Water Utility – Rate Reductions.

Similar to Kitsap County, COBI's SSWM Utility rate annually increases based on the June-June Seattle/ Tacoma Consumer Price Index for All Urban Consumers (CPI-U) rate. An overview of the SSWM Utility rate between the years of 2019–2024 pursuant to BIMC 13.24 (Ordinance No. 2017-22) is shown in Table 1-4.

Table 1-4. Summary of COBI SSWM Utility Rates 2019–2024.

Year	2019	2020	2021	2022	2023	2024
SSWM Utility Rate Per Year	$190.07	$194.00	$195.00	$204.00	$226.00	$236.00
SSWM Utility Rate Increase Per Year	3.30%	2.06%	0.52%	4.62%	10.78%	4.42%

For reference, in 2023, of the total 11,369 property parcels on Bainbridge Island, 10,344 of those properties are developed and were assessed an annual SSWM Utility fee based on the $226.00 rate per ISU for the number of ISUs calculated for the parcel. As a result, the 2023 SSWM Utility fee revenues equaled $3,189,583.

Kitsap County invoices and collects SSWM Utility fees on behalf of COBI through annual property tax statements or direct invoices for tax exempt properties. Every year, COBI and Kitsap County Staff coordinate assessing and calculating the SSWM Utility fee rate for each developed property on Bainbridge Island. To be clear, the fee is not a tax, it is a fee for service use and benefit, like other fees for services such as from local fire or library districts, for example.

Preliminary SSWM Utility Rate Comparison

The City's last SSWM Utility rate study was completed in 2016, and a new rate study is planned for 2024. A preliminary annual single-family SSWM Utility rate comparison between COBI and other jurisdictions is shown in Figure 1-2; the 2024 rates range from $174.96 to $345.35, and COBI's rate of $236 is in the middle of the range.



Figure 1-2. Preliminary Comparison of Annual Single-Family SSWM Utility Rates for 2024.

CHAPTER 2: STORMWATER MANAGEMENT PROGRAM

Section 5 (S5) of the current NPDES Western Washington Phase II Municipal Stormwater Permit (Permit) requires COBI have a Stormwater Management Program (SWMP) that shall address the following primary areas:

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

The City's Public Works Director is responsible for the overall development and implementation of the SWMP. On behalf of the Director, the Stormwater Management Program Coordinator prepares the SWMP Plan and helps track and facilitate SWMP activities.

The work efforts of many City staff across all City departments helps achieve SWMP activities and Permit compliance in ways that are not always obvious on first glance. Efforts such as: police officers responding to auto accidents and making sure any debris and spilled fluids are cleaned up; an executive staff member reporting dirty water flowing from a construction site they noticed while walking on a lunch break; operations and maintenance staff removing debris from a ditch; a finance staff person working with the County on SSWM fee assessments; planning staff reviewing a permit; and engineering staff designing and constructing a new stormwater system with water quality treatment on an older street; each contribute to the overall successful execution of the SWMP.

SWMP planning and activities costs are budgeted and tracked, and are mainly financed by the Storm and Surface Water Utility fund, and sometimes supplemented by Ecology Capacity-Building grants and other funding sources.

Stormwater Management Program (SWMP) Plan

Every year planned SWMP actions and activities must be documented as the Stormwater Management Program Plan (SWMP Plan) and the achieved SWMP actions and activities are documented in the annual report. The SWMP Plan for the coming/current year is prepared and submitted along with the previous year's annual report on or before March 31 to Ecology. Compliance as demonstrated by the completed annual report constitutes successful implementation of the previous year's SWMP Plan.

SWMP Assessment and Recommendations

A thorough assessment was completed to ascertain how COBI SWMP activities meet current Permit requirements and anticipated future requirements. The current Permit is effective August 1, 2019, through July 31, 2024, and the next Permit term is expected to be effective August 1, 2024, through July 31, 2029. SWMP requirements continue to grow and become more stringent with each new Permit issuance every five years.

Assessment work involved interviewing and gaining data from staff across many departments, reviewing recent year's SWMP Plans, Permit annual reports, and compliance recordkeeping data, and studying relevant City documents and resources. The assessment also considered stormwater management related goals and priorities adopted in the City's Comprehensive Plan (Comp Plan) and Climate Action Plan (CAP). For reference, Appendix A lists the identified stormwater management related goals and policies from the Comp Plan and CAP.

The assessment identified many opportunities for COBI's SWMP. The opportunities are presented as recommendations. Each SWMP recommendation is an action and/or activity strategy that will help COBI meet one or more Permit requirements, and in some cases also achieve one or more greater City goals. As a result, opportunities, or strategies, are offered in two recommendation categories or tiers:

- **Minimum effort activity recommendations** to primarily support Permit compliance, but may not advance meeting COBI's goals and policies in the Comp Plan and CAP.
- **Additional enhanced effort activity recommendations** to advance meeting Comp Plan and/or CAP goals and policies while also supporting Permit compliance.

All SWMP recommendations were developed with the predominant Comp Plan Policy WR 4.1 in mind: **"Comply with all requirements of the City's National Pollutant Discharge Elimination System Phase II Municipal Stormwater Permit (NPDES Permit)."**

There are 140 unique SWMP recommendations:

- 72 recommendations are minimum effort activities, of those, half are to continue existing activities and half enhance existing activities or introduce new activities.
- 68 recommendations are additional enhanced activities that introduce new activities.

1/3 of the recommendations are reiterated in different SWMP sections to reinforce when the recommendation is an opportunity to meet more than one Permit requirement and/or greater City policy or goal.

A brief narrative is offered for each of the 140 SWMP recommendations that includes a benefit assumptions statement and cost assumptions statement to explain the strategy, estimated cost, and timeframe. The timeframe is the suggested year(s) to implement and/or continue the recommendation, starting in year 2024 through 2029, which are the years of the next Phase II Permit term.

This chapter is supported by Tables B-1 through B-11 in Appendix B, and Table C-1 through C-11 in Appendix C. The Appendix B tables display the SWMP assessment information and recommendations alongside the Permit Requirements and related CAP goals/actions and Comprehensive Plan

goals/policies (Appendix A). The Appendix C tables help illustrate the financial cost and timeframes estimated for each SWMP recommendation over the next six years and beyond.

To aid calculating estimated costs for full-time equivalent (FTE) work hours with recommendations, a couple basic proxy metrics were used: the COBI Stormwater Management Program Coordinator's 2023 composite hourly rate (i.e., salary and benefits) of $80.75 and total annual hours of 1,748, equaling a total annual amount of $141,154. This position was selected as proxy because it is in the middle range of cost. So, for SWSP assessment and recommendations, one FTE is equal to 1,748 hours and $141,154 annually.

For easier reference, each SWMP recommendation is represented by an identification number (e.g., B1-R1); where "B" stands for Appendix B, and the succeeding number represents the Table number; and "R" stands for Recommendation, and the succeeding number is the numeral assigned to the recommendation to aid order.

This chapter is organized in this order to follow and address all the requirements as outlined in Sections 5, 7, 8, and 9 of the 2019–2024 Phase II Permit:

- Stormwater Planning Assessment and Recommendations
- Public Education and Outreach Assessment and Recommendations
- Public Involvement and Participation Assessment and Recommendations
- Municipal Separate Storm Sewer System (MS4) Mapping and Documentation Assessment and Recommendations
- Illicit Discharge Detection and Elimination Assessment and Recommendations
- Controlling Runoff from New Development, Redevelopment, and Construction Sites Assessment and Recommendations
- Operations and Maintenance (O&M) Assessment and Recommendations
- Source Control Program for Existing Development Assessment and Recommendations
- Compliance with Total Maximum Daily Load (TMDL) Requirements Assessment and Recommendations
- Monitoring and Assessment and Recommendations
- SWMP Plan, Recordkeeping, and Annual Reporting Assessment and Recommendations

To further understand current and anticipated future Permit requirements, Appendix G may be reviewed. Appendix G is a copy of the draft language for the upcoming 2024–2029 Permit that is a redline version of the current 2019–2024 Permit.

Stormwater Planning Assessment and Recommendations

The stormwater planning assessment was conducted, and recommendations were developed, with the overarching **Comp Plan Goal WR-1** in mind:

"Manage the water resources of the Island in ways that preserve, protect, maintain, and where possible restore and enhance their ecological and hydrologic function.

- **Degradation of water resources is not allowed.**
- **The long-term sustainability of the Island's water resources is maintained, taking into account future climatic conditions and their effects on the water cycle.**
- **New development and population growth are managed so that water resources remain adequate and affordable for the indefinite future.**
- **Groundwater, surface water and stormwater monitoring, data assessment and reporting are current and available including future projections of availability, quality and need.**
- **Use current and future technology to maintain and protect water resources."**

This section is supported by Table B-1 in Appendix B, and Table C-1 in Appendix C. Table B-1 displays the stormwater planning assessment information and recommendations alongside the Permit Requirements and related CAP goals/actions and Comp Plan goals/policies (Appendix A). Table C-1 helps illustrate the financial cost and timeframes estimated for each stormwater planning recommendation over the next six years and beyond. Table 2-1 is a snapshot of the unique recommendations in this section and Appendix B, Table B-1.

Table 2-1. Summary of Unique Stormwater Planning Recommendations in Appendix B, Table B-1.

RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES	RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES
• B1-R1: Expand Inter-disciplinary Team Role in Organization • B1-R2: Water Quality Stakeholders Involvement • B1-R5: Report on Watershed Protection Policies and Strategies • B1-R6: Address Barriers Related to Low Impact Development • B1-R7: Tree Canopy Goals • B1-R11: Approve and Implement SMAP for Manzanita Watershed • B1-R12: Update Manzanita SMAP or Create a Second SMAP	• B1-R3: Stormwater Management Advisory Group • B1-R4: Increase General Public Engagement • B1-R8: LID Assistance Program • B1-R9: Adaptive Assessment Process • B1-R10: Adaptive Prioritization Process • B1-R13: SMAP & Sub-Area Planning • B1-R14: SMAP & Capital Projects Prioritization
Summary only includes unique S5.C.1 recommendations; reiterated recommendations are included in the full assessment and recommendations Table B-1 in Appendix B.	

Assessment and recommendations for stormwater planning are presented in these three groupings to address minimum performance measures as outlined in the 2019–2024 Permit:

- **Inter-disciplinary Team and Coordination with Long-Range Plan Updates:** Inter-disciplinary team to inform and assist in the development, progress, and influence of the SWMP (S5.C.1.a); and consider and report on 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 (S5.C.1.b).
- **Low Impact Development (LID) Code-Related Requirements:** Require LID principles and LID BMPs when updating, revising, and developing new local development-related codes, rules, standards, or other enforceable documents, as needed (S5.C.1.c).
- **Stormwater Management Action Planning (SMAP):** Complete a receiving water assessment and prioritization process, then produce a Stormwater Management Action Plan (S5.C.1.d).

Inter-disciplinary Team and Coordination with Long-Range Plan Updates

There is a history of long-range planning specifically for storm and surface water management on Bainbridge Island as demonstrated by these prior studies and plans:

- **City of Winslow Storm Water Drainage Plan (Gardner Engineers, Inc. 1985)**

  This plan studied existing drainage conditions to determine future conditions based on projected future development. The plan recommended a funding program to support improving stormwater management by introducing new regulations that are protective of water quality; preventing pollution and runoff; reviewing development proposals; and ongoing operations, inspections, repairs and maintenance of the public drainage system.

- **Basin "B" Drainage Comprehensive Plan (MAP Ltd, Pazooki & Associates 1992)**

  This plan was an update to the 1985 City of Winslow Storm Water Drainage Plan to focus on one particular drainage basin, a 220-acre area that is immediately west of the Winslow Subarea.

- **Bainbridge Island Watersheds (Puget Sound Cooperative River Basin Team 1995)**

  This document studied island characterization, beneficial uses, and non-point sources of pollution. Based on hydrology, geology, and topography, 11 watersheds were identified and delineated (now there are 12 watersheds because the one large Eagle Harbor watershed was divided into two: North Eagle Harbor Watershed and Eagledale Watershed). The watersheds were named based on hydrologic features of interest. Beneficial uses, such as recreation and wildlife habitat, and sources of pollution, such as runoff from development and sewage, are identified and discussed.

- **Watershed Action Plan (Bainbridge Island Watershed Management Committee 1997)**

  This plan provided detailed actions to protect surface waters in each watershed from nonpoint pollution, primarily through community-wide education and awareness programs. As stated in

the plan, “The single most important feature of the action plan is that it is based on public education and involvement.”

- **Surface Water Management Plan (Kato & Warren 2001)**

  The purpose of this plan was to provide guidance to the City for day-to-day decision-making, budgeting, and developing policy related to all aspects of surface water management. The plan provided an action plan for the City to meet the requirements of the NPDES Phase II Rule and to meet long-range water resources and surface water goals and policies contained in the Bainbridge Island Comprehensive Plan at that time. The plan also identified drainage issues in each watershed and offered potential solutions that include technical assistance programs for private property owners as well as public infrastructure improvement projects.

- **Surface and Stormwater Management Program Analysis (Otak 2006)**

  This analysis was to review existing stormwater management activities and determine if additional elements are needed for compliance with the NPDES Phase II Municipal Stormwater Permit. The analysis identified opportunities to meet Permit Compliance and the additional resources needed for staffing and funding.

These now historical studies and plans helped decision makers and staff develop and implement the storm and surface water management programs we still have today. This Stormwater System Plan is the next installment of thorough analysis to help inform and drive continual improvements in stormwater management on island.

The Permit’s newest Stormwater Planning section intends to drive continual improvements by requiring the City to have an inter-disciplinary team to review, consider, and improve how stormwater management needs and protection/improvement of receiving water health are informing the planning update processes and influencing policies and implementation strategies.

Beginning in late 2020, COBI convened an inter-disciplinary team of staff to inform and assist the development, progress, and influence of the stormwater planning program as required for the 2019–2024 Permit. The stormwater planning inter-disciplinary team consists of staff from the Planning, Public Works, and Executive Departments. The Team members in 2024 are:

- Christian Berg – Water Resources Specialist
- Dave Marquis – Operations and Maintenance Supervisor
- DeWayne Pitts – Finance Director
- Jennifer Sutton – Senior Planner
- Paul Nylund – Development Engineering and Water Resources Manager
- Peter Best – Senior Planner
- Peter Corelis – City Engineer
- Stella Collier – Stormwater Management Program Coordinator

The Team has met multiple times since 2020 to consider stormwater planning, help prepare responses for annual reporting, and assist the Stormwater Management Action Plan process.

This was the 2020 annual report question regarding COBI long-range planning during the 2013–2019 Permit and the Team's response:

- *Describe how anticipated stormwater impacts on water quality were addressed, if at all, during the 2013–2019 permit term in updates to the Comprehensive Plan (or equivalent) and in other locally initiated or state-mandated, long-range land use plans that are used to accommodate growth or transportation.*

  COBI Response in 2020:

  - *Shoreline Management Master Program* (2014)
  - *General Sewer Plan* (2015)
  - *Capital Facilities Plan Update* (2015)
  - *City Comprehensive Plan* (2016)
  - *Island-wide Transportation Plan* (2016)
  - *Island Center Subarea Planning* (2017)
  - Subdivision Update (2019)

These were the 2022 questions regarding long-range planning during the 2019–2024 permit term and the Team's responses:

- *List the relevant land use planning efforts that have taken place in your jurisdiction (land use plans that are used to accommodate growth, stormwater management, or transportation). COBI Response:*
  - *Green Building Task Force* (2020)
  - *Shoreline Master Program* (2021)
  - *Sustainable Transportation Plan* (2022)
  - *Stormwater Management Action Planning – Watershed Assessment* (2022)
  - *Stormwater Management Action Planning – Watershed Prioritization* (2022)
  - *Manzanita Watershed Assessment* (2022)
  - *Stormwater System Plan* (expected 2023)
  - *Groundwater Management Plan* (In progress 2022–2023)
- *List of stormwater capital projects (currently in or slated for future design and construction) that resulted from this planning. COBI Response:*
  - *Annual Stormwater Preservation Program* (aka Annual Drainage Repair and maintenance Program) – Ongoing
  - *Annual Roads Preservation Program* – Ongoing
  - *Country Club Road & Bulkhead Repairs* – In Progress
  - *Japanese American Exclusion Memorial/Pritchard Park Outfall Relocation Project* – In Progress

    - *Water Quality & Flow Monitoring Program*
    - *Winslow Way Reconstruction Phase II* – Slated for future
    - *Yeomalt Drainage Improvements Project* – In Progress
- *Describe watershed protection measures associated with stormwater management and land use planning actions that resulted from this planning. COBI Response: None.*
- *Were land acquisitions identified (or are planning ahead for) that are useful for stormwater facilities to: accommodate growth or to better serve an existing developed area? COBI Response: No.*
- *Identified corrective actions, in addition to the minimum requirements of the Municipal Stormwater Permits to control or treat municipal stormwater discharges that pollute waters of the State (e.g., Limits to impervious cover added to any zoning districts, regional facility planning, minimization of vegetation loss, etc.)? COBI Response: Yes,* BIMC 15.20 *– Surface Water and Stormwater Management &* BIMC 16.12 *– Shoreline Master Program*
- *Updates to goals and policies related to investment in stormwater management facilities/BMPs? COBI Response: None*.
- *Does the long-range plan identify the location and existing capacity of the stormwater facilities owned or operated by the Permittee and show which of those stormwater facilities have unused capacity? COBI Response: No.*
- *Do these stormwater facility locations impact where housing, or other types of development, are projected to be located or influence the acquisition of land? (If yes, how?) COBI Response: N/A.*
- *Does the long-range plan identify a lack of facilities and the potential impacts of existing or new development to those areas and receiving waters? COBI Response: No.*
- *Any new proposed locations and capacities of stormwater facilities needed for the timeframe of the plan? COBI Response: N/A.*
- *Based on the projected population densities and distribution of growth over the planning period, describe how stormwater runoff impacts are forecasted. Does stormwater management information (including water quality) direct where growth is directed? COBI Response: No.*

The Team's responses indicate there may be opportunities to further integrate stormwater management needs into long-range planning efforts, such as with investments in future stormwater facilities to accommodate growth.

Recommendations B1-R1 through B1-R5 relate to the inter-disciplinary team as well as water quality stakeholder groups who may work collaboratively to help achieve greater City policies and goals while also complying with the Permit.

Recommendation B1-R1: Expand Inter-disciplinary Team Role in Organization

This minimum effort recommendation is to continue to support and dedicate resources for the inter-disciplinary team to convene regularly to assess and inform long-range planning, development, and oversee the continued development and implementation of COBI's Stormwater Management Program (SWMP), including the Stormwater System Plan (SWSP), Stormwater Management Action Plan (SMAP), and low impact development (LID) code updates. This recommendation is based on draft 2024–2029 Permit language (Appendix G) that states to continue the Team.

Benefit assumptions: A standing dedicated working group of various staff across departments to coordinate on tackling high level stormwater management plans, policies, and procedures to aid the City and property owners in following stormwater regulations.

Cost assumptions: Approximately $10,000 annually for three 4-hour workshops (12 hours total) per year for the Inter-disciplinary team (10 COBI staff) starting in 2024 then ongoing thereafter.

Recommendation B1-R2: Water Quality Stakeholders Involvement

This minimum effort recommendation is to continue to support and dedicate resources to further involve water quality stakeholder groups to collaborate with Inter-disciplinary team efforts. The stakeholder groups currently involved include:

- Suquamish Tribe
- Bainbridge Island Watershed Council
- Bainbridge Island Land Trust
- Bainbridge Island Metro Park & Recreation District
- Kitsap Conservation District
- Friends of the Farms
- Washington Department of Fish and Wildlife

Representatives from each of these groups were involved with Stormwater Management Action Plan efforts along with the Inter-disciplinary team and provided valuable input based on their own perspective and expertise that was imperative to accomplishing the work.

Benefit assumptions: Forum for stakeholders to participate in planning efforts to address water quality by reviewing and providing input on COBI's Stormwater Management Program.

Cost assumptions: Approximately $4,000 annually for two 2-hour workshops (4 hours total) per year between the stakeholder groups and Inter-disciplinary team (10 COBI staff) starting in 2024 then ongoing thereafter.



Recommendation B1-R3: Stormwater Management Advisory Group

This additional enhanced effort recommendation is to support and dedicate new resources to establish a new or joint Advisory Group to provide recommendations to City Council on Stormwater Management. Stormwater management concerns cross over multiple existing Advisory Groups, including:

- Climate Change Advisory Committee
- Environmental Technical Advisory Committee
- Planning Commission
- Utility Advisory Committee

Such a Stormwater Management Advisory Group would collaborate with the Inter-disciplinary team and water quality stakeholder groups.

Benefit assumptions: Ongoing opportunity for public participation through a formal recognized COBI advisory group to inform decision-making and actions to aid accomplishing approved Stormwater System Plan recommendations and resulting annual Stormwater Management Program Plans.

Cost assumptions: Approximately $3,000 annually for four 2-hour advisory group workshops with 4 COBI staff for support each year (i.e., one workshop per quarter) starting in 2024 then ongoing thereafter.

This recommendation is reiterated in the Public Involvement and Participation (Appendix B, Table B-3) section and Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet more than one Permit requirement as well as one or more greater City policy/goal.

Recommendation B1-R4: Increase General Public Engagement

This additional enhanced effort recommendation is to support and dedicate new resources to encourage and facilitate engagement with the general public to participate in efforts to address water quality to assist Inter-disciplinary team and Advisory Group(s).

The Engage Bainbridge site may be a good forum for this since the City already uses the online platform for other projects and programs.

Benefit assumptions: Provides a forum for the public, who directly benefit from the Storm and Surface Water Utility, to be informed about Utility management and planning and be able to provide input.

Cost assumptions: Approximately $4,000 for 40 hours of staff time in 2024 to create an Engage Bainbridge website for Public Participation in Stormwater Management. Then $4,000 annually for 48 hours of staff time each year to update the website and upload and analyze and report on the data inputs starting in 2025 then ongoing thereafter.

This recommendation is reiterated in the Public Involvement and Participation section (Appendix B, Table B-3) to reinforce the recommendation as a strategy to meet more than one Permit requirement and/or greater City policy/goal.

Recommendation B1-R5: Report on Watershed Protection Policies and Strategies

This minimum effort recommendation is to continue to support and dedicate new resources for the inter-disciplinary team to formally review responses to questions submitted to Ecology and identify where/if improvements may be made in COBI planning efforts regarding addressing water quality, then develop recommendations for long-range planning for stormwater. And, based on draft 2024–2029 Permit language (Appendix G), no later than March 31, 2027, inter-disciplinary team shall prepare and submit a report describing water quality and watershed protection policies, strategies, and other measures intended to protect and improve local receiving water health through planning.

This builds from 2019–2024 Permit requirements that the inter-disciplinary team considered and responded to in 2020 and 2022 and referenced earlier in this section.

Benefit assumptions: Worthwhile exercise to identify and address how water quality protections are, or perhaps not, considered in long-range planning efforts.

Cost assumptions: This may be accomplished in late-2026 at no extra cost if the inter-disciplinary team and/or Advisory Team tackles the work during scheduled meetings/workshops.

Low Impact Development (LID) Code-Related Requirements

The Permit has required LID, COBI continues to require Low Impact Development (LID) principles and LID BMPs when updating, revising, and developing new local development-related codes, rules, standards, or other enforceable documents, as needed per S5.C.1.c of the 2019–2024 Permit. LID essentially endeavors to mimic natural systems to conserve and protect water and vegetation through tree retention and stormwater infiltration to reduce runoff.

Recommendations B1-R6 through B1-R8 for LID relate to numerous Comp Plan policies, including these:

- **Comp Plan Policy WR 4.8: "Prioritize LID-based retrofit of public and private stormwater drainage systems and built assets through the inventory, management, and fiscal planning process."**
- **Comp Plan Policy WR 4.9: "Incentivize LID retrofit of current built environment."**
- **Comp Plan Policy WR 6.3: "Provide LID technical guidance and workshops to businesses and contractors working on the Island."**
- **Comp Plan Policy U 13.5: "Minimize disruption and/or degradation of natural drainage systems, minimize impervious areas by restricting site coverage, and encourage site permeability by retaining natural vegetation and buffers, and specifying use of permeable materials."**



Recommendation B1-R6: Address Barriers Related to Low Impact Development

This minimum effort recommendation is to support and dedicate new resources to create a formal process, and document it, for continuing to annually assess and address administrative or regulatory barriers to implementation of LID principles or LID BMPs.

Currently, barriers are addressed as they are discovered by chance. Having a formal process would introduce a planned way to annually revisit and examine existing processes to look for real or potential barriers to then work to eliminate. And, by documenting the process, the City will be easily able to explain the known issues and resulting actions to address the issues, such as adopting new mechanisms that encourage or require implementation of LID principles or LID BMPs (also see Recommendation B6-R4: Controlling Runoff Codes and Standards Review & Update and Appendix B, Table B-6).

Benefit assumptions: A formal procedure for annually improving LID planning, permitting, and utilization in new development and redevelopment.

Cost assumptions: Approximately $2,000 annually for 16 total staff hours, 4 hours of staff time for LID code and permitting review between 4 staff, starting in 2024 then ongoing thereafter.

Recommendation B1-R7: Tree Canopy Goals

This minimum effort recommendation is to support and dedicate new resources to adopt and implement tree canopy goals and policies to support stormwater management and water quality protection and improvement. This recommendation is based on draft 2024–2029 Permit language (Appendix G); whereas, no later than 12/31/2028, the City shall adopt and implement tree canopy goals and policies to support stormwater management and water quality improvement in receiving waters.

It is well known that healthy native non-invasive trees and vegetation provide the best erosion and sediment control, habitat for land and aquatic wildlife, and water mitigation through rainfall interception, evaporation, transpiration, infiltration, and phytoremediation. It is also well known that stormwater runoff volumes increase when trees are replaced with any other land cover type (including shrubs, grass, or pavement).

For reference, Figure 2-1. shows the tree canopy cover goal recommendations for COBI provided to City Council in May 2019 with the Tree Resource Code and Policy Revision Recommendations (COBI December 2018).

District Type	Abbreviation	Name – Description	Canopy Cover Goals
Low Density Residential	R-0.4	Residential 0.4 – One unit per 2.5 acres (100,000 sq. ft.)	70%
	R-1	Residential 1 – One unit per acre (40,000 sq. ft.)	
	R-2	Residential 2 – Two units per acre (20,000 sq. ft.)	
Moderate Density Residential	R-2.9	Residential 2.9 – Two and nine-tenths units per acre (15,000 sq. ft.)	50%
	R-3.5	Residential 3.5 – Three and one-half units per acre (12,500 sq. ft.)	
High Density Residential	R-5	Residential 5 – Five units per acre (8,500 sq. ft.)	35%
	R-6	Residential 6 – Six units per acre (7,260 sq. ft.)	
	R-8	Residential 8 – Eight units per acre (5,400 sq. ft.)	
	R-14	Residential 14 – 14 units per acre (3,100 sq. ft.)	
Mixed Use Town Center & High School Road District 1 & 2	CC, MA, EA, Gate, Ferry	Central Core Overlay Madison Avenue Overlay Ericksen Avenue Overlay Gateway Overlay Ferry Terminal Overlay High School Road Districts I and II	35%
Other	NC, B/I, WD-I, FWHO	Neighborhood Center Business/Industrial Water-Dependent Industrial	25%

Figure 2-1. 2018 Tree Canopy Cover Goal Recommendations for COBI.

Benefit assumptions: Tree canopy goals implemented through regulatory mechanisms help protect existing vegetation and encourage future vegetation to reduce stormwater runoff.

Cost assumptions: If City Council adopts and requests implementation of the tree canopy goals offered with the Tree Resource Code and Policy Revision Recommendations, December 2018; then the approximate cost is $2,000 annually for 20 hours of staff time each year to implement the goals through policy and enforcement in 2028 then ongoing thereafter.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Recommendation B1-R8: LID Assistance Program

This additional enhanced effort recommendation is to support and dedicate new resources to develop and implement program(s) for LID to assist property owners in LID education, design, installation, materials, maintenance, and cost (also see Recommendation B7-R12: Private Stormwater System Retrofit Program and Appendix B, Table B-7).

This program would promote public knowledge of LID practices, provide technical assistance to LID owners, and incentivize installation of small-scale LID projects on private properties. Elements of the program could include creating outreach opportunities and outreach materials (e.g., brochures, flyers, and letters) to advertise and educate about the program; staff time to assist interested property owners with research and site feasibility assessments and estimating costs for design, installation, and ongoing maintenance; granting monetary incentives.

Benefit assumptions: Reduction of barriers and much needed assistance for LID implementation with new development, redevelopment, and construction projects.

Cost assumptions: This program could be developed by COBI staff or with consultant support of approximately $50,000 in 2025; then $71,000 annually for 874 hours each year of staff time (0.5 FTE) starting in 2026 then ongoing thereafter.

This recommendation is reiterated in the Education and Outreach section (Appendix B, Table B-2) to reinforce the recommendation as a strategy to meet more than one Permit requirement and/or greater City policy/goal.

Stormwater Management Action Planning (SMAP)

The Permit now requires a planning approach that emphasizes protection of designated uses and improvements to receiving water quality and habitat under both existing and anticipated future developed conditions. This new requirement is complimentary COBI's **Comp Plan Policy WR 4.10: "Use watershed and basin plans to reduce stormwater impacts and non-point source pollution."**

Stormwater Management Action Planning focuses on addressing impacts from the cumulative development in a watershed rather than on single site or subdivision impacts to accommodate future growth and development while preventing water quality degradation and/or improving conditions in receiving waters harmed by past development. Stormwater Management Action Planning helps to answer these two questions:

1) How can we most strategically address existing stormwater problems?
2) How can we meet our future population and density targets while also protecting and improving conditions in receiving waters?

To begin to answer these questions for COBI, the City was required to complete a receiving water assessment based on existing information, followed by conducting a receiving water prioritization process based on the assessment, then produce a Stormwater Management Action Plan (SMAP) for at least one identified priority catchment. To accomplish all this, the City hired consultant Herrera Environmental Consultants, Inc. to work throughout 2022 and into 2023 with the inter-disciplinary team (Team) and representatives from the following water quality stakeholder groups: Suquamish Tribe; Bainbridge Island Watershed Council; Bainbridge Island Land Trust; Bainbridge Island Metro Park & Recreation District; Kitsap Conservation District; Friends of the Farms; Washington Department of Fish and Wildlife.

SMAP-RECEIVING WATER ASSESSMENT

The assessment required using existing data to identify watershed inventory and assess conditions of watershed receiving waters and contributing areas. The Team completed the inventory and assessment in four general steps:

a) Watershed delineation and receiving water identification

b) Water condition and water resources use assessment

c) Stormwater management influence assessment

d) Candidate watersheds for prioritization

The assessment may be accessed for full review through the City's website: Watershed Inventory and Assessment (Herrera 2022) and Watershed Inventory and Assessment – Appendix A (Herrera 2022).

The first step of the watershed delineation process was straightforward because Bainbridge Island's watersheds were delineated and named in 1995, which is documented in the Bainbridge Island Watersheds report (Puget Sound Cooperative River Basin Team 1995). The original watershed inventory included 11 watersheds, but the current inventory includes 12 watersheds because the Eagle Harbor watershed was divided into two. The 12 watersheds of Bainbridge Island are named as follows:

- Agate Pass
- Blakely Harbor
- Eagledale
- Fletcher Bay
- Gazzam Lake
- Manzanita
- Murden Cove
- North Eagle Harbor
- Pleasant Beach
- Port Madison
- South Beach
- Sunrise

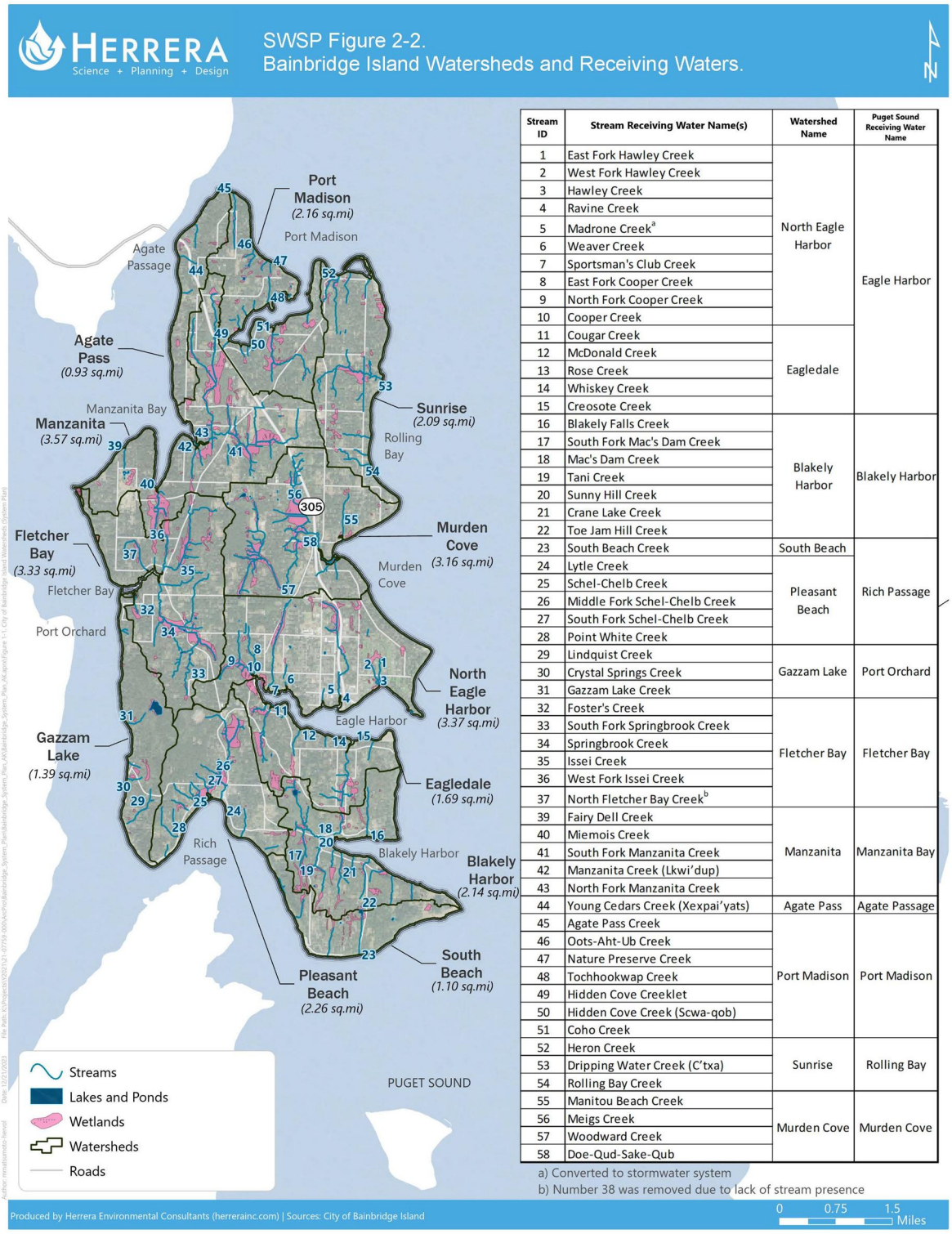


Then the next step was to compile and consider these data items for each watershed:

- Area (measured in square miles)
- Receiving water(s)
- Connection to Puget Sound
- Impervious surface percentage
- Water flow degradation score (defined as the impairment of water flow processes based on the Ecology refined Bainbridge Island Puget Sound Watershed Characterization analysis)
- Aquatic species habitat
- Fish passage barriers
- Water flow importance score (defined as the importance of water flow processes related to streams and groundwater based on the Ecology refined Bainbridge Island Puget Sound Watershed Characterization analysis)
- Notable places of interest

The compiled data results are exhibited in Figures 2-2 through 2-5:

- Figure 2-2. Bainbridge Island Watersheds and Receiving Waters: This displays the watersheds and receiving waters.
- Figure 2-3. Selected Stormwater Influence Metrics for SMAP: This displays the impervious surface percentage, fish passage barriers, and developable lands.
- Figure 2-4. Selected Water Conditions Metrics for SMAP: This displays the water flow degradation score, metals in mussel (*Mytilus trossulus*) tissue percentiles, and Benthic Index of Biotic Integrity (BIBI) score.
- Figure 2-5. Selected Water Resource Uses Metrics for SMAP: This displays the water flow importance and aquatic species habitats.



Stream ID	Stream Receiving Water Name(s)	Watershed Name	Puget Sound Receiving Water Name
1	East Fork Hawley Creek	North Eagle Harbor	Eagle Harbor
2	West Fork Hawley Creek		
3	Hawley Creek		
4	Ravine Creek		
5	Madrone Creek[a]		
6	Weaver Creek		
7	Sportsman's Club Creek		
8	East Fork Cooper Creek		
9	North Fork Cooper Creek		
10	Cooper Creek		
11	Cougar Creek	Eagledale	
12	McDonald Creek		
13	Rose Creek		
14	Whiskey Creek		
15	Creosote Creek		
16	Blakely Falls Creek	Blakely Harbor	Blakely Harbor
17	South Fork Mac's Dam Creek		
18	Mac's Dam Creek		
19	Tani Creek		
20	Sunny Hill Creek		
21	Crane Lake Creek		
22	Toe Jam Hill Creek		
23	South Beach Creek	South Beach	Rich Passage
24	Lytle Creek	Pleasant Beach	
25	Schel-Chelb Creek		
26	Middle Fork Schel-Chelb Creek		
27	South Fork Schel-Chelb Creek		
28	Point White Creek		
29	Lindquist Creek	Gazzam Lake	Port Orchard
30	Crystal Springs Creek		
31	Gazzam Lake Creek		
32	Foster's Creek	Fletcher Bay	Fletcher Bay
33	South Fork Springbrook Creek		
34	Springbrook Creek		
35	Issei Creek		
36	West Fork Issei Creek		
37	North Fletcher Bay Creek[b]		
39	Fairy Dell Creek	Manzanita	Manzanita Bay
40	Miemois Creek		
41	South Fork Manzanita Creek		
42	Manzanita Creek (Lkwi'dup)		
43	North Fork Manzanita Creek		
44	Young Cedars Creek (Xexpai'yats)	Agate Pass	Agate Passage
45	Agate Pass Creek	Port Madison	Port Madison
46	Oots-Aht-Ub Creek		
47	Nature Preserve Creek		
48	Tochhookwap Creek		
49	Hidden Cove Creeklet		
50	Hidden Cove Creek (Scwa-qob)		
51	Coho Creek		
52	Heron Creek	Sunrise	Rolling Bay
53	Dripping Water Creek (C'txa)		
54	Rolling Bay Creek		
55	Manitou Beach Creek	Murden Cove	Murden Cove
56	Meigs Creek		
57	Woodward Creek		
58	Doe-Qud-Sake-Qub		

a) Converted to stormwater system
b) Number 38 was removed due to lack of stream presence

Figure 2-2. Bainbridge Island Watersheds and Receiving Waters.



Figure 2-3. Selected Stormwater Influence Metrics for SMAP.

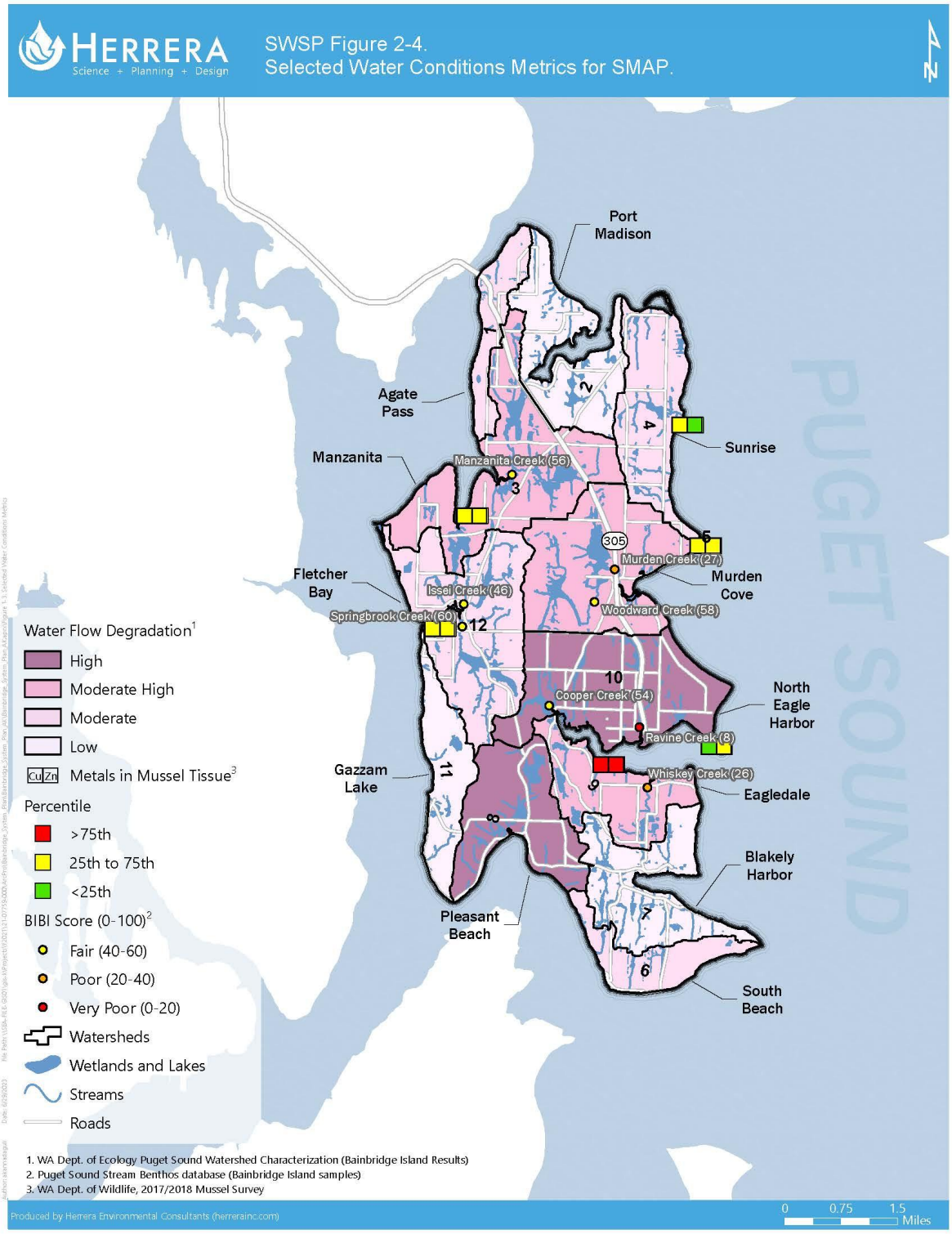


Figure 2-4. Selected Water Conditions Metrics for SMAP.

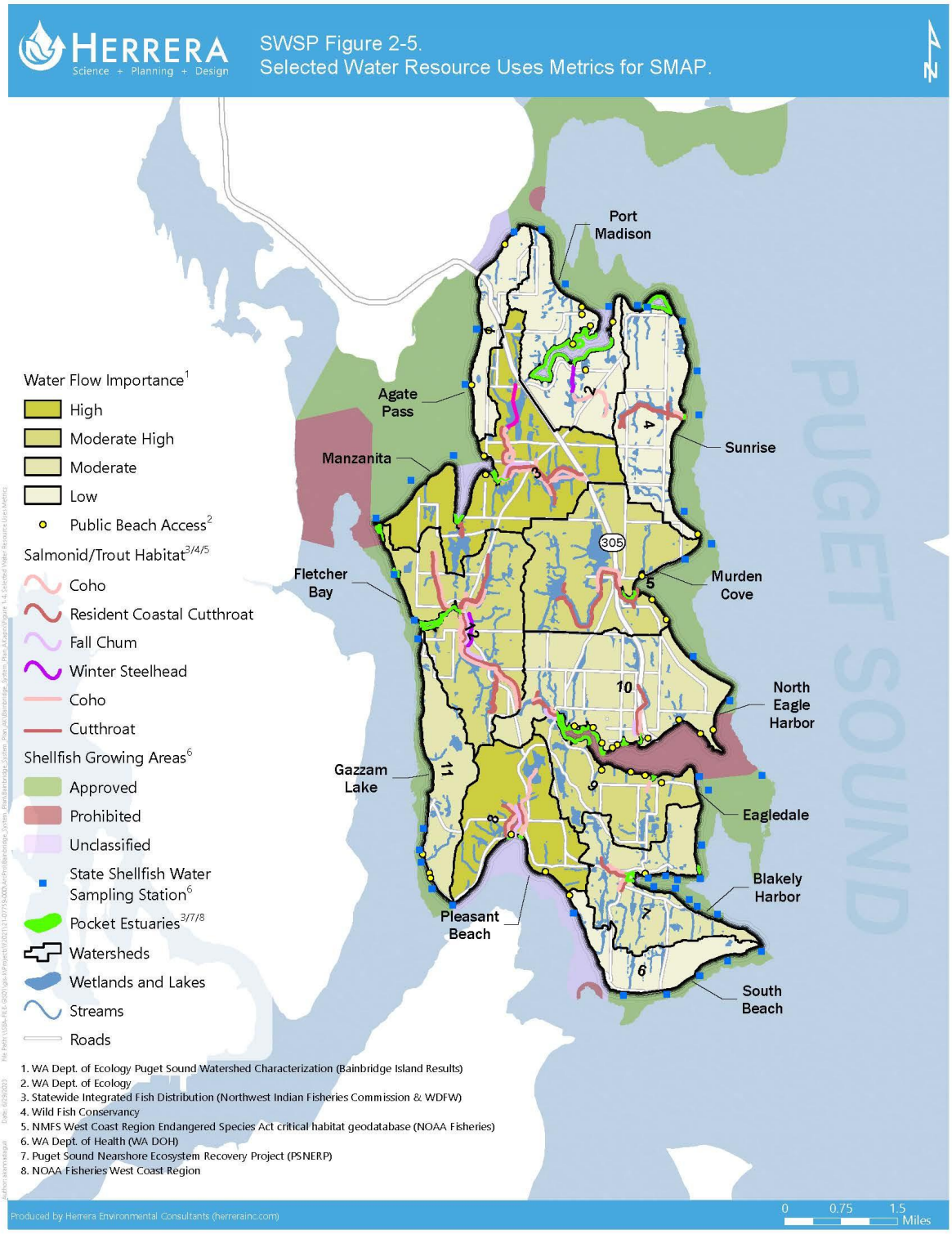


Figure 2-5. Selected Water Resource Uses Metrics for SMAP.

Each watershed was scored and ranked separately based upon the receiving water conditions assessment and then the stormwater management influence assessment. The scores were combined for a final cumulative score and ranking to assess relative conditions and contributions. The scores resulted in the selection of nine watersheds as candidates to consider with the next prioritization process.

SMAP-RECEIVING WATER PRIORITIZATION

The prioritization process considered further data as well as stakeholder input for each of the nine candidate watersheds. The prioritization process involved these four steps:

e) Evaluate Nine Candidate Watersheds

Each watershed was scored and ranked based on three evaluation categories:

- Overall Water Importance
- Habitat Conditions
- Development and Future Growth Water

f) Evaluate Priority Watersheds

The score and rank ratings resulted in each watershed being identified in one of four broad management matrix categories: Protection, Restoration, Conservation, Development. The four watersheds in the restoration category were selected to move on for further priority consideration because they are optimum candidates for stormwater facility retrofits and additional stormwater management actions.

g) Select the Highest Priority Watershed

The four remaining priority candidate watersheds were further evaluated using these inputs:

- Social equity and environmental justice
- Supplemental monitoring data
- Promotes other plans and projects
- Stakeholder feedback

Based on the evaluation and stakeholder feedback, Manzanita watershed was selected as the highest priority watershed. The selection was based on the following characteristics of Manzanita watershed:

- Ranked highest for Overall High Water Flow Importance
- Moderate level of existing development
- High level of potential groundwater withdrawal due to anticipated future growth
- Moderate-high rating for water flow degradation
- High level of support with studies, plans and projects targeting stormwater retrofits for stream flow preservation, protection of water flow importance and reducing impacts of future permit exempt wells
- Majority of stakeholder feedback agreed with selection of this watershed

h) Select One Catchment

The final step was to discover smaller catchments within Manzanita watershed that would expect to benefit most from future implementation of the three strategic elements:

1. Strategic retrofits, including a combination of both improvements of existing structural facilities and siting and construction of new facilities.
2. Land management strategies that act as a water quality management tools to conserve, protect, or restore receiving waters.
3. Strategic Stormwater Management Plan enhancements and targeted stormwater management actions.

The final selected catchment area was the eastern part of Manzanita watershed.

Figure 2-6 displays the eastern catchment area of Manzanita watershed and the current natural features and mapped stormwater infrastructure in the area.

The final selection result was also due to wanting to fully leverage and benefit from the work already underway with the Watershed Assessment of Manzanita funded through the Puget Sound National Estuary Program.

WATERSHED ASSESSMENT OF MANZANITA

The Watershed Assessment of Manzanita developed a preliminary list of 13 stormwater retrofit project opportunities to improve water quality in the Manzanita watershed. Out of the 13 projects, six projects were identified as most feasible to treat unmitigated stormwater and improve streamflow; then two of those projects were selected to move on to the design phase. The two projects, Fieldstone Lane and Bainbridge Island Native Food Forest (BINFF), received design input from stakeholder representative groups: Friends of the Farms, Squamish Tribe, Kitsap Conservation District, Bainbridge Island Land Trust, and Bainbridge Island Watershed Council. Fieldstone Lane was developed to the 30% design phase and BINFF was chosen to be developed to 100% design, which is now complete. These projects are included in the SMAP prepared for Manzanita watershed east catchment.

SMAP FOR MANZANITA WATERSHED EAST CATCHMENT

Following the selection of east Manzanita watershed as the priority catchment, the Team prepared a Stormwater Management Action Plan (SMAP) to meet Permit requirements. In summary, the SMAP identifies opportunities and costs for four retrofit projects, seven land management strategies related to restoration, conservation, or protection; and ten potential actions for Stormwater Management Program Enhancements for the east catchment of Manzanita watershed. Refer to Appendix E to review the full SMAP for Manzanita Each Catchment. Implementation of the SMAP is contingent on approval by COBI City Council. Recommendations B1-R9 through B1-R15 relate to Stormwater Management Action Planning.

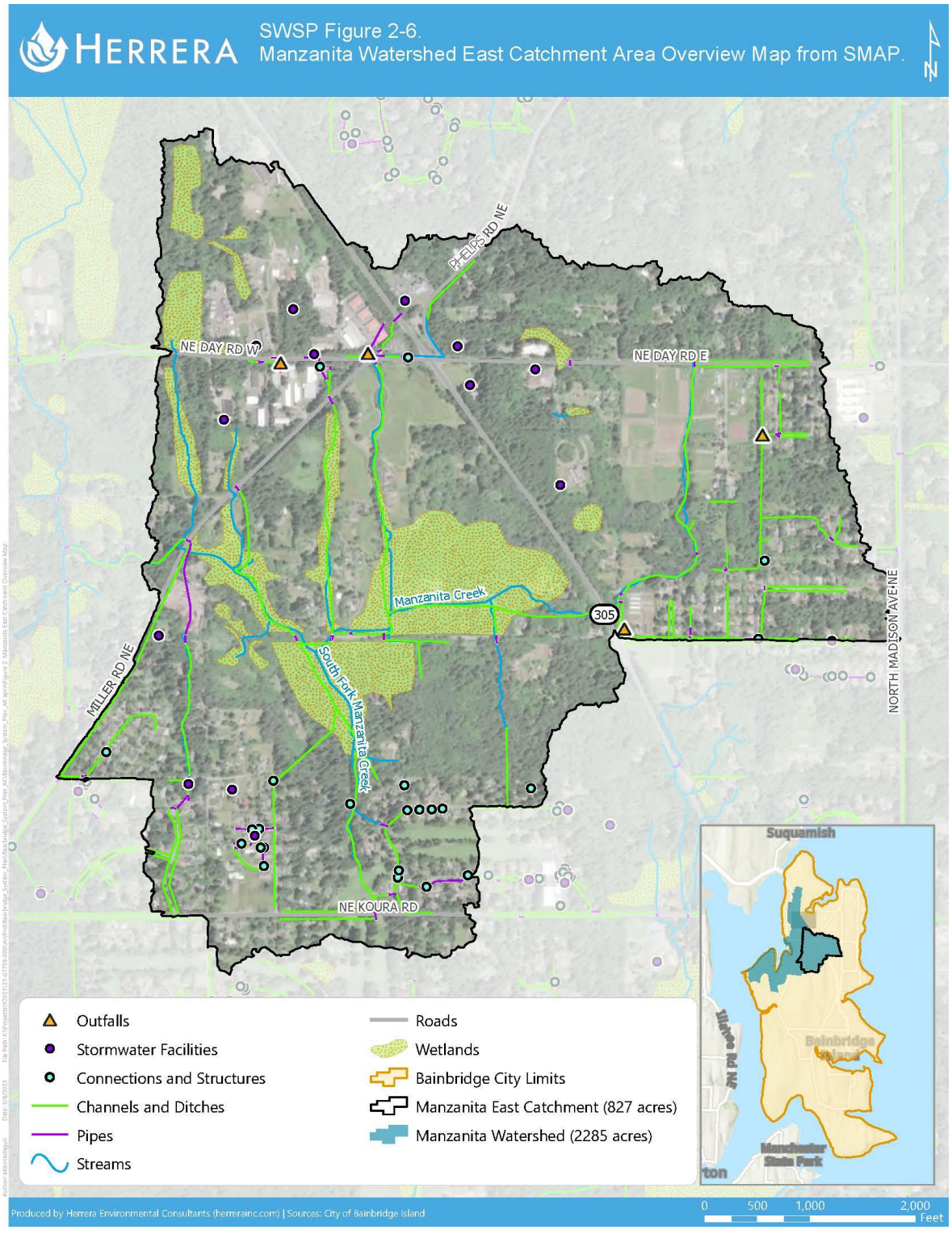


Figure 2-6. Manzanita Watershed East Catchment Area Overview Map from SMAP.

Recommendations B1-R9 through B1-R14 introduce adaptive processes to stormwater planning and SMAP implementation to help achieve greater City policies and goals as well as Phase II Permit compliance.

Recommendation B1-R9: Adaptive Assessment Process

This additional enhanced effort recommendation is to support and dedicate new resources to revisit and review the completed receiving water assessment process, data, and stakeholder feedback, and apply adaptive management, especially if new data or inputs are received. The receiving water assessment was completed in March 2022, and should be updated as new information becomes available.

Benefit assumptions: The assessment provides basic knowledge of water quality on and around Bainbridge Island and informs the prioritization process, see the following recommendations.

Cost assumptions: This recommendation could be carried out by COBI staff or with a consultant for approximately $10,000 plus $2,000 for 20 hours of staff time in 2025, for approximately $12,000 in total.

Recommendation B1-R10: Adaptive Prioritization Process

This additional enhanced effort recommendation is to support and dedicate new resources to revisit and review the completed receiving water prioritization process, data, and stakeholder feedback, and apply adaptive management, especially if new data or inputs are received. The first receiving water prioritization was completed in June 2022 and should be updated when new information becomes available.

Benefit assumptions: The prioritization process aids the City and community to identify water quality protection and restoration goals, which then informs stormwater management decisions and actions.

Cost assumptions: This recommendation could be carried out by COBI staff or with a consultant for $10,000 plus $2,000 for 20 hours of staff time in 2025, approximately $12,000 in total.

Recommendation B1-R11: Approve and Implement SMAP for Manzanita Watershed

This minimum effort recommendation is for supporting and dedicating new resources to approve implementation of the SMAP for Manzanita watershed submitted to Ecology in March 2023 (see SMAP in Appendix E), or any updated version of it (see Recommendation B1-R12: Update Manzanita SMAP or Create a Second SMAP).

For quick reference, Table 2-2 (SMAP Table 5-7) is the complete list of proposed projects and programs for Manzanita Watershed for City Council to consider.

Benefit assumptions: Implementing the stormwater retrofit projects, land management strategies, and stormwater management program enhancements will progress water quality protection and restoration in Manzanita watershed.

Cost assumptions: Approximately $20,000 for 240 hours of staff time each year starting in 2025 then ongoing thereafter to organize carrying out the activities defined in the SMAP, cost for each activity may be found in the SMAP, Appendix E.

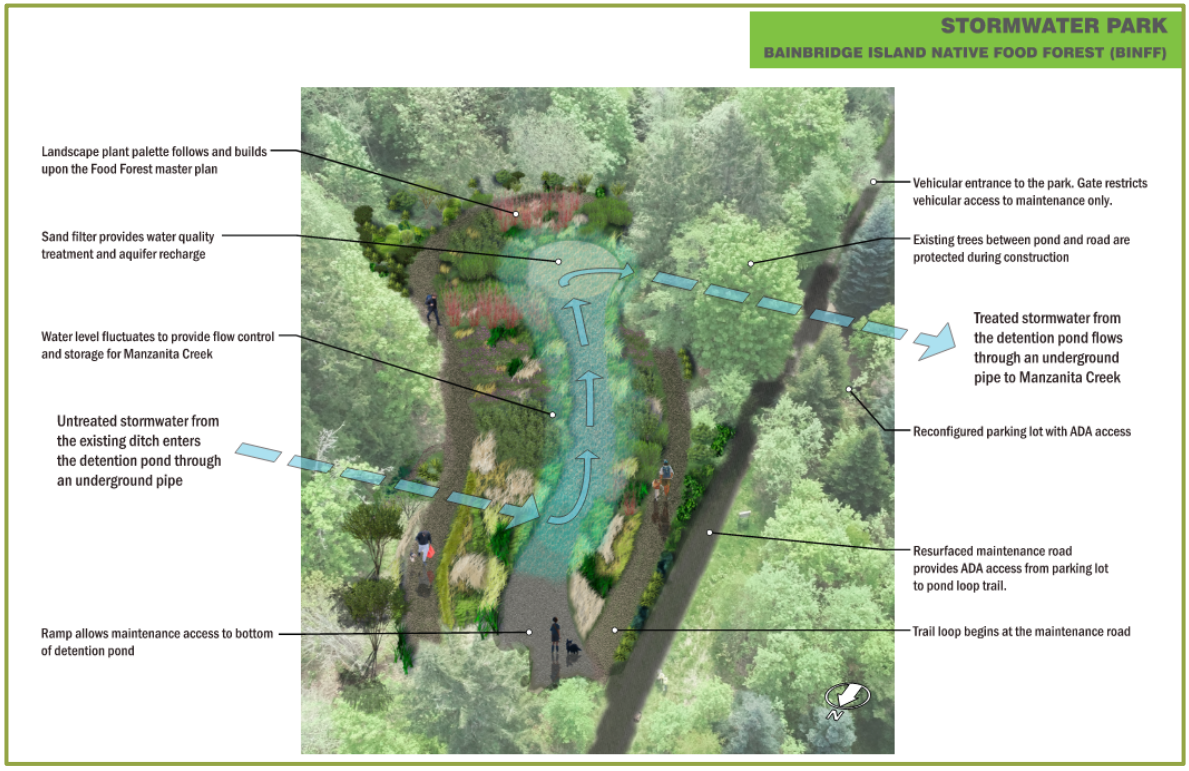


Table 2-2. SMAP Table 5-7: Manzanita Watershed East Catchment SMAP Proposed Projects and Programs Schedule and Cost Summary.

Proposed Projects and Programs	Schedule		Total Cost[b]
	Short- or Long-Term[a]	Duration	
RP-1. Design and construct Fieldstone Lane NE Regional Facility[c]	Short	One-time	$200,000
RP-3. Construct Bainbridge Island Food Forest Regional Facility	Short	One-time	$700,000
LM-1. Develop forest and wildland preservation process and policy	Short	One-time	$8,000
LM-2. Conduct soil restoration/regeneration education	Short	One-time	$8,000
LM-6. Identify annual drainage program projects – water quality/ flow control improvement project identification	Short	5 years	$8,000
SE-1. Perform enhanced stream and outfall monitoring and assessment	Short	5 years	$35,000
SE-2. Perform field screening for bacteria adjacent to agricultural properties[d]	Short	2 years	$20,000
SE-4. Prioritize source control inspections	Short	One-time	$0
SE-5. Develop enhanced storm system maintenance plan	Short	One-time	$8,000
SE-6. Perform enhanced street sweeping	Short	6 years	$72,000
SE-8. Develop tree, wetland, stream buffer, and noxious weeds homeowner education pilot program	Short	One-time	$20,000
SE-9. Develop residential natural yard care pilot program	Short	One-time	$20,000
SE-10. Communicate with and encourage public involvement and participation from the people and property owners in and around Manzanita East Catchment	Short	Annual	$0
RP-2. Design and construct Bayhill Pond Naturalization Retrofit	Long	One-time	$30,000–$75,000
RP-4. Design Miller Road NE/NE Day Rd W Linear Facility Retrofits	Long	One-time	$200,000–$300,000
RP-4. Construct Miller Road NE/NE Day Rd W Linear Facility Retrofits	Long	One-time	$500,000–$600,000
LM-3. Conduct impervious surface conversion pilot project	Long	One-time	$40,000
LM-4. Conduct Manzanita Creek Floodplain Restoration Feasibility Study	Long	One-time	$200,000
LM-5. Prioritize culvert replacements	Long	One-time	$3,200
LM-7. Conduct Lovgreen Road Flow Control Feasibility Study	Long	One-time	$100,000
SE-3. Perform field screening for bacteria adjacent to properties with septic systems	Long	2 years	$12,500
SE-7. Develop residential rain garden cost-share pilot program	Long	3 years	$20,000
Total Short-Term (2024–2030) Cost		**$1,099,000**	
Total Long-Term (2031–2044) Cost		**$1,105,700–1,350,700**	

[a] Short-term = implementation between 2024 to 2030; Long-term = implementation between 2031 and 2044.

[b] Cost estimates are in 2022 dollars. Inflation and escalation of costs were not incorporated into cost estimates.

[c] 30 percent design is complete. Design costs include taking the project from 30 percent design to 100 percent design.

[d] Includes agricultural property survey and an update to risk level.

LM = land management strategy; RP = strategic stormwater retrofit project opportunity; SE = stormwater management program enhancement

LID = low impact development; O&M = operations and maintenance; WQ = water quality

Recommendation B1-R12: Update Manzanita SMAP or Create a Second SMAP

This minimum effort recommendation builds off Recommendation B1-R11: Approve and Implement SMAP for Manzanita Watershed and is to support and dedicate new resources to conduct another prioritization process to identify one new high priority catchment or update the existing SMAP for Manzanita watershed. This recommendation is based on draft 2024–2029 Permit language (Appendix G); whereas, no later than December 31, 2026, the City shall complete a SMAP for at least one new priority catchment or update the existing SMAP with additional actions that address transportation-related runoff, such as projects that address tire wear runoff.

The stakeholders involved in the SMAP process expressed disappointment that only one catchment was being selected to prioritize (which was the minimum required by the 2019–2024 Permit), so any opportunity to prioritize more than one catchment would likely be appreciated.

Benefit assumptions: Identifying priority areas for protection and restoration helps with focusing limited resources for the most effective stormwater management decisions and actions.

Cost assumptions: This recommendation could be carried out by COBI staff or with a consultant for approximately $20,000 plus $4,000 for 40 hours of staff time in 2026, approximately $24,000 in total.

Recommendation B1-R13: SMAP & Sub-area Planning

This additional enhanced effort recommendation is to support and dedicate new resources to integrating SMAP receiving water assessment and prioritization results into sub-area planning efforts. As part of the Comp Plan, COBI developed subareas plans for Winslow and Lynwood Center.

Benefit assumptions: Folds stormwater management action planning into City long-range plans.

Cost assumptions: This recommendation could be carried out by COBI staff or with a consultant for $10,000 plus $2,000 for 20 hours of staff time in 2027, approximately $12,000 in total.

Recommendation B1-R14: SMAP & Capital Projects Prioritization

This additional enhanced effort recommendation is for supporting and dedicating new resources to review and potentially reprioritize already identified Capital Improvement and Annual Drainage Repair and Maintenance Program projects based on SMAP receiving water assessment and prioritization results. Furthermore, Capital projects would be reprioritized based on the prioritization scoring system discussed in Chapter 4 for Stormwater Utility Improvements.

Benefit assumptions: Incorporating water quality protection and restoration goals into project identification and prioritization helps to focus use of limited resources for the most effective outcomes.

Cost assumptions: This recommendation could be carried out by COBI staff or with a consultant for $10,000 plus $2,000 for 20 hours of staff time in 2027, approximately $12,000 in total.

Public Education and Outreach Assessment and Recommendations

The public education and outreach program assessment was conducted, and recommendations were developed, with the overarching **Comp Plan Policy WR 4.3** in mind:

"Improve and maintain 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."

This section is supported by Table B-2 in Appendix B, and Table C-2 in Appendix C. Table B-2 displays the public education and outreach assessment information and recommendations alongside the Permit Requirements and related CAP goals/actions and Comp Plan goals/policies (Appendix A). Table C-2 helps illustrate the financial cost and timeframes estimated for each public education and outreach recommendation over the next six years and beyond. Table 2-3 below is a snapshot of the unique recommendations in this section and Appendix B, Table B-2.

Table 2-3. Summary of Unique Public Education and Outreach Recommendations in Appendix B, Table B-2.

RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES	RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES
• B2-R1: Coordination of Education and Outreach Activities • B2-R2: Stormwater Education and Outreach Plan & Annual Awareness Campaign • B2-R3: Consider Overburdened Communities • B2-R8: Existing Behavior Change Campaigns • B2-R10: Promote Stewardship Opportunities • B2-R11: COBI Pet Waste Control Program	• B2-R4: Multi-Year Awareness Campaign(s) • B2-R5: General Awareness Training for New Staff and Volunteers • B2-R6: General Awareness and BMPs Training • Program for Staff • B2-R7: Training and Certification Program for • Priority Audiences • B2-R9: Expand Existing Behavior Change • Campaign • B2-R12: Provide a Stewardship Opportunity • B2-R13: Ongoing Stewardship Program
Summary only includes unique S5.C.2 recommendations; reiterated recommendations are included in the full assessment and recommendations Table B-2 in Appendix B.	

The current COBI stormwater public education and outreach program is designed to build awareness, effect change, and encourage stewardship that will ultimately reduce pollutants in stormwater and improve water quality in receiving waters. COBI accomplishes much of this through pooled efforts and resources organized and produced through a formal partnership in the West Sound Stormwater Outreach Group (WSSOG) as well as involvement in efforts lead by Sustainable Bainbridge community groups. COBI staff currently have limited resources and time to produce education and outreach materials or organize regular outreach or stewardship activities. As time permits throughout the year, Water Resources staff prepare general awareness information display in the City Hall lobby, notifications through COBI Water Resources Listserv, and engage in providing education and outreach when invited to do so with local community groups, organizations, and schools. Every year, over the month of September the City participates in the Puget Sound Starts Here (PSSH) Month regional awareness

campaign by City Council Proclamation, by Water Resources staff hosting a table at the Farmer's Market, and sharing information through articles in the City Manager's weekly newsletter.

Assessment and recommendations for public education and outreach are presented in these three groupings to address minimum performance measures as outlined in the 2019–2024 Permit:

- **General Awareness Education and Outreach:** To build general awareness about methods to address and reduce impacts from stormwater runoff (S5.C.2.a.i).
- **Behavior Change Education and Outreach:** To effect behavior change to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts (S5.C.2.a.ii).
- **Stewardship:** To create stewardship opportunities that encourage community engagement in addressing the impacts of stormwater runoff (S5.C.2.a.iii).

General Awareness Education and Outreach

COBI is required to implement education and outreach for the area served by the MS4 per Section S5.C.2.a of the 2019–2024 Permit. In brief, the City must prioritize and schedule annual education and outreach activities for specific audiences and topics.



Recommendations B2-R1 through B2-R7, plus B1-R8 reiterated, provide strategies for general awareness education and outreach.

Recommendation B2-R1: Coordination of Education and Outreach Activities

This minimum effort recommendation is to continue to support and dedicate resources to education and outreach activities, including coordination with other NPDES Permittees, agencies, and organizations; especially continue formal ILA partnership with WSSOG.

COBI has been a member of the WSSOG since 2012 through a biennial renewal of an Interlocal Agreement (ILA) contract. The last contract renewal extends COBI WSSOG membership through 2025 with an annual cost of $13,142. COBI also coordinates with many local and regional agencies on regular and one-time education and outreach activities and events.

Benefit assumptions: Collaborating on knowledge and resource sharing for greater effectiveness, resource efficiency, and consistent messaging across neighboring jurisdictions.

Cost assumptions: The current annual contract amount with WSSOG is $13,142 for 2024 and 2025, and if the contract is amended to continue into future years the annual amount may increase in 2025 and each year thereafter. Estimated future cost is $18,000 annually to cover the contract amount plus $4,000 for 40 hours of staff time each year to manage the contract and coordinate education and outreach activities, plus a minor annual budget of $1,000 for outreach materials starting in 2024 then ongoing thereafter.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Recommendation B2-R2: Stormwater Education and Outreach Plan & Annual Awareness Campaign

This minimum effort recommendation is to support and dedicate new resources to establish a COBI specific Stormwater Education and Outreach Plan, with the help of the Communications Coordinator, that provides strategies and tactics to schedule and employ to meet education and outreach goals; including developing and implementing annual campaigns for, at a minimum, one priority audience and one subject area.

Benefit assumptions: Annual one-time active education and outreach engagement with one priority audience on one priority topic to advance awareness and inspire behavior change.

Cost assumptions: Approximately $4,000 annually for 40 hours of staff time in 2025 to create a Stormwater Education and Outreach Plan, then ongoing thereafter with 48 hours of staff time each year to implement the plan.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Recommendation B2-R3: Consider Overburdened Communities

This minimum effort recommendation is to support and dedicate new resources to use the 2021–2022 Kitsap County Overburdened Communities Assessment Study to identify overburdened communities on Bainbridge Island, then consider those communities as a priority audience for general awareness education and outreach (also see Recommendation B3-R3: Involve Overburdened Communities and Appendix B, Table B-3).

The Permit specifies including overburdened communities in education and outreach and public participation. Overburdened communities as defined by the Permit means: *"minority, low-income, tribal, or indigenous populations or geographic locations in Washington State that potentially experience disproportionate environmental harms and risks. This disproportionality can be as a result of greater vulnerability to environmental hazards, lack of opportunity for public participation, or other factors. Increased vulnerability may be attributable to an accumulation of negative or lack of positive environmental, health, economic, or social conditions within these populations or places. The term describes situations where multiple factors, including both environmental and socio-economic stressors, may act cumulatively to affect health and the environment and contribute to persistent environmental health disparities."*

Through WSSOG, COBI participated in the Kitsap County Overburdened Communities Assessment Study Project completed in 2022 to identify potential overburdened communities on Bainbridge Island and recommend methods for reaching those communities. The study revealed little to none overburdened communities currently on Bainbridge Island. However, COBI will benefit from employing the study's resulting recommended communication strategies for overburdened communities for the whole community, which is to focus on creating equitable, inclusive, and accessible opportunities to provide information and collect input.

It is further recommended that COBI staff receive training and guidance on the topic and issues of overburdened communities, and look to the City's new Equity and Inclusion Manager for this. It is also recommended that the COBI Race Equity Advisory Committee help as a channel for sharing information and input between COBI staff and the community.

Benefit assumptions: Find and learn to bridge any gaps in reaching all community members, especially those who may be overburdened.

Cost assumptions: Approximately $3,000 annually for a total of 32 staff hours, 8 hours per year for at least four staff, to receive training and guidance on the topic and issues of overburdened communities and apply it in their work starting in 2024 then ongoing thereafter.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as CAP Other Action 8.A.1.g: *"Incorporate vulnerability evaluations into COBI decision-making for all projects."*

Recommendation B2-R4: Multi-Year Awareness Campaign(s)

This additional enhanced effort recommendation builds off Recommendation B2-R2: Stormwater Education and Outreach Plan & Annual Awareness Campaign to support and dedicate new resources to establish a multi-year scheduled phased campaign(s) for one or more new priority audience(s) and one or more new subject area(s). Incorporate metrics to measure effectiveness into campaigns.

Benefit assumptions: Multiyear active education and outreach engagement with one or more priority audience on one or more priority topic to advance awareness and inspire behavior change.

Cost assumptions: This recommendation could be carried out by trained COBI outreach staff or with a consultant at approximately $10,000 total annually for $5,000 for consultant support/staff hours plus $5,000 education and outreach budget starting in 2025 then ongoing thereafter.

Recommendation B2-R5: General Awareness Training for New Staff and Volunteers

This additional enhanced effort recommendation is to support and dedicate new resources to develop and implement on-boarding general awareness training for new staff and volunteers. This will be most effective with Human Resources support and assistance, such as through the use of already acquired training and tracking software.

COBI does not currently have a formal general awareness training program for staff and volunteers. Training is required under multiple sections of the 2019–2024 Permit.

Benefit assumptions: Staff and volunteers are members of the education and outreach target audiences (i.e., general public, engineers, land use planners, etc.) and would benefit from knowledge gained through general awareness training.

Cost assumptions: This would be an internal ongoing training program that could be developed and implemented by COBI staff or with a consultant for approximately $10,000 in 2024. The cost assumption does not include the cost for staff time to complete the training.

Recommendation B2-R6: General Awareness and BMPs Training Program for Staff

This additional enhanced effort recommendation builds off Recommendation B2-R5: General Awareness Training for New Staff and Volunteers to support and dedicate new resources to develop and implement general awareness and BMP subject areas training and certification requirements for appropriate COBI staff (see other recommendations for staff training needs throughout the SWMP recommendations). This will be most effective with Human Resources support and assistance, such as through the use of already acquired training and tracking software.

Benefit assumptions: Requiring and tracking training for COBI staff helps ensure a knowledgeable staff base working to effectively reduce and eliminate runoff.

Cost assumptions: This would be an internal ongoing training program that could be developed by COBI staff or with a consultant for approximately $10,000 in 2024; then $4,000 annually for an estimated 40 hours of staff time each year to accomplish the training starting in 2025 then ongoing thereafter.

Recommendation B2-R7: Training and Certification Program for Priority Audiences

This additional enhanced effort recommendation is to support and dedicate new resources to develop and implement a training and certification program for general awareness and specific subject areas appropriate for businesses and contractors providing professional services on Bainbridge Island. Such a program could be voluntary and/or mandatory and could be incorporated into the business license approval process, and/or certain permit approval processes, and could also be tied to helping address certain code enforcement warnings and/or violations. Example training/certification subjects are: design and construction standards for stormwater, including LID principles and BMPs; preparing and adhering to site sediment and erosion control plans; illicit detection and elimination; source control BMPs; stormwater infrastructure inspection and maintenance procedures.

Benefit assumptions: This program would fulfill 2019–2024 Permit requirements for an education and outreach program, and could also become a behavior change campaign, for some or all of the target audiences: of Engineers, contractors, developers, residents, landscapers, property managers/owners, businesses (including home-based or mobile businesses).

Cost assumptions: This would be an ongoing training program that could be developed by COBI staff or with a consultant at approximately $20,000 in 2025; then $4,000 annually for an estimated 40 hours of staff time each year to conduct the training starting in 2025 then ongoing thereafter.

Recommendation B1-R8: LID Assistance Program (reiterated)

This additional enhanced effort recommendation was presented in the Stormwater Planning section (Appendix B, Table B-1) and is reiterated for Education and Outreach to reinforce this as a strategy to meet more than one Permit requirement and/or greater City policy/goal.

Behavior Change Education and Outreach

COBI is required to develop and implement a behavior change campaign to address, at a minimum, one target audience and one target BMP as per 2019–2024 Permit Section S5.C.2.a.ii.

As part of the WSSOG, COBI has been participating in two behavior change campaigns: pet waste and natural yard care. The pet waste behavior change campaign, otherwise known as the "Mutt Mitt" Program, aims to reduce harmful bacteria in water by installing and maintaining pet waste bag stations to help facilitate and encourage people to pick up their pet waste and dispose of it properly in the garbage. The natural yard care behavior change campaign focuses on single family home or townhome residents with kids and/or pets who have "Do It Yourself" yards to ensure responsible, minimal use and storage of pesticides, fertilizers and/or other chemicals. The natural yard care campaign focus on reducing or eliminating excess nutrients and pesticides in water.

Recommendations B2-R8 and B2-R9 provide strategies to attempt to effect behavior change to meet Permit compliance and greater City goals and policies, but more importantly to benefit water quality and public health.

Recommendation B2-R8: Existing Behavior Change Campaigns

This minimum effort recommendation builds off Recommendation B2-R1: Coordination of Education and Outreach Activities to continue to support and dedicate resources to partner with WSSOG on the next phases of the "Mutt Mitt" Program regional behavior change campaign and the natural yard care social marketing regional behavior change campaign.

- Re-evaluate and document lessons learned by July 1, 2025
- Develop a strategy and schedule to more effectively implement existing campaign(s) and expand to a new priority audience by July 1, 2026
- Implement the strategy and schedule by September 1, 2026

This recommendation is based on draft 2024–2029 Permit language (Appendix G).

The existing natural yard care program helps achieve **Comp Plan Policy WR 3.17: "Support a community-wide program to educate Island residents about alternatives to using and disposing of herbicides, pesticides, and other household chemicals, to reduce impacts to marine shoreline areas, wetlands, streams, and other environmentally sensitive areas."**

Benefit assumptions: Cost effectiveness in pooling resources with WSSOG to accomplish behavior change campaign requirements.

Cost assumptions: Approximately $4,000 annually for 40 hours of staff time to continue to support the regional behavior change campaigns at least through 2029.

This recommendation is reiterated in the TMDL section (Appendix B, Table B-9) and the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Recommendation B2-R9: Expand Existing Behavior Change Campaign

This additional enhanced effort recommendation is an alternate option to Recommendation B2-R8. This recommendation proposes ending the partnership with WSSOG on the natural yard care social marketing regional behavior change campaign in order to support and dedicate new resources to create a customized local natural yard care campaign more specific to COBI residents and property owners. This could mean opting out of the regional campaign or staying with it but with modifications and additional activities.

Benefit assumptions: A COBI customized campaign may be more relevant and effective but will utilize more COBI resources.

Cost assumptions: This recommendation could be carried out by trained COBI outreach staff or with a consultant at approximately $10,000 total annually for $5,000 for consultant support/staff hours plus $5,000 education and outreach budget starting in 2025 then ongoing thereafter.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as greater City policies/goals.

Stewardship

COBI is required to provide and advertise stewardship opportunities and/or partner with existing organizations to encourage residents to participate in activities or events planned and organized within the community as per 2019–2024 Permit Section S5.C.2.a.iii.

Many Comp Plan goals/policies and CAP goals/actions relate to stewardship, a few examples are:

- **Comp Plan Policy WR 4.3: "Improve and maintain 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."**
- **Comp Plan Policy WR 6.2: "Promote opportunities for citizen stewardship and involvement."**
- **Comp Plan Policy LU 2.4: "Develop a City program that recognizes and rewards stewardship so that others will be encouraged to follow suit."**



Recommendations B2-R10 through B2-R13 provide a strategy for the City to promote and also provide stewardship opportunities on Bainbridge Island.

Recommendation B2-R10: Promote Stewardship Opportunities

This minimum effort recommendation is to continue to support promoting volunteer stewardship opportunities hosted by other local and regional agencies and community groups.

COBI encourages residents to participate in stewardship programs organized by non-city entities by advertising those opportunities when the City is made aware of them. COBI sometimes partners and provides limited resources in stewardship programs and events, but this happens infrequently and inconsistently, and no dedicated resources are designated to providing or promoting stewardship opportunities beyond advertising through City communication outlets.

Benefit assumptions: Insignificant resource use to promote and advertise stewardship opportunities provided by non-city entities.

Cost assumptions: Approximately $1,000 annually for 12 hours of staff time each year to support promoting and advertising stewardship opportunities starting in 2024 then ongoing thereafter.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Recommendation B2-R11: COBI Pet Waste Control Program

This minimum effort recommendation is to continue support and dedicate resources to the COBI Pet Waste Control Program as a stewardship opportunity and for TMDL compliance (also see Recommendation B9-R5 Add Pet Waste Collection Services and Appendix B, Table B-8).

The COBI Pet Waste Control Program, which includes the WSSOG Mutt-Mitt Program, promotes and facilitates stewardship by reminding people to pick up their pet waste and put it in the garbage to protect water quality. The program provides free pet waste bag stations installed all around the island to help prevent fecal coliform bacteria release into the environment and TMDL area. In total, there are 54 public pet waste bag stations island-wide (this total does not include the many privately owned and maintained stations located around the island, such as on park lands). Figure 2-7 displays the general locations of all the public pet waste bag stations on Bainbridge Island.

Ten of the 54 public stations are managed by Public Works, where O&M staff regularly inspect and maintain the stations installed at COBI owned and operated lands adjacent to stream and marine shorelines within the TMDL area where people commonly walk their pets. The other 44 public stations are managed by volunteers who thankfully keep the stations clean and stocked all on their own.

Benefit assumptions: The COBI Pet Waste Control Program reduces the amount of pet waste left on the ground and in stormwater runoff.

Cost assumptions: Approximately $5,000 annually for 52 total hours of staff time: 48 hours of staff time each year to continue to regularly inspect and maintain the 10 pet waste stations managed by COBI starting in 2024 then ongoing thereafter, and 4 hours of staff time each year to coordinate with WSSOG and the "Mutt Mitt Program" starting in 2024 then ongoing thereafter.

This recommendation is reiterated for Compliance with TMDL Requirements (Appendix B, Table B-9) to reinforce the recommendation as a strategy to meet more than one Permit requirement and/or greater City policy/goal.



Figure 2-7. Public Pet Waste Stations on Bainbridge Island.

Recommendation B2-R12: Provide a Stewardship Opportunity

This additional enhanced effort recommendation is to do more than just promote stewardship opportunities hosted by other local and regional agencies and community groups (Recommendation B2-R10), it is to support and dedicated new resources to annually host and organize at least one stewardship opportunity on public property, this could be a one-time standalone project or a project that helps an existing program (e.g., hazardous waste collection event, rain barrel sale, community cleanup day, riparian vegetation planting or noxious weed control at stormwater facilities, etc.).

Benefit assumptions: Buildup stewardship in the community and gain volunteer assistance at public lands in need of more management.

Cost assumptions: Approximately $7,000 annually for 80 hours of staff time per year to support providing one annual stewardship opportunity starting in 2024 then ongoing thereafter.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Recommendation B2-R13: Ongoing Stewardship Program

This additional enhanced effort recommendation builds off Recommendation B2-R12 to create one ongoing stewardship program (e.g., Salmon Monitoring, Stream Stewards, Noxious Weed Control Team at Waterfront Park, Adopt-a-Catch-Basin, etc.).

Benefit assumptions: Buildup stewardship in the community and gain volunteer assistance where there is need.

Cost assumptions: Approximately $12,000 annually for 144 hours of staff time each year to support providing stewardship opportunities starting in 2024 then ongoing thereafter.

This recommendation is reiterated in the Monitoring section and Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Public Involvement and Participation Assessment and Recommendations

The public involvement and participation assessment was conducted, and recommendations were developed, with the overarching **Comp Plan Policy WR 4.2** in mind:

"Provide ongoing opportunities for the public to participate in the decision-making process involving the development, implementation, and update of the City's Stormwater Management Program through advisory councils, public hearings, and watershed committees."

This section is supported by Table B-3 in Appendix B, and Table C-3 in Appendix C. Table B-3 displays the public involvement and participation assessment information and recommendations alongside the Permit Requirements and related CAP goals/actions and Comp Plan goals/policies (Appendix A).

Table C-3 helps illustrate the financial cost and timeframes estimated for each public involvement and participation recommendation over the next six years and beyond.

Per Permit Section S5.C.3, COBI is required to provide ongoing opportunities for the public, including overburdened communities, to participate in the decision-making processes involving the development, implementation, and update of COBI's SWMP.

COBI encourages and values public engagement in the SWMP and annual SWMP Plan because the public is both the primary investor and beneficiary of SWMP actions and outcomes. COBI creates opportunities for the public, including overburdened communities, to participate in decision-making processes involving development, implementation, and updates to the SWMP primarily by soliciting and welcoming feedback on the SWMP Plan and SWMP actions primarily through the following means:

- COBI Water Resources Listserv
- COBI Website
- COBI Facebook Page
- COBI Nextdoor Page
- COBI SeeClickFix and Kitsap1 Incident Reporting
- City Council and City Council Meetings
- Citizen Advisory Groups and Meetings
- E-mail: waterresources@bainbridgewa.gov
- Telephone: 206-842-2016
- Mail: posted to City Hall at 280 Madison Ave N, Bainbridge Island, WA 98110
- In person: at City Hall or elsewhere

In recent years, the City has received very little public input on the Stormwater Management Program (SWMP).

Table 2-4 is a snapshot of the unique recommendations in this section and Appendix B, Table B-3.

Table 2-4. Summary of Unique Public Involvement and Participation Recommendations in Appendix B, Table B-3.

RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES	RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES
• B3-R1: Provide Opportunities for Public Input • B3-R2: Publicize the SWMP Plan and Annual Report • B3-R3: Involve Overburdened Communities	• B3-R4: Regular Public Presentation on SWMP Activities • B3-R5: Ongoing Public Forum through Engage Bainbridge • B3-R6: Regular Public Meetings and Workshops
Summary only includes unique S5.C.3 recommendations; reiterated recommendations are included in the full assessment and recommendations Table B-3 in Appendix B.	

Recommendation B3-R1: Provide Opportunities for Public Input

This minimum effort recommendation is to continue to support and dedicate resources to provide opportunities for public review and input on the SWMP, SMAP, Stormwater System Plan (SWSP), and any other storm and surface water utility related decisions, documents, and activities.

Benefit assumptions: Insignificant resource use to utilize existing means for facilitating public input.

Cost assumptions: Approximately $1,000 annually for 4 hours of staff time each year to provide opportunities for public input starting in 2024 then ongoing thereafter.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Recommendation B3-R2: Publicize the SWMP Plan and Annual Report

This minimum effort recommendation is to continue to support and dedicate resources to post the up-to-date SWMP Plan and annual report on COBI's website (www.bainbridgewa.gov/stormwater) no later than May 31 each year.

Benefit assumptions: Insignificant resource use to post these two public document items on the COBI website.

Cost assumptions: Approximately $1,000 annually for 4 hours of staff time each year to post the SWMP Plan and annual report in 2024 and ongoing thereafter.

Recommendation B3-R3: Involve Overburdened Communities

This minimum effort recommendation builds from Recommendation B2-R3 (Public Education and Outreach, Appendix B, Table B-2) and is to support and dedicate new resources to create and provide involvement opportunities to identified overburdened communities. And, annually document these efforts, and methods to identify overburdened communities, and submit to Ecology no later than December 31, 2026. This recommendation is based on draft 2024–2029 Permit language (Appendix G).

Benefit assumptions: Making efforts to involve overburdened community members is one way to learn how the City may better serve overburdened communities.

Cost assumptions: Approximately $4,000 annually for 40 hours of staff time each year to create and provide involvement opportunities to overburdened communities and document the efforts starting in 2025 then ongoing thereafter.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Recommendation B3-R4: Regular Public Presentation on SWMP Activities

This additional enhanced effort recommendation is to support and dedicate new resources to create and conduct an annual public presentation to City Council on Stormwater Management Program (SWMP) planning and activities. The presentation may be by Public Works or an Advisory Committee.

Benefit assumptions: Presentations will provide opportunity for people to gain more insight and knowledge regarding COBI's Stormwater Management Program and Storm and Surface Water Utility and may promote more public engagement.

Cost assumptions: Approximately $4,000 annually for 40 hours of staff time each year to prepare materials and present to City Council starting in 2024 then ongoing thereafter.

Recommendation B3-R5: Ongoing Public Forum through Engage Bainbridge

This additional enhanced effort recommendation is to support and dedicate new resources to develop and implement an Engage Bainbridge website as a public forum for information sharing and providing feedback on SWMP planning and activities. Engage Bainbridge is an online forum already used by the City to communicate, educate, and facilitate public input to help inform decision making.

Benefit assumptions: Cost effective and consistent public engagement method.

Cost assumptions: Approximately $4,000 for 40 hours of staff time in 2024 to develop and implement an Engage Bainbridge site; then approximately $1,000 annually for 10 hours of staff time each year to upkeep the site starting in 2025 then ongoing thereafter.

Recommendation B3-R6: Regular Public Meetings and Workshops

This additional enhanced effort recommendation builds from the five previous recommendations and is to organize and conduct regular and special public meetings and workshops to engage the public in SWMP planning and activities and provide education and training opportunities for storm and surface water management.

Benefit assumptions: Such forums will provide a method for the public to engage with the City and to learn about ways to protect water quality they may want to adopt.

Cost assumptions: Approximately $4,000 annually for 40 hours of staff time each year to present the SWMP at public meetings and workshops starting in 2024 then ongoing thereafter.

Recommendation B1-R3: Stormwater Management Advisory Group (reiterated)

This additional enhanced effort recommendation is presented in the Stormwater Planning section (Appendix B, Table B-1) and is reiterated for Public Involvement and Participation to reinforce this as a strategy to meet more than one Permit requirement and/or greater City policy/goal.

Recommendation B1-R4: Increase General Public Engagement (reiterated)

This additional enhanced effort recommendation is presented in the Stormwater Planning section (Appendix B, Table B-1) and is reiterated for Public Involvement and Participation to reinforce this as a strategy to meet more than one Permit requirement and/or greater City policy/goal.

Municipal Separate Storm Sewer System (MS4) Mapping and Documentation Assessment and Recommendations

This section is supported by Table B-4 in Appendix B, and Table C-4 in Appendix C. Table B-4 displays the mapping and documentation assessment information and recommendations alongside the Permit Requirements and related CAP goals/actions and Comp Plan goals/policies (Appendix A). Table C-4 helps illustrate the financial cost and timeframes estimated for each mapping and documentation recommendation over the next six years and beyond. Additional information to support this section is contained in Appendix D.

The Permit requires the City to electronically map the Municipal Separate Storm Sewer System (MS4), or public stormwater system, and provide the map data upon request. COBI electronically maps with Esri ArcGIS software. Electronic map access for staff and public use could be improved. Map data is available online anytime via the City's GIS Map Gallery webpage and through the map titled "SAR Web Application"; SAR is the acronym for "Site Assessment Review," which is required for permitted new development and redevelopment projects in size or scope that trigger this review. Since the SAR map is not intended for daily use by staff and the public would more likely find the map if it were labeled more clearly, the City is encouraged to either rename the SAR map or create a standalone stormwater system map for easy reference for everyone.

The current stormwater map is shown in Figure 1-1 in Chapter 1 where stormwater infrastructure is discussed. The current data provides some basic nominal information for location and infrastructure type for each asset. Existing stormwater mapping is the result of prior Permit requirements and was completed by a mix of Public Works staff, seasonal interns, and consultants, and was usually completed as special projects to meet Permit compliance. The map data has not been added to or updated significantly since 2018 due to lack of staff to conduct the work.

The map's value declines when it does not contain the most current or complete data for assets. Stormwater system map data is intended to inform and aid SWMP work planning and activities. For example, map data aids tracing and correcting impacts from flooding and from spills and illicit discharges; is used to identify assets to inspect and maintain; and map data informs development and redevelopment conditions for permitting.

The City is also required to have documented data standards for mapping to ensure the quality and usefulness of the data. The City has adopted a modified version of the Ecology and King County mapping data standards but has not completed documenting the standards and procedures.

COBI has been challenged by lack of resources to conduct ongoing MS4 mapping or complete new MS4 mapping and documentation requirements pursuant to the Permit. The City submitted a G20

notification of non-compliance to Ecology in 2023 for not meeting Permit requirements for mapping and documentation due to lack of staff resources. The notification states the City intends to meet permit requirements by the end of 2024 once the new City Council approved Public Works GIS technician is hired and completes the needed stormwater mapping updates and standards documentation.

The MS4 mapping and documentation assessment identified a potential benefit to the organization if a more formalized infrastructure asset data management approach was adopted to address current challenges for the City in knowing what assets it is responsible for, where those assets are located, and what the condition rating is for each asset. The City is encouraged to consider advancements in asset data management.

Currently, some asset data is recorded and tracked by different staff across multiple different software programs with no connection. Finance Department records some cost data for some infrastructure assets inventoried in Munis financial software. Public Works inventories some assets in ArcGIS mapping software and some assets in Excel Spreadsheets, and some assets are inventoried in both places. The map data is used to help identify and locate assets, then the Excel spreadsheets are used to record and track inspection and maintenance activities for each asset. No COBI policy or procedure was found to better understand the systems currently in place for asset data recordkeeping.



Table 2-5 is a snapshot of the twelve unique recommendations presented in this section and Appendix B, Table B-4. Six are minimum effort recommendations that provide strategies for compliance with current and anticipated future Permit requirements for mapping and documentation. And, six are additional enhanced effort recommendations that introduce strategies for the organization to advance asset data use, collection, integrity, and reporting to improve work planning and budgeting.

Table 2-5. Summary of Unique MS4 Mapping and Documentation Recommendations in Appendix B, Table B-4.

RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES	RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES
• B4-R1: One-time Map Updates • B4-R2: Ongoing Map Updates • B4-R3: Outfall and Discharge Points Update • B4-R4: Acres Managed and Unmanaged by Stormwater Treatment and Flow Control BMPs/Facilities • B4-R5: Tree Canopy Map • B4-R10: Mapping Standards	• B4-R6: Flow Direction Update • B4-R7: Additional Mobile Technology and Software • B4-R8: Ongoing Public Works Mapping and Documentation • B4-R9: GIS Network/Stormwater Model • B4-R11: Upgrade Recordkeeping and Reporting with Asset Management System Software • B4-R12: Asset Management Training Program

Recommendation B4-R1: One-time Map Updates

This minimum effort recommendation is for supporting and dedicating new resources to update the MS4 map and documentation backlog from 2018 to present.

This one-time map update project would address Permit non-compliance with ongoing and new mapping requirements. The project could be completed by the new GIS staff person once they are hired or by a consultant in 2024 to bring the City back into permit compliance. This recommendation includes the one-time startup cost to acquire an additional ArcPro GIS software license because access to the ArcGIS software is needed for whoever is going to complete this work.

Also to complete this work, some higher-level policy decisions need to be made and documented by management and/or Executive staff. Decisions specifically regarding policies and procedures for determining ownership and maintenance responsibility assignments for assets. Ownership and maintenance responsibility assignments for assets can sometimes be easily concluded through review of legal documents such as recorded Plats and easements, but more often, especially for older developments, the assignments are not clear and are not documented. This lack of important information creates extra challenges for the City when responding to issues to address. It is imperative for the City to have confidence in knowing and reporting what assets are the City's responsibility and what assets are the responsibility of private property owners, to help provide assurance that the City is utilizing SSWM Utility funds fairly and responsibly. There is some ownership and maintenance responsibility information in existing asset data, but staff have low confidence in the information since it is unknown where the information was derived and errors have been discovered. Once policy and procedure are in place to determine ownership and maintenance responsibility assignments when they

otherwise cannot be concluded, it is recommended to validate existing information and add information where it is missing.

Benefit assumptions: Keeping an up-to-date stormwater asset data map aids SWMP planning and conducting SWMP work activities.

Cost assumptions: Approximately $157,000 total, which includes 1,748 hours of staff time (1 FTE at $141,154) for this estimated full-time 1-year project starting in 2024, and $15,000 for an additional ArcPro GIS software license start-up cost in 2024.

Recommendation B4-R2: Ongoing Map Updates

This minimum effort recommendation builds off Recommendation B4-R1 and is for supporting and dedicating new resources for ongoing and new SWMP mapping and documentation, and for an additional annual GIS software license.

Once the map data has been updated to meet Permit compliance, new data will need to be continually added to keep the map as current and accurate as possible. Furthermore, new mapping requirements are expected with each new Permit issuance. The new requirements per draft 2024–2029 Permit language are:

- No later than March 31, 2026, Permittees shall submit locations of all known MS4 outfalls according to the standard templates and format provided in the annual report. This reporting shall include the size and material of the outfalls (see Recommendation B4-R3).
- No later than December 31, 2027, develop a methodology to map and assess acreage of MS4 tributary basins to outfalls or discharge points that have stormwater treatment and flow control BMPs/facilities owned or operated by the Permittee. Submit with the annual report a map and breakdown of acres managed or unmanaged by stormwater treatment and flow control BMPs/facilities (see Recommendation B4-R4).
- No later than December 31, 2028, begin mapping of Permittee-owned or operated properties with tree canopy based on available, existing data (see Recommendation B4-R5).

To prevent non-compliance again, COBI is encouraged to develop and implement an ongoing mapping plan with schedules and procedures for staff to follow.

The recommendation includes the annual cost for the additional ArcGIS software license needed for the staff person who will complete this work.

Benefit assumptions: Keeping an up-to-date stormwater asset data map aids Stormwater Planning, Site Plan Review, Capital Improvement work, and Illicit Discharge Detection and Elimination. Establishing and documenting City's standards for stormwater asset data mapping helps staff input, use, and report on the data in the most consistent, methodical, and shareable ways.

Cost assumptions: Approximately $75,000 annually, which includes 874 hours of staff time (0.5 FTE) each year to regularly manage data updates to stormwater mapping, and $4,000 each year for the upkeep of an additional ArcPro GIS software license starting in 2025 then ongoing thereafter.

Recommendation B4-R3: Outfall and Discharge Points Update

This minimum effort recommendation is for supporting and dedicating new resources to locate outfalls and discharge points (known and unknown), verify or update existing data for location, size and material, and complete initial inspections; then submit the data to Ecology no later than March 31, 2026. This recommendation is based on draft 2024–2029 Permit language (Appendix G).

COBI does have some outfall size and material data; however, COBI does not currently have resources to inspect the mapped outfalls to verify or update the outfalls data.

In 2007, COBI completed a comprehensive outfall reconnaissance and mapping project that identified MS4 outfalls and documented their location, size, and material. The data has not been fully reviewed or updated since then; so, the recommendation includes field verifying existing data for outfalls or discharge points and perform an inspection, then update data as needed and add any new outfalls or discharge points found.

It is further recommended that a drone be used to help this effort since outfalls and discharge points are often difficult to access and see. A drone would need to be purchased and pilot training and certification for staff would be needed. The drone would be helpful to use in other inspection work as well.

Benefits assumptions: Keeping an up-to-date stormwater asset data map aids Stormwater Planning, Site Plan Review, Capital Improvement work, and Illicit Discharge Detection and Elimination.

Cost assumptions: Approximately $147,000 total, which includes 1,748 hours of staff time (1 FTE at $141,154) for this estimated full-time 6-month project with two COBI staff in 2025, and $5,000 for the drone and necessary training and certification in 2025.



Recommendation B4-R4: Acres Managed and Unmanaged by Stormwater Treatment and Flow Control BMPs/Facilities

This minimum effort recommendation is for supporting and dedicating new resources to develop a methodology to map and assess acreage of MS4 tributary basins to outfalls or discharge points that have public stormwater treatment and flow control BMPs/facilities; then submit to Ecology the map and breakdown of acres managed and unmanaged by stormwater treatment and flow control BMPs/facilities no later than December 31, 2027. This recommendation is based on draft 2024–2029 Permit language (Appendix G).

Benefit assumptions: Mapping and assessing acreage of MS4 tributary basins to outfalls or discharge points that have public stormwater treatment and flow control BMPs/facilities is a first step to understand the breakdown of acres managed and unmanaged by these BMPs/facilities to inform stormwater planning.

Cost assumptions: Approximately $32,000 total for $30,000 of consultant support plus $2,000 for 20 hours of staff support in 2027 to map MS4 tributary basins to outfalls or discharge points that have public stormwater treatment and flow control BMPs/facilities. This cost includes documentation for Ecology, but does not include field verification of any facilities/BMPs.

Recommendation B4-R5: Tree Canopy Map

This minimum effort recommendation is for supporting and dedicating new resources to begin mapping tree canopy of COBI owned or operated properties no later than December 31, 2028. This recommendation is based on draft 2024–2029 Permit language (Appendix G) (also see Recommendation B1-R7 for tree canopy goals for Stormwater Planning and Appendix B, Table B-1).

This Permit requirement doesn't demand creating new data but to use existing data. Fortunately, quite a few reputable data resources exist for COBI to utilize including the Puget Sound Urban Canopy Project, Washington Department of Fish and Wildlife Tree Canopy Data, and as part of the study conducted for the City of Bainbridge Island Tree Resource Code and Policy Revision Recommendations (December 2018) a forested canopy layer was created that can be used by regulators in the day to day management of development on Bainbridge Island.

This work could also include elements to help achieve **CAP Action 6.A.1.d: "Partner with community organizations to leverage additional data sources and monitoring efforts that contribute to well informed natural resource management. For example, update mapping resources of key wildlife habitat in interior forest cores and connective networks."**

Benefit assumptions: Mapping tree canopy allows a better understanding of extent and location of existing trees and identify community forest management opportunities to reduce runoff.

Cost assumptions: Approximately $4,000 for 40 hours of staff time to develop the tree canopy map using already existing regional data in 2028.

Recommendation B4-R6: Flow Direction Update

This additional enhanced effort recommendation is for supporting and dedicating new resources to add in GIS the flow direction to all existing lines data based on invert elevations (e.g., conveyance pipes and ditches, etc.). This will include work to gain invert elevations data and may require redrawing conveyance features in their direction of flow. This project can be implemented in conjunction with Recommendation B4-R1.

Conveyance assets (e.g., pipes, ditches, etc.) are mapped as lines to represent the extent of the conveyance feature. The current data for mapped conveyance lines does not contain information to help determine which way the line flows. The lack of this data makes it difficult for someone looking at the map to determine how the system is intended to flow and where it is intended flow to.

After the update is completed, it is recommended to add this information as part of mapping new or retrofitted assets.

Benefit assumptions: Depicting the flow of conveyance features is helpful in planning, O&M, and IDDE.

Cost assumptions: The cost is associated with and accounted for with the map update Recommendations B4-R1 and B4-R2.

Recommendation B4-R7: Additional Mobile Technology and Software

This additional enhanced effort recommendation is for supporting and dedicating new resources to obtain additional mobile technology and software tools for field mapping reference and updating, and assign trained staff to manage the technology and data. Specifically, this recommendation is to purchase an additional field kit.

COBI's current ArcGIS editing login(s) already include access to ESRI mobile applications that can be configured to expand online or offline staff access to map information via desktop browser or mobile device, such as: ArcGIS Field Maps, ArcGIS Survey123, and ArcGIS Quick Capture.

If the City does not want to purchase additional mobile equipment, local vendors may be available to provide rental services. Or, if consultants are hired for field mapping support, they would likely supply their own equipment for a fee.

Benefit assumptions: Advancing access and abilities to reference and edit GIS maps while in the field improves data quality and time efficiency.

Cost assumptions: Approximately $1,000 for the purchase of an additional field kit (tablet, charger, carrying case, GPS receiver) to access ESRI mobile applications in 2024. Appendix D shows the cost breakdown.

Recommendation B4-R8: Ongoing Public Works Mapping and Documentation

This additional enhanced effort recommendation is or supporting and dedicating new resources for ongoing mapping and documentation for all Public Works programs, projects, and managed COBI assets that effect stormwater planning and management (i.e., water and sanitary sewage utilities, septic systems, roads, signs, facilities, and projects).

Current mapping and documentation for Public Works programs, projects, and managed COBI assets is not fully accurate or complete due to lack of resources.

Benefit assumptions: Having a dedicated Public Works GIS resource to complete map updates for all Public Works programs, projects, and managed COBI assets and to help with ongoing mapping documentation would be beneficial for the entire City as well as for outside agencies and organizations and property owners.

Cost assumptions: Approximately $71,000 annually for 874 hours of staff time (0.5 FTE) each year for ongoing Public Works mapping and documentation starting in 2024 then ongoing thereafter. This recommendation would require General Fund support for implementation.

Recommendation B4-R9: GIS Network/Stormwater Model

This additional enhanced effort recommendation is for supporting and dedicating new resources to develop a GIS network/stormwater model to aid decision making in stormwater management and planning.

Data input for citywide modeling would require measurement of pipe invert and structure elevations for stormwater features (see Recommendation B4-R6).

Benefit assumptions: Modelling offers the ability to determine what inputs and outputs may be most effective for a specific desired objective or outcome for water quality protection when designing programs and projects. For example, a stormwater system model can facilitate identification of flood areas and assessment of capacity constraints under future scenarios, such as climate change.

Cost assumptions: To be cost effective, this effort would be a watershed-scale model focusing on a priority watershed. Approximately $217,000 total for $200,000 of consultant support plus $17,000 for 200 hours of staff support in 2028 to create and calibrate the model.

Recommendation B4-R10: Mapping Standards

This minimum effort recommendation is for supporting and dedicating new resources to establish and document mapping standards, procedures, and processes for consistency in asset inventory data collection and management.

The project could be completed by the new GIS staff person once they are hired or by a consultant in 2024 to bring the City back into permit compliance. It would be most helpful to staff if this were completed before map updates and new mapping was performed to ensure standards are being followed.

It is further recommended as mapping standards may need to adapt and evolve, to review and update the mapping standards as needed on an ongoing basis.

Benefit assumptions: Documented and adapting mapping standards provide the needed guidance for staff to follow for adding, editing, and reviewing mapped assets to ensure data quality and instill confidence for asset management.

Cost assumptions: Approximately $4,000 for 40 hours of staff time to complete the update and documentation of stormwater mapping standards and procedures in 2024.

Recommendation B4-R11: Upgrade Recordkeeping and Reporting with Asset Management System Software

This additional enhanced effort recommendation is for supporting and dedicating new resources to upgrade recordkeeping and reporting for improved internal and external data sharing ideally by obtaining and maintaining an asset management system software compatible with ArcGIS mapping software, and staff assigned to oversee asset data management integrity. Refer to Appendix D for further supporting information.

Investment in more formalized asset data management would be significant for the City in terms of financial cost and changing current organization culture around asset recordkeeping and reporting. However, the return on investment for the organization would be realized over time from increased confidence in asset data, improved efficiency in recordkeeping and tracking, and the resulting ability to better report and share asset data for work planning and Permit compliance.

A few CAP and Comp Plan items speak to asset management including these:

- **CAP Other Action 5.B.1.d: "Create a tiered strategy for assets at longer-term risk (beyond 2030 but within infrastructure lifespan) and identify solutions for their management."**
- **Comp Plan Policy CF 1.3: "Evaluate and prioritize proposed capital improvement projects using the following long-term financial strategy principles and guidelines… Use an asset management approach to the City's capital facilities …"**
- **Comp Plan Policy WR 4.8: "Prioritize LID-based retrofit of public and private stormwater drainage systems and built assets through the inventory, management, and fiscal planning process."**

This recommendation relates to SSWM utility assets but it is further recommended to improve asset management for all utilities and services managed by Public Works. Since initiating formal asset management is quite an undertaking, it may be best for the City to begin with the SSWM utility as a starting point to build upon.

Benefit assumptions: Formal asset data management recordkeeping and tracking with staff oversight will build more confidence in the asset inventory and create improved efficiency in data sharing, work planning, cost valuating, and annual reporting for Permit required activities (e.g., inspections, IDDE, stormwater facility spot checks, etc.).

Cost assumptions: Approximately $117,000 total cost in 2025, which includes $40,000 for the initial purchase of an asset management software, the $20,000 annual software fee, $50,000 for the asset management consultant, and $7,000 for 80 hours of staff support to manage the project in 2025. Then in 2026 and ongoing thereafter, approximately $91,000 annually, which includes $20,000 for the annual software fee and $71,000 for 874 hours of staff time (0.5 FTE) each year to implement and manage the asset management program.

Recommendation B4-R12: Asset Management Training Program

This additional enhanced effort recommendation builds from Recommendation B4-R11 and is for supporting and dedicating new resources to develop and implement an asset data management training program for staff after obtaining asset management system software.

Benefit assumptions: Training provides the needed guidance for GIS staff to learn how to use the chosen asset management system software and assist others in its use for reporting and recordkeeping.

Cost assumptions: Approximately $18,000 total, which includes $5,000 for a consultant to host the training and $13,000 for 160 hours of staff time to take the training in 2025.

Illicit Discharge Detection and Elimination (IDDE) Assessment and Recommendations

The Illicit Discharge Detection and Elimination (IDDE) assessment was conducted, and recommendations were developed, with the overarching **Comp Plan Policy WR 4.4** in mind:

"Identify and eliminate sources of pollutants to the City's stormwater drainage system through proactive field screening techniques such as effluent monitoring, system inspections and cleaning, and commercial and industrial business inspection, and through the enforcement of the City's Illicit Discharge Detection and Elimination ordinance."

This section is supported by Table B-5 in Appendix B, and Table C-5 in Appendix C. Table B-5 displays the IDDE assessment information and recommendations alongside the Permit Requirements and related CAP goals/actions and Comp Plan goals/policies (Appendix A). Table C-5 helps illustrate the financial cost and timeframes estimated for each IDDE recommendation over the next six years and beyond. Table 2-6 is a snapshot of the unique recommendations in this section and Appendix B, Table B-5.

Table 2-6. Summary of Unique IDDE Recommendations in Appendix B, Table B-5.	
RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES	**RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES**
• B5-R1: IDDE Program Coordination • B5-R3: Offer Information to Staff • B5-R4: Partner on Waste Disposal • B5-R5: Continue Waste Reduction Program • B5-R6: Agriculture Technical Assistance for Water Quality • B5-R10: Stormwater Code Enforcement Assistance • B5-R11: Illicit Discharge Detection and Elimination Code Update • B5-R13: Kitsap1 for Spills Hotline • B5-R14: Field Screening for IDDE/TMDL • B5-R15: WQFMP Field Screening for IDDE/TMDL • B5-R16: IDDE Policies and Procedures • B5-R17: Track Training in Excel • B5-R18: Formal Training Program for Staff • B5-R22: IDDE Activities Tracking	• B5-R2: Enhance the IDDE Program • B5-R7: IDDE Public Awareness Program • B5-R8: Proper Waste Disposal Incentive Program • B5-R9: Program for Businesses for Proper Waste Disposal • B5-R12: Code Enforcement Policy and Staff • B5-R19: Require Formal Training and Continued Education for Staff • B5-R20: COBI Specific Training Program for Staff • B5-R21: Track Training with HR Coordination and Software
Summary only includes unique S5.C.5 recommendations; reiterated recommendations are included in the full assessment and recommendations Table B-5 in Appendix B.	

Assessment and recommendations for IDDE are presented in these six groupings to address the minimum performance measures as outlined in the 2019–2024 Permit:

- **IDDE Program:** To have an ongoing program designed to prevent, detect, characterize, trace, and eliminate illicit connections and illicit discharges, which has procedures for reporting and correcting or removing illicit connections, spills, and other illicit discharges (S5.C.5).
- **Inform People on Hazards of Illicit Discharges and Improper Waste Disposal:** To inform public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste (S5.C.5.b).
- **Illicit Discharge Ordinance:** To implement an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illicit discharges into COBI's MS4 to the maximum extent allowable under state and federal law (S5.C.5.c).
- **Ongoing Program for Detecting and Addressing Illicit Discharges:** To implement an ongoing program designed to detect, identify, and address non-stormwater discharges and illicit connections into COBI's MS4 (S5.C.5.d and S5.C.5.e).
- **Staff Training for IDDE:** To train staff who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, and illicit connections, to conduct these activities (S5.C.5.f).
- **IDDE Recordkeeping:** To track and maintain records of the activities conducted to meet IDDE requirements (S5.C.5.g).



IDDE Program

COBI's IDDE program is designed to meet all Permit requirements intended to prevent, detect, and eliminate spills, illicit connections, and illicit discharges into the MS4 and has been effective in helping to reduce pollutants getting into local streams, lakes, and Puget Sound.

Public Works leads IDDE investigations and coordinates with other COBI departments and other agencies (e.g., COBI Police; COBI Planning and Community Development; Bainbridge Island Fire Department (BIFD); Kitsap Public Health District (KPHD); Pollution Prevention Assistance (PPA) Program; Kitsap County; U.S. Coast Guard, Department of Ecology, etc.) on IDDE reporting, response, and enforcement. Between the years of 2019–2023, COBI staff conducted an annual average of 19 IDDE investigations in response to spill/incident reports received; this number doesn't include all IDDE incidents discovered and dealt with directly by staff such as during inspections for controlling runoff with development, redevelopment and construction sites.

Recommendations B5-R1 and B5-R2 are related to general coordination needed for continued success for COBI's IDDE program, and more specific recommendations follow that further support the ongoing IDDE program.

Recommendation B5-R1: IDDE Program Coordination

This minimum effort recommendation is to continue to support and dedicate resources to coordinate on IDDE activities with other departments and agencies.

Coordination involves proactive and follow-up communication and actions, detailed recordkeeping, and official reporting. Coordination is needed between COBI staff from different departments (i.e., Public Works Engineering and Operations and Maintenance, Planning and Community Development, Police, and Emergency Management) who play different roles in IDDE efforts. Coordination sometimes involves further coordination with other agencies (e.g., BIFD, KPHD, PPA Program, Kitsap County, U.S. Coast Guard, Ecology, etc.).

Benefit assumptions: Effective IDDE reporting, response, and enforcement may only be achieved through committed coordination between staff and other agencies.

Cost assumptions: Approximately $10,000 annually for 120 hours of staff time each year to support IDDE activities starting in 2024 then ongoing thereafter.

Recommendation B5-R2: Enhance the IDDE Program

This additional enhanced effort recommendation builds off Recommendation B5-R1 and is for supporting and dedicating new resources to enhance the IDDE program, especially coordination, reporting, response, enforcement, and training.

Enhancements to the IDDE program may include: increased community prevention education; updating the City's IDDE Manual; providing more training; improving response supply inventories and access to them; developing better reporting methods; expanding enforcement procedures to recover response costs from responsible parties, etc. Further enhancements may also be realized through more collaborative coordination between COBI staff and other agencies to improve reporting, response, and enforcement.

Benefit assumptions: Enhancing the IDDE program would help COBI staff and other agencies have improved efficiency and effectiveness in IDDE.

Cost assumptions: Approximately $1,000 for 10 hours of staff time each year to develop and coordinate an enhanced IDDE Program.

Inform People on Hazards of Illicit Discharges and Improper Waste Disposal

To support providing information to public employees, businesses, and general public on the hazards associated with illicit discharges and improper disposal of waste, Recommendations B5-R3 through B5-R9, plus B8-R3 reiterated, offer eight strategies to consider.

Recommendation B5-R3: Offer Information to Staff

This minimum effort recommendation is supporting and dedicating new resources to offer information to COBI staff on IDDE and proper waste disposal through an ongoing formal informational campaign or training program.

COBI staff are offered information and training on proper waste disposal and how to detect and report spills and illicit discharges. The information and training is available anytime to all City employees upon request and is advertised to new staff with onboarding.

Benefit assumptions: A formal campaign or training for staff regarding IDDE and proper waste disposal will provide baseline knowledge for staff to be informed primarily for safety.

Cost assumptions: Approximately $11,000, which includes $10,000 for consultant support and $1,000 for 10 hours of staff support in 2024 to develop an IDDE and waste disposal information campaign or training for staff. Then approximately $4,000 annually for 40 hours of staff time each year to implement the ongoing campaign or training starting in 2025 then ongoing at least through 2029.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Recommendation B5-R4: Partner on Waste Disposal

This minimum effort recommendation is to continue to support and dedicate resources to partner with agencies, businesses, and community groups to inform on proper waste disposal and provide opportunities to collect hazardous waste for free.

Public Works has partnered with Police on Drug Take Back events, with Sustainable Bainbridge community groups on waste collection issues and litter clean up events, and has partnered with Kitsap Solid Waste every other year on an on-island free public event to collect household hazardous waste from residents (however, 2022 is expected to be last event because there will be a new permanent hazardous waste collection facility in Poulsbo available all year round.) Continuing these partnerships and possibly expanding the partnerships is recommended.

Benefit assumptions: Partnerships have proven to be effective in informing on waste collection and proper disposal and reducing waste on Bainbridge Island.

Cost assumptions: Approximately $4,000 annually for 40 hours of staff time each year to support partnerships in waste collection education and collection starting in 2024 then ongoing thereafter.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Recommendation B5-R5: Continue Waste Reduction Program

This minimum effort recommendation is for continuing to support and dedicate resources to implement the Single-Use Foodware and Waste Reduction Program.

Executive staff are working to inform staff, businesses, and general public on proper waste disposal as it relates to the Single-Use Foodware and Waste Reduction Program. This program initiated for climate change adaptation and mitigation is relevant to source control for stormwater management because it reduces potential for illicit discharges. This recommendation further suggests merging the Single-Use Foodware and Waste Reduction Program into the Source Control Program to help meet Permit requirements and CAP goals more efficiently (see Recommendation B8-R3 for Source Control, Appendix B, Table B-8).

Benefit assumptions: Waste reduction programs help to reduce source pollutants in stormwater.

Cost assumptions: Approximately $4,000 annually for 40 hours of staff time each year to support collaborating on and conducting a combined program starting in 2024.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Recommendation B5-R6: Agricultural Technical Assistance for Water Quality

This minimum effort recommendation is for continuing to support and dedicate resources to implement agricultural technical assistance for water quality through ILA with Kitsap Conservation District.

COBI's Agricultural Technical Assistance for Water Quality Program, also known as Farm Planning Assistance, works specifically with agricultural properties to inform on, address, and prevent illicit discharges and improper waste disposal (especially manure management). Bainbridge Island currently has over 1,400 acres of agricultural lands, and owners are encouraged and supported to develop implement resource management plans (i.e., farm plans). Kitsap Conservation District (KCD) responds to referrals, provides education and outreach, develops farm plans with properties, aids with BMP design, installation, inspection, and maintenance.

This recommendation supports **Comp Plan Policy WR 3.7: "Prohibit access to aquatic critical areas by farm animals. Require a farm management plan for agricultural activities within proximity of aquatic resources addressing water quality and other natural resource protection."**

Benefit assumptions: KCD provides resources and expertise to agricultural properties on behalf of the City.

Cost assumptions: The current annual contract amount with KCD is $48,000 for 2024 and if the contract is amended to continue into future years the annual amount may increase in 2025 and each year

thereafter. At this time, the approximate annual total is $49,000 for the contract amount ($48,000) plus $1,000 for 10 hours of staff time each year to manage the contract and to support the Agricultural Technical Assistance for Water Quality Program. The program cost is currently split 50/50 between the SSWM Utility Fund and General Fund.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Recommendation B5-R7: IDDE Public Awareness Program

This additional enhanced effort recommendation builds off Recommendation B5-R4 and is to support and dedicate new resources to develop and implement a formal public information program/campaign on IDDE and proper waste disposal for the general public, businesses, and public employees (also see Education and Outreach recommendations, Appendix B, Table B-2).

Benefit assumptions: Increasing awareness with priority audiences on IDDE and proper waste disposal intends to help reduce or eliminate IDDE and improper waste disposal.

Cost assumptions: Approximately $11,000 total, which includes $10,000 for consultant support and $1,000 for 10 hours of staff support to develop the public information program/campaign in 2026. Then approximately $1,000 annually for 10 hours of staff time each year to implement the program starting in 2027 then ongoing thereafter.

Recommendation B5-R8: Proper Waste Incentivization Program

This additional enhanced effort recommendation builds off Recommendations B5-R4 and B5-R7 and is to support and dedicate new resources to encourage and incentivize local waste collection facilities for proper waste disposal at existing or new businesses, then promote and potentially partner with the businesses on collection events.

There are some existing free waste-disposal services provided by Bainbridge Island businesses, such as for paint; but these services are not widely known or advertised, and are not formally supported or promoted by COBI.

Benefit assumptions: Gain free waste disposal service for the public and bolster local businesses providing the service to reduce waste and potential for IDDE in the city.

Cost assumptions: Approximately $11,000 total in 2025, which includes $10,000 for consultant support plus 10 hours of staff support to develop the program and collaborate with businesses on local waste collection. Then $1,000 annually for 10 hours of staff time each year to implement the program starting in 2026 then ongoing thereafter.

Recommendation B5-R9: Program for Businesses for Proper Waste Disposal

This additional enhanced effort recommendation is to support and dedicate new resources to develop and implement an information program/campaign on IDDE and proper waste handling and disposal

specific for businesses. This may be achieved as part of the new Source Control program (see Source Control Program for Existing Businesses section and Appendix B, Table B-8).

There is limited education or enforcement for proper waste disposal and there are limited waste collection and disposal options on Bainbridge Island for businesses.

Benefit assumptions: Businesses will appreciate more information and resources to help them properly manage their waste.

Cost assumptions: Approximately $11,000 total in 2024, which includes $10,000 for consultant support and $1,000 for 10 hours staff support to develop the proper waste disposal program. Then approximately $1,000 annually for 10 hours of staff time each year to implement the program starting in 2025 then ongoing thereafter.

Recommendation B8-R3: Source Control Program Consolidation (reiterated)This additional enhanced effort recommendation is presented in the Source Control section (Appendix B, Table B-8) and is reiterated for the IDDE section, and Climate Change Chapter of the SWSP, to reinforce this as a strategy to meet more than one Permit requirement and/or greater City policy/goal.

Illicit Discharge Ordinance

The City's IDDE ordinance is enforced through Bainbridge Island Municipal Code (BIMC) 15.22.

Recommendations B5-R10 through B5-R12 are for the required enforcement mechanism to effectively prohibit non-stormwater discharges.

Recommendation B5-R10: Stormwater Code Enforcement Assistance

This minimum effort recommendation is for continuing to support and dedicate resources to the Code Enforcement Officer position in Planning and Community Development to assist Public Works as needed with enforcement of stormwater management related codes under BIMC Title 15, Buildings and Construction.

The City's only Code Enforcement Officer position is in Planning and Community Development, but the position is asked to oversee code enforcement for the entire city. Public Works requests the assistance of the Code Enforcement Officer, as the authority to enforce Bainbridge Island Municipal Code (BIMC).

Benefit assumptions: The Code Enforcement Officer has the authority that Public Works staff do not have to enforce BIMC to address stormwater management or water quality violations.

Cost assumptions: Approximately $7,000 annually for 80 hours of staff time each year to coordinate enforcement of BIMC violations related to stormwater management and water quality starting in 2024 then ongoing thereafter.

This recommendation is reiterated in the Source Control Program (Appendix B, Table B-8) to reinforce the recommendation as a strategy to meet more than one Permit requirement and/or greater City policy/goal.

Recommendation B5-R11: Illicit Discharge Detection and Elimination Code Update

This minimum effort recommendation is supporting and dedicating new resources for a one-time project to update BIMC Chapter 15.22, Illicit Discharge Detection and Elimination, to incorporate needed local changes and language changes as described in the draft 2024–2029 Permit no later than July 1, 2027. This recommendation is based on draft 2024–2029 Permit language (Appendix G). The code section has not been updated since 2008.

This work could happen in conjunction with other BIMC update recommendations (i.e., Recommendation B7-R6 and Recommendation B8-R5).

Benefit assumptions: An updated and improved BIMC 15.22 will provide further guidance and authority as the primary enforcement mechanism used by the City to protect water quality on and around Bainbridge Island.

Cost assumptions: Approximately $14,000 total, which includes $10,000 for consultant support and $4,000 for 40 hours of staff support in 2024 to complete BIMC 15.22 updates in conjunction with other recommended code updates/additions (see Recommendations B7-R6 and B8-R5).

Recommendation B5-R12: Code Enforcement Policy and Staff

This additional enhanced effort recommendation builds off Recommendation B5-R10 and is for supporting and dedicating new resources to improving enforcement of stormwater management related codes under BIMC Title 15, Buildings and Construction, by developing and documenting clear policy and procedures for enforcement. It is further recommended to hire an additional second Code Enforcement Officer for the City to aid improved enforcement.

Benefit assumptions: Having clear policy and procedures for codes helps staff and the public know how to follow a consistent legal process for addressing code violations. Additional code enforcement staff can help with proactively identifying violations and conducting thorough investigations and enforcement, including assessing and collecting any monetary penalties as well as monitoring for corrective actions to be completed and backsliding.

Cost assumptions: Approximately $166,000 total in 2024, then $142,000 annually ongoing thereafter, which includes $20,000 for consultant support and $4,000 for 40 hours of staff support in 2024 to complete a one-time project to develop and document policy and procedures for enforcement of stormwater management codes under BIMC Title 15, and approximately $141,154 for the annual salary and benefits of a new second Code Enforcement Officer starting in 2024 (this staff person would also assist the project).

This recommendation is reiterated in the Source Control Program (Appendix B, Table B-8) to reinforce the recommendation as a strategy to meet more than one Permit requirement and/or greater City policy/goal.

Ongoing Program for Detecting and Addressing Illicit Discharges

Recommendations B5-R13 through B5-R16 are designed to help COBI continue to detect and address illicit discharges in a timely manner.

Recommendation B5-R13: Kitsap1 for Spills Hotline

This minimum effort recommendation is to continue to support and dedicate resources to adopt and publicize Kitsap1 as the hotline for public reporting of spills and other illicit discharges.

This recommendation directly supports **Comp Plan Policy WR 6.1: "Educate and inform the public about: How to report spills or illicit dumping of hazardous waste or other pollutants and how to access information about location and status of contaminated sites …"**

COBI adopted Kitsap1 (360-337-5777) as its spills hotline as a way to utilize an existing 24-hour hotline number and program already managed and funded by Kitsap County (the county Bainbridge Island is located in). Reports to Kitsap1 may also be submitted online through email (help@kitsap1.com) or the webpage portal (https://www.kitsapgov.com/pw/report-a-problem). The SeeClickFix software phone app or desktop portal is another method to report spills and is treated like Kitsap1. All reports to Kitsap1, or SeeClickFix, that fall with COBI's jurisdiction are immediately routed to COBI so City staff may respond in a timely manner to spills and illicit discharges.

Benefit assumptions: Using the same hotline across jurisdictions provides a consistent way for anyone in Kitsap County, on or off Bainbridge Island, to know how to report spills; in addition, it allows for COBI to use the same spills hotline promotion materials for education and outreach for spills reporting.

Cost assumptions: Approximately $1,000 annually for 4 hours of staff time each year to coordinate with Kitsap1 and other COBI staff to ensure the hotline reporting and response process is working as intended, and to promote the Kitsap1 hotline whenever possible through COBI communication channels starting in 2024 then ongoing thereafter.



Recommendation B5-R14: Field Screening for IDDE/TMDL

This minimum effort recommendation is for continuing to support and dedicate resources to implement the IDDE detection program, including illicit discharge field screening for at least an average of 12% of the MS4 each year during inspections and maintenance activities.

COBI's IDDE program is organized and implemented to meet permit requirements including detecting and identifying illicit discharges and connections using the Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual (Herrera and Aspect 2020) methodologies for at least an average of 12% of the MS4 each year. The City accomplishes field screening in conjunction with performing O&M inspection and maintenance activities (see Recommendation B7-R15) and also with collecting water samples for TMDL compliance (see Recommendation B5-R15 and Recommendation B9-R3).

Benefit assumptions: Field screening is a proactive method of identifying sources of pollutants flowing into the public stormwater system, which is a first step to working to reduce and eliminate the pollutants.

Cost assumptions: The cost is associated with and accounted for with Operations & Maintenance and Water Quality and Flow Monitoring Program (WQFMP) activities (see Recommendation B5-R15 and Recommendation B7-R15).

This recommendation is reiterated in two other SWMP sections: Operations and Maintenance (Appendix B, Table B-7) and Total Maximum Daily Load Requirements (Appendix B, Table B-9) because it helps meet multiple Permit requirements.

Recommendation B5-R15: WQFMP Field Screening for IDDE/TMDL

This minimum effort recommendation is for continuing to support and dedicating resources for Public Works Engineering Water Resources Work Group staff and community volunteers to collect and analyze water samples for water quality indicators, specifically bacteria, as part of the Water Quality and Flow Monitoring Program (WQFMP) to accomplish MS4 field screening activities for IDDE Program and TMDL Requirements. Also see Recommendation B9-R3.

The City conducts quarterly sampling and testing for fecal coliform (now E. coli) bacteria and other indicators at 16 stormwater discharge sites.

Benefit assumptions: Public Works Engineering Water Resources Work Group staff and community volunteers are trained in water sample collection and analysis, and quarterly sampling provides for regular and consistent monitoring for water quality indicators.

Cost assumptions: Approximately $18,000 total annually, which includes $6,000 for 64 hours of staff time each year to prepare, collect, and send 16 samples to a lab for testing and analysis each calendar quarter, and $12,000 lab costs annually starting in 2024 then ongoing thereafter.

This recommendation is reiterated in two other SWMP sections: Total Maximum Daily Load Requirements (Appendix B, Table B-9) and Monitoring and Assessment (Appendix B, Table B-10) because it helps meet multiple Permit requirements.

Recommendation B5-R16: IDDE Policies and Procedures

This minimum effort recommendation is for supporting and dedicating new resources to develop, document, and implement formal policies and procedures to follow for IDDE investigations including: timely response, characterizing, source tracing, and eliminating illicit connections and discharges, recordkeeping and tracking.

This would include updating COBI's IDDE Manual. It is further recommended to provide IDDE Manual training to staff.

Benefit assumptions: Updated IDDE policies and procedures for staff to know and follow increases staff safety and effectiveness in reducing and eliminating pollutants in runoff.

Cost assumptions: Approximately $20,000 total, which includes $10,000 for consultant support and $10,000 for 120 hours of staff support in 2024 to update IDDE policies and procedures.

This recommendation is reiterated for IDDE recordkeeping requirements.

Staff Training for IDDE

COBI is required to provide training to staff and to maintain records of training.

Staff who conduct IDDE response activities are trained to follow the procedures as described in the Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual (Herrera and Aspect 2020) and to use best management practices (BMPs) from the Department of Ecology's 2019 Stormwater Management Manual for Western Washington (SWMMWW).

Six recommendations are presented for staff training for IDDE: B5-R17 through B5-R21, and B11-R8. Recommendations B5-R17 through B5-R21 for staff training for IDDE are written to support multiple similar Permit requirements related to training; so, these five recommendations are reiterated across four different sections: IDDE (Appendix B, Table B-5); Controlling Runoff from New Development, Redevelopment and Construction Sites (Appendix B, Table B-6); Operations and Maintenance (Appendix B, Table B-7); and Source Control (Appendix B, Table B-8).

Recommendation B5-R17: Track Training in Excel

This minimum effort recommendation is for supporting and dedicating new resources to adequately track training in an Excel spreadsheet.

Currently, staff provide informal training to other staff as needed or requested, and outside training opportunities are encouraged but not required; and completed training is not necessarily tracked in Excel or elsewhere. Some Permit compliance training is tracked in Excel by the Stormwater Management Program Coordinator when is coordinated by, or reported to, that staff person.

Benefit assumptions: Formal recordkeeping demonstrates Permit compliance and confirms which staff are qualified to perform certain work safely and effectively.

Cost assumptions: Approximately $2,000 annually for 24 hours of staff time each year to track staff training in Excel starting in 2024 then ongoing thereafter.

This recommendation is reiterated across multiple sections to reinforce SWMP training program needs.

Recommendation B5-R18: Formal Training Program for Staff

This minimum effort recommendation is for supporting and dedicating new resources to develop and implement a training program that identifies, schedules, pays for, and tracks outside training and certifications for staff.

Known SWMP appropriate training opportunities are shared with staff by COBI's SWMP Coordinator and then is upon individual staff to follow up on those opportunities for themselves. Historically, professional conferences, training, or continued education is on individual staff to seek out and request. Training requests are dependent on those individuals' supervisor's approval and available funding budget. Training and conference funding budgets are not advertised and are not usually known by staff.

Training and continued education is crucial for staff safety, efficacy, and morale; to grow knowledge and keep up with technological advancements to adapt to a changing world, continue networking and collaboration, and fostering personal fulfillment and career advancement.

Benefit assumptions: A training program will help understand and confirm which staff are trained and qualified to perform certain work safely and effectively, and to budget for training.

Cost assumptions: Approximately $14,000 in 2024, which includes $10,000 for a one-time project with consultant support and $4,000 for 40 hours of staff time to develop the training program. Then approximately $5,000 annually for 60 hours of staff time each year to implement the training program starting in 2025 then ongoing thereafter. Note, this does not account for the cost of the total combined staff time to complete the trainings each year.

This recommendation is reiterated across multiple sections to reinforce SWMP training program needs.

Recommendation B5-R19: Require Formal Training and Continued Education for Staff

This minimum effort recommendation builds off Recommendation B5-R18 and is for supporting and dedicating new resources to require staff gain and maintain training and certifications along with continued education.

Some training is already required for some staff for legal reasons so they may conduct certain work; however, there is no known documented policy around this or known resource to know which staff positions require which training or certification. Some staff remain untrained because training is not well tracked or enforced within the organization.

Benefit assumptions: Requiring staff complete training and continued education builds confidence in staff and confirms which staff are qualified to perform certain work safely and effectively, and supports staff gaining relevant knowledge to aid innovation and adaptiveness.

Cost assumptions: Approximately $28,000 total annually, which includes an initial annual overall budget of $25,000 to provide up to 50 staff members with an individual annual budget of $500 for required training and continued education, and $3,000 for 36 hours of staff time each year to track and record

staff training starting in 2025 then ongoing thereafter. Note, this does not account for the cost of the total combined staff time to complete trainings and certifications each year.

This recommendation is reiterated across multiple sections to reinforce SWMP training program needs.

Recommendation B5-R20: COBI Specific Training Program for Staff

This additional enhanced effort recommendation builds off Recommendation B5-R20 and is for supporting and dedicating new resources to create an in-house training program that is COBI specific and requires staff participation to gain and maintain ongoing training and continued education.

Rather than looking for training opportunities provided by other organizations for COBI to send staff to and pay for, COBI can fulfill many of its training needs in-house with trained staff leads. The training would then be COBI specific and most relevant to staff. The cost would likely be cheaper for COBI over time but initially quite costly to develop.

Benefit assumptions: A COBI specific training program would provide training that is the most relevant and catered to City staff.

Cost assumptions: Approximately $12,000 total, which includes $10,000 for consultant support and $2,000 for 20 hours of staff support in 2024 to develop a COBI specific training program. Then approximately $5,000 annually for 60 hours of staff time each year to implement the training program starting in 2025 then ongoing thereafter. Note, this does not account for the cost of the total combined staff time to participate in trainings each year.

This recommendation is reiterated across multiple sections to reinforce SWMP training program needs.

Recommendation B5-R21: Track Training with HR Coordination and Software

This additional enhanced effort recommendation can be paired with Recommendations B5-R17 through B5-R20 as is to support and dedicate new resources to coordinate a training program with Human Resources (HR) and use HR software for training tracking.

This recommendation provides a strategy to advance training tracking and transparency for staff and the organization. This would likely improve equity in access to training as well as interest by staff to gain training.

Using HR software will allow the ability to standardize training tracking and reporting across the organization.

Benefit assumptions: HR already has software for training tracking, and HR is the most appropriate City department for tracking and communicating staff and individual training and certification requirements for positions.

Cost assumptions: Approximately $10,000 for any new HR training software setup or add-on costs in 2024, plus $2,000 for 24 hours of staff support each year starting in 2024 then ongoing thereafter.

This recommendation is reiterated across multiple sections to reinforce SWMP training program needs.

Recommendation B11-R8: Records Retention Policy and Procedures (reiterated)

This minimum recommendation is presented in the SWMP Plan, Recordkeeping, and Annual Reporting section (Appendix B, Table B-11) and is reiterated in multiple sections to reinforce this as a strategy to meet more than one Permit requirement for recordkeeping.

IDDE Recordkeeping

The Permit requires recordkeeping activities for all SWMP activities, but the specific approaches are typically left up to each Permittee jurisdiction to decide, except for IDDE. Below, Recommendation B5-R22 addresses the specific approach needed, and Recommendations B5-R16 and B11-R8 are reiterated because they relate to IDDE Recordkeeping.

Recommendation B5-R16: IDDE Policies and Procedures (reiterated)

This minimum effort recommendation is presented earlier in this section and is reiterated to reinforce policies and procedures with recordkeeping for IDDE program success and to meet Permit requirements.

Recommendation B5-R22: IDDE Activities Tracking

This minimum effort recommendation is for continuing to support and dedicate resources to track IDDE program activities for annual reporting in digital files and WQWebIDDE.

Beginning in 2020, COBI began utilizing the Ecology's WQWebIDDE reporting tool and database for recordkeeping, tracking of IDDE investigations, and any resulting necessary corrective actions and/or enforcement actions. Before 2020, the City used an Access database that required technical consultant support. For complete recordkeeping, all reference and supporting documentation for IDDE activities (such as reports, photos, communications) is kept in organized digital files because due to software limitations of the databases, the supporting documentation can't be uploaded and stored with the database.

Benefit assumptions: Utilizing Ecology's software reduces costs for COBI for technology, tracking, and reporting.

Cost assumptions: Approximately $3,000 for 30 hours of staff time each year to document IDDE activities starting in 2024 then ongoing thereafter. This is based on an average of 1 hour of staff time to document each one of the 20–30 investigations annually.

Recommendation B11-R8: Records Retention Policy and Procedures (reiterated)

This minimum recommendation is presented in the SWMP Plan, Recordkeeping, and Annual Reporting section (Appendix B, Table B-11) and is reiterated in multiple sections to reinforce this as a strategy to meet more than one Permit requirement for recordkeeping.

Controlling Runoff From New Development, Redevelopment, and Construction Sites Assessment and Recommendations

The controlling runoff assessment was conducted, and recommendations were developed, with these overarching Comp Plan goals and policies in mind:

- **Comp Plan Policy WR 4.5: "Ensure development of and adherence to required public and private stormwater pollution prevention plans for public facilities, construction sites and commercial and industrial land use. Encourage the use of such plans where not specifically required."**
- **Comp Plan Policy WR 4.6: "Ensure development of and adherence to erosion and sediment control plans on all construction and development sites of any size."**
- **Comp Plan Policy WR 4.7: "Develop and actively enforce a strong low impact development (LID) ordinance to require any and all LID methods and practices for new development and redevelopment to the maximum extent practicable and reasonable."**

This section is supported by Table B-6 in Appendix B, and Table C-6 in Appendix C. Table B-6 displays the controlling runoff from new development, redevelopment, and construction sites (controlling runoff) assessment information and recommendations alongside the Permit Requirements and related CAP goals/actions and Comp Plan goals/policies (Appendix A). Table C-6 helps illustrate the financial cost and timeframes estimated for each controlling runoff recommendation over the next six years and beyond. Table 2-7 is a snapshot of the unique recommendations in this section and Appendix B, Table B-6.

Table 2-7. Summary of Unique Controlling Runoff From New Development, Redevelopment, and Construction Sites Recommendations in Appendix B, Table B-6.

RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES	RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES
• B6-R1: Coordinating Controlling Runoff Activities and Enforcement • B6-R3: Controlling Runoff Enforcement Mechanisms • B6-R5: Permitting Process for Site Plan Review, Inspections, Enforcement • B6-R12: Provide Link to Notice of Intent (NOI)	• B6-R2: Assess Controlling Runoff Coordination • B6-R4: Controlling Runoff Codes and Standards Review and Update • B6-R6: Site Plan Review Checklist/Template • B6-R7: Permitted Projects Enforcement Policy • B6-R8: Increase Permitted Project Inspections • B6-R9: Tracking Inspections and Enforcement • B6-R10: Construction Quality and Future Management Assurance Process • B6-R11: Inspection and Enforcement Software • B6-R13: Additional Coordination with Ecology

Summary only includes unique S5.C.6 recommendations; reiterated recommendations are included in the full assessment and recommendations Table B-6 in Appendix B.

Assessment and recommendations for controlling runoff are presented in these four groupings to address the minimum performance measures as outlined in the 2019–2024 Permit.

- **Program to Address Runoff from New Development, Redevelopment, and Construction Site Projects:** To implement and enforce a program to reduce pollutants in stormwater runoff from new development, redevelopment, and construction sites (S5.C.6.a and S5.C.6.b).
- **Permitting Process with Site Plan Review, Inspection, and Enforcement:** To have a program that includes a permitting process with site plan review, inspection, and enforcement capability to meet Ecology's standards (S5.C.6.c).
- **Make Notice of Intent (NOI) Available:** To make available, as applicable, the link to the electronic Construction Stormwater General Permit NOI form for construction activity and, as applicable, a link to the electronic ISGP NOI form for industrial activity to representatives of proposed new development and redevelopment (S5.C.6.d).
- **Staff Training:** To ensure that all staff whose primary job duties are implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities (S5.C.6.e).

Program to Address Runoff from New Development, Redevelopment, and Construction Site Projects

Recommendations B6-R1 and B6-R2 relate to the general program for controlling runoff from development and construction sites.

Recommendation B6-R1: Coordinating Controlling Runoff Activities and Enforcement

This minimum effort recommendation is for continuing to support and dedicate resources to coordinate between Public Works and Planning & Community Development on project review, planning, permit issuance and enforcement for reducing pollutants in runoff from construction sites.

Public Works Department and Planning & Community Development Department staff coordinate review and approval of private and public development, redevelopment, construction, and transportation projects to ensure they are planned and fulfilled in a manner so as to not contribute additional stormwater runoff or pollutants in runoff.

Benefit assumptions: The success of each project relies on proactive communication, organizing and documenting by each department and different staff roles.

Cost assumptions: Approximately $5,000 annually for 60 hours of staff time each year to coordinate on construction activities and enforcement via email, phone, or in person starting in 2024 then ongoing thereafter.

Recommendation B6-R2: Assess Controlling Runoff Coordination

This additional enhanced effort recommendation builds off Recommendation B6-R1 and is for supporting and dedicating new resources to assess current coordination and processes between Public Works and Planning & Community Development for reducing pollutants in runoff, then implement and coordinate any recommended improvements (also see recommendations for Stormwater Planning, Appendix B, Table B-1).

There are known gaps in coordination that can be addressed to improve controlling runoff activities and enforcement and recordkeeping of coordination. An example of one known gap is with enforcement of permit conditions and which work group has authority and duty to lead the effort and figure out what the resulting actions and consequences are for the City and the permittee.

Benefit assumptions: Improved coordination will increase project success and reduce runoff.

Cost assumptions: Approximately $10,000 total for 120 hours of staff time in 2024 to assess coordination, and develop and implement an improvement plan; and $7,000 annually for 80 hours of staff time each year to continue to improve and implement the plan in 2025 then ongoing thereafter.



Ordinance to Address Runoff from New Development, Redevelopment, and Construction Site Projects

Recommendations B6-R3 and B6-R4 offer strategies for enforcement mechanisms to control runoff from new development, redevelopment, and construction site projects. These recommendations were developed with Comp Plan Policies 4.1 and 4.2 in mind:

- **Comp Plan Policy CF 4.1: "Adhere to the City's Engineering Development and Design Standards when constructing utility and transportation related facilities."**
- **Comp Plan Policy CF 4.2: "Regularly update the Engineering Development and Design Standards, and ensure that the Standards are consistent with the Comprehensive Plan."**

Recommendation B6-R3: Controlling Runoff Enforcement Mechanisms

This minimum effort recommendation is for continuing to support and dedicate resources to follow and enforce Bainbridge Island Municipal Code (BIMC) Chapters 15.19, Site Assessment Review, and BIMC 15.20, Surface Water and Stormwater Management to prevent runoff from new development, redevelopment, and construction sites (also see Recommendation B6-R5 for Permitting Process for Site Plan Review, Inspections, Enforcement).

BIMC 15.19 supports BIMC 15.20, which was updated in 2022 to adopt the Ecology 2019 Stormwater Management Manual for Western Washington (SWMMWW) per the 2019–2024 Permit requirements, and is the primary enforcement mechanism to require runoff controls from new development, redevelopment, and construction project sites. Enforcement of BIMC 15.19 and 15.20 for public and private projects is shared and coordinated between Public Works and Planning & Community Development staff, and is recorded with permit applications in SMARTGov software.

Benefit assumptions: Stormwater codes provide regulations and guidance for people to follow to reduce runoff and IDDE and protect water quality.

Cost assumptions: The cost for this is associated and accounted for with Recommendation B6-R5, Permitting Process for Site Plan Review, Inspections, Enforcement.

Recommendation B6-R4: Controlling Runoff Codes and Standards Review & Update

This additional enhanced effort recommendation builds off Recommendation B6-R3 and is for supporting and dedicating new resources to review codes and standards for effectiveness in controlling runoff from sites during and after construction, then make recommendations to City Council, and implement updates upon approval (also see Recommendation B1-R6, for addressing barriers related to Low Impact Development; Appendix B, Table B-1 for Stormwater Planning).

The project to update the City's Design and Construction Standards and Specifications has been in the works for five years but is not complete due to limited staff resources. Many staff consider this a high priority project and request it be completed as soon as possible. These standards and specifications provide staff and permit applicants the most current and helpful guidance to follow and enforce to

ensure the highest quality engineered design and civil construction is occurring now and into the future on Bainbridge Island.

Benefit assumptions: Modern and comprehensive codes and construction and design standards work to guide staff and permit holders/seekers in knowing and selecting effective and legal methods for reducing runoff.

Cost assumptions: Approximately $24,000 for $20,000 for consultant support and $4,000 for 40 hours of staff support in 2024 to review and update controlling runoff codes under BIMC Title 15 and standards.

Permitting Process with Site Plan Review, Inspection, and Enforcement

Recommendations B6-R5 through B6-R11 offer opportunities to follow through on enforcement mechanisms intended to control runoff from new development, redevelopment, and construction site projects by continuing to implement project permitting processes that include site plan review, inspection, enforcement capabilities, and recordkeeping of these activities.

Recommendation B6-R5: Permitting Process for Site Plan Review, Inspections, Enforcement

This minimum effort recommendation is for continuing to support and dedicate resources to implement the permitting process for site plan review, inspection, enforcement and coordinate and track all these activities across City work groups.

Multiple Public Works Development Engineering work group staff and Planning & Community Development staff coordinate and oversee permitting of public and private development, redevelopment, and construction projects, which includes site plan review and approval of site plans, as well as inspections and enforcement to control runoff. These activities are recorded in SmartGov software and are reported in the annual NPDES report; in 2023, 406 site plans were reviewed and 509 construction sites were inspected for stormwater runoff control.

Benefit assumptions: Following and enforcing permitting processes will prevent runoff from new development, redevelopment, and construction sites.

Cost assumptions: Approximately $565,000 for 6,992 staff hours each year (80% of time of 5 FTE staff) to support site plan review, inspection, enforcement and tracking of all these activities starting in 2024 then ongoing thereafter.

Recommendation B6-R6: Plan Review Checklist/Template

This additional enhanced effort recommendation builds from Recommendation B6-R5 and is for supporting and dedicating new resources to provide additional technical assistance to the development community, including creating and providing a checklist or template to assist with the plan review preparation and process.

Benefit assumptions: A checklist or template was requested by Development Engineering as a way to help improve consistency in the plan review process.

Cost assumptions: Approximately $19,000 total for a one-time project in 2024, which includes $15,000 consultant support and $4,000 for 40 hours staff support to develop the checklist or template to aid in developing the checklist or template.

Recommendation B6-R7: Permitted Projects Enforcement Policy

This additional enhanced effort recommendation is for supporting and dedicating new resources to develop and follow a formal and documented enforcement strategy for permitted projects out-of-compliance (also see Recommendation B5-R12 for Code Enforcement Policy and Staff; Appendix B, Table B-5 for Illicit Discharge Detection and Elimination).

Projects that are out-of-compliance of their permit conditions are difficult for staff to deal with and there is no known documented guidance for staff to follow to enforce corrections to bring the permit back into compliance in a timely manner. A formal documented enforcement policy would help provide a template for expected, consistent, and timely consequences for issues of non-compliance. The policy may include, but is not limited to, the following:

- Denial or revocation of engineering plan approvals and permits,
- Stop-work orders,
- Withholding of release of financial guarantees,
- Delay of final inspection,
- Delay or denial of final approval,
- Denial of occupancy certificates (temporary and permanent),
- Notice to surety or other financial institution and/or legal action for forfeiture of financial guarantees, and
- Code enforcement and/or other penalties as provided by law.

Benefit assumptions: Having clear policy and procedures for addressing issues of non-compliance with permitted projects helps staff and permittees know how to follow a consistent legal process to ensure project success.

Cost assumptions: Approximately $10,000 for 120 hours of staff time in 2024 to document enforcement policy and procedures for permitted projects.


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Recommendation B6-R8: Increase Permitted Project Inspections

This additional enhanced effort recommendation builds off Recommendations B6-R5 and B6-R7 and is to support and dedicate new resources to increase permitted project inspection frequency.

Inspection of all permitted development sites is conducted by Public Work Department and Planning & Community Development Department staff. Inspections occur during project construction to verify proper installation and maintenance of required erosion and sediment controls and stormwater BMPs. Inspections also occur upon completion of civil construction and building construction prior to final approval or occupancy to ensure proper installation and maintenance of permanent stormwater BMPs, along with verification that a documented operations and maintenance plan exists for the future owners of those BMPs.

Increasing inspection frequencies during project civil construction and building construction will help identify real or potential code or project permit violations to prevent project permit non-compliance and water quality issues.

Increasing inspection frequency will require additional inspectors or a shift of duties with current inspection staff to create more time to conduct inspections. A second construction inspector position has been requested by the Public Works Department in prior recent budget cycles with no success.

Benefit assumptions: Increased inspections will improve accountability on the part of permittees and oversight by the City to aid project success.

Cost assumptions: Approximately $142,000 annually for 1,748 staff hours for one additional full-time staff person to assist with permitted project inspections and enforcement starting in 2024 then ongoing thereafter.

Recommendation B6-R9: Tracking Inspections and Enforcement

This additional enhanced effort recommendation builds from Recommendation B6-R5 and is to support and dedicate new resources to develop a formal and trackable process for staff to know what status permitted projects are in and what inspection and enforcement actions occurred.

Staff have the ability to look up such information in the SmartGov software used by the City for tracking permits; however, currently only staff who are trained in SmartGov software and who use it regularly know how to fully access and understand the data and create reports.

It is helpful to all staff to have knowledge of what project permits have been approved by the City and what status they are in. This recommendation involves creating a report in SmartGov software that would be made easily accessible by staff or proactively provided to staff.

Benefit assumptions: Enhanced tracking will assist with knowledge and oversight of compliance inspections and enforcement actions, and recordkeeping and reporting.

Cost assumptions: Approximately $7,000 for 80 hours of staff time to develop and implement the tracking process in 2024.

Recommendation B6-R10: Construction Quality and Future Management Assurance Process

This additional enhanced effort recommendation builds from Recommendation B6-R5 and is to support and dedicate new resources to develop a formal process to ensure private stormwater infrastructure is constructed as approved, as-built construction plans are provided to the City, long-term operations and maintenance plans are correct, and maintenance covenants are recorded with Kitsap County prior to final approval or occupancy.

Enforcement of private stormwater system installation and maintenance is a challenge for the City due to lack of staff and documented processes. Long-term maintenance is a challenge for private stormwater system owners when they can't locate accurate as-built construction plans or documents related to maintenance requirements.

Such an assurance process will prove invaluable to the City and to private property owners by having practical information and legal documents in place to feel greater assurance that constructed and maintained stormwater BMPs will prevent flooding and polluted runoff on private property and won't adversely impact waters of the State or the public stormwater system. It is further recommended that this process clarify the roles and responsibilities of departments and staff for those departments and staff to know and follow.

Benefit assumptions: The program will help streamline part of the permitting process and closeout, and will improve confidence in construction and ability to manage the infrastructure after construction.

Cost assumptions: Approximately $7,000 for 80 hours of staff time to develop and implement the assurance process in 2024.

Recommendation B6-R11: Inspection and Enforcement Software

This additional enhanced effort recommendation is for supporting and dedicating new resources to obtain inspection and enforcement software to assist with tracking and recordkeeping to ensure achievement of required annual percentages of inspections, such as the add-on SmartGov Inspection module.

Benefit assumptions: Inspection and enforcement software will assist efficiency and organization with inspection and enforcement requests, scheduling, and tracking.

Cost assumptions: Approximately $11,000 total in 2024 for 60 hours of staff time to develop and implement the process for using SmartGov software for tracking inspections and enforcement plus 16 hours of training for at least 4 staff starting in 2024. Then approximately $6,000 annually ongoing thereafter for the total 64 hours of staff training each year.

Make Notice of Intent (NOI) Available

The Permit requires the City make available the link to Ecology's electronic Construction Stormwater General Permit (CSWGP) Notice of Intent (NOI) form for construction activity and, as applicable, a link to the electronic Industrial Stormwater General Permit (ISGP) NOI form for industrial activity to representatives of proposed development and redevelopment. Notice of Intent (NOI) means the application for, or a request for coverage under, a General Permit pursuant to WAC Chapter 173-226-200 WAC. The City shall continue to enforce local ordinances controlling runoff from sites covered by general or individual stormwater permits issued from Ecology.

Development Engineering staff who oversee site plan review provide NOI links to permit applicants. Recommendations B6-R12 and B6-R13 suggest continuing this compliance activity and perhaps to increase oversight of sites with one or more General Permits issued from Ecology.

Recommendation B6-R12: Provide Link to Notice of Intent (NOI)

This minimum effort recommendation is for continuing to support and dedicate resources to provide Notice of Intent (NOI) links to permit applicants.

Benefit assumptions: Providing links for NOIs ensures the City is aware that a project will also require addition permits with Ecology, and helps permittees find the information they need to apply for permit coverage with Ecology.

Cost assumptions: The cost for this is associated and accounted for with Recommendation B6-R5 Site Plan Review, Inspections, Enforcement.

Recommendation B6-R13: Additional Coordination with Ecology

This additional enhanced effort recommendation is for supporting and dedicating new resources to aid greater oversight of sites also permitted through Ecology, and coordinate with Ecology on site plan review, inspection, and enforcement activities.

Ecology, like the City, has limited staff resources to validate permit applicant information or to conduct field inspections and enforcement. It has been observed by the City that some CSWGP and ISGP holders may have provided Ecology inaccurate or inadequate information with their initial application. It is also observed by the City that Ecology does not communicate with the City about CSWGP or ISGP permit applications, issuance, inspections, violations, or enforcement actions on Bainbridge Island.

Benefit assumptions: Coordinating with Ecology may help improve consistency, communication, and accountability between the two agencies regarding site plan review, inspection, and enforcement on projects permitted by both agencies.

Cost assumptions: Approximately $2,000 for 20 hours of staff time each year to support coordination with Ecology starting in 2024 then ongoing thereafter.

Staff Training on Addressing Runoff from New Development, Redevelopment, and Construction Site Projects

COBI is required to provide training to staff and to maintain records of training.

COBI staff are provided opportunities to receive training and gain necessary certifications to perform job functions. The City utilizes the Certified Erosion and Sediment Control Lead (CESCL) training as one method to ensure staff are trained on ways to control stormwater runoff from new development, redevelopment, and construction sites. As of early 2024, a total of 32 COBI staff have valid CESCL certifications.

These six recommendations for staff training for controlling runoff are recommendations presented in other sections and are reiterated in this section as they are strategies to meet more than one permit requirement for training and training recordkeeping.

Recommendation B11-R8: Records Retention Policy and Procedures (reiterated)

This minimum recommendation is presented in the SWMP Plan, Recordkeeping, and Annual Reporting section (Appendix B, Table B-11) and is reiterated in multiple sections to reinforce this as a strategy to meet more than one Permit requirement for recordkeeping.

The following five recommendations (B5-R17 through B5-R21) introduced in the previous IDDE section (Appendix B, Table B-5) offer strategies to provide the required initial and ongoing training, and training documentation, for all staff whose primary job duties are implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities.

Recommendation B5-R17: Track Training in Excel (reiterated)

Recommendation B5-R18: Formal Training Program for Staff (reiterated)

Recommendation B5-R19: Require Formal Training and Continued Education for Staff (reiterated)

Recommendation B5-R20: COBI Specific Training Program for Staff (reiterated)

Recommendation B5-R21: Track Training with HR Coordination and Software (reiterated)

Operations and Maintenance (O&M) Assessment and Recommendations

Long-term operations and maintenance (O&M) of stormwater systems and all their components is essential to ensure those systems are functioning as intended to prevent flooding and water pollution. As discussed in Chapter 1, the City is responsible for operating and maintaining the public storm sewer system (aka SSWM Utility or MS4). The City is also responsible for enforcing private property owners to properly operate and maintain their stormwater systems, especially when they are connected to the public stormwater system.

For MS4 operations and maintenance, there are no COBI staff dedicated only to this utility. COBI has 4–5 O&M staff positions dedicated to the ongoing operations and maintenance of the City's three public utilities: wastewater, drinking water, and storm and surface water (SSWM). This distribution and level of staff across utilities challenges COBI's ability to work plan and perform utilities operation and maintenance activities beyond minimal levels. It is recommended for COBI to dedicate at least one staff person to be a full-time O&M SSWM Utility Lead, this may be a new position or a reallocated existing position. The Lead would oversee SSWM work planning and regulatory compliance for O&M and liaise with other Public Works staff, especially the Stormwater Management Program Coordinator and City Engineer.

For privately owned and operated stormwater systems, COBI has one staff position, the Stormwater Management Program Coordinator, in the Engineering work group who tracks, conducts inspections, and enforces long-term operations and maintenance. Currently, this staff person only has time to inspect the minimum number of private stormwater system sites necessary to meet Permit compliance; which excludes systems approved prior to 2009 and systems not connected to the MS4.

O&M staff are also responsible for making sure the Stormwater Pollution Prevention Plans (SWPPPs) are followed for the City's heavy equipment maintenance and storage yards, and material storage facilities; those are the O&M Facility located at 7305 NE Hidden Cove Road and the Vactor Truck Decant Facility located at 6400 Don Palmer Ave NE.

All COBI staff are expected to reference and implement the existing maintenance standards and standard operating procedures for operations and maintenance activities, and for repair and Capital projects. Staff are expected to gain the training necessary to safely and effectively perform their roles.

The Permit required recordkeeping of SSWM Utility O&M and SWPPP activities, and of O&M staff training, continues to be a challenge due to lack of policy, procedures, and time dedicated to do so. The City's Stormwater Management Program Coordinator assists O&M staff with training, mapping, inspections, tracking, and recordkeeping to meet Permit compliance. An added challenge for staff to conduct and document their work is the lack of full and accurate asset inventories and activities records. Staff currently reference asset inventories and activities records on maps or Excel spreadsheets.

This section is supported by Table B-7 in Appendix B, and Table C-7 in Appendix C. Table B-7 displays the O&M assessment information and recommendations alongside the Permit Requirements and related CAP goals/actions and Comp Plan goals/policies (Appendix A). Table C-7 helps illustrate the financial cost and timeframes estimated for each O&M recommendation over the next six years and beyond. Table 2-8 is a snapshot of the unique recommendations in this section and Appendix B, Table B-7.

Table 2-8. Summary of Unique O&M Recommendations in Appendix B, Table B-7.

RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES	RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES
• B7-R1: Implement Maintenance Standards • B7-R4: Private Stormwater Facilities Maintenance Program Inspection and Enforcement • B7-R5: Private Stormwater Facilities Maintenance Program Tracking • B7-R6: Code Updates for Stormwater Facilities Maintenance Program • B7-R13: Public (MS4) Stormwater Facility Inspections and Maintenance • B7-R14: Public (MS4) Stormwater Facility Spot Checks After Storm Events • B7-R15: Public (MS4) Catch Basin and Inlet Inspections and Maintenance • B7-R18: Refine Practices, Policies, and Procedures for Maintenance Activities • B7-R19: Implement Practices, Policies, and Procedures for Maintenance Activities • B7-R21: Update SWPPPs • B7-R22: Public Works Operations & Maintenance Facility Monthly SWPPP Inspections • B7-R23: Public Works Operations & Maintenance Facility Quarterly Discharge Monitoring • B7-R24: Vactor Truck Decant Facility Annual SWPPP Inspections • B7-R26: Assess and Adapt Existing Street Sweeping Program • B7-R27: Training for Staff on Street Sweeping	• B7-R2: Consistent Inspection and Maintenance Program and Schedule • B7-R3: COBI Specific Maintenance Standards • B7-R7: Improve Recordkeeping for Asset Management • B7-R8: Private Stormwater Facilities Maintenance Assistance Program • B7-R9: Enhancement #1 to Private Stormwater Facilities Maintenance Program Inspection and Enforcement • B7-R10: Complete Private Stormwater Treatment and Flow Control BMPs/Facilities Inventory • B7-R11: Enhancement #2 to Private Stormwater Facilities Maintenance Program Inspection and Enforcement • B7-R12: Private Stormwater System Retrofit Program • B7-R16: Assess and Adapt Inspections and Maintenance Programs • B7-R17: Public (MS4) Stormwater Assets Retrofit Program • B7-R20: Adaptive Practices, Policies, and Procedures for Maintenance Activities • B7-R25: Vactor Truck Decant Facility Annual Discharge Monitoring • B7-R28: GPS Tracking for Street Sweeping Activities • B7-R29: New Street Sweeping Equipment • B7-R30: Monitor Water Quality with Street Sweeping Activities

Summary only includes unique S5.C.7 recommendations; reiterated recommendations are included in the full assessment and recommendations Table B-7 in Appendix B.

Assessment and recommendations for O&M are presented in these eight groupings to address the minimum performance measures as outlined in the 2019–2024 Permit:

- **Maintenance Standards:** To implement maintenance standards that are as protective, or more protective, of facility function than those specified in the SWMMWW or a Phase I program approved by Ecology (S5.C.7.a).
- **Maintenance of Stormwater Facilities Regulated by COBI:** To have a program that includes provisions to verify adequate long-term O&M of stormwater treatment and flow control BMPs/facilities that are permitted and constructed pursuant to Section S.5.C.6.c and maintained in accordance with S5.C.7.a (S5.C.7.b).

- **Maintenance of Stormwater Facilities Owned or Operated by COBI:** To have a program that annually inspects all municipally owned or operated permanent stormwater treatment and flow control BMPs/facilities, and takes appropriate maintenance actions in accordance with the adopted maintenance standards (S5.C.7.c).
- **Practices, Policies, and Procedures to Reduce Stormwater Impacts:** To implement practices, policies, and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by COBI, and road maintenance activities under the functional control of COBI (S5.C.7.d).
- **Staff Training for O&M:** To implement an ongoing training program for employees whose primary construction, operations or maintenance job functions may impact stormwater quality (S5.C.7.e).
- **Stormwater Pollution Prevention Plans:** To implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by COBI in areas subject to the Permit that are not required to have coverage under the ISGP or another NPDES Permit that authorizes stormwater discharges associated with the activity (S5.C.7.f).
- **Street Sweeping Program:** Based on draft 2024–2029 Permit Language, to develop and implement a municipal street sweeping program that targets high priority areas at times during the year that would reasonably be expected to result in water quality benefit to receiving waters.
- **Maintain O&M Records:** To maintain records of O&M activities (S5.C.7.g).

Maintenance Standards

Recommendations B7-R1 through B7-R3 provide strategies that establish criteria to follow, and enforce, for adequate and timely maintenance of stormwater facilities/BMPs on Bainbridge Island.

Recommendation B7-R1: Implement Maintenance Standards

This minimum effort recommendation is for continuing to support and dedicate resources to follow established maintenance standards for stormwater infrastructure.

Effective June 30, 2022, COBI adopted the 2019 SWMMWW and follows and enforces all maintenance standards per the 2019 SWMMWW for both public and private stormwater systems. COBI develops maintenance standards for facilities which do not have maintenance standards specified in the 2019 SWMMWW.

COBI has developed and implemented inspection checklists based on 2019 SWMMWW maintenance standards to help COBI staff and private property owners identify maintenance needs and know what maintenance to perform to bring the facility up to standards.

There are also Permit established time frames for maintenance to be completed by, based on inspection date and results. Unless there are circumstances beyond COBI's control, when an inspection identifies an exceedance of the maintenance standard, maintenance shall be performed within

- 1 year for typical maintenance of facilities, except catch basins
- Within 6 months for catch basins
- Within 2 years for maintenance that requires capital construction of less than $25,000.

For some new development and redevelopment sites, long-term O&M Manuals regarding maintenance standards are required to be developed for the site as a condition of their permit. The O&M Manuals guide both private property owners and COBI staff to know expected inspection schedules and future maintenance needs to plan for, and enforce, with those systems.

Benefit assumptions: Adhering to, and enforcing, current Ecology maintenance standards is intended to reduce discharge of pollutants to the Maximum Extent Practicable (MEP), and Uses All Known, Available, and Reasonable methods of prevention, control, and Treatment (AKART) to prevent and control pollution of waters of the State of Washington.

Cost assumptions: Approximately $1,000 for 10 hours of staff time each year to collaborate on reviewing and documenting any needed updates to the COBI maintenance standards for stormwater infrastructure starting in 2024 then ongoing thereafter. This does not include staff time to ensure maintenance standards are being followed through inspections and enforcement which is covered by other recommendations.

Recommendation B7-R2: Consistent Inspection and Maintenance Program and Schedule

This additional enhanced effort recommendation is to support and dedicate new resources to establish and implement a consistent inspection and maintenance program and schedule to ensure maintenance standards are sustained for both public (MS4) and private stormwater infrastructure.

The City Stormwater Management Program Coordinator inspects and enforces long-term operations and maintenance of private facilities. Inspections occur over each calendar year as time allows and are not scheduled. Currently, there are 24 private facilities the City is required to inspect, and the City inspects 80% of those (20 count) every year as required by the Permit. There are many more private facilities across the island but the City is not required to inspect those facilities, so there are no dedicated COBI resources to inventory, inspect, or enforce long-term operations and maintenance of those facilities.

City O&M staff oversee long-term operations and maintenance of public stormwater facilities. Current O&M work plans do not indicate when MS4 inspection and maintenance activities are scheduled to occur so it is unknown when that required work is planned to be completed by O&M each year. The City is required to inspect and maintain all known public catch basins and inlets on a biennial schedule, and all known public flow control and treatment facilities every calendar year. This work continues to be a challenge for O&M staff to complete within the required timeframes to meet Permit compliance due to other competing work priorities.

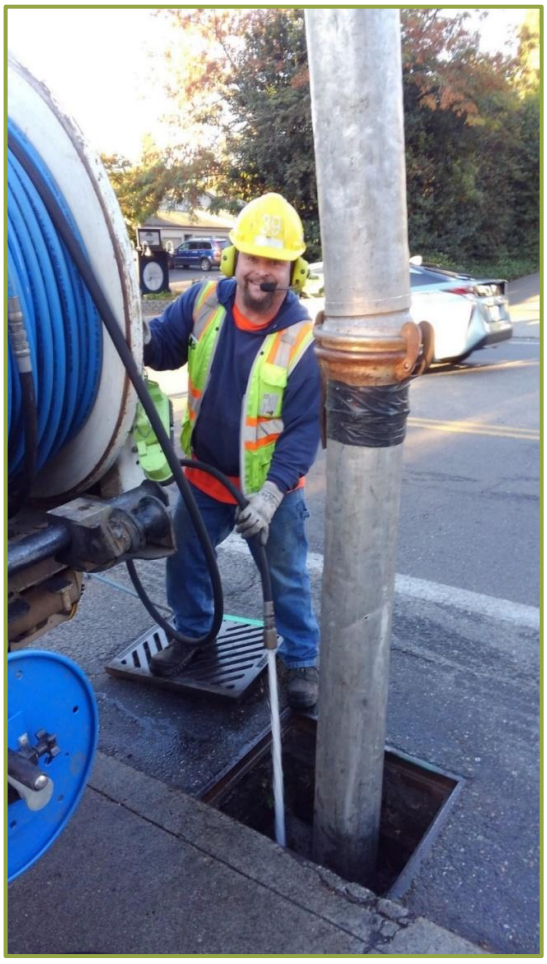
The current Permit does not include specific requirements for maintenance of public ditches, pipes, and culverts. It is recommended to include these in the inspection and maintenance program and schedule as these activities impact the effectiveness of the MS4 to reduce flooding and water pollution. Staff hours records indicate the 2019–2023 annual average total O&M staff hours for culvert and ditch maintenance work has been 1,110 hours, or 0.63 FTE.

It is further recommended that an O&M staff lead be assigned to work on making improvements to the O&M inspection and maintenance program and the resources needed for program success, such as creating a work schedule, overseeing recordkeeping, and assist asset inventory mapping.

Benefit assumptions: Consistent inspection and maintenance program and schedules will create greater efficiency in use of resources and work planning, and increased confidence in protecting water quality.

Cost assumptions: Approximately $2,000 in 2024 for 20 hours of staff time to develop a program and schedule for inspection and maintenance of the MS4 and for private stormwater systems. Then approximately $1,000 annually for 4 hours of staff time each year to review and update the program and schedule as needed starting in 2025 then ongoing thereafter. This does not include staff time related to fulfilling the programs and schedules.





Recommendation B7-R3: COBI Specific Maintenance Standards

This additional enhanced effort recommendation builds from Recommendation B7-R1 and is to support and dedicate resources to develop and implement maintenance standards that are most appropriate for COBI that may go above and beyond the 2019 SWMMWW.

COBI's current adopted maintenance standards were developed by Ecology and are generic to apply to facilities in all jurisdictions across Western Washington. It is possible upon review of the maintenance standards that COBI may prefer more particular general standards that would more closely characterize the desires and goals of the island community, such as for aesthetics or more frequent maintenance. It is also possible that some facilities may perform more optimally if they were inspected and maintained based on more customized maintenance standards and schedules.

Benefit assumptions: Establishing COBI specific maintenance standards improves staff understanding and sense of propriety with setting and following maintenance standards that are most suitable to COBI's infrastructure, community preferences and aesthetic.

Cost assumptions: Approximately $54,000, which includes $50,000 for consultant support and $4,000 for 40 hours of staff support in 2025 to develop the enhanced maintenance standards.

Maintenance of Stormwater Facilities Regulated by COBI

The following nine recommendations, B7-R4 through B7-R12, relate to COBI's private facility inspection program that works to ensure private stormwater facility/BMP maintenance.

Recommendation B7-R4: Private Stormwater Facilities Maintenance Program Inspection and Enforcement

This minimum effort recommendation builds from Recommendation B7-R2 and is to continue to support and dedicate resources to annually inspect and enforce adequate O&M of at least 80% of all privately owned and operated stormwater treatment and flow control BMPs/facilities that discharge to the MS4 and were permitted after 2009.

Benefit assumptions: Ensures that permitted stormwater treatment and flow control BMPs/facilities are operated and maintained to function as designed to reduce runoff and protect water quality.

Cost assumptions: Approximately $5,000 for 60 hours of staff time each year to conduct inspections of 80% of the permitted (private) BMPs/facilities and enforce maintenance standards as needed starting in 2024 then ongoing thereafter.



Recommendation B7-R5: Private Stormwater Facilities Maintenance Program Tracking

This minimum effort recommendation coincides with Recommendation B7-R4 and is for continuing to support and dedicate resources to record and track installation, inspection, maintenance, and enforcement activities of the Private Stormwater Facilities Maintenance Program [for permitted private facilities] in an Excel spreadsheet.

Data is tracked in Excel and any supporting digital records are kept on file, such as inspection photos and communications.

Benefit assumptions: Tracking in Excel is a low-tech and low-cost method for recordkeeping.

Cost assumptions: Approximately $2,000 for 20 hours of staff time each year to record and track Private Facilities Maintenance Program activities in Excel starting in 2024 then ongoing thereafter.

Recommendation B7-R6: Code Updates for Stormwater Facilities Maintenance Program

This minimum effort recommendation is for supporting and dedicating new resources to review and revise BIMC Chapters 15.20, Surface Water and Stormwater Management, and 15.21, Stormwater Facilities Maintenance Program, to establish clear progressive enforcement policies and procedures to verify adequate long-term O&M of permitted privately owned and operated stormwater systems and facilities.

COBI's primary enforcement mechanisms to regulate private stormwater facilities are municipal codes BIMC Chapters 15.20 and 15.21.

In part, these codes establish inspection and maintenance requirements, and where appropriate, establish necessity for, and adherence to, an operations and maintenance plan, for private stormwater facilities permitted under current regulatory requirements. These codes may serve the City best with improved language for clarity on enforcement and for stormwater facilities permitted under older regulatory requirements.

This work would be best accomplished in conjunction with code updates suggested with Recommendations B5-R11 and B8-R5.

Benefit assumptions: Enforcement mechanisms with clearly outlined policies and procedures provide guidance and transparency for staff, general public, and property owners to know and follow.

Cost assumptions: Approximately $14,000 total, which includes $10,000 of consultant support and $4,000 for 40 hours of staff support in 2024 to complete BIMC Chapters 15.20 and 15.21 updates in conjunction with other recommended code updates/additions (see Recommendations B5-R11 and B8-R5).

Recommendation B7-R7: Improve Recordkeeping for Asset Management

This additional enhanced effort recommendation builds off Recommendation B7-R5, and is to support and dedicate new resources to upgrade recordkeeping and reporting for stormwater BMPs/facilities installation, inspection, maintenance, and enforcement tracking, ideally with an asset management software compatible with mapping software and staff assigned to oversee data integrity (also see recommendations for MS4 Mapping and Documentation and Appendix B, Table B-4).

An asset management software, with staff oversight, will allow discontinued use of Excel Spreadsheets as the current primary method of asset management recordkeeping and tracking; and will advance the City's asset management accountability for reporting and planning.

Benefit assumptions: Advanced recordkeeping and tracking of private and public stormwater assets and the maintenance and enforcement activities associated with them improves data knowledge and accountability for reporting, planning, and budgeting.

Cost assumptions: Refer to MS4 Mapping and Documentation section and Appendix D for specific asset management software staffing and/or funding assumptions.

Recommendation B7-R8: Private Stormwater Facilities Maintenance Assistance Program

This additional enhanced effort recommendation is for supporting and dedicating new resources to develop and implement an O&M assistance program for property owners with stormwater systems.

Owners of private stormwater systems are challenged to know how to inspect and maintain their systems. It is not common knowledge for most people. The City provides some guidance information online through the Private Stormwater System Management webpage, and the Stormwater Management Program Coordinator is available upon request to provide some training and technical assistance. The City will benefit from increased guidance and assistance available to help owners, especially as it pertains to owners/operators hiring professional services to complete inspections and maintenance, which can often be difficult and costly (in some cases for treatment facilities, hiring a certified contractor is required based on current BIMC language).

At this time, there are few professional service contractors for stormwater system inspections and maintenance willing to work on Bainbridge Island, which means system owners don't have many competitive options to consider. Additionally, the City is limited in its ability to directly enforce those hired contractors follow COBI maintenance standards because it is the responsibility of the owners to know that the established standards are being followed by their contractors. To help the situation for owners and the City, it could be advantageous for the City to consider pursing ways to attract additional reputable professional services contractors to work on island. One way to consider is to learn about and try to address the barriers that exist that are causing contactors to not work on Bainbridge Island. Another way to consider is the City having a general maintenance services agreement with a contractor or multiple contractors, similar to solid waste management service agreements with solid waste contractors commonly used by municipalities to secure standard consistent service and cost for customers, especially for services the City requires.

Benefit assumptions: Resources provided through an assistance program would reduce barriers and challenges for property owners with adequate and efficient inspections and maintenance of their private stormwater systems and facilities; and would reduce enforcement by the City and ultimately improve water quality.

Cost assumptions: Approximately $17,000 for 200 hours of staff time in 2025 to develop and implement the assistance program; then approximately $4,000 annually for 40 hours of staff time each year to support the program starting in 2026 then ongoing thereafter.

Recommendation B7-R9: Enhancement #1 to Private Stormwater Facilities Maintenance Program Inspection and Enforcement

This additional enhanced effort recommendation builds off Recommendation B7-R4 and is to support and dedicate new resources to annually inspect and enforce adequate O&M of 100% of all known private stormwater treatment and flow control BMPs/facilities that discharge to the MS4 and were permitted after 2009.

COBI currently achieves annual inspections of at least 80% of all known private stormwater treatment and flow control BMPs/facilities that discharge to the MS4 and were permitted after 2009, per the Permit minimum performance requirement. As of 2024, there is a total of 24 sites identified for required inspection; 80% is 20 and 100% is 24.

Benefit assumptions: Increased inspections and enforcement of private stormwater treatment and flow control BMPs/facilities permitted after 2009 ensures those facilities are operated and maintained to function as designed to reduce runoff and protect water quality.

Cost assumptions: Approximately $5,000 for 60 hours of staff time each year to conduct inspections and enforce maintenance of 100% of all known private stormwater treatment and flow control BMPs/facilities that discharge to the MS4 and were permitted after 2009 starting in 2024 then ongoing thereafter.

Recommendation B7-R10: Complete Private Stormwater Treatment and Flow Control BMPs/Facilities Inventory

This additional enhanced effort recommendation builds off Recommendation B7-R4 and is for supporting and dedicating new resources to identify, research, and create a complete inventory of all private stormwater treatment and flow control BMPs/facilities.

The inventory referred to in Recommendation B7-R9 is only for the private stormwater treatment and flow control BMPs/facilities that discharge to the MS4 and were permitted after 2009. This is a small number when compared to the overall inventory of permitted private stormwater treatment and flow control BMP/facilities on Bainbridge Island. The current total inventory count is 106 but it is understood to not be fully accurate or complete. There is an even larger number of private stormwater systems on island that do not have treatment and flow control BMPs/facilities.

Completing the inventory will require a combination of field and desktop analysis to research, locate, and map all private stormwater treatment and flow control BMPs/facilities. Current inventory records are kept in a GIS map and on an Excel spreadsheet and they do not match.

Benefit assumptions: A complete inventory of all private stormwater treatment and flow control BMPs/facilities helps the City know what and how stormwater is managed on private properties and to enforce inspections and maintenance of those facilities to protect water quality.

Cost assumptions: Approximately $57,000, which includes $50,000 of consultant support and $7,000 for 80 hours of staff support to complete the inventory in 2024. Then approximately $1,000 annually for ongoing updates to the inventory are estimated at 8 staff hours per year starting in 2025 then ongoing thereafter (also see Recommendation B4-R2 for Ongoing Map Updates and Appendix B, Table B-4 for Mapping).

Recommendation B7-R11: Enhancement #2 to Private Stormwater Facilities Maintenance Program Inspection and Enforcement

This additional enhanced effort recommendation builds off Recommendations B7-R4 and B7-R10 and is to support and dedicate new resources to biennially inspect and enforce adequate O&M of 100% of all known private stormwater treatment and flow control BMPs/facilities. This would include annual inspections of 80% of those BMPs/facilities permitted after 2009 that discharge to the MS4.

This program enhancement means the City would inspect all known private stormwater treatment and flow control BMPs/facilities every two years in addition to the current annual inspection cycle of 80% of those BMPs/facilities permitted after 2009 that discharge to the MS4.

Updates to BIMC Chapter 15.21, Stormwater Facilities Maintenance Program, as stated with Recommendation B7-R6, will help to enforce any needed repairs or maintenance for older facilities.

Benefit assumptions: Inspections and enforcement of all private stormwater treatment and flow control BMPs/facilities ensures those facilities are operated and maintained to function as designed to reduce runoff and protect water quality.

Cost assumptions: Approximately $7,000 for 80 hours of staff time each year to conduct the combination of annual and biennial inspections and enforce maintenance starting in 2024 then ongoing thereafter.

Recommendation B7-R12: Private Stormwater System Retrofit Program

This additional enhanced effort recommendation is for supporting and dedicating new resources to develop and implement a program to assist and incentivize upgrading/retrofitting privately owned and operated stormwater systems to protect and improve water quality (also see Recommendation B1-R8 for LID Assistance Program, Appendix B, Table B-1 for Stormwater Planning).

Older systems designed and constructed under previous regulations may be less protective of water quality, and it is possible to retrofit systems to improve protections as well as enhance groundwater recharge function such as by adding on-site infiltration, flow control, pre-treatment, and treatment.

To support this effort, it is suggested to first complete the inventory update, see Recommendation B7-R10. Once the inventory is complete, systems that may be the best candidates for retrofit will be more clearly identified.

System owners will be more likely to consider retrofits when the financial cost to them is a close to zero as possible; so, it is recommended that the City consider incentives to offer such as permit fee waivers, system/facility design and installation assistance, or future SSWM Utility fee reductions.

Benefit assumptions: Upgrading/retrofitting private stormwater systems will reduce runoff and increase water quality protection.

Cost assumptions: Approximately $36,000 for 437 staff hours to develop and implement the Private Stormwater System Retrofit Program in 2025. Then approximately $9,000 annually for 100 staff hours each year to support the program starting in 2026 then ongoing thereafter. This does not include costs associated with potential incentives that may be featured as part of the program.

Maintenance of Stormwater Facilities Owned or Operated By COBI

The following 3 reiterated 5 unique recommendations provide strategies for COBI's public stormwater facilities/BMPs inspection and maintenance program.

Recommendation B5-R14: Field Screening for IDDE/TMDL (reiterated)

This minimum effort recommendation is presented in the IDDE section (Appendix B, Table B-5) and is reiterated for O&M to reinforce this as a strategy to a way to ensure the MS4 is regularly monitored to protect water quality and to meet Permit requirements.

Recommendation B7-R2: Consistent Inspection and Maintenance Program and Schedule (reiterated)

This additional enhanced effort recommendation is presented earlier in this section and is reiterated here to reinforce the strategy as a way to ensure the MS4 is well maintained to protect water quality and to meet Permit requirements.

Recommendation B7-R7: Improve Recordkeeping for Asset Management (reiterated)

This additional enhanced effort recommendation is presented earlier in this section and is reiterated here to reinforce the strategy as a way to support multiple permit requirements related to O&M recordkeeping.

Recommendation B7-R13: Public (MS4) Stormwater Facility Inspections and Maintenance

This minimum effort recommendation builds from Recommendation B7-R2 and is to continue to support and dedicate resources to annually inspect 100% of the stormwater treatment and flow control BMPs/facilities owned or operated by COBI and complete any needed maintenance per the established maintenance standards and timeframes, and keep records of these activities in an Excel spreadsheet.

In 2023, the known facility inventory count is 193. The inventory grows every year when the City builds or accepts new public facilities installed with new development, redevelopment, and Capital Improvement Plan (CIP) projects.

O&M staff inspect every treatment and flow control facilities at least once each year, then they work to fulfill any maintenance needs identified during inspection is usually completed the following year within the 12-month maintenance standard timeframe. Inspection and maintenance work continues to be a

challenge for O&M staff to complete within Permit required timeframes due to other competing work priorities.

Benefit assumptions: Regular stormwater facility inspections and maintenance ensures facilities are functioning as designed to reduce runoff and protect water quality.

Cost assumptions: Approximately $63,000 annually for 768 hours of staff time each year (an average of 4 hours of time for each of the current 192 facilities) to complete stormwater facility inspections, maintenance, and recordkeeping started in 2024 then ongoing thereafter. This does not include the cost for equipment and materials.



Recommendation B7-R14: Public (MS4) Stormwater Facility Spot Checks After Storm Events

This minimum effort recommendation is to continue to support and dedicate resources to conduct spot check inspections at stormwater treatment and flow control BMPs/facilities owned or operated by COBI after major storm events.

Public Works staff conduct spot check inspections of potentially damaged stormwater treatment and flow control BMPs/owned or operated by COBI after, and sometimes during, major storm events (10-year 24-hour event) which for COBI is 3 inches of rain in 24 hours. Spot checks also include inspecting known problem and flooding areas. The full list of spot check locations is known internally as the “hotspots list.” Hotspot repairs and maintenance are conducted based on inspections.

Benefit assumptions: Spot checks of stormwater facilities after major storm events helps the City verify adequate facility function and identify any additional maintenance needs or potential design improvements to implement.

Cost assumptions: Approximately $2,000 for 16 hours of staff time each year (based on an average of 2 events per year at 8 hours of staff time for each event) to conduct and record spot checks starting in 2024 then ongoing thereafter.

Recommendation B7-R15: Public (MS4) Catch Basin and Inlet Inspections and Maintenance

This minimum effort recommendation builds from Recommendation B7-R2 and is to continue support and dedicate resources to biennially complete inspections of at least 95% of all known MS4 catch basins and inlets, and complete any needed maintenance per the established maintenance standards and timeframes, and keep records of these activities in an Excel spreadsheet.

Inspections of at least 95% of all known MS4 catch basins and inlets are planned to be completed per previous and current Permit language that directs a biennial schedule (this schedule may change with future Permits). COBI's current biennial inspection cycle dates are 8/1/2023 through 7/31/2025, and the next cycle dates are 8/1/2025 through 7/31/2027.

In 2023, the known catch basin and inlet inventory count is 1,931. In order for O&M to achieve all the inspections within the cycle timeframe, the current Standard Operating Procedure indicates the need for O&M to inspect 240 assets each calendar quarter over the two years.

After inspections, O&M then works to fulfill any maintenance needs identified during inspection, and maintenance is usually completed within the 6-month maintenance standard timeframe.

Benefit assumptions: Regular catch basin and inlet inspections and maintenance ensures those facilities are functioning as designed to reduce runoff and protect water quality.

Cost assumptions: Approximately $19,000 annually for 460 hours of staff time (average of 15 minutes for each of the 1,835 assets) over two years to complete all catch basin and inlet inspections and maintenance starting in 2024 then ongoing thereafter. This does not include the cost for equipment and materials.

Recommendation B7-R16: Assess and Adapt Inspections and Maintenance Programs

This additional enhanced effort recommendation builds from Recommendation B7-R2 and is to support and dedicate new resources to assess and adapt the public (MS4) and private stormwater infrastructure inspection and maintenance programs and schedules to ensure they are most efficient and adequate for COBI to meet Comp Plan policies and CAP goals as well as Permit requirements.

There may be many ways for the City to achieve Permit compliance and water quality protection more efficiently and effectively by more closely assessing the current programs and desired programs outcomes. One way is to assess and adapt inspection and maintenance schedules based on known inspection and maintenance histories; the Permit allows for alternative catch basin/inlet inspection schedules that should be considered as part of this recommendation as there may be more efficient and effective ways for the City to achieve inspections and maintenance. Another way is to introduce asset rating systems to identify priorities and understand changes over time, and an additional way is to expand the MS4 infrastructure that O&M proactively inspects and maintains.

Some areas of Bainbridge Island may need more frequent inspection and maintenance such as areas with more pollutant generating surfaces and businesses, such as the Winslow Subarea; or areas with high visibility by people, and thus public perception; or areas where there is a history of a higher amount of localized flooding or illicit discharges.

The Permit does not include specific requirements for inspecting and maintaining ditches, pipes, and culverts. Is it recommended to include these in the program since they are a major functioning part of COBI's MS4. O&M does maintain ditches, pipes and culverts but only as needed to address immediate issues, customer requests, and as time permits in the work schedule.

It is further recommended to adapt improved recordkeeping practices of inspection and maintenance activities, and to conduct some low-level inventory and map update efforts with those activities.

Benefit assumptions: The assessment of the programs may identify opportunities to adapt the program to help COBI utilize its limited resources most effectively and efficiently.

Cost assumptions: Approximately $54,000 total, which includes $50,000 of consultant support and $4,000 for 40 hours of staff support in 2025 to assess and adapt the program for implementation in 2026 then ongoing thereafter.

Recommendation B7-R17: Public (MS4) Stormwater Assets Retrofit Program

This additional enhanced effort recommendation is supporting and dedicating new resources to develop and implement a program to upgrade/retrofit existing stormwater assets owned or operated by COBI to reduce and treat runoff.

Benefit assumptions: Upgrading/retrofitting existing Public stormwater assets will improve and extend the usefulness of COBI's stormwater infrastructure and will help protect and improve water quality.

Cost assumptions: Approximately $17,000 total in 2027, which includes $10,000 of consultant support and $7,000 for 80 hours of staff support to develop the program and integrate it into the Capital Improvement Planning process. Then ongoing implementation of the program into the CIP will be overseen by CIP staff.

Practices, Policies, and Procedures to Reduce Stormwater Impacts

The Permit requires the City implement practices, policies, and procedures to reduce stormwater impacts from all lands owned and maintained by the City; Recommendations B7-R18, B7-R19, and B7-R20 provide strategies to meet this Permit requirement as well as greater City policies and goals.

Recommendation B7-R18: Refine Practices, Policies, and Procedures for Maintenance Activities

This minimum effort recommendation is for supporting and dedicating new resources to refine COBI practices, policies, and procedures for each of the maintenance activities listed in the Permit to reduce stormwater impacts associated with runoff from all lands owned or maintained by COBI.

Lands means, but is not limited to: streets; parking lots; roads; highways; buildings; parks; open space; road rights-of-way; maintenance yards; and stormwater treatment and flow control BMPs/facilities.

This recommendation includes draft 2024–2029 Permit language (Appendix G) that is more specific about building cleaning and PCBs. Draft 2024–2029 Permit language suggests that practices, policies, and procedures shall be updated before December 31, 2027.

The City is expected to update its O&M Manual of COBI practices, policies, and procedures to reduce stormwater impacts associated with runoff for each of the maintenance activities listed in the Permit; those activities are:

- Pipe cleaning,
- Cleaning of culverts that convey stormwater in ditch systems,
- Ditch maintenance,
- Street cleaning,
- Road repair and resurfacing, including pavement grinding,
- Snow and ice control,
- Utility installation,
- Pavement striping maintenance,
- Maintaining roadside areas, including vegetation management,
- Dust control,
- Application of fertilizers, pesticides, and herbicides according to the instructions for their use, including reducing nutrients and pesticides using alternatives that minimize environmental impacts,
- Sediment and erosion control,
- Landscape maintenance and vegetation disposal,
- Trash and pet waste management, and
- Building exterior cleaning and maintenance:

- For City-owned buildings built or renovated between 1950–1980, the City shall not discharge washdown water to the MS4 if the building is confirmed or suspected to have PCB-containing materials.
- For City-owned buildings for renovation or demolition, prevent PCBs from entering MS4 in preparation for and during demolition and renovations.

Benefit assumptions: Documented practices, policies, and procedures for maintenance activities for COBI staff to know through training and to follow during work activities increases staff safety and effectiveness in reducing stormwater impacts associated with runoff from lands owned and operated by COBI.

Cost assumptions: Approximately $14,000 total, which includes $10,000 of consultant support and $4,000 for 40 hours of staff support in 2025 to refine COBI practices, policies, and procedures for each of the maintenance activities listed in the Permit.

Recommendation B7-R19: Implement Practices, Policies, and Procedures for Maintenance Activities

This minimum effort recommendation corresponds with Recommendation B7-R18 and is for supporting and dedicating new resources to implement COBI practices, policies, and procedures for each of the activities listed in the Permit to reduce stormwater impacts associated with runoff from all lands owned or maintained by COBI.

This recommendation emphasizes the need for O&M staff to implement the City's documented practices, policies, and procedures for maintenance activities to reduce stormwater impacts associated with runoff from all lands owned or maintained by COBI. The document is currently titled "O&M Manual." Staff may need further training so they know how to follow the O&M Manual.

To ensure the most current O&M Manual is readily available and accessible for staff to utilize, it is recommended to make the document available online through the City intranet or website.

Benefit assumptions: When trained, COBI staff follow the documented practices, policies, and procedures for maintenance activities, there is an increase in staff safety and effectiveness in reducing stormwater impacts associated with runoff from lands owned and operated by COBI.

Cost assumptions: The approximate annual cost for implementing (i.e., performing) COBI practices, policies, and procedures for each of the maintenance activities listed in the Permit is not fully known at this time but could be estimated in conjunction with Recommendations B7-R16 and/or B7-R18 in 2025.

Recommendation B7-R20: Adaptive Practices, Policies, and Procedures for Maintenance Activities

This additional enhanced effort recommendation builds from Recommendations B7-R18 and B7-R19 to support and dedicate new resources to use adaptive management to assess and modify COBI practices, policies, and procedures for each of the activities listed in the Permit to reduce stormwater impacts associated with runoff from all lands owned or maintained by COBI.

As staff follow the O&M Manual and potentially learn and discover ways to improve and adapt practices, policies, and procedures for maintenance activities to reduce impacts from stormwater runoff, it is recommended to document those adaptations in the O&M Manual.

Benefit assumptions: Adaptive management recognizes the utility in reviewing and adjusting COBI practices, policies, and procedures for maintenance activities based on performance, new innovations, and staff and public input to maximize success.

Cost assumptions: Approximately $24,000 total, which includes $20,000 of consultant support and $4,000 for 40 hours of staff support in 2026 to review and adapt COBI practices, policies, and procedures for maintenance activities.

Staff Training for O&M

COBI is required to provide training to staff and to maintain records of training.

The O&M training program shall address the importance of protecting water quality, operation and maintenance standards, inspection procedures, relevant SWPPPs, selecting appropriate BMPs, ways to perform job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns.

O&M staff are provided opportunities to receive training and gain necessary certifications to perform job functions. The City utilizes the Certified Erosion and Sediment Control Lead (CESCL) training as one method to ensure O&M staff are trained on the ways to perform their job activities to prevent or minimize impacts to water quality. As of early 2024, twenty O&M staff maintain valid CESCL certifications.

These six recommendations for staff training for O&M are recommendations presented in other sections and are reiterated in this section as they are strategies to meet more than one permit requirement for training and training recordkeeping.



Recommendation B11-R8: Records Retention Policy and Procedures (reiterated)

This minimum recommendation is presented in the SWMP Plan, Recordkeeping, and Annual Reporting section (Appendix B, Table B-11) and is reiterated in multiple sections to reinforce this as a strategy to meet more than one Permit requirement for recordkeeping.

The following five recommendations (B5-R17 through B5-R21) introduced in the previous IDDE section (Appendix B, Table B-5) offer strategies for the City to provide the required initial and ongoing training, and training documentation, for all staff whose primary construction, operations, or maintenance job functions may impact stormwater quality.

Recommendation B5-R17: Track Training in Excel (reiterated)

Recommendation B5-R18: Formal Training Program for Staff (reiterated)

Recommendation B5-R19: Require Formal Training and Continued Education for Staff (reiterated)

Recommendation B5-R20: COBI Specific Training Program for Staff (reiterated)

Recommendation B5-R21: Track Training with HR Coordination and Software (reiterated)

Stormwater Pollution Prevention Plans (SWPPPs)

Five recommendations (B7-R21 through B7-R25) provide strategies for continuing to implement Stormwater Pollution Prevention Plans (SWPPPs) at the City's O&M Facility located at 7305 NE Hidden Cove Road and Vactor Truck Decant Facility located at 6400 Don Palmer Ave NE. O&M staff complete SWPPP inspections at both sites at least once annually for the Phase II Permit.

Recommendation B7-R21: Update SWPPPs

This minimum effort recommendation is for supporting and dedicating new resources to update the Stormwater Pollution Prevention Plan (SWPPP) and SWPPP inspection form for the Public Works Operations & Maintenance Facility and the Vactor Truck Decant Facility.

Updates to existing SWPPPs may be needed as there have been changes at SWPPP sites related to site layout and buildings, operational activities, and materials and equipment storge. O&M staff have requested an update to the SWPPP inspection form in recent years.

Benefit assumptions: Up-to-date SWPPPs and SWPPP inspection forms most appropriate for the facility as well as user friendly help staff adhere to the SWPPP to protect water quality.

Cost assumptions: Approximately $7,000 for 80 hours of staff time in 2024 to complete SWPPP and SWPPP form updates.

Recommendation B7-R22: Public Works Operations & Maintenance Facility Monthly SWPPP Inspections

This minimum effort recommendation is for continuing supporting and dedicating resources to conduct monthly SWPPP inspections at the Public Works Operations & Maintenance Facility and make improvements as needed at the facility based on inspections and monitoring.

In 2022, Public Works Operations & Maintenance Facility was identified by the Washington State Department of Ecology (Ecology) as a site qualified to require an Industrial Stormwater General Permit (ISGP); so, COBI now has an additional NPDES permit for the site that requires quarterly stormwater discharge monitoring and monthly SWPPP inspections. O&M staff complete the monthly inspections and Engineering staff from the Water Resources Work Group conduct the discharge monitoring at Public Works Operations & Maintenance Facility, starting in 2023.

Benefit assumptions: Monthly SWPPP inspections at the Public Works Operations & Maintenance Facility will meet the ISGP requirement, as well as the annual Permit requirement, and will identify any needed operational or structural improvements to implement to protect water quality.

Cost assumptions: Approximately $2,000 annually for 24 hours of staff time each year (2 hours every month) to complete and record a monthly SWPPP inspection at the Public Works Operations & Maintenance Facility starting in 2024 then ongoing thereafter. Cost does not include cost for implementing any needed operational or structural improvements.

Recommendation B7-R23: Public Works Operations & Maintenance Facility Quarterly Discharge Monitoring

This minimum effort recommendation couples with Recommendation B7-R22 and is to continue to support and dedicate resources to conduct stormwater discharge monitoring at the Public Works Operations & Maintenance Facility each calendar quarter to meet the ISGP requirement and make improvements as needed at the facility based on inspections and monitoring (same recommendation for Monitoring and Assessment, Appendix B, Table B-10).

Engineering staff from the Water Resources Work Group conduct the required quarterly discharge monitoring at Public Works Operations & Maintenance Facility, and submit the monitoring reports to Ecology, starting in 2023.

Benefit assumptions: Quarterly stormwater discharge monitoring at the Public Works Operations & Maintenance Facility will meet the ISGP requirement and will verify SWPPP effectiveness.

Cost assumptions: Approximately $3,000 for 32 hours of staff time each year (8 hours every quarter) to complete the quarterly stormwater discharge monitoring for the Public Works Operations & Maintenance Facility and submit to Ecology starting in 2024 then ongoing thereafter.

Recommendation B7-R24: Vactor Truck Decant Facility Annual SWPPP Inspections

This minimum effort recommendation is for continuing to support and dedicate resources to conduct annual SWPPP inspections at the Vactor Truck Decant Facility and make improvements as needed at the facility based on inspections and monitoring.

The Vactor Truck Decant Facility is a heavy equipment maintenance and storage yard located at 6400 Don Palmer Ave NE, Bainbridge Island, Washington 98110. This facility is used primarily to handle waste collected inside the City's Vactor Truck used for cleaning storm and sanitary sewer systems as well as for some excavation activities. The facility is also used for some equipment and materials storage.

O&M staff complete the SWPPP annual inspections at the Vactor Decant Facility. Annual inspections include visual observations of discharges, evaluation of the effectiveness of the BMPs, identification of maintenance needs, and determination if additional or different BMPs are needed. The results of these inspections are documented in an inspection report or checklist and are kept on file.

Benefit assumptions: Annual SWPPP inspections at the Vactor Truck Decant Facility will meet the annual Permit requirement and will verify SWPPP effectiveness.

Cost assumptions: Approximately $1,000 for 2 hours of staff time each year to complete and record a SWPPP inspection at the Vactor Truck Decant Facility. Cost does not include cost for implementing any needed operational or structural improvements.

Recommendation B7-R25: Vactor Truck Decant Facility Annual Discharge Monitoring

This additional enhanced effort recommendation is for supporting and dedicating new resources to conduct stormwater discharge monitoring in conjunction with the annual SWPPP inspections (Recommendation B7-R24) at the Vactor Truck Decant Facility (same recommendation for Monitoring and Assessment, Appendix B, Table B-10).

While there are no current or anticipated Phase II Permit or ISGP Permit requirements to monitor discharges at the Vactor Truck Decant Facility it could benefit the City to monitor discharges as a means to monitor for SWPPP effectiveness. The discharge samples and results could be collected, recorded, and analyzed by Public Works Engineering Water Resources Work Group staff. The is no current requirement, or advantage for the City, to submit these discharge monitoring reports to Ecology.

Benefit assumptions: Annual discharge monitoring at the Vactor Truck Decant Facility will verify SWPPP effectiveness.

Benefit assumptions: Approximately $1,000 annually for 3 hours of staff time each year to complete the annual stormwater discharge monitoring for the Vactor Truck Decant Facility starting in 2024 then ongoing thereafter.

Maintain O&M Records

Recordkeeping and records retention is reiterated throughout the Permit, including in the O&M section where it states, “Maintain records of the activities conducted to meet the requirements of this Section.” This section includes three reiterated recommendations, two presented earlier in the O&M section and one presented later for recordkeeping and reporting (Appendix B, Table B-11), to reinforce these as strategies to meet more than one Permit requirement.

COBI’s records for stormwater BMP inspection, maintenance, and enforcement actions are tracked by Public Works staff in various Excel spreadsheets.

Recommendation B7-R5: Private Stormwater Facilities Maintenance Program Tracking (reiterated)

This minimum recommendation is presented earlier in this section and is reiterated here to reinforce the strategy as a way to help maintain O&M records.

Recommendation B7-R7: Improve Recordkeeping for Asset Management (reiterated)

This additional enhanced effort recommendation is presented earlier in this section and is reiterated here to reinforce the strategy as a way to help maintain O&M records.

Recommendation B11-R8: Records Retention Policy and Procedures (reiterated)

This minimum recommendation is presented in the SWMP Plan, Recordkeeping, and Annual Reporting section (Appendix B, Table B-11) and is reiterated in multiple sections to reinforce this as a strategy to meet more than one Permit requirement for recordkeeping.

Street Sweeping Program

Street sweeping can help improve water quality by removing sediment, leaves, and other visible debris that collects in gutters and along road shoulders, it can also remove tire and metal particles and other hazardous waste products left by passing and parked vehicles.

The draft 2019–2024 Permit introduces new Permit requirements to implement a municipal street sweeping program. COBI already has a street sweeping program managed by O&M. The existing program may already fulfill anticipated Permit requirements but the program is not well documented to know if it meets Permit requirements or not as it is currently implemented.

O&M performs street sweeping activities throughout the year using a regenerative sweeper and power broom sweeper. For in-town curb and gutter, a regenerative sweeper is used every Friday, October through December. For out-of-town curb and gutter, a regenerative sweeper is used every other week, October through December. With leaf drop, O&M may have both sweepers out sometimes every day, depending on how much is coming down at any given time. Over summer months, curb and gutter sweeper may be completed once a month or more based on sweeping requests. Staff time records indicate the 2019–2023 annual average total staff hours spent on street sweeping was 779 hours, or 0.45 FTE.



The following five recommendations (B7-R26 through B7-R30) provide strategies for the City to consider to be sure its street sweeping program complies with the new expected Permit requirements. There is also opportunity for the street sweeping program to help meet receiving water goals as a Stormwater Management Program Enhancement (SE-6) as presented in the Stormwater Management Action Plan (SMAP) for Manzanita Watershed East Catchment (Appendix E).

Recommendation B7-R26: Assess and Adapt Existing Street Sweeping Program

This minimum effort recommendation is to support and dedicate new resources to assess the existing street sweeping program and adapt the program to meet anticipated future requirements as well as receiving water protection goals (see SMAP Stormwater Management Program Enhancement Recommendation SE-6, Appendix E).

Benefit assumptions: Street sweeping helps improve road safety and remove pollutants from roadways that may otherwise end up in the MS4 and receiving waters.

Cost assumptions: Approximately $7,000 for 80 hours of staff time in 2027 to assess and redevelop the Street Sweeping Program; then $7,000 annually for 80 hours of staff time each year to manage the program and perform the sweeping at least three times a year starting in 2027 then ongoing thereafter. Cost does not include costs for equipment and materials, or the separate sweeping recommendations in the Manzanita East Catchment SMAP (Appendix E) that assumes street sweeping cost at $12,000 per year for a total of six years.

Recommendation B7-R27: Training for Staff on Street Sweeping

This minimum effort recommendation is for supporting and dedicating new resources to provide staff training on the most safe and effective street sweeping methods and equipment maintenance.

The training may include how to engage with the public about the benefits of street sweeping.

Benefit assumptions: Training helps staff know how to operate street sweepers and perform street sweeping activities most safely and effectively for reducing pollutants and improving street safety for users.

Cost assumptions: Approximately $5,000 total in 2027, then $1,000 annually ongoing thereafter, for 40 hours of staff time in 2027 to develop the program, and 10 hours of staff time to implement the training program and track the training in an Excel spreadsheet each year.

Recommendation B7-R28: GPS Tracking for Street Sweeping Activities

This additional enhanced effort recommendation is to support and dedicate new resources to replace street sweeping location checklists with mapped routes in ArcGIS software and install GPS trackers on street sweeping equipment to track and record sweeping activities.

Current tracking of sweeping activities is on paper checklists.

Benefit assumptions: Identifying street sweeping locations and routes in ArcGIS and automated tracking with GPS will improve efficiency in work planning, record keeping, and reporting.

Cost assumptions: Approximately $9,000 total in 2027 for 100 hours of staff time to identify and map the street sweeping routes in ArcGIS, and provide technical support to purchase and install GPS equipment on street sweepers.

Recommendation B7-R29: New Street Sweeping Equipment

This additional enhanced effort recommendation is for supporting and dedicating new resources to purchase a new regenerative air sweeper for the street sweeping program.

The current sweeper equipment is already old and may be undersized for current and future needs.

Benefit assumptions: An investment in a new regenerative air street sweeper will help the City continue to provide adequate street sweeping services and removal of pollutants from the roadway.

Cost assumptions: Approximately $550,000 to purchase a new regenerative air sweeper vehicle in 2027.

Recommendation B7-R30: Monitor Water Quality with Street Sweeping Activities

This additional enhanced effort recommendation is to support and dedicate new resources to enhance the WQFMP to monitor water quality in conjunction with street sweeping activities to gather effectiveness data (same recommendation for Monitoring and Assessment, Appendix B, Table B-10).

Monitoring for street sweeping could be developed and implemented by Public Works Engineering Water Resources Work Group staff who already oversee the WQFMP.

Benefit assumptions: Monitoring water quality with street sweeping activities will help determine the effectiveness of street sweeping on reducing pollutants in the MS4.

Cost assumptions: Approximately $20,000 annually to purchase new sampling equipment, pay for laboratory testing and staff time to develop and implement a basic monitoring program related to street sweeping starting in 2027 then ongoing thereafter.

Source Control Program for Existing Development Assessment and Recommendations

The source control program assessment was conducted, and recommendations were developed, with the overarching Comp Plan Policy WR 4.4 and CAP Goal 7.A in mind:

- **Comp Plan Policy WR 4.4: "Identify and eliminate sources of pollutants to the City's stormwater drainage system through proactive field screening techniques such as effluent monitoring, system inspections and cleaning, and commercial and industrial business inspection, and through the enforcement of the City's Illicit Discharge Detection and Elimination ordinance."**
- **CAP Goal 7.A: "Reduce Island residential, commercial, and industrial waste generation."**

This section is supported by Table B-8 in Appendix B, and Table C-8 in Appendix C. Table B-8 displays the source control program assessment information and recommendations alongside the Permit Requirements and related CAP goals/actions and Comp Plan goals/policies (Appendix A). Table C-8 helps illustrate the financial cost and timeframes estimated for each source control program recommendation over the next six years and beyond. Table 2-9 is a snapshot of the unique recommendations in this section and Appendix B, Table B-8.

Table 2-9. Summary of Unique Source Control Program for Existing Development Recommendations in Appendix B, Table B-8.

RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES	RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES
• B8-R1: Develop and Implement Source Control Program • B8-R2: Source Control Program Staff • B8-R5: New Source Control Ordinance • B8-R6: Source Control Program Site Inventory • B8-R7: Source Control Program Inspections, Enforcement, and Recordkeeping • B8-R8: Source Control Education and Outreach Materials	• B8-R3: Source Control Program Consolidation • B8-R4: Stormwater and Grey Water Reuse Incentive Program • B8-R9: Source Control Incentive Program • B8-R10: Source Control Inspections Coordination • B8-R11: Source Control Training Program for Staff • B8-R12: Source Control Training Program for Businesses

Summary only includes unique S5.C.8 recommendations; reiterated recommendations are included in the full assessment and recommendations Table B-8 in Appendix B.

Source control for existing development is a new section/requirement introduced in the 2019–2024 Phase II Permit. COBI has started developing a Source Control Program to meet permit requirements but does not currently have resources dedicated to support full program implementation. In 2023, the City submitted a G20 notification of non-compliance to Ecology regarding not meeting Permit requirements for the Source Control Program. The G20 states the City's plan is to come into compliance by December 31, 2024, so COBI management and staff are working to accomplish this in 2024.



Assessment and recommendations for the Source Control Program are presented in the following five groupings to address the minimum performance measures as outlined in the 2019–2024 Permit:

- **Source Control Program for Existing Development:** To implement a program to prevent and reduce pollutants in runoff from areas that discharge to the MS4 (S5.C.8).
- **Source Control Ordinance(s) or Other Enforceable Documents & Implement Progressive Enforcement Policy for Source Control:** To have an ordinance(s), or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities (S5.C.8.b.i) And, to implement a progressive enforcement policy, take appropriate follow-up action(s) including enforcement action, maintain records, and refer non-emergency violations of local ordinances to Ecology (S5.C.8.b.iv).
- **Source Control Site Inventory:** To establish an inventory that identifies publicly and privately owned institutional, commercial, and industrial properties, which have the potential to generate pollutants to the MS4 (S5.C.8.b.ii).
- **Source Control Inspection Program:** To implement an inspection program for sites identified pursuant to S5.C.8.b.ii and annually complete the number of inspections equal to 20% of the businesses and/or sites listed in their source control inventory (S5.C.8.b.iii).
- **Staff Training for Source Control:** To train staff who are responsible for implementing the source control program to conduct source control activities (S5.C.8.b.v)

Source Control Program for Existing Development

Recommendations B8-R1 through B8-R4, and succeeding recommendations, provide strategies to implement a Source Control program that includes these four required elements to prevent and reduce pollutants in runoff from areas that discharge to the MS4:

- Application of source control BMPs
- Inspections of pollutant generating sources
- Enforcement of local ordinances
- Practices to reduce application of pesticides, herbicides, and fertilizers from existing development.



Recommendation B8-R1: Develop and Implement Source Control Program

This minimum effort recommendation is for supporting and dedicating new resources to develop and implement a Source Control Program for existing development to prevent and reduce pollutants in runoff.

As previously stated, COBI has started developing a Source Control Program to meet permit requirement but does not currently have resources dedicated to support full program implementation. It is highly recommended as a top first priority, to hire staff to fully develop and implement the program, see Recommendation B8-R2.

A local useful reference for the City to utilize as it develops its program is the Washington Stormwater Center's Source Control Program Guidance Manual: https://www.wastormwatercenter.org/permit-assistance/municipal/source-control-inspection-program-guidance-manual/

Benefit assumptions: A Source Control Program will help the City and properties/businesses identify and implement BMPs that will reduce or eliminate pollutant sources in runoff.

Cost assumptions: Total approximate cost of Source Control Program development and implementation is not fully understood and is currently without staff support. Starting in 2024 then ongoing thereafter, a total approximate annual cost of $160,000 ($141,154 for one FTE staff person plus $18,849 for program expenses including training, education and outreach, recordkeeping technology, ordinance work, etc.) may cover the cost assumptions to fulfill this recommendation and other minimum effort recommendations for the Source Control Program for Existing Development (Recommendations B8-R2, B8-R6 through R9, and B8-R12).

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Recommendation B8-R2: Source Control Program Staff

This minimum effort recommendation builds from Recommendation B8-R1 and is to support and dedicate new resources to create and hire at least one new full-time staff position to coordinate the recommended Source Control Program.

Benefit assumptions: A successful Source Control Program cannot be achieved without focused and trained staff support.

Cost assumptions: The cost is associated with and accounted for with the cost assumptions for Recommendation B8-R1 to Develop and Implement Source Control Program.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Recommendation B8-R3: Source Control Program Consolidation

This additional enhanced effort recommendation builds from Recommendation B8-R1 and is for supporting and dedicating new resources to consolidate and coordinate existing COBI resources and programs already related to source control (i.e., IDDE, FOG, waste reduction and waste disposal for climate change adaptation) into the new Source Control Program.

COBI has three existing programs that are considered source control work, they are managed by separate COBI work groups and are not currently formally coordinated with SWMP activities. One existing source control related program managed by O&M is the FOG (fats, oils, and grease) Program that aims to introduce sanitary pretreatment on private properties to reduce and eliminate FOG in sewage effluent that causes pipe clogging and backups that can overflow into nearby storm systems and water bodies. A second existing program related to source control is the Single-Use Foodware and Waste Reduction Program overseen by Executive Department that intends to reduce waste generated by local businesses; waste that may otherwise be incorrectly disposed of or discarded as litter that could end up in storm systems and water bodies. The third existing program related to source control is the Agricultural Technical Assistance for Water Quality Program overseen by Public Works Engineering and implemented by Kitsap Conservation District to provide practical and site specific guidance to Bainbridge Island properties, especially active agricultural properties with livestock, for controlling land management activities to reduce impacts on natural resources to protect water quality.

Benefit assumptions: Consolidating similar programs will improve efficiency and efficacy by eliminating duplication of efforts of different City staff who keep site inventory data, perform inspections, provide education and outreach, conduct enforcement, tracking and recordkeeping. Properties/Businesses will appreciate fewer and more maximized interactions with City staff.

Cost assumptions: Some cost savings for the City may be realized through consolidation of programs. Consolidation of programs will be best accomplished in conjunction with Recommendation B8-R1 in 2024.

This recommendation is reiterated in the IDDE section, and Climate Change Chapter of the SWSP, to reinforce the recommendation as a strategy to meet more than one Permit requirement as well as one or more greater City policy/goal.

Recommendation B8-R4: Stormwater and Grey Water Reuse Incentive Program

This additional enhanced effort recommendation is for supporting and dedicating new resources to develop and implement a beneficial reuse program that incentivizes and facilitates innovative methods for homeowners and business owners to use stormwater and grey water as approved by the Washington State Department of Ecology (Ecology), Washington State Department of Health, and the Kitsap Public Health District.

The recommendation relates directly to Comp Plan Policies LU 12.6 and WR 2.14 as well as CAP plan suggestions to explore grey water systems.

- **Comp Plan Policy LU 12.6: "Work with Kitsap Public Health District to allow innovative solutions for on-site sewage treatment including community septic and grey water systems."**
- **Comp Plan Policy WR 2.14: "Develop a program that incentivizes and facilitates innovative methods for homeowners and business owners to use stormwater and grey water as approved by the Washington State Department of Health and the Kitsap Public Health District."**

Benefit assumptions: A successful Stormwater and Grey Water Reuse Incentive Program will help reduce runoff and sewage/septic effluent amounts and ultimately reduce stress on aquifers and alleviate wastewater treatment systems.

Cost assumptions: Approximately $59,000 total in 2028 for $50,000 for consultant support plus $9,000 for 100 hours of staff support to develop a Stormwater and Grey Water Reuse Incentive Program.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Source Control Ordinance(s) or Other Enforceable Documents & Implement Progressive Enforcement Policy for Source Control

Recommendations B5-R10, B5-R12, and B8-R5 offer strategies to support enforcement of source control.

Recommendation B5-R10: Stormwater Code Enforcement Assistance (reiterated)

This minimum effort recommendation is presented in the IDDE section (Appendix B, Table B-5) and is reiterated for Source Control to reinforce this as a strategy to meet more than one Permit requirement and/or greater City policy/goal.

Recommendation B5-R12: Code Enforcement Policy and Staff (reiterated)

This additional enhanced effort recommendation is presented in the IDDE section (Appendix B, Table B-5) and is reiterated for Source Control to reinforce this as a strategy to meet more than one Permit requirement and/or greater City policy/goal.

Recommendation B8-R5: New Source Control Ordinance

This minimum effort recommendation is for supporting and dedicating resources to develop and adopt a standalone source control ordinance and resulting code requiring source control best management practices (BMPs), site inspections, progressive enforcement, etc. for existing and future land uses and activities.

It is further recommended to review and possibly update existing enforcement mechanisms related to source control including but not limited to the following BIMC chapters for the maximum benefit, authority, and enforcement for source control:

- BIMC Chapter 5.04 – Business Licenses
- BIMC Chapter 8.16 – Litter Control
- BIMC Chapter 8.24 – Single-Use Foodware and Waste Reduction & Disposable Food Service Ware and Waste Reduction
- BIMC Chapter 12.40 – Watercraft and Floating Homes
- BIMC Chapter 13.12 – Sewers
- BIMC Chapter 13.28 – Solid Waste Management
- BIMC Chapter 15.16 – Flood Damage Prevention
- BIMC Chapter 15.20 – Surface Water and Stormwater Management
- BIMC Chapter 15.21 – Stormwater Facilities Maintenance Program
- BIMC Chapter 15.22 – Illicit Discharge Detection and Elimination
- BIMC Chapter 16.20 – Critical Areas
- BIMC Chapter 16.30 – Pest Management and Pesticide Use

Benefit assumptions: A definite Source Control Ordinance provides evident regulations and enforcement for staff and public to know and follow.

Cost assumptions: The cost is associated with and accounted for with the cost assumptions for Recommendation B8-R1 to Develop and Implement Source Control Program. It would be best to accomplish this recommendation in 2024 and in conjunction with other recommended code updates/additions (see Recommendations B5-R11 and B7-R6).

Source Control Site Inventory

One strategy for keeping a Source Control Site Inventory is offered with Recommendation B8-R6.

Recommendation B8-R6: Source Control Program Site Inventory

This minimum effort recommendation is for supporting and dedicating new resources to track and update Source Control Program site inventory data in an Excel spreadsheet.

COBI has established an initial inventory on Excel spreadsheet based on approved business licenses of publicly and privately owned institutional, commercial, and industrial sites, which have potential to generate pollutants to the MS4.

Benefit assumptions: Site inventory data in an Excel spreadsheet is a low cost way to track and keep records of sites identified for source control inspections.

Cost assumptions: The cost is associated with and accounted for with the cost assumptions for Recommendation B8-R1 to Develop and Implement Source Control Program.

Source Control Inspection Program

Four recommendations are offered as strategies to achieve a successful source control inspection program, B8-R7 through B8-R10.

Recommendation B8-R7: Source Control Program Inspections, Enforcement, and Recordkeeping

This minimum effort recommendation for supporting and dedicating new resources to develop and implement an inspection program that includes organizing and conducting education and outreach, inspections, coordinating enforcement with the Code Enforcement Officer, recordkeeping and tracking.

The City is required to provide information to sites about activities that may generate pollutants and the source control requirements applicable to those activities (See Recommendation B8-R8). The City is also required to conduct site inspections of at least 20% of the site inventory (See Recommendation B8-R7) annually, and inspect all sites the City receives credible complaints about.

Benefit assumptions: Site inspections will verify pollutant controls or identify needed controls to enforce, and recordkeeping of all activities helps program efficiency and transparency.

Cost assumptions: The cost is associated with and accounted for with the cost assumptions for Recommendation B8-R1 to Develop and Implement Source Control Program.

This recommendation is reiterated again in this section to reinforce the recommendation as a strategy to meet more than one Permit requirement and/or greater City policy/goal.

Recommendation B8-R8: Source Control Public Education and Outreach Materials

This minimum effort recommendation is to support and dedicate new resources to create and provide education and outreach materials as information for sites for source control.

The City is required to provide information to sites about activities that may generate pollutants and the source control requirements applicable to those activities; so, creating education and outreach materials for this purpose is needed. COBI may consider utilizing existing public education materials created for Source Control through the Washington Stormwater Center, and may modify the materials and information to better suit the needs of COBI sites.

The City is required to provide information to sites; and sites are likely to be eager to learn more about what source control is, how it is regulated, and what is being asked of them to account for source control as part of their normal business activities.

Benefit assumptions: Education and outreach materials can be an effective and low cost method to provide needed information to people.

Cost assumptions: The cost is associated with and accounted for with the cost assumptions for Recommendation B8-R1 to Develop and Implement Source Control Program.

Recommendation B8-R9: Source Control Incentive Program

This additional enhanced effort recommendation is to support and dedicate new resources to create a reasonable and achievable award system as an incentive program for source control sites.

The incentive program will encourage businesses to make on-site improvements that are protective of water quality. The program could also include technical and financial grants available to sites that need to make more costly structural improvements.

The incentive program may be structured similar to, or as part of, COBI's existing Climate Smart Business pledge incentive program: https://www.climatesmartbainbridge.org/.

Benefit assumptions: Incentive programs may be helpful in attracting needed interest and commitment from sites to include source control as part of their normal business activities.

Cost assumptions: Approximately $14,000 total in 2025, which includes $10,000 for consultant support and $4,000 for 40 hours of staff support to develop an incentive program; then approximately $4,000 annually for 40 hours of staff time each year to implement the program starting in 2026 then ongoing thereafter.

Recommendation B8-R10: Source Control Inspections Coordination

This additional enhanced effort recommendation is for supporting and dedicating new resources to coordinate co-inspections with internal (see Recommendation B8-R3) and external source control related programs for efficiency and to eliminate duplication of efforts (i.e., COBI FOG Control Program, COBI Single-use Foodware and Waste Reduction Program, Kitsap Public Health District, Kitsap County Pollution Prevention Assistance Program, etc.).

Multiple Programs make site inspection visits to provide education and outreach and achieve code compliance. Sites may prefer coordinated visits to reduce the number of visits they receive, which are time consuming and may be confusing when visits have crossover compliance items.

Benefit assumptions: Coordinating inspections will eliminate duplicate, and potentially conflicting, efforts in communicating to sites, performing inspections, providing education and outreach, and conducting enforcement. Properties/Businesses will appreciate fewer and more maximized interactions with regulatory agencies.

Cost assumptions: Approximately $4,000 annually for 40 hours of staff time each year to support coordinating source control inspections starting in 2024 then ongoing thereafter.

Staff Training for Source Control

COBI is required to provide source control training to staff and to maintain records of training.

COBI does not currently have resources dedicated to developing and implementing a source control training program. Staff working to develop the program and who conduct site inspections for the existing programs have some limited training from outside sources.

Six of the eight total recommendations for staff training for source control are recommendations presented in other sections and are reiterated in this section as they are strategies to meet more than one permit requirement for training and training recordkeeping.

The following five recommendations (B5-R17 through B5-R21) introduced in the previous IDDE section (Appendix B, Table B-5) offer strategies for the City to provide the required initial and ongoing training, and training documentation, for all Source Control Program staff.

Recommendation B5-R17: Track Training in Excel (reiterated)

Recommendation B5-R18: Formal Training Program for Staff (reiterated)

Recommendation B5-R19: Require Formal Training and Continued Education for Staff (reiterated)

Recommendation B5-R20: COBI Specific Training Program for Staff (reiterated)

Recommendation B5-R21: Track Training with HR Coordination and Software (reiterated)

Recommendation B8-R11: Source Control Training Program for Staff

This additional enhanced effort recommendation is to support and dedicate new resources to develop and implement a source control training program for staff.

The training program will be tailored to address COBI Source Control Program staff needs.

Benefit assumptions: A successful Source Control Program cannot be achieved without well trained staff to perform the work.

Cost assumptions: The cost is associated with and accounted for with the cost assumptions for Recommendation B8-R1 to Develop and Implement Source Control Program.

Recommendation B8-R12: Source Control Training Program for Businesses

This additional enhanced effort recommendation builds off Recommendation B8-R11, Recommendation B2-R7, and Recommendation B1-R8, to support and dedicate new resources to develop and implement a source control training program for source control site property/business owners, managers, and their staff hosted by COBI.

This training program may be most helpful for source control site property/business owners, managers, and their staff if it provides some education and technical assistance to help those people understand which stormwater pollution prevention operational and structural BMPs to implement.

The training program could be part of the incentive program (Recommendation B8-R9) as well as an element of compliance with the progressive enforcement policy.

This recommendation was developed with the **CAP Priority Action 5.A.2.a** in mind: **"Develop training and outreach programs to provide technical assistance to developers, contractors, architects, landscape architects, City employees, and homeowners on green building that includes the cost/benefit to occupants of green building, use of reused and recycled materials, and the health benefits from green buildings to occupants."**

Benefit assumptions: A successful Source Control Program may in part be achieved by providing training resources that may not exist otherwise to source control sites where education and training may be needed.

Cost assumptions: Approximately $17,000 total in 2028, which includes $10,000 for consultant support and $7,000 for 80 hours of staff support to develop and implement the training; then approximately $4,000 annually for 40 hours of staff time each year to continue to implement the program in 2029 then ongoing thereafter.

Recommendation B11-R8: Records Retention Policy and Procedures (reiterated)

This minimum recommendation is presented in the SWMP Plan, Recordkeeping, and Annual Reporting section (Appendix B, Table B-11) and is reiterated in multiple sections to reinforce this as a strategy to meet more than one Permit requirement for recordkeeping.

Compliance with Total Maximum Daily Load (TMDL) Requirements Assessment and Recommendations

The Total Maximum Daily Load (TMDL) compliance assessment was conducted, and recommendations were developed, with these two Comp Plan policies in mind:

- **Comp Plan Policy WR 1.5: "Identify the areas of the Island that are the most vulnerable to pollution from concentrations of fecal coliforms and nitrates (for example, septic fields, agricultural activities, or fertilizers), and monitor those areas to determine if and when preventative or restorative measures are warranted."**
- **Comp Plan Policy WR 4.11: "Comply with all requirements specifically identified by the City's permit for any TMDL in which the City is a stakeholder."**

This section is supported by Table B-9 in Appendix B, and Table C-9 in Appendix C. Table B-9 displays the total maximum daily load (TMDL) requirements assessment information and recommendations alongside the Permit Requirements and related CAP goals/actions and Comp Plan goals/policies (Appendix A). Table C-9 helps illustrate the financial cost and timeframes estimated for each TMDL recommendation over the next six years and beyond.

Table 2-10 is a snapshot of the unique recommendations in this section and Appendix B, Table B-9.

Table 2-10. Summary of Unique Compliance with TMDL Requirements Recommendations in Appendix B, Table B-9.

RECOMMENDATION FOR MINIMUM EFFORT ACTIVITIES	RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES
• B9-R1: Annual TMDL Activities Report	• B9-R2: Coordinate with Shoreline Master Program • B9-R3: Enhanced WQFMP Field Screening Program • B9-R4: Enforce Preventative or Restorative Measures • B9-R5: Add Pet Waste Station Collection Services

Summary only includes unique S5.C.9 recommendations; reiterated recommendations are included in the full assessment and recommendations Table B-9 in Appendix B.

The 2019–2024 Phase II Permit Section S7.A for TMDL compliance requirements points to the specific requirements identified in Appendix 2, and states to keep records of actions that are relevant to the TMDL. The requirements in Appendix 2, Water Resource Inventory Area (WRIA) 15 Sinclair and Dyes Inlets Fecal Coliform Bacteria TMDL, for City of Bainbridge Island are to screen for bacteria sources when conducting IDDE field screening activities, and to install and maintain pet waste education and collection stations at City-owned and operated lands adjacent to stream and marine shorelines.

COBI has designed the TMDL Compliance program to identify, reduce and eliminate sources of fecal coliform bacteria. Program strategies include water quality monitoring, field screening, and providing pet waste collection stations with signs to remind people to dispose of pet waste properly.

The City conducts stormwater discharge monitoring as part of its own Water Quality and Flow Monitoring Program (WQFMP) for water quality indicators and to comply with IDDE/TMDL requirements (i.e., quarterly sampling and testing for fecal coliform [now E. coli] bacteria at 16 sites) (see Recommendation B5-R15).

All areas of the known MS4 that discharge to the TMDL area are field screened for observable sources of fecal coliform bacteria by staff while conducting IDDE and O&M activities in accordance with S5.C.5.d.i (see Recommendation B5-R14).



The COBI Pet Waste Control Program and partnership with WSSOG "Mutt Mitt" Program promotes and facilitates stewardship by reminding and assisting pet owners to pick up their pet waste and put it in the garbage to protect water quality. The program provides free pet waste bags and stations installed all around the island to help prevent fecal coliform bacteria release into the environment and TMDL area. In total, there are 54 public pet waste bag stations around the island (this total does not include the many privately owned and maintained stations located around the island).

- For the larger regional behavior change campaign "Mutt Mitt" Program with WSSOG, COBI purchases and promotes public access pet waste stations that are hosted and sponsored by volunteer private property owners. There are 44 stations installed around the island (see Recommendation B2-R8).
- For the COBI Pet Waste Control Program, Public Works staff regularly inspect and maintain 10 pet waste bag stations installed at COBI owned and operated lands adjacent to stream and marine shorelines within the TMDL area where people commonly walk their pets (see Recommendation B2-R11).

See the previously shown Figure 2-7 to view the map displaying the general location of all the public pet waste bag stations on Bainbridge Island.

Recommendation B2-R8: Existing Behavior Change Campaigns (reiterated)

This minimum effort recommendation is presented in the IDDE section (Appendix B, Table B-5) and is reiterated for TMDL Compliance to reinforce this as a strategy to meet more than one Permit requirement and/or greater City policy/goal.

Recommendation B2-R11: COBI Pet Waste Control Program (reiterated)

This minimum effort recommendation is presented in the Public Education and Outreach section (Appendix B, Table B-2) and is reiterated for TMDL Compliance to reinforce this as a strategy to meet more than one Permit requirement and/or greater City policy/goal.

Recommendation B5-R14: Field Screening for IDDE/TMDL (reiterated)

This minimum effort recommendation is presented in the IDDE section (Appendix B, Table B-5) and is reiterated for TMDL Compliance to reinforce this as a strategy to meet more than one Permit requirement and/or greater City policy/goal.

Recommendation B5-R15: WQFMP Field Screening for IDDE/TMDL (reiterated)

This minimum effort recommendation is presented in the IDDE section (Appendix B, Table B-5) and is reiterated for TMDL Compliance to reinforce this as a strategy to meet more than one Permit requirement and/or greater City policy/goal.

Recommendation B9-R1: Annual TMDL Activities Report

This minimum effort recommendation is for continuing to support and dedicate resources to annually document a summary, along with quantitative and qualitative data, of relevant SWMP and TMDL activities to address the applicable TMDL parameter(s). This report is submitted along with the annual report.

The draft 2024–2029 Phase II Permit language adds some new parameters to report and COBI is waiting to learn more about those from Ecology if they end up on the new 2024–2029 Permit issuance. COBI believes they are already meeting all the parameters but will need to develop a way to report on them for the TMDL.

Benefit assumptions: The annual TMDL activities report helps the City demonstrate understanding and accountability with TMDL requirements.

Cost assumptions: Approximately $1,000 annually for 8 hours of staff time each year to prepare the report on annual TMDL activities starting in 2024 then ongoing thereafter.

Recommendation B9-R2: Coordinate with Shoreline Master Program

This additional enhanced effort recommendation is for supporting and dedicating new resources to coordinate TMDL activities with the COBI Shoreline Master Program to ensure complimentary regulations, education and outreach, enforcement, data tracking, and reporting.

Planning and Community Development Department manages the Shoreline Master Program (SMP) and Public Works Department manages TMDL activities. These departments are encouraged to coordinate on TMDL compliance and supporting Shoreline Master Program goals.

SMP Master Goal is: "The City's shorelines are among the most valuable and fragile of our natural resources and their use, protection, restoration, and preservation is of public interest to all residents of the city. The Island shorelines provide for a significant part of our way of life as a place of residence, recreational enjoyment, and occupation. It is the intent of this program to manage the shorelines of Bainbridge Island consistent with the requirements of the Shoreline Management Act, the Shoreline Master Program Guidelines, and the Growth Management Act, giving preference to water-dependent and water-related uses, and to encourage all reasonable and appropriate development and other activities to occur in a manner which will promote and enhance the public interest and protect environmental resources. An over-arching goal of this master program is to ensure that future use and development of the City's shoreline maintain a balance between competing uses, results in no net loss of shoreline ecological functions, and achieves a net ecosystem improvement over time." [SMP 1.5]

Benefit assumptions: Coordinating complimentary programs across different departments builds consistency in work efforts and public presentation.

Cost assumptions: Approximately $1,000 annually for 8 hours of staff time each year to coordinate between the TMDL Program and Shoreline Master Program starting in 2024 then ongoing thereafter.

Recommendation B9-R3: Enhanced WQFMP Field Screening Program

This additional enhanced effort recommendation builds off Recommendation B5-R15 to support and dedicate new resources to assess and adaptively manage for effectiveness of Water Quality Flow Monitoring Program (WQFMP) field screening; and identify and monitor areas of the Island that are the most vulnerable to pollution from concentrations of bacteria, nitrogen and phosphorous (e.g., septic fields, agricultural activities, or fertilizers) to help determine need for preventative or restorative measures.

Benefit assumptions: Assessing and adapting WQFMP field screening will ensure the program is most useful and efficient.

Cost assumptions: Approximately $4,000 for 40 hours of staff time in 2024 to assess and adapt the WQFMP for the greatest effectiveness in field screening activities and to identify vulnerable areas; then approximately $1,000 annually for 10 hours of staff time each year to monitor and reassess the WQFMP field screening program starting in 2025 and ongoing thereafter.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Recommendation B9-R4: Enforce Preventative or Restorative Measures

This additional enhanced effort recommendation builds from Recommendation B9-R3 and is for supporting and dedicating new resources to develop and implement a program to enforce action for preventative or restorative measures as determined warranted based on WQFMP monitoring and field evidence.

When WQFMP monitoring and field evidence indicate water quality degradation has, is, or will again occur, the City may prevent further water quality or water habitat degradation by requiring property owners take preventative and restorative actions on their property. Some examples include:

- Incorrect or prohibited use of pesticides and fertilizers
- Inadequate erosion or sediment controls
- Lack of human or animal waste management
- Incorrect storage, use, or disposal of solid and hazardous waste, including stockpiling yard waste
- Septic system failure
- Pollutant sources emanating from property
- Lack of noxious and invasive vegetation control
- Lack of groundcover and large amount of exposed bare soils

The City may also base enforcement from monitoring and field evidence conducted by, and provided to the City from: Ecology, Kitsap Pollution Prevention Assistance Program; Kitsap Public Health District; Washington State Department of Health; U.S. Coast Guard.

Preventative and restorative actions include implementing BMPs.

This would require code enforcement support (See Recommendations B5-R10 and B5-R12 for IDDE, Appendix B, Table B-5) and potentially a new ordinance or existing ordinance updates because there may not be existing code to enforce water quality degradation prevention and property restoration on properties.

The City would be advised to provide reasonable parameters to follow for when enforcement of preventative and restorative actions would be required; a couple examples of this would be acceptable metrics of pet waste left on the ground and for how long, or a metric of acceptable percentage of land eroding on a property.

Benefit assumptions: A proactive and systematic enforcement program will work to address identified inadequate controls of nutrients and pollutants from properties contributing to poor water quality.

Cost assumptions: Approximately $7,000 in 2025 for 80 hours of staff time to develop an enforcement program based on WQFMP monitoring; then approximately $2,000 annually for 20 hours of staff time each year to implement the program starting in 2026 then ongoing thereafter.

This recommendation is reiterated in the Climate Change Chapter of the SWSP to reinforce the recommendation as a strategy to meet Permit compliance as well as one or more greater City policy/goal.

Recommendation B9-R5: Add Pet Waste Station Collection Services

This additional enhanced effort recommendation builds from Recommendation B2-R11 (Public Education and Outreach, Appendix B, Table B-2) and is to support and dedicate new resources to install pet waste collection bins at the already installed 10 pet waste bag stations at COBI owned and operated lands, then provide regular and frequent waste collection services for the 10 pet waste bag and collection stations.

Many pet owners seemingly are challenged in disposing of their pet waste properly in the garbage.

Pet waste that has been picked up and bagged sometimes is discarded inappropriately – thrown into trees or left on the ground.

Benefit assumptions: Providing waste collection service at public pet waste stations will increase pet waste being disposed of properly in the garbage.

Cost assumptions: Approximately $20,000 annually for 240 hours of staff time each year to collect pet waste twice each month from the 10 pet waste stations managed by COBI starting in 2024 then ongoing thereafter.



Monitoring and Assessment and Recommendations

An evaluation of monitoring and assessment was conducted, and recommendations were developed, with this CAP action in mind:

- **CAP Action 6.A.1d: "Partner with community organizations to leverage additional data sources and monitoring efforts that contribute to well informed natural resource management."**

This section is supported by Table B-10 in Appendix B, and Table C-10 in Appendix C. Table B-10 displays the monitoring and assessment information and recommendations alongside the Permit Requirements and related CAP goals/actions and Comp Plan goals/policies (Appendix A). Table C-10 helps illustrate the financial cost and timeframes estimated for each monitoring recommendation over the next six years and beyond.

Table 2-11 is a snapshot of the unique recommendations in this section and Appendix B, Table B-10.

Table 2-11. Summary of Unique Monitoring and Assessment Recommendations in Appendix B, Table B-10.

RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES	RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES
• B10-R1: Regional Status and Trends Monitoring Collective Fund • B10-R2: SWMP Effectiveness and Source Identification Studies Collective Fund • B10-R3: Provide Information to Aid SAM Studies	• B10-R4: SWMP Effectiveness and Source Identification Studies Proposal and Implementation • B10-R5: Augment WQFMP Stormwater Discharge Monitoring

Summary only includes unique S5.C.10 recommendations; reiterated recommendations are included in the full assessment and recommendations Table B-10 in Appendix B.

Assessment and recommendations for monitoring are presented in these four groupings to address the minimum performance measures as outlined in the 2019–2024 Permit:

- **Regional Status and Trends Monitoring:** To participate in regional status and trends monitoring (S8.A).
- **SWMP Effectiveness and Source Identification Studies:** To participate in effectiveness and source identification studies (S8.B).
- **Stormwater Discharge Monitoring:** To conduct stormwater discharge monitoring in lieu of participation in the regional status and trends monitoring and/or effectiveness and source identification studies (S8.C).
- **Payments into Collective Funds:** To pay into collective funds for regional status and trends monitoring and effectiveness and source identification studies (S8.D).

Regional Status and Trends Monitoring

COBI opts into and pays funds into a collective for regional status and trends monitoring studies. COBI utilizes the data and results of all the monitoring efforts and studies to inform stormwater management decisions.

COBI's Stormwater Management Program Coordinator is a municipal representative, and voting member, of the Stormwater Work Group (SWG) who oversees collective fund utilization for Regional Status and Trends Monitoring studies through Ecology's Stormwater Action Monitoring (SAM) Program.

COBI staff and community volunteers have participated in one of the status and trends monitoring studies, the Puget Sound nearshore mussels and marine sediment study.

The Bainbridge Island Salmon Monitoring Program is an unofficial status and trends monitoring that is occurring ongoing and was started by the Sustainable Bainbridge Watershed Council and is supported by COBI. This stewardship program recruits Bainbridge Island property owners and individuals to monitor salmonoid species presence in four Bainbridge Island streams.

Recommendation B2-R13: Ongoing Stewardship Program (reiterated)

This additional enhanced effort recommendation is presented in the Public Education and Outreach section (Appendix B, Table B-2) and is reiterated for monitoring and for climate change adaptation to reinforce this as a strategy to meet Permit requirements, to increased water quality/flow indicator monitoring, and one or more greater City policies/goals.

Recommendation B10-R1: Regional Status and Trends Monitoring Collective Fund

This minimum effort recommendation is for continuing to support and dedicate resources to opt-in and make annual payments to the Stormwater Action Monitoring (SAM) collective fund for regional small streams and marine nearshore areas status and trends monitoring in Puget Sound ($6,265 each year, 2024–2029) overseen by the Stormwater Work Group (SWG). This recommendation is based on draft 2024–2029 Permit language (Appendix G).

Also recommended is to continue to support COBI staff participation in the SWG as a voting member and also to continue to participate in the Puget Sound nearshore mussels and marine sediment study.

COBI made the one-time payment to the Regional Status and Trends Monitoring for selecting S8.B Option #1 from the 2013–2018 Phase II Permit. And, COBI selected Option S8.A.2.a from the 2019–2024 Phase II Permit, so COBI now makes annual payments of $3,961 to the Regional Status and Trends Monitoring collective fund. The annual payment amount will increase to $6,265 each year in 2024.

Benefit assumptions: Opting into the SAM collective fund relieves COBI obligation to conduct its own status and trends monitoring, which is expensive. As a voting member on SWG, COBI has direct influence on how the regional collective funds are utilized.

Cost assumptions: Approximately $8,000 total annually for 12 hours of staff time each year to participate in SWG and coordinate the $6,265 payment to the SAM collective fund for Regional Status and Trends Monitoring starting in 2024 then ongoing thereafter.

SWMP Effectiveness and Source Identification Studies

COBI opts into and pays funds into a collective for effectiveness and source identification studies. COBI utilizes the data and results of all the monitoring efforts and studies to inform stormwater management decisions.

COBI's Stormwater Management Program Coordinator is a municipal representative, and voting member, of the Stormwater Work Group who oversees collective fund utilization for SWMP Effectiveness and Source Identification studies through Ecology's Stormwater Action Monitoring (SAM) Program.

Recommendation B10-R2: SWMP Effectiveness Studies and Source Identification Studies Collective Fund

This minimum effort recommendation is for continuing to support and dedicate resources to opt–in and make annual payments to the Stormwater Action Monitoring (SAM) collective fund for SWMP effectiveness studies and source identification studies ($9,272 each year from 2024–2029) overseen by the Stormwater Work Group (SWG). This recommendation is based on draft 2024–2029 Permit language (Appendix G).

Also recommended is to continue COBI staff participation in the SWG as a voting member.

COBI made the one–time payment for choosing S8.C SWMP Effectiveness Studies Option #1 from the 2013–2019 Phase II Permit. And, COBI selected Option S8.B.2.a from the 2019–2024 Phase II Permit, so COBI now makes annual payments of $7,240 to the SWMP Effectiveness and Source Identification Studies collective fund.

Benefit assumptions: Opting into the SAM collective fund relieves COBI obligation to conduct its own effectiveness and source identification monitoring, which is expensive. As a voting member on SWG, COBI has direct influence on how the regional collective funds are utilized.

Cost assumptions: Approximately $11,000 total annually for 12 hours of staff time each year to participate in SWG and coordinate the $9,272 payment to the SAM collective fund for SWMP effectiveness studies and source identification studies starting in 2024 then ongoing thereafter.

Recommendation B10-R3: Provide Information to Aid SAM Studies

This minimum effort recommendation is to continue supporting and dedicating resources to provide information as requested, if available, for active SWMP Effectiveness and Source Identification Studies.

COBI also provides information as requested per the Permit. COBI has also provided sites as options for studies.

Benefit assumptions: COBI data and input aids fulfilling SWMP Effectiveness and Source Identification Studies, studies that will help inform COBI and other Permittees' Stormwater Management Programs.

Cost assumptions: Approximately $1,000 annually for 4 hours of staff time each year to gather and share information, if available, for active SWMP Effectiveness and Source Identification Studies starting in 2024 then ongoing thereafter.

Recommendation B10-R4: SWMP Effectiveness and Source Identification Studies Proposal and Implementation

This additional enhanced effort recommendation is to support and dedicate new resources to originate a SWMP Effectiveness and Source Identification Study proposal and apply for SAM funding, and if selected, conduct and complete the study on Bainbridge Island managed by COBI WQFMP staff.

The study would cover effectiveness and source identification specific to COBI that would also be applicable to other jurisdictions.

Benefit assumptions: Developing and conducting a study on Bainbridge Island would utilize and bolster WQFMP staff knowledge and skills, and study results would directly inform COBI's SWMP and help inform other Permittees' SWMPs.

Cost assumptions: Approximately $7,000 in 2025 for 80 hours of staff time to develop a study proposal, then if the study is selected and fully funded as proposed, the implementation costs will be covered by SAM.

Stormwater Discharge Monitoring



Recommendation B10-R5: Augment WQFMP Stormwater Discharge Monitoring

This additional enhanced effort recommendation is to support and dedicate new resources to augment the current WQFMP stormwater discharge monitoring to add annual upstream source sampling for source investigations and microbial source tracking (also see other related discharge monitoring Recommendations B5-R15, B7-R23, B7-R25, B7-R30, B9-R3, B10-R4, F1-R10).

COBI practice has typically been to select a watershed to monitor with downstream sampling that is continually failing to meet state WQ standards for bacteria. COBI has performed targeted fecal coliform bacteria testing, and then followed up highly impacted reaches with Microbial Source Tracking (MST) to identify the bacteria source animal type. If human source is indicated, COBI provides the results to Kitsap Public Health District so they may follow up on potential sources such as septic failures. If farm animal source is indicated, COBI provides the results to Kitsap Conservation District (KCD) so they may follow up with farm properties that would most likely be contributing; KCD outreach such as this is funded by the ILA between KCD and COBI (See Recommendation B5-R6). If canine is indicated, COBI may follow up with targeted education and outreach efforts.

This water quality indicator sampling would be in addition to field screening that is conducted for IDDE investigations, with scheduled business source control inspections, and O&M activities for catch basins, flow control facilities, and water quality treatment facilities. This recommendation would be conducted by COBI staff for the entire island.

Benefit assumptions: Adding upstream sampling and microbial source tracking for source investigations helps to better identify the potential location of the bacteria source and type of animal causing the bacteria source; which helps the City and other agencies address the issue through corrective actions and enforcement.

Cost assumptions: Approximately $5,000 total annually for $3,000 for laboratory costs plus $2,000 for 20 hours of staff time each year to collect and analyze samples starting in 2024 then ongoing thereafter.

SWMP Plan, Recordkeeping, and Annual Reporting Assessment and Recommendations

The assessment conducted and the recommendations developed for this section were made with **Comp Plan Policy WR 4.1** in mind: **"Comply with all requirements of the City's National Pollutant Discharge Elimination System Phase II Municipal Stormwater Permit (NPDES Permit)."**

This section is supported by Table B-11 in Appendix B, and Table C-11 in Appendix C. Table B-11 displays the reporting and recordkeeping assessment information and recommendations alongside the Permit Requirements and related CAP goals/actions and Comp Plan goals/policies (Appendix A). Table C-11 helps illustrate the financial cost and timeframes estimated for each reporting and recordkeeping recommendation over the next six years and beyond.

Table 2-12 is a snapshot of the recommendations in this section and Appendix B, Table B-11.

Table 2-12. Summary of Unique Reporting Requirements Recommendations in Appendix B, Table B-11.	
RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES	**RECOMMENDATION FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES**
• B11-R1: Design SWMP to Reduce Pollutants and Protect Water Quality • B11-R2: Annual SWMP Plan • B11-R3: Improve SWMP Cost Tracking • B11-R4: Coordination with Other Permittees • B11-R5: Eliminate Barriers to Compliance through Cross Department Coordination • B11-R6: Annual Reporting • B11-R8: Records Retention Policy and Procedures	• B11-R7: SWMP Plan and Annual Reporting Policy and Procedures

Assessment and recommendations for reporting and recordkeeping are presented in these four groupings to address the minimum performance measures as outlined in the 2019–2024 Permit:

- **Stormwater Management Program (SWMP) and SWMP Plan:** To develop and implement an ongoing Stormwater Management Program (SWMP) and prepare a SWMP Plan document to state the planned compliance activities for the upcoming calendar year (S5).
- **Coordination Among Permittees and Within Jurisdiction:** To coordinate stormwater management activities with other Permittees, and include coordination mechanisms among departments within COBI's jurisdiction to eliminate barriers to compliance (S5.A).
- **Annual Reporting to Department of Ecology:** To submit the completed annual report no later than March 31 of each year to exhibit the SWMP compliance activities conducted the previous year (S9.A and S9.D).
- **Records Retention and Records Sharing:** To keep all records related to the Permit and SWMP for at least five years (Sections S9.B and S9.C).

Stormwater Management Program (SWMP) and SWMP Plan

COBI is required to develop and implement a Stormwater Management Program (SWMP) that is a set of actions and activities to address the following eight component subjects of the current Phase II Permit, as well as any additional actions necessary to meet requirements for monitoring and any applicable TMDL:

- Stormwater Planning
- Public Education and Outreach
- Public Involvement and Participation
- MS4 Mapping and Documentation
- Illicit Discharge Detection and Elimination (IDDE).
- Controlling Runoff from New Development, Redevelopment, and Construction Sites
- Operations and Maintenance (O&M).
- Source Control Program for Existing Development

The SWMP must be designed to reduce the discharge of pollutants from regulated small MS4s to the MEP [Maximum Extent Possible], meet state AKART [all known, available and reasonable methods of prevention, control and treatment].

The SWMP must include an ongoing program for gathering, tracking, maintaining, and using information to evaluate SWMP development, implementation, and permit compliance and to set priorities. COBI must track the number of inspections, follow-up actions as a result of inspections, official enforcement actions and types of public education activities as required by the respective program component. This information shall be included in the annual report.

COBI must track the cost or estimated cost of development and implementation of each component of the SWMP.

COBI is required to write an annual Stormwater Management Program Plan (SWMP Plan) to inform the public of the planned SWMP activities for the upcoming calendar year. The SWMP Plan is organized according to the components listed above and is made available to the public on COBI's website.

Three recommendations (B11-R1 through B11-R3) are presented as strategies for the SWMP and SWMP Plan.

Recommendation B11-R1: Design SWMP to Reduce Pollutants and Protect Water Quality

This minimum effort recommendation is for continuing to support and dedicate resources to annually review, and update if needed, the design of the Stormwater Management Program (SWMP) to meet all Permit requirements and to protect water quality and reduce the discharge of pollutants from the MS4 to the maximum extent possible (MEP) and by all known, available, and reasonable methods of prevention, control, and treatment requirements (AKART).

Benefit assumptions: Annual review, and updates as needed, of the City's SWMP will help validate and ensure the SWMP is adequality designed to meet regulatory requirements.

Cost assumptions: Approximately $3,000 annually for 30 hours of staff time each year to review, and update if needed, the design of the SWMP starting in 2024 then ongoing thereafter.

Recommendation B11-R2: Annual SWMP Plan

This minimum effort recommendation is for continuing to support and dedicate resources to prepare and submit the SWMP Plan for the current year to Ecology no later than March 31 of the same year, then post to COBI website no later than May 31 of the same year.

COBI prepares an annual SWMP Plan organized according to the Phase II Permit components to inform the public of the planned SWMP activities for the upcoming calendar year. No later than March 31 each year, the SWMP Plan for the current year is submitted to Ecology with the annual report for the previous year. The SWMP Plan is made available to the public on COBI's website (www.bainbridgewa.gov/stormwater) no later than May 31 each year.

Benefit assumptions: The annual SWMP plan is a working document of strategies and tactics for staff, and the public, to know and follow to achieve successful Permit compliance for the City each year.

Cost assumptions: The cost for preparing, submitting, and posting the SWMP Plan each year is associated and accounted for with Recommendation B11-R1: reviewing, and updating if needed, the SWMP.

Recommendation B11-R3: Improve SWMP Cost Tracking

This minimum effort recommendation is for supporting and dedicating new resources to improve tracking and reporting of SWMP activities cost. This recommendation is based on 2019–2024 Permit requirements for SWMP cost tracking and also on draft 2024–2029 Permit language (Appendix G) that states COBI must submit an average annual SWMP cost tracking report to Ecology no later than March 31, 2027.

Ecology may request SWMP cost tracking at any time, and does indicate a report will be due in 2027.

The SSWM Utility Fund revenues are used to pay for SWMP planning and activities. Cost tracking for SWMP activities is coordinated between the Public Works and Finance Departments as Storm and Surface Water Management (SSWM) Utility Fund Expenditures.

An initial cost tracking of SWMP activities was prepared for assessment for the SWSP. A budget report of the City's SSWM Utility Fund expenditures from 2019 through 2023 (Table 1-2) was analyzed. Since the City's financial system budget coding and data is not currently organized in a way to easily report distinctive SWMP activity component expenses, the budget report data had to be manipulated using many reasonable assumptions during analysis. The resulting Figure 2-8 displays the attempt to reflect the City's average annual SSWM Utility Fund expenditures over the past five years related to accomplishing SWMP activities as well as climate change adaptation and Capital Improvement Plan implementation.

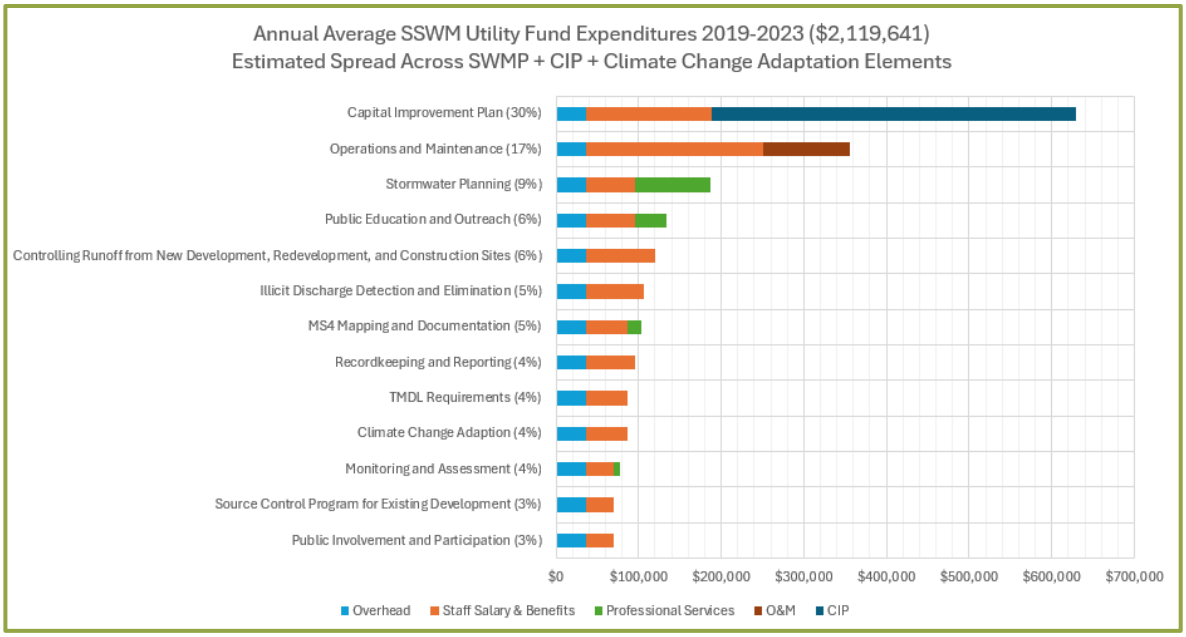


Figure 2-8. 2019–2023 Estimated Average Annual SSWM Utility Fund Expenditures Spread Across SWMP Activities, Climate Change Adaptation, and Capital Improvement Plan.

According to this analysis, and not surprisingly, the bulk of 2019–2023 average annual expenditures were on CIP, O&M, and Stormwater Planning activities; CIP and O&M include expensive infrastructure improvements and equipment and machinery purchases, and Stormwater Planning over these years included a sizable budget for professional services to complete this SWSP. Then essentially all the other components were estimated at similar cost, at or below an annual average cost of $100,000. Please remember that these numbers may not present a fully accurate account of SSWM Utility Fund utilization across all the components, these numbers were derived from reasonable assumptions based on known activity accomplishments and how the SSWM Utility expenditures are budgeted and tracked by the Finance Department.

There is opportunity for COBI to better understand, plan for, and report costs associated with Phase II Permit compliance and SWMP activities. One strategy to help this could be to review and adapt COBI's financial system budget coding to better account for and track SWMP activities; such as with project and work order codes for staff to record hours and other expenses against.

Benefit assumptions: Improved SWMP activities cost tracking will allow the City to more evidently report costs of SWMP activities and Phase II Permit compliance; this will also help SSWM Utility budgeting.

Cost assumptions: Approximately $5,000 total in 2024 for 60 hours of staff time to review how the City tracks SWMP activities costs then adapt the tracking for reporting that will most sufficiently show what, when, and by whom SWMP activities are accomplished and their associated costs. Then approximately $1,000 annually for 10 hours of staff time each year to continue to review and adapt as needed the SWMP activities cost tracking starting in 2025 then ongoing thereafter.

Coordination Among Permittees and Within Jurisdiction

Recommendations B11-R4 and B11-R5 offer strategies for coordination among Permittees and within the COBI organization.

Recommendation B11-R4: Coordination with Other Permittees

This minimum effort recommendation is for continuing to support and dedicate resources to coordinate with other Permittees directly as needed and regularly in the Permittee group forums and partnerships.

Unlike most Phase II Permit jurisdictions, COBI doesn't share physical boundaries with other jurisdictions, so coordination mechanism between jurisdictions is not necessary; however, COBI does coordinate on some activities because it is helpful to share information and resources and to provide some unified messaging for the west Puget Sound region.

COBI coordinates with other Permittees directly as needed and regularly in the following Permittee group forums and partnerships:

- Stormwater Action Monitoring (SAM) – Stormwater Work Group (SWG), PRO-C, and Municipal Caucus (see Recommendations B10-R1 through B10-R4).
- Stormwater Outreach For Regional Municipalities (STORM) [regional coordination group] & Puget Sound Starts Here (PSSH).
- West Sound Partners for Ecosystem Recovery (WSPER) – West Central Puget Sound Local Integrating Organization and Lead Entity
- West Sound Stormwater Managers Group
- West Sound Stormwater Outreach Group (WSSOG) (regional coordination though an Interlocal Agreement) (see Recommendation B2-R1).

Benefit assumptions: Coordination with other Permittees helps COBI expand its abilities and work more thoughtfully and efficiently to protect water quality through the sharing of knowledge, skills, opportunities and resources.

Cost assumptions: Approximately $2,000 annually for 20 hours of staff time each year to coordinate with other Permittees as needed and as part of regular forums starting in 2024 then ongoing thereafter.

Recommendation B11-R5: Eliminate Barriers to Compliance through Cross Department Coordination

This minimum effort recommendation is to continue to support and dedicate resources to coordinate across COBI departments, divisions, work groups and meeting groups to eliminate barriers to compliance. No later than March 31, 2026, provide a written description of coordination mechanisms in the annual report.* (See related recommendations for Stormwater Planning, Appendix B, Table B-1.)

Multiple work groups and meeting groups within and across COBI departments and divisions provide regular opportunities for internal coordination to identify and eliminate barriers to compliance with the Phase II Permit. Work and meeting groups include:

- Stormwater planning inter-disciplinary team (see Recommendation B1-R1)
- Water resources work group
- Development engineering work group
- Capital work group
- Public Works Managers' meetings
- NPDES/O&M check in meetings
- NPDES/Police check in meetings
- Development review coordination meeting
- Development Review Committee
- Pre-construction meetings
- Mapping work group
- Code enforcement meetings
- Utilities Advisory Committee
- Environmental Technical Advisory Committee

It is further recommended for these work and meeting groups to document when and how they identify barriers to compliance and to document what actions have been, or need to be, completed to eliminate identified barriers; then share this documentation for Phase II Permit annual reporting.

Benefit assumptions: Cross department coordination through regular communication and work collaboration between staff and work groups creates better understanding of roles and of complimentary and conflicting needs; offering opportunity to work together to find solutions to eliminate barriers to compliance but also to improve services delivery by the City.

Cost assumptions: Approximately $2,000 annually for 20 hours of staff time each year to work collaboratively toward eliminating known barriers to compliance starting in 2024 then ongoing thereafter (time includes recordkeeping and reporting of the barriers and barrier elimination coordination mechanisms).

Annual Reporting to Department of Ecology

The Phase II Permit annual report generally has approximately 100 questions and up to 10 or more supplemental prepared reporting items including documents, reports, inventories, and records to support question responses. Completion of the annual report is intended to demonstrate successful implementation of the previous year's SWMP Plan and Phase II Permit compliance.

Recommendations B11-R6 and B11-R7 present strategies for annual reporting compliance.

Recommendation B11-R6: Annual Reporting

This minimum effort recommendation is for continuing to support and dedicate resources to complete and submit the annual report for the previous year to Ecology no later than March 31 of the current year.

COBI proactively posts the completed annual report on the City's website (www.bainbridgewa.gov/stormwater) as a way to encourage public involvement and participation.

Benefit assumptions: A complete and timely submitted annual report demonstrates the success of the previous year's SWMP Plan.

Cost assumptions: Approximately $2,000 annually for 20 hours of staff time each year to prepare and timely submit the annual report each year starting in 2024 then ongoing thereafter.

Recommendation B11-R7: SWMP Plan and Annual Reporting Policy and Procedures

This additional enhanced effort recommendation is for supporting and dedicating new resources to develop, document, and implement formal policy and procedures for staff to follow to prepare for and complete the SWMP Plan and resulting annual report consistently each year.

Since there are no clear policies or procedures regarding Phase II Permit compliance work planning, recordkeeping, and reporting, the who, what, when, where, and why of certain work efforts and the data and information documenting and sharing needs are not necessarily known to staff.

Benefit assumptions: Having clear policy and procedures on annual SWMP planning and execution tracking and reporting will guide staff in their work to help the City achieve Phase II Permit compliance with the most accurate and meaningful recordkeeping and reporting.

Cost assumptions: Approximately $7,000 in 2024 for 80 hours of staff time to develop the policy and procedures for staff to follow to prepare for and complete the SWMP Plan and resulting annual report consistently each year.

Records Retention and Records Sharing

COBI is required to keep all records related to the Phase II Permit and the SWMP for at least five years; and based on draft 2024–2029 Permit language, COBI must keep these records for at least five years after the expiration date of the Phase II Permit the records are related to.

Recommendation B11-R8: Records Retention Policy and Procedures

This minimum effort recommendation is to support and dedicate new resources to develop, document, and implement a formal records retention policy and procedures for staff to follow to keep records related to the Phase II Permit and SWMP Plan for a minimum of five years after the expiration date of the Permit. This recommendation is based on draft 2024–2029 Permit language (Appendix G).

COBI keeps all records related to the Phase II Permit and SWMP for at least five years.

COBI makes all existing records related to the Phase II Permit and SWMP available to the public upon request.

Benefit assumptions: Having clear policy and procedures for staff to know and follow regarding records retention will help the City comply with legal requirements for NPDES and other purposes.

Cost assumptions: Approximately $1,000 in 2024 for 10 hours of staff time to develop and implement a records retention policy related to the Permit and SWMP Plan for staff to follow.

This recommendation is reiterated in multiple sections to reinforce this as a strategy to meet more than one Permit requirement for recordkeeping.

CHAPTER 3: CLIMATE CHANGE ADAPTATION AND STORMWATER MANAGEMENT

COBI City Council accepts the climate is changing and recognizes the urgency; and in June 2020 passed a resolution declaring a climate emergency for the Island and reaffirmed the City's commitment to climate action now. The Bainbridge Island Climate Impact Assessment (Bainbridge Island 2016), Sea Level Rise on Bainbridge Island: A Preliminary Assessment (Bainbridge Island 2019), Bainbridge Island Climate Action Plan (Bainbridge Island 2020), and Kitsap County Climate Change Resiliency Assessment (Kitsap County 2020) outline projected changes in the climate in the coming decades, and the resulting impacts to social, environmental, economic systems, and infrastructure. The Climate Action Plan (CAP) provides a roadmap for how we can address climate change in City operations and our community. Based on the reports and relevant literature, this section provides a brief summary of projected climate change trends on precipitation, temperature, and sea level rise, and describes the anticipated impacts on water resources. To help address the impacts on water resources, specifically stormwater management, recommendations are offered that echo CAP and Comp Plan goals, strategies, policies, and actions, voiced community concerns, and additionally may help meet NPDES Permit requirements. Resources are needed to fulfill any of the recommendations, so a brief discussion on resource options is provided.

Projected Climate Change Trends and Sea Level Rise

Water resources are impacted by climate change, primarily changes in precipitation and temperature. Changes in precipitation and temperature are dependent on both historical and future emissions of greenhouse gases.

The frequency, intensity, and timing of rain and snow precipitation is changing. In the Puget Sound region, annual precipitation is projected to stay the same, however winter precipitation events are expected to become more severe while summer precipitation is expected to decrease (Mauger et al. 2015). Increases in precipitation means more frequent extreme storms are anticipated (Kossin et al. 2017); and decrease in precipitation causes drought challenges.

Increasing temperatures measured in air, ocean, and freshwater, and are expected to continue to rise through this century (Mauger et al. 2015; Table 3-1). Changes in temperature lead to changes in water availability, quality, and distribution, including sea level rise.

In 2019, COBI prepared the report on Sea Level Rise on Bainbridge Island: A Preliminary Assessment (Bainbridge Island 2019). The report states that Puget Sound has risen by more than 9 inches during the past century, and based on the most likely projections from the best available science, Bainbridge Island will experience one foot of sea level rise by the year 2060, 2.3 feet by 2100, and 3.8 feet by 2150. The preliminary assessment provided COBI with mapping and planning methodologies, a framework for adaptation, and an understanding of its exposure to sea level rise. Key findings and recommendations related to stormwater management from the assessment include:

- Rising seas will alter the nature of water resources adjacent to the shoreline. Increased saltwater intrusion will stress water resources adjacent to the shoreline. It is recommended that COBI add sea level rise to its water resources monitoring program.
- Accelerated bluff erosion will threaten additional high-bank properties and septic systems. Additional study of septic systems given future inundation and increased bluff erosion is also recommended.
- New waterfront construction or redevelopment, if not prohibited outright, should be guided by prudent shoreline policy. The City should evaluate whether current building and shoreline regulations sufficiently mitigate risk associated with the impacts of sea level rise on shoreline stability and flooding.
- Many private properties, both low-lying and high bank, will be impacted. All members of the community, but especially those who presently enjoy living beside rising waters, should be engaged to determine an equitable and resilient path forward.
- Most of the City's infrastructure is not immediately vulnerable to sea level rise. A limited number of assets, primarily related to sewer service around Eagle Harbor, plus some low-lying streets, already experience or will soon experience inundation from sea level rise, especially during astronomical high tides, a.k.a. king tide events.

Table 3-1 provides a summary of projected climate change trends in precipitation, temperature, and sea level rise.

Table 3-1. Projected Climate Change Trends in Precipitation, Temperature, and Sea Level Rise.		
Climate Indicator	**Projected Trends**	**Sources for Additional Information**
Precipitation	• **More intense storms** By the 2080s, the wettest days (99th percentile or maximum 24-hour precipitation event) are projected to increase between 15 and 24%.[a] • **Increase in winter precipitation** By the 2080s, precipitation in October–March is projected to increase between +11 and +13%.[c] • **Drier summers** By the 2080s, summer precipitation is projected to decrease between -8% and -10%.[c]	• Tables 10 and 11 in the *Kitsap County Climate Change Resiliency Assessment* provide changes in extreme events and annual precipitation • UW CIG Extreme Precipitation Tool
Temperature	• **Increase in sea surface temperature** By the 2040s, an increase of about +2.2°F is anticipated in the Northeast Pacific Ocean, which flows into Puget Sound.[a] • **Increase in annual air temperature** By the 2050s, average annual temperature is projected to rise between +4.2°F and +5.5°F in the Puget Sound region.[b] • **Increase in summer temperature** By the 2050s, summer seasonal air temperature is projected to be +5.1°F to +6.8°F warmer.[b] • **Increase in extreme heat days** By the 2050s, there will likely be 15.4 to 23.3 more extreme heat days (temperatures above 86°F). Historically, there were only 3.5 extreme heat days a year.[b] • **Decrease in number of days with freezing temperatures** By 2100, Kitsap County is projected to have 0 to 7 days with temperatures below freezing (32°F).c Historically, there have been approximately 30 days below freezing. • **Increase in stream temperatures** By the 2080s, streams are projected to be +4.0 to +4.5°F warmer.[d]	• Tables 8 and 9 in the *Kitsap County Climate Change Resiliency Assessment* provide air temperature projections for different time periods under different emissions scenarios • Tribal Climate Tool • UW CIG Extreme Precipitation Tool

Sea Level Rise	• **Increase in sea level** By 2050, sea level on Bainbridge Island is predicted to rise 0.6–0.8 ft. By 2100, these values are projected to be 1.7–2.4 ft. Because of local geologic factors, these values may vary throughout Bainbridge Island (see UW CIG visualization tool). Projection assumes 50% probability that sea level will meet or exceed these values. 2050 values by region: o Northeast Bainbridge Island: 0.8 ft (2050) o Southeast Bainbridge Island: 0.7–0.8 ft (2050) o Southwest Bainbridge Island: 0.7 ft (2050) o Northwest Bainbridge Island: 0.6 ft (2050)[b,c]	• UW CIG Sea Level Rise Data Visualization Tool provides detailed data by year and section of coastline • Appendix D in the *Kitsap County Climate Change Resiliency Assessment* provides projections, likelihood maps, and graphs from the UW CIG

[a] Range based on moderate emissions: RCP 4.5 and 6.0 (Mauger et al. 2015).

[b] Range based on low (RCP 4.5) and high (RCP 8.5) emissions (Mauger et al. 2015).

[c] Range based on low (RCP 4.5) and high (RCP 8.5) emissions (Kitsap County 2022).

[d] Projection based on moderate emissions: A1B (Mauger et al. 2015).

[e] Projection based on high emissions: RCP 8.5 (Mauger et al. 2015).

UW CIG = University of Washington Climate Impacts Group



Anticipated Impacts of Climate Change on Water Resources

Climate changes impacts in temperature, precipitation, and sea level rise, combined with land use and land cover from development, forest management, and agriculture, alters local hydrology (Mauger et al. 2015). The resulting impacts to hydrology will be noticed in the quantity and quality of water resources, and is summarized in Table 3-2 for surface water, groundwater, and stormwater.

Table 3-2. Summary of Climate Change Impacts on Water Resources Quantity and Quality.

Water Resource	Water Quantity [a]	Water Quality [a]
Surface Water	• Small annual increase in streamflow, but increased winter stream flows and decreased summer stream flows • Increased magnitude and frequency of peak flows • Increased flooding	• Increased temperature • Increased nutrients and pollutants • Increased suspended materials from erosion and landslides • Lower dissolved oxygen • Increased algal blooms, including harmful algal blooms
Groundwater	• Decreased recharge during summer months • Increased use during summer months	• Possible saltwater intrusion in aquifers from sea level rise
Stormwater	• Increased magnitude and frequency of peak flows • Higher tailwater conditions for marine outfalls because of sea level rise and storm surge • Increased flooding	• Increased average and summer water temperature • Increased nutrients and pollutants • Increased suspended materials from erosion and landslides • Lower dissolved oxygen

[a] Compiled from Mauger et al. (2015).

Surface water, groundwater, and stormwater are wholly connected and dependent on each other. We can identify specific impacts for each water resource, knowing the entire water cycle is ultimately impacted.

Surface Water Impacts

Surface waters of streams, lakes, and wetlands on Bainbridge Island may become more frequently inundated or parched of water depending on the time of year. In winter, more frequent and intense flooding may occur with increased precipitation. In summer, seasonal streams may be dry for longer periods of time because of less precipitation and warmer air temperatures. Streamflow fluctuations and flooding can change and degrade stream channel course, riparian banks and vegetation, and wildlife habitat. The marine shoreline may flood more from storm surge and sea level rise causing erosion and displacement. Water quality could decline from sediments from eroded slopes and from receiving more stormwater runoff and pollutants. The combination of increased water temperature, excessive nutrients, sediments and other pollutants, algae growth, and decreased dissolved oxygen impacts vulnerable aquatic species, such as salmonids.

Groundwater Impacts

Bainbridge Island gets most of its drinking water from one groundwater aquifer system on the island. If the aquifer system became contaminated, there is no readily available reasonable alternative drinking water source available. Because of this, the island has a special designation as an Environmental Protection Agency (EPA) Sole Source Aquifer community (City of Bainbridge Island 2021; U.S. EPA 2013). Aquifer systems rely on groundwater to recharge. Climate change could impact how quickly water leaves the aquifer and how quickly it is able to recharge. In the summertime, the combination of reduced precipitation and increased use/demand due to hotter temperatures could lead to greater drawdown of the aquifer. In the wintertime, heavier precipitation may flow off the land more quickly, reducing the amount of water that infiltrates into the ground and aquifer. If too much water is pumped from the aquifer and groundwater levels decrease relative to rising sea levels, sea water could flow into the aquifer in a process called saltwater intrusion.

Stormwater Impacts

Potential hydrologic changes associated with climate change increase the importance of stormwater management practices that control flows, promote infiltration, and preserve and enhance water quality. Changes to the climate can impact the performance of stormwater infrastructure systems. Current stormwater system design standards rely on historical weather and climate data, which means systems may not have the service capacity for increased flow volumes and velocity that would occur with projected increases in precipitation. When system intake exceeds design standards, flood risk increases as pipes and facilities back up and overflow. Storm events that are currently considered "100-year events," which have a 1 percent chance of occurring in any given year, may become more frequent occurrences by the middle of the 2050s (Mauger et al. 2015). System outfalls to receiving waters may need to be raised in elevation or protected from backflow due to increased streamflows and sea level rise. Additionally, outfall water quality may decline due to systems not designed to handle or treat excessive volumes of stormwater.

The quantity and quality of water resources is already a challenging issue with population growth and development, and climate change only increases the difficulty of, and demand for, thoughtful management of surface water, groundwater, and stormwater to help balance natural and built ecosystems.

Climate Change Adaptation Assessment and Recommendations for Stormwater Management

Assessment of COBI's programs for stormwater management and climate action shows there is already positive work happening at the City to help meet CAP and Comp Plan goals as well as comply with Western Washington Phase II Municipal Stormwater Permit (Permit) requirements.

In 2021, COBI hired a Climate Mitigation and Adaptation Manager, with a Sustainable Transportation Coordinator added to staff in 2023. These staff members are working with internal and external partners

to implement priority actions from the CAP, including efforts to reduce energy use in buildings, developing options to get people out of their cars, and reducing both the amount of solid waste generated on the island and the amount sent to the landfill. These efforts contribute to reducing pollutants in stormwater runoff. For example, fewer cars on the road means less auto-related fluids leaking, less metals from brake-pads, less emissions, less tire wear and tire particles, etc. The COBI Climate Mitigation and Adaptation Manager participates in the Stormwater Planning inter-disciplinary team and implements disposable food service ware and waste reduction requirements outlined in Bainbridge Island Municipal Code Chapter 8.24, that are considered part of meeting Permit requirements for source control and preventing illicit discharges

Public Works and Planning staff promote and enforce low impact development and tree preservation for new development and redevelopment sites. The City Arborists provides education and outreach for vegetation management, specifically trees. Public Works staff monitor stormwater discharges and measure water temperatures and flow. Partnerships are in place through formal and informal agreements with other agencies and community groups such as Kitsap County Public Health, Kitsap Solid Waste, Washington Department of Fish and Wildlife, Bainbridge Island Metro Parks, and Sustainable Bainbridge Groups that may be further leveraged for outreach and action. Public Works' outreach activities for Natural Yard Care through the West Sound Stormwater Outreach Group (WSSOG) helps promote meaningful community action as identified in the CAP. COBI's interlocal agreement with Kitsap Conservation District to provide agricultural technical assistance for water quality helps farms create farm plans and learn about and manage for surface water protection including waste and manure reduction.

With so much good work happening across so many work groups and staff, there are future opportunities to align and leverage programs and resources across multiple departments that are working towards similar goals. Some of those opportunities are presented as recommendations for consideration, and the recommendations were developed with many Comp Plan policies and CAP goals in mind, including these:

- **Comp Plan Policy EN 1.8: "Consider the potential impacts of climate change and its impacts in all decisions related to natural systems and environmental quality."**
- **Comp Plan Policy EN 2.1: "In managing City government operations, take reasonable steps to reduce impacts to the environment and ecosystems upon which we depend. This includes recognizing and preparing for the impacts of climate change."**
- **CAP Goal 6.A: "Steward Bainbridge Island's natural resources to function as healthy, resilient ecosystems that can continue to provide multiple ecological functions including providing habitat, maintaining the hydrologic cycle, and storing carbon in the face of the added stresses of climate change."**
- **CAP Goal 8.A: "Increase the Bainbridge community's awareness and knowledge about current and future climate change related impacts and ways to reduce those impacts."**

This section is supported by Tables F-1 and F-2 in Appendix F, and supplemented by Tables B-1 through B-11 in Appendix B, and Tables C-1 through C-11 in Appendix C. Table F-1 displays SWMP and climate change adaption assessment information and recommendations alongside all the related CAP goals/actions and Comp Plan goals/policies (Appendix A). Table F-2 helps illustrate the financial cost and timeframes estimated for each SWMP Climate Change Adaption recommendation over the next six years and beyond.

For easier reference, each recommendation is represented by an identification number (e.g., F1-R1); where "F" stands for Appendix F, and the succeeding number represents the Table number; and "R" stands for Recommendation, and the succeeding number is the numeral assigned to the recommendation to aid order.

A total of 34 recommendations are presented for climate change adaptation as it relates to stormwater management; 22 are reiterated from Tables B-1 through B-9 in Appendix B, and 12 are new and unique specifically for COBI climate change adaptation with stormwater management. All the recommendations align with Permit compliance although there are no specific climate change requirements called out in the Permit. Half of the recommendations are categorized as minimum effort and half are categorized as additional enhanced effort. Table 3-3 is a snapshot of the unique recommendations in this section and Table F-1.

Table 3-3. Summary of Unique Recommendations for Stormwater Management Climate Change Adaption in Appendix F, Table F-1.

RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES	RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES
• F1-R1: Cross Department Coordination • F1-R2: Integrated Pest Management Plan	• F1-R3: Climate Change Informational Resources • F1-R4: Climate Change Education and Training Events • F1-R5: Climate Change Resilient Tree and Plant Species List • F1-R6: Climate Change Training for Staff • F1-R7: Refine LID Preference in Design for Bainbridge • F1-R8: Refine LID in Design and Construction Standards • F1-R9: Climate Change and Stormwater Infrastructure Improvements • F1-R10: Augment Water Quality Flow Monitoring Program • F1-R11: Identify and Address Vulnerable Stormwater Infrastructure • F1-R12: Identify and Address Capacity Constrained (Historical Flooding) Areas

Summary only includes unique CAP/Comp Plan recommendations. Any reiterated SWMP Appendix B recommendations are included in the full assessment and recommendations Table F-1 in Appendix F.

The recommendations for climate change adaption with stormwater management are presented in these seven subject groupings:

- Coordination
- Community Engagement & Stewardship
- Education and Outreach
- Waste
- Vegetation
- Buildings and Infrastructure
- Water Quality Monitoring

Coordination

These four recommendations directly relate to the actions under **CAP Goal 8.B: "Inspire action across the community and partner with local and regional organizations to take meaningful climate change mitigation and adaptation action."**

Recommendation B2-R1: Coordination of Education and Outreach Activities (reiterated)

This minimum effort recommendation is presented for SWMP Public Education and Outreach (Appendix B, Table B-2) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation B8-R3: Source Control Program Consolidation (reiterated)

This additional enhanced effort recommendation is presented for SWMP Source Control (Appendix B, Table B-8) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation F1-R1: Cross Department Coordination

This minimum effort recommendation is for supporting and dedicating new resources to coordinate across departments to maximize efforts for work that addresses both CAP goals as well as Stormwater Management Program (SWMP) requirements (also see SWMP recommendations, Appendix B, Tables B-1 through B-11)

Staff in Public Works, Planning and Community Development, and Executive departments will benefit from more collaboration on work goals and activities that relate to climate change and stormwater management. Continue to have the COBI Climate Mitigation and Adaptation Manager participate in the stormwater planning inter-disciplinary team to help inform long-range plan updates as it relates to stormwater management.

Benefit assumptions: Coordinating and collaborating on climate change adaptation and mitigation policies and goals across departments increases opportunities and capacity and to accomplish the policies and goals most thoughtfully, consistently, efficiently, and effectively; and decreases potential conflicting actions that may occur in the absence of coordination.

Cost assumptions: Approximately $4,000 annually for 40 hours of staff time each year for staff to meet to identify and coordinate on work for CAP policies and goals and Stormwater Management Program planning and activities starting in 2024 then ongoing thereafter.

Education & Outreach

The following seven recommendations involve coordination as well, but more directly relate to providing education and outreach as suggested with actions under CAP Goals/Strategies 5.A.2, 6.A.2, 6.D.1, 8.A, and 8.B.1.

Recommendation B2-R2: Stormwater Education and Outreach Plan & Annual Awareness Campaign (reiterated)

This minimum effort recommendation is presented for SWMP Public Education and Outreach (Appendix B, Table B-2) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation B2-R3: Consider Overburdened Communities (reiterated)

This minimum effort recommendation is presented for SWMP Public Education and Outreach (Appendix B, Table B-2) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation B2-R8: Existing Behavior Change Campaigns (reiterated)

This minimum effort recommendation is presented for SWMP Public Education and Outreach (Appendix B, Table B-2) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation B2-R9: Expand Existing Behavior Change Campaign (reiterated)

This additional enhanced effort recommendation is presented for SWMP Public Education and Outreach (Appendix B, Table B-2) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation F1-R3: Climate Change Informational Resources

This additional enhanced effort recommendation is for supporting and dedicating new resources to develop informational resources for everyday reference, such as on the COBI website, on climate change and stormwater management relevant topics including: improving property drainage, climate change resilient tree and plant species, invasive and noxious weed control, rain barrel/garden installations, natural chemical free lawn care, and proper waste disposal.

Some of these resources already exist and are available on the Climate Smart Bainbridge website, www.ClimateSmartBainbridge.org; and it is recommended to review and update those resources to ensure they offer the most appropriate information for stormwater management.

Benefit assumptions: Passive education and outreach provided through readily available information that people may access at their leisure to gain knowledge on climate change mitigation and adaptation as it relates to stormwater management.

Cost assumptions: $10,000 for consultant support and 40 hours of staff support in 2024 to develop information resources on climate change as it relates to stormwater management.

Recommendation B1-R3: Stormwater Management Advisory Group (reiterated)

This additional enhanced effort recommendation is presented for SWMP Stormwater Planning (Appendix B, Table B-1) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation F1-R4: Climate Change Education and Training Events

This additional enhanced effort recommendation is to support and dedicate new resources to host free education and training events on climate change and stormwater management relevant topics such as improving property drainage, protecting shorelines, creating rain gardens, planting climate change resilient plants, invasive and noxious weed control, natural chemical free lawn care, and proper waste disposal.

Benefit assumptions: Active education and outreach events offer an opportunity for people to attend events to gain knowledge on climate change mitigation and adaptation as it relates to stormwater management.

Cost assumptions: 40 hours of staff time each year to host education and training events for climate change and stormwater management relevant topics starting in 2025 then ongoing thereafter.

Recommendation F1-R6: Climate Change Training for Staff

This additional enhanced effort recommendation is to support and dedicate new resources to provide annual staff training on climate change to ensure staff are referencing up-to-date science data and COBI policies on climate change to incorporate into stormwater management.

This recommendation directly relates to CAP Other Action 6.A.1.f, which suggests adding staff training about climate change and its impacts on natural resources in order to build institutional knowledge and integrate climate-savvy thinking into planning decisions.

Benefit assumptions: Training for COBI staff helps ensure a knowledgeable staff base working effectively reduce and eliminate runoff in manners that are adaptive to climate change and do not contribute to climate change.

Cost assumptions: 10 hours of staff time each year to develop the training, and 40 hours of staff time each year to conduct the training for 4 hours for ten staff starting in 2024 then ongoing thereafter.

Community Engagement & Stewardship

The following five recommendations for community engagement and stewardship are reiterated from Tables B-2 and B-3 as opportunities to meet Phase II Municipal Stormwater Permit requirements and are encouraged in the CAP and Comp Plan.

Recommendation B2-R10: Promote Stewardship Opportunities (reiterated)

This minimum effort recommendation is presented for SWMP Public Education and Outreach (Appendix B, Table B-2) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation B2-R12: Provide a Stewardship Opportunity (reiterated)

This additional enhanced effort recommendation is presented for SWMP Public Education and Outreach (Appendix B, Table B-2) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation B2-R13: Ongoing Stewardship Program (reiterated)

This additional enhanced effort recommendation is presented for SWMP Public Education and Outreach (Appendix B, Table B-2) and is reiterated for monitoring and for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation B3-R1: Provide Opportunities for Public Input (reiterated from Appendix B, Table B-3 for Public Involvement and Participation)

This minimum effort recommendation is presented for SWMP Public Involvement and Participation (Appendix B, Table B-3) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation B3-R3: Involve Overburdened Communities (reiterated)

This minimum effort recommendation is presented for SWMP Public Involvement and Participation (Appendix B, Table B-3) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Waste

These seven recommendations relate to waste management and reduction as identified with **CAP Goal 7.A: "Reduce Island residential, commercial, and industrial waste generation"** and **CAP Strategy 6.D.2: "Improve manure management to reduce emissions associated with livestock waste and fertilizer delivery."**

Recommendation B5-R3: Offer Information to Staff (reiterated)

This minimum effort recommendation is presented for SWMP Illicit Discharge Detection and Elimination (Appendix B, Table B-5) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation B5-R4: Partner on Waste Disposal (reiterated)

This minimum effort recommendation is presented for SWMP Illicit Discharge Detection and Elimination (Appendix B, Table B-5) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation B5-R5: Continue Waste Reduction Program (reiterated)

This minimum effort recommendation is presented for SWMP Illicit Discharge Detection and Elimination (Appendix B, Table B-5) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation B5-R6: Agricultural Technical Assistance for Water Quality (reiterated)

This minimum effort recommendation is presented for SWMP Illicit Discharge Detection and Elimination (Appendix B, Table B-5) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation B8-R1: Develop and Implement Source Control Program (reiterated)

This minimum effort recommendation is presented for SWMP Source Control (Appendix B, Table B-8) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation B8-R2: Source Control Program Staff (reiterated)

This minimum effort recommendation is presented for SWMP Source Control (Appendix B, Table B-8) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation B8-R4: Stormwater and Grey Water Reuse Incentive Program (reiterated)

This additional enhanced effort recommendation is presented for SWMP Source Control (Appendix B, Table B-8) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Vegetation

The three following recommendations regarding vegetation management directly relate to actions for **CAP Strategy 6.A.2: "Proactively manage Bainbridge forests for anticipated vegetational composition shifts projected under climate change."**

Recommendation B1-R7: Tree Canopy Goals (reiterated)

This minimum effort recommendation is presented for SWMP Stormwater Planning (Appendix B, Table B-1) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation F1-R2: Integrated Pest Management Plan

This minimum effort recommendation is to support and dedicate new resources to develop and implement an Integrated Pest Management (IPM) Plan and Program specially to control the spread of noxious weeds on Bainbridge Island in accordance with RCW 17.10 and WAC 16-750, and identify staff to coordinate and oversee the IPM Program.

COBI is a partner in Cooperative Weed Management Area (CWMA) group that was established in 2021 through a community led effort to address the need for more noxious and invasive weed management. The group is looking to the City for financial support and staff assistance and the City has done some work to find and deploy resources.

Benefit assumptions: An implemented IPM will help reduce and eliminate noxious species and promote proliferation of non-noxious native species.

Cost assumptions: 100 hours of staff time in 2024 to develop the IPM with the CWMA; then 60 hours of staff time each year to oversee implementation of the IPM along with the CWMA in 2024 then ongoing thereafter.

Recommendation F1-R5: Climate Resilient Tree and Plant Species List

This additional enhanced effort recommendation is for supporting and dedicating new resources to build off the work of COBI arborists on incorporating FireWise specific plants into a climate change resilient tree and plant species list and also creating a climate change resilient plant species list suited for stormwater management, especially for low impact development (LID) facilities and tree canopy.

In 2023, COBI staff created a Climate Ready Tree Species list that can be reviewed and revised specifically for stormwater management.

Benefit assumptions: An easy go-to list of climate resilient identified vegetation species to plant and promote on Bainbridge Island will assist staff and the public in making ideal vegetation choices.

Cost assumptions: 40 hours of staff time in 2024 to create the climate change resilient tree and plant species lists.



Buildings & Infrastructure

These five recommendations directly speak to actions under CAP Goals 5.B and 6.B regarding reducing risks related to sea-level rise and development standards.

Recommendation F1-R7: Refine LID Preference in Design for Bainbridge

This additional enhanced effort recommendation is to support and dedicate resources to refine Low Impact Development (LID) preference as part of Design For Bainbridge.

Design for Bainbridge Standards and Guidelines address LID as Green Stormwater Infrastructure (GSI) under landscaping. *"L4: Integrate and Highlight Green Infrastructure Practices – Standard intent: Landscape design is expected to embrace hydrological functions and reduce the impact of development with green infrastructure. Green spaces offer opportunities for water treatment, infiltration and storage on developed sites in order protect water quality, relieve the burden on stormwater infrastructure, and reduce water use and heating and cooling costs. Guidelines: a. Preserve or restore hydrological functions*

of the natural landscape, improving stormwater quality through sustainable landscape and civil design practices including stormwater retention and infiltration where appropriate; b. Use green stormwater infrastructure (GSI) strategies to reduce flooding by slowing and reducing stormwater discharges; c. Include vegetative roofs and permeable paving for on-site stormwater management; d. Capture rainwater for reuse for irrigation."

Benefit assumptions: Refining LID in Design for Bainbridge will clarify language for consistency and help to specify what LID BMPs are most ideal on Bainbridge.

Cost assumptions: 40 hours of staff time in 2024 to review and refine LID (aka GSI) preference language and resources for Design for Bainbridge.

Recommendation F1-R8: Refine LID Design and Construction Standards

This additional enhanced effort recommendation is for supporting and dedicating new sources to refine LID design and construction standards as part of the City of Bainbridge Island Design and Construction Standards and Specifications.

Benefit assumptions: Having clearly defined LID design and construction standards and specifications helps COBI staff and public to know and follow to aid the greatest success in project planning, permitting, construction, and long-term operations and maintenance.

Cost assumptions $80,000 for consultant support and 200 hours of staff support in 2024 to develop and implement LID design and construction standards and specifications.

Recommendation F1-R9: Climate Change and Stormwater Infrastructure Improvements

This additional enhanced effort recommendation is to support and dedicate new resources to develop policy/guidelines for incorporating climate change into design and construction of Capital stormwater infrastructure improvement and repair projects.

Benefit assumptions: Incorporating climate change into Capital stormwater infrastructure improvement and repair projects will help meet both current and future needs and challenges related to stormwater management for the greatest and most lasting public benefit.

Cost assumptions: $50,000 for consultant support and 100 hours of staff support in 2025 to develop the policy/guidelines.

Recommendation F1-R11: Identify and Address Vulnerable Stormwater Infrastructure

This additional enhanced effort recommendation is to support and dedicate new resources to utilize the City's sea level rise study data to identify vulnerable stormwater infrastructure located within and/or impacted by predicted sea level rise hazard areas, then determine risk and how to perhaps address the service areas through public and private project opportunities.

Benefit assumptions: Identifying vulnerable public infrastructure and the risk to service areas is the first step to considering and prioritizing projects to reduce risk.

Cost assumptions: 40 hours of staff time in 2024 to use existing sea level rise study data to identify and assess risk to stormwater infrastructure and identify projects to reduce risk and add those projects to the prioritization process.

Recommendation F1-R12: Identify and Address Capacity Constrained (Historical Flooding) Areas

This additional enhanced effort recommendation is for supporting and dedicating new resources to develop an initial dataset on known capacity constrained (historical flooding) areas, then incorporate the dataset into the COBI Development Review Checklist and into the Capital infrastructure improvement project identification and prioritization processes.

Benefit assumptions: Identifying capacity constrained areas is the first step to considering and prioritizing projects to reduce flooding, and will help inform new development and redevelopment projects for the greatest public benefit and not contribute to existing problems.

Cost assumptions: 100 hours of staff time in 2024 to develop the dataset and incorporate it into COBI Development Review Checklist and into the Capital infrastructure improvement project identification and prioritization processes.

Water Quality Monitoring

These three recommendations directly relate to CAP Priority Action 6.B.1.b, "Continue a robust surface water monitoring program that can identify trends in streamflow and water quality to inform adaptive management to protect stream health and integrate into monitoring climate change-sensitive parameters as appropriate."

Recommendation B9-R3: Enhanced WQFMP Field Screening Program (reiterated)

This additional enhanced effort recommendation is presented for SWMP TMDL Requirements (Appendix B, Table B-9) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation B9-R4: Enforce Preventative or Restorative Measures (reiterated)

This additional enhanced effort recommendation is presented for SWMP TMDL Requirements (Appendix B, Table B-9) and is reiterated for climate change adaptation to reinforce this as a strategy to meet one or more Permit requirements as well as one or more greater City policies/goals.

Recommendation F1-R10: Augment Water Quality Flow Monitoring Program

This additional enhanced effort recommendation is for supporting and dedicating new resources to augment COBI's Water Quality Flow Monitoring Program (WQFMP) to incorporate climate change sensitive parameters into storm, surface, and ground water monitoring (also see SWMP Monitoring and Assessment recommendations and Appendix B, Table B-10).

Many of the parameters currently used for monitoring may be used as climate change indicators but improvements can be made for the data to be more precise, reliable, and informative.

Benefit assumptions: Incorporating climate change sensitive parameters into storm, surface, and ground water monitoring may provide indicators and trends to help inform decision making.

Cost assumptions: 500 hours of staff time to review and adapt the WQFMP to incorporate climate change sensitive parameters into storm, surface, and ground water monitoring across the years of 2025–2029. The cost of technical and laboratory costs associated with potential adaptations are unknown.



CHAPTER 4: SSWM UTILITY IMPROVEMENTS

Chapter 1 introduced the SSWM Utility and Capital Improvement Plan, and Chapter 2 presented recommendations that relate to infrastructure improvements, such as with stormwater planning, operations and maintenance, and controlling runoff from new development, redevelopment, and construction sites. This chapter builds upon those to consider how the City works to improve SSWM Utility infrastructure, and with these overarching Comp Plan policies and CAP actions in mind:

- **Comp Plan Policy CF 1.3: "Evaluate and prioritize proposed capital improvement projects using the following long-term financial strategy principles and guidelines:**
  - **Preserve and maintain physical infrastructure.**
  - **Use an asset management approach to the City's capital facilities.**
  - **Use unexpected one-time revenues for one-time costs or reserves.**
  - **Pursue innovative approaches.**
  - **Maintain capacity to respond to emerging community needs.**
  - **Address unfunded mandates.**
  - **Selectively recover costs.**
  - **Recognize the connection between the operating and capital budgets.**
  - **Utilize partnerships wherever possible.**
  - **Remain committed to City goals over the long run.**
  - **Anticipate and respond to the impacts of climate change, including sea level rise."**
- **Comp Plan Policy U 13.1: "Maintain a comprehensive storm drainage plan that identifies problems, proposes solutions, provides a strategy for implementation and funding, and establishes design and development guidelines."**
- **Comp Plan Policy U 13.7: "Consider a program of retrofitting existing roads with water quality and quantity stormwater system improvements in order to minimize pollution from runoff from roadways to natural drainage systems and the waters of Puget Sound."**
- **CAP Priority Action 5.B.1.b: "As recommended by the 2019 CCAC Report on Sea Level Rise create a prioritized list for addressing COBI assets at high risk of sea level rise (e.g., roadways that are expected in the coming decades to be sufficiently flooded that they will not be functional for motorized transit.)"**
- **CAP Other Action 5.B.1.d: "Create a tiered strategy for assets at longer-term risk (beyond 2030 but within infrastructure lifespan) and identify solutions for their management."**
- **CAP Other Action 8.A.1.g: "Incorporate vulnerability evaluations into COBI decision-making for all projects."**



Constant improvements to COBI's SSWM Utility are needed to accommodate population growth and development, to address aging and inadequate existing systems, and to restore habitat. Examples of improvement projects include adding new infrastructure and water quality treatment, repairing or replacing damaged or undersized pipes/culverts, and removing fish passage barriers.

Some SSWM Utility infrastructure improvements are accomplished through private development and redevelopment projects as a condition of approval. Many improvement projects are accomplished through the Capital Improvement Plan (CIP), Annual Drainage Repair and Maintenance Program (R&M), and Operations and Maintenance (O&M) Work Plan. The CIP focuses on large scale substantial infrastructure improvement projects whereas the R&M focuses on small to medium scale infrastructure improvements projects, and some small scale projects are completed by O&M staff as part of the O&M Work Plan.

CIP projects have a construction or acquisition cost equal to, or greater than, $50,000, and an estimated useful life of one year or greater. Projects and assets that do not meet these requirements are operating expenses and are included in the operating budget (e.g., R&M). Major repairs will only be capitalized if they increase the value, extend the useful life beyond the original estimate, or increase the capacity,

capability or efficiency of an existing capital asset. The CIP with estimated budget is prepared and modified as needed, and is presented to City Council for approval.

The current CIP SSWM project list (Figure 4-1) includes some newer identified priority projects but mostly the list is still projects originally identified over 20 years ago in the *2001 City of Bainbridge Island Surface Water Management Plan*. This is indicative of some of the challenges with completing projects, such as capacity resources for staffing and funding.

City of Bainbridge Island
Stormwater CIP (2025- 2030)
2024 Modified Budget

Project / Location	Grant Eligible	Grant Awarded	Grant Funds	Tax Supported	Wtr Component	Swr Component	SSWM Comp	Prior Years	2025	2026	2027	2028	2029	2030	Notes	Total
STORMWATER PROJECTS - 6-YEAR CIP (1000s)																
Eagle Hrbr. Dr. @ McDonald Creek Culvert *Eagle Harbor Dr*	x		-				Y	376	368	-	-	-	-	-	Add mitigation costs	**744**
~~Yeomalt Area Drainage Improvements~~ ~~*Yeomalt Area*~~			—				~~Y~~	———	———	———	———	—	—	—	Complete	———
Fletcher Bay Road Culvert Replacement *High School Rd & Fletcher*	x		-				Y	420	-	820	-	-	-	-	Reduce project scope and change name	**1,240**
Springbrook Fish Passage *Fletcher Bay Rd*	x		6,766	Y			Y	1,325	15	5,812		-	-	-	Add grant funds and PM	**7,152**
Eagle Harbor Drive Cooper Creek Fish Passage *Head of Bay*	x		-				Y	1,608	200	-	-	-	-	-	No change	**1,808**
New Sweden Culvert Replacement	x						Y	-	-	100	-	300	-	-	New project	**400**
Issei Creek Culvert Replacement	x						Y	-	-	-	250	-	850	-	New project	**1,100**
Food Forest Stormwater Recharge Project	x		800					-	-	-	1,000	-	-	-	New project	**1,000**
City Hall Parking Lot Retrofit *City Hall*	x	X	113				Y	255	-	-	-	-	-	-	Moved from facilities	**255**
Blakely Ave. Drainage Improvements *Blakely & Halls Hill*	x		-				Y	-	-	500	-	-	-	-	Inrease for inflation	**500**
							City Funding	3,255	583	1,195	450	300	850	-	-	**6,633**
							Grant Totals	842	-	6,037	800	-	-	-	-	**7,679**
							TOTAL	**3,984**	**583**	**7,232**	**1,250**	**300**	**850**	**-**	**-**	**14,199**

Figure 4-1. COBI Stormwater 2025–2030 CIP List.

The Annual Drainage Repair and Maintenance Program (R&M), previously called Annual Culvert Preservation, is for small to medium scale projects to remove, replace, or add collection, conveyance, and control assets. As the program's previous name suggests, culvert preservation has remained a major part of the R&M since keeping culverts in good working condition helps continue stormwater flowing under the street rather than over it. The R&M is funded by a standing annual operating budget that has been set at $200,000 for many years but was very recently increased to $300,000. R&M and O&M Work

Plan projects are identified from investigations completed as a result of drainage issues reported by customers and from inspections completed for catch basins/inlets, pipes/culverts, and hotspots.

Typically for many years now the City has accomplished one large CIP stormwater project every two years, and two to three small to medium scale R&M projects annually. This level of service for stormwater infrastructure improvement projects is not expected to change with current staff capacity.

All the projects on the CIP and R&M lists are desired, but there are many project opportunities not on these lists that are desired and may be just as beneficial or even more so. Since there is no current formal process to add or amend what projects are on these lists, there is opportunity for COBI to advance SSWM Utility service effectiveness and equity by updating the project identification and selection process. It is recommended to create a consistent process to identify and prioritize project opportunities to consider for the CIP, R&M, and O&M Work Plan.



Process to Identify and Prioritize SSWM Utility Projects

COBI has repeatedly adapted the evaluation methods used for inspecting and rating SSWM Utility infrastructure as well as ranking schemes to identify and prioritize SSWM Utility projects. It is recommended for COBI to develop and implement a new formal documented and contemporary data driven process to identify and prioritize SSWM Utility improvement projects, and to continue to include public input as part of the process.

To start, it would be worthwhile for COBI to merge all SSWM Utility projects/problems lists from all known sources into one consolidated new comprehensive SSWM Utility Improvement Project Master List (SSWM Master List). The known sources are discussed in the next subsection. The SSWM Master List will serve as the main database record of opportunities to improve the SSWM Utility. It is recommended to assign a staff person to develop and then maintain the SSWM Master List to keep it current by removing completed projects and adding new project opportunities to consider for prioritization by the stormwater planning inter-disciplinary team and/or Stormwater Management Advisory Group.

Once the SSWM Master List is created, it is recommended to apply a prioritization scoring system to produce a rating for each project and to rank them. The scoring system provides contemporary and equal consideration for projects regardless of their source origin, and will help distinguish which projects meet threshold criteria as a CIP, R&M, or O&M Work Plan project.

It is further recommended for the prioritization process to be overseen by the stormwater planning inter-disciplinary team and/or Utility Advisory Committee, and to include stakeholder and public involvement and participation; and may be most helpful to complete with each biennial budget cycle to ensure all items on the list are rated and ranked contemporaneously overtime.

Historically, the CIP rating system/criteria for projects has been: Perceived Public Health and Safety Benefit; Property Protection; Fisheries Benefit and Other Criteria; Effectiveness; Feasibility; Implementation Issues and Concerns; Impact; Maintenance Requirements; Cost and Cost Effectiveness; Priority (ratings: Imperative, Essential, Important, Desirable). To assist SSWM Master List project prioritization, a new updated scoring system was developed based on historical criteria, alignment with current overarching COBI goals and policies, and input from COBI staff. The new SSWM Utility Infrastructure Project Prioritization Scoring System is shown in Table 4-1. This scoring system may be adapted overtime as needed to add or amend criteria, categories, weighting, and scoring. At this time, most criteria scores are weighted between 3–8% but Scale and Severity of Problem and Public Safety Risk are weighted much higher at 17% and 20% respectively due to risk factor.

Table 4-1. Stormwater Infrastructure Project Prioritization Scoring System.				
Prioritization Factor	**Criteria**	**Weight**	**Rationale**	**Score**
Feasibility and Implementability	Alignment with Planned Infrastructure Project	8%	Yes	10
			No	0
	External Funding Opportunity	3%	Strong candidate	10
			Average candidate	5
			Weak candidate	1
			Not a candidate	0
Intensity of Need	Scale and Severity of Problem	17%	Major problem	10
			Moderate problem	5
			Minor problem	1
	Watershed Priority	4%	Combined score of greater than or equal to 9	10
			Combined score of 8	5
			Combined score of less than or equal to 7	1
	Public Support	5%	High public support	10
			Medium public support	5
			Low public support	1
			No public support	0
	Public Safety Risk	20%	High risk	10
			Medium risk	5
			Low risk	1
			No risk	0
Primary Objective Performance – Potential Effectiveness and Climate Resilience	Flood Reduction Outcomes	7%	Major flood reduction	10
			Moderate flood reduction	5
			Minor flood reduction	1
			No flood reduction	0
	Streamflow Improvement Outcomes	6%	Major streamflow improvement	10
			Moderate streamflow improvement	5
			Minor streamflow improvement	1
			No streamflow improvement	0
	Water Quality Improvement Outcomes	6%	Major water quality improvements	10
			Moderate water quality improvements	5
			Minor water quality improvements	1
			No water quality improvements	0

Co-Benefit Performance	Fish and Habitat Outcomes	6%	Major habitat creation or improvement	10
			Moderate habitat creation or improvement	5
			Minor habitat creation or improvement	1
			No habitat creation or improvement	0
	Infrastructure O&M Outcomes	8%	Major reduction in LOE	10
			Moderate reduction in LOE	5
			Minor reduction in LOE	1
			No benefit to O&M staff	0
	LID Outcomes	5%	LID project	10
			Not a LID project	0
	Public Benefit (Amenity, Education, Outreach, and Involvement) Outcomes	5%	Major public benefits	10
			Moderate public benefits	5
			Minor public benefits	1
			No public benefits	0

Sources for Identifying Project Opportunities for SSWM Master List

COBI has many three main sources of knowledge to comprehend SSWM Utility improvement project opportunities:

- **Documents:** Studies and plans
- **Inspections:** Data from SSWM Utility inspection results
- **Drainage Investigations:** Conducted as a result of drainage issues reported by customers or discovered by staff.

Documents That Identify SSWM Utility Improvement Project Opportunities

SSWM Utility improvement project opportunities are identified in the following resources:

- 2001 City of Bainbridge Island Surface Water Management Plan
- 2008 Bainbridge Island Fish Passage Study
- 2016 City of Bainbridge Island Island-Wide Deep Culvert Assessment
- 2017/2018 Bi-annual Stormwater Drainage Conveyances Needs Assessment Memo
- 2019 Sea Level Rise on Bainbridge Island: A Preliminary Assessment (Specific infrastructure improvement projects on the shoreline aren't identified in the assessment, but areas of risk are identified and should be considered as part of creating the SSWM Master List.)
- 2023 City of Bainbridge Island Stormwater Management Action Plan (SMAP)
- 2023–2028 City of Bainbridge Island Capital Improvement Plan (CIP)

Many of the projects listed in the older resources have been completed, but many have not, and thus will be included on the SSWM Master List. Table 4-2 and Figure 4-2 display some of the substantial infrastructure improvement projects from existing resources that can serve as a starter list for the SSWM Master List.

Table 4-2. Substantial Stormwater Infrastructure Improvement Project Identified for Prioritization.

Project Name	Brief Project Description	Projected Costs
Bainbridge Island Food Forest Regional Facility	From SMAP (Appendix E), Retrofit Project 3. Create a stormwater park to provide water quality treatment and flow control for stormwater runoff from 18 acres of residential land. The project would be a partnership between COBI's SSWM Utility and Friends of the Farms.	$700,000[b]
Bayhill Pond Naturalization Retrofit	From SMAP (Appendix E), Retrofit Project 2. The existing pond in this residential neighborhood may not meet current stormwater standards. This project will examine options for improving water quality treatment and flow control by creating additional volume or expanding treatment processes, including potentially expanding the footprint across the road.	$30,000–$75,000[a]
Blakely Avenue Drainage Improvements	From the CIP 2023–2028, Project Number 01225. Restoration of downstream drainage channel and potential culvert replacement across Blakely Avenue near the intersection of Halls Hill Road. Portions of the improvements may be located outside or ROW and on Park Property.	$468,000[d]
Country Club Road Reconstruction	From the CIP 2023–2028, Project Number 00712. This project will repair failing roadway pavement and improve drainage conditions east of Toe Jam Road to the existing bulkhead. The project will include full road reconstruction and repaving. Project Webpage: https://www.bainbridgewa.gov/1485/Country-Club-Road-Reconstruction	$985,000[d]
Eagle Harbor Drive at McDonald Creek Culvert	From the CIP 2023–2028, Project Number 00823. Replacement of an existing deep concrete culvert that shows signs of failure.	$376,000[d]
Eagle Harbor Drive Culvert Replacement at Cooper Creek	From the CIP 2023–2028, Project Number 01107. Replace existing undersized culvert with fish passage box culvert wide enough to accommodate non-motorized improvements on Eagle Harbor Drive.	$1,608,000[d]
Fieldstone Lane NE Regional Facility	From SMAP (Appendix E), Retrofit Project 1. Design and construct a biofiltration facility to provide water quality treatment for runoff from 9 acres of residential development draining to Manzanita Creek. Include educational signage and improve an existing trail connection. Protect and relocate existing underground utilities.	$200,000[a]

Miller Road NE and Miller Road NE/NE Day Road W Linear Facilities	From SMAP (Appendix E), Retrofit Project 4. Unmanaged stormwater from a high use area of Miller Road NE and the southern portion of the intersection of Miller Road NE and NE Day Road flows to Manzanita Creek. This project would construct linear bioretention facilities to improve water quality and flow control.	$200,000–$300,000[c] $500,000–$600,000[b]
Springbrook Creek Restoration and (Fletcher Bay Road and High School Road) Culvert Replacements	From the CIP 2023–2028, Project Number 01236. Upgrade failing complex of culverts across High School and Fletcher Bay Roads to fish passage culverts and restore section of creek that has been degraded.	$1,560,000[d]
Springbrook Fish Passage Restoration	From the CIP 2023–2028, Project Number 01159. Replace the existing culvert at Springbrook Creek with an open box/bridge structure and streambed restoration. Project Webpage: https://www.bainbridgewa.gov/1439/Springbrook-Creek-Fish-Passage-Restorati	$3,351,000[d]

[a] Estimated cost includes both 2022 design and construction costs developed as part of the Stormwater Management Action Plan (SMAP).

[b] Estimated cost includes only 2022 construction costs developed as part of the SMAP.

[c] Estimated cost includes only 2022 design cost developed as part of the SMAP.

[d] Estimated costs per the 2023–2028 Capital Improvement Plan.

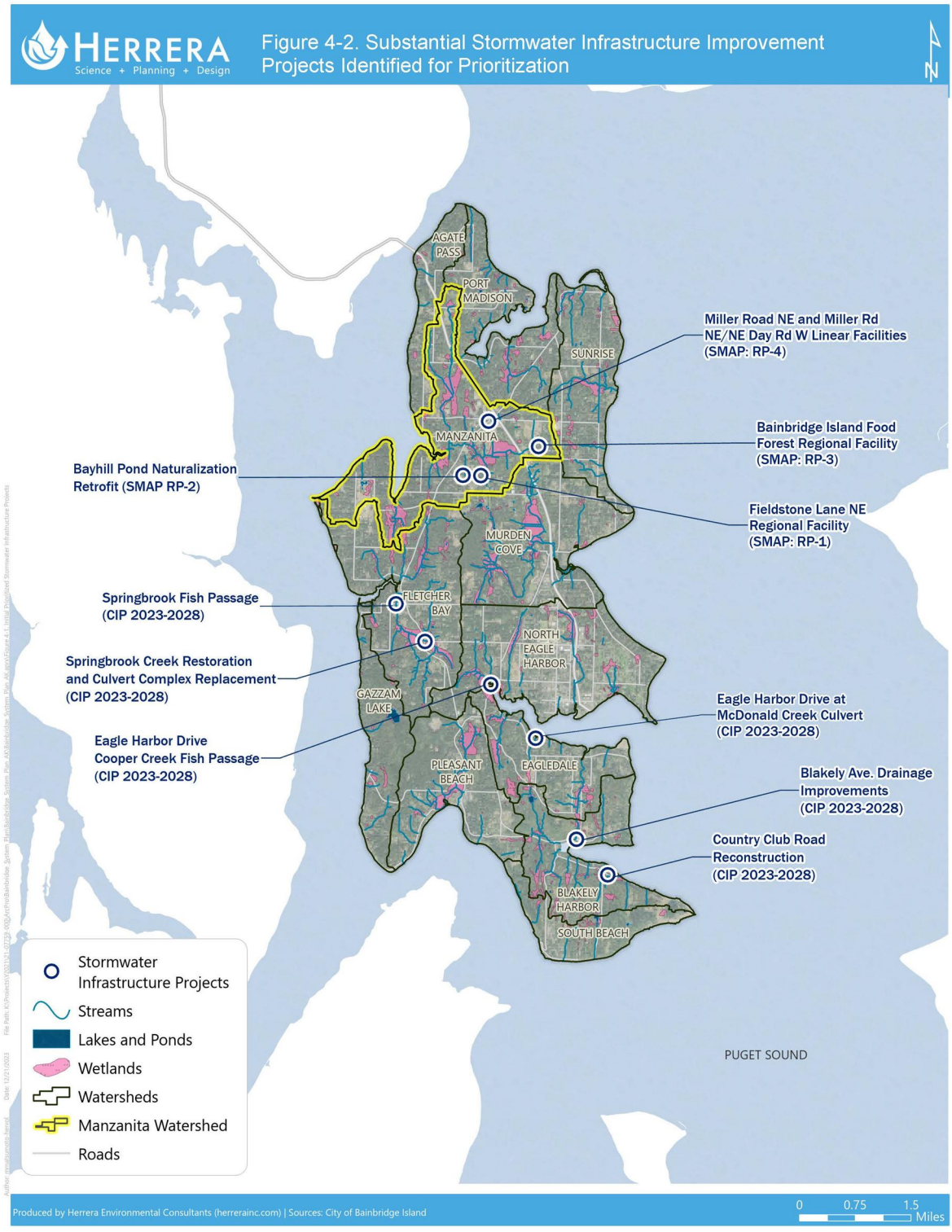


Figure 4-2. Substantial Stormwater Infrastructure Improvement Projects Identified for Prioritization.

Inspections Data That Identifies SSWM Utility Improvement Project Opportunities

Proactive SSWM Utility/MS4 inspections occur for culverts, hotspots, flow control and treatment facilities, and catch basins/inlets. Inspections help identify maintenance needs and thus project opportunities. Inspections are typically logged in various Excel spreadsheets.

COBI isn't obligated to follow any formal inspection or rating system for SSWM Utility infrastructure except for catch basins/inlets and flow control and treatment facilities as required by the Permit. Inspection ratings are based on the maintenance standards established in the Stormwater Management Manual for Western Washington. For the R&M, historically an informal rating system has been used for culvert assessment: Condition (ratings: S = Separated; R = Rusted out; Cr = Crushed; Mix – see comments); Effect of Failure (ratings: AA–C); and Priority (ratings: 1–3).

It is recommended for COBI to develop and implement formal and consistent inspection and rating systems for all SSWM Utility assets, especially for conveyance assets (i.e., ditches, pipes/culverts, outfalls). There are many established inspection and rating systems to build upon. For example, COBI already uses the NASSCO [National Association of Sewer Service Companies] pipe rating system for sanitary sewer inspections and ratings, and this can be used for storm sewers as well.

It is further recommended that the inspections, ratings, and any resulting repair and maintenance be recorded for each asset to guide knowledge of effectiveness, life cycle, and cost. A major challenge with asset management for COBI to overcome is the amount of assets not being tracked because they are unknown and/or undocumented, and the lack of data on them means they will be missed for inspections, maintenance, and improvement projects. COBI can grow its knowledge and tracking of assets to help identify and prioritize inspection and maintenance schedules as well as project opportunities. Recommendations for improved asset tracking are included in Chapter 2, for mapping and asset management and operations and maintenance.

Investigation Results That Identify SSWM Utility Improvement Project Opportunities

The City receives reports of drainage issues from customers through various methods: in person, via phone or email, or through the public reporting SeeClickFix software platform the City subscribes to.

When reports are received by the City there is no main database for logging all the reports. Currently, there is no way to completely track all the reports received and determine the best way to triage resolving them. Also, each report is handled uniquely by the different departments and staff who receive them.

The reports result in staff conducting investigations to learn how to address the issue. Some investigations result in identifying larger issues that may only be resolved by an improvement project, or ongoing maintenance program, or code enforcement. Some investigations result in immediate resolution, such as O&M staff removing debris from blocking a catch basin/inlet; but even these smaller issues can be a sign of a larger issue needing to be addressed. Therefore, it is recommended to track all issues in one place such as on the SSWM Master List, and track asset conditions in an asset management

database. Maintaining such a database of known problems will help identify patterns and improvement areas to inform SSWM Utility project and program opportunities.

It is further recommended to develop and implement policy and procedure for staff to follow to know what the most immediate and appropriate actions are to begin to address drainage issue reports and to support consistency and equity in customer service.



CHAPTER 5: STAFF AND FUNDING CAPACITY ASSESSMENT AND RECOMMENDATIONS

This chapter focuses on capacity considerations regarding staffing and funding resources to support current activities, and future opportunities and activities as recommended in Chapters 2, 3, and 4.

Capacity is challenging for any jurisdiction with so many competing needs and it is very common that there is more work to do than there are resources to do the work. So, jurisdictions like COBI must find ways to be thoughtful and creative to get the work accomplished with limited resources.

To help better understand capacity in terms of staffing and funding, a cursory analysis of 2019–2023 SSWM Utility Fund expenditures (Table 1-2) was completed. The resulting Table 5-1 summarizes the 2019–2023 annual average SSWM Utility Fund expenditure of $2,119,641 divided by five general expenditure category groups: O&M; Professional Services; CIP/R&M; Overhead; Staff Salary/Benefits; and the Staff Salary/Benefits group is further broken down by work group. These numbers do not constitute a full appraisal of accounting of SSWM Utility funds utilization across the organization, but the numbers do provide a snapshot to glean from and compare to for the purpose of the SWSP.

To aid calculating current staff and funding capacities dedicated to SSWM Utility/SWMP activities, two basic proxy metrics were used: the COBI Stormwater Management Program Coordinator's 2023 composite hourly rate (i.e., salary and benefits) of $80.75 and total annual hours of 1,748, equaling a total annual amount of $141,154. This position was selected as proxy because it is in the middle range of cost. So, for SWSP assessment and recommendations, one FTE is equal to 1,748 hours and $141,154 annually.

The O&M expenditure category attempts to account for costs of operations and maintenance such as for fuel and supplies. The cost for O&M is an estimated average of 5% of the total annual average 2019–2023 SSWM Utility Fund expenditures.

The Professional Services expenditure category attempts to account for costs for hiring external professional services to support COBI projects and programs, this includes interlocal agreement contracts with other agencies including the West Sound Stormwater Outreach Group and Kitsap Conservation District; but the major bulk of this expenditure over 2022 and 2023 was the one-time cost for the work to produce this SWSP with Herrera Environmental Consultants. The cost for Professional Services is an estimated average of 7% of the total annual average 2019–2023 SSWM Utility Fund expenditures, and it is worth noting that this does not account for the cost of staff hours to manage the contracted work.

The Capital Improvement Plan (CIP) and repair and maintenance (R&M) expenditure category attempts to account for costs associated with planning and executing small to large stormwater infrastructure improvement projects, including hiring external engineering professional services. CIP/R&M costs are estimated to be an average of 21% of the total annual average 2019–2023 SSWM Utility Fund expenditures. The current annual budget for R&M is $300,000.

The Overhead expenditure category attempts to account for costs of the annual Phase II Permit Fee and Stormwater Action Monitoring Fees and miscellaneous operational costs. Overhead cost was estimated to be an average of 22% of the total annual average 2019–2023 SSWM Utility Fund expenditures.

The Staff Salary/Benefits expenditure category attempts to account for costs associated with COBI employee FTE hours supporting the SSWM Utility. The cost for staff is the largest expense at an estimated 45% of the total annual average 2019–2023 SSWM Utility Fund expenditures. Then further analysis was completed based on budget report position data to estimate how the average annual expenditure of $953,248, or 6.75 FTE, is divided across work groups; O&M work group was identified as the highest expense for 2.57 FTE. Development Engineering and PCD percentages are lower than expected based on staff reported amount of time dedicated to SSWM utility support; so, it is assumed those staff hours are accounted for by a different City fund that is more appropriate to their work.

Table 5-1. Summary of 2019–2023 Annual Average SSWM Utility Fund Expenditure Categories

Expenditure Category Groups	Average Annual Expenditure	Average Annual Expenditure Percent
O&M	$104,801	5%
Professional Services	$153,375	7%
CIP/R&M	$440,357	21%
Overhead	$467,861	22%
Staff Salary/ Benefits	$953,248	45%
Total	**$2,119,641**	**100%**

Average Annual Staff Salary + Benefits Expenditure by Work Group

There are 1,748 working hours per year, which represents one FTE. The cost of one FTE is $141,154, using the Stormwater Management Program Coordinator 2023 composite hour rate (salary + benefits) as proxy.

Staff Salary/ Benefits by Work Group	Average Annual Amount	FTE	Percent of Total
O&M	$362,188	2.57 FTE	38%
Executive & Admin	$217,956	1.54 FTE	23%
Water Resources	$185,892	1.32 FTE	20%
Capital	$134,619	0.95 FTE	14%
Dev. Eng./Water Resources	$27,643	0.20 FTE	3%
Dev. Eng.	$19,715	0.14 FTE	2%
PCD	$4,819	0.03 FTE	1%
Total for Staff	**$953,248**	**6.75 FTE**	**100%**

Staff Capacity for SSWM Utility

Based on SSWM Utility Fund utilization, staff interviews, and G20 noncompliance notifications to Ecology in 2018 and 2023 due to staffing issues, the availability of dedicated staff hours is identified as the biggest capacity challenge to accomplishing SSWM Utility and Phase II Permit compliance work.

The gradual increase in regulatory requirements along with changes and reductions in COBI staff positions has resulted in less staff hours dedicated to support SSWM Utility improvements and Phase II Permit compliance work. For example, the full-time permanent Water Resource Specialist position that was vacated in 2018 was not backfilled, causing a loss of those work hours while the duties assigned had to be absorbed by other staff or external consultants. Another example is the Utility Engineering Project Manager position that has been a challenge to keep fully staffed in recent years.

The current number of dedicated staff hours to support SSWM Utility work is seemingly less than what is needed to continue to meet ongoing and new Phase II Permit requirements, and to annually design and construct infrastructure improvement projects, or to help realize greater City goals.

Current SSWM Utility Staffing

Table 5-1 shows the estimated division of 6.75 FTE across work groups annually based on SSWM Utility budget report position data. To generally account for the 6.75 FTE across work groups, identified staff positions with some work hours that most directly support SSWM Utility and Phase II Permit compliance work are as listed below.

Many other staff positions, including Police, are known to have a few work hours that peripherally support SSWM Utility and Phase II Permit compliance work but those positions were considered generally negligible and thus are not listed. Executive and administrative staff that support all the work groups are considered accounted for in the Executive & Admin work group and specialized staff are considered accounted for in the other work groups.

O&M – 2.57 FTE:

Three to nine O&M staff people support IDDE, TMDL, Source Control, O&M, and CIP/R&M work as part of their duties.

- O&M Supervisor
- O&M Project Managers (3)
- O&M Maintenance Technicians (3–5)
- O&M Temporary/Seasonal Assistants (2–3)

Executive & Admin – 1.54 FTE:

Multiple staff provide general support for all SWMP activities, CIP/R&M, climate change adaptation, and SSWM Utility Fund work as part of their duties.

- Executive, Finance, IT, and Administrative staff positions

Water Resources – 1.32 FTE:

Two staff members to primarily focus on supporting all SWMP and WQFMP activities, CIP/R&M, climate change adaptation, and SSWM Utility Fund work.

- Stormwater Management Program Coordinator
- Water Resources Specialist

Capital Work Group – 0.95 FTE:

Eight staff people support CIP/R&M and DE work as part of their duties.

- Public Works Director
- City Engineer
- Engineering Project Managers (5)
- Right-Of-Way Construction Inspector

Dev. Eng./Water Resources – 0.20 FTE:

One staff person to oversee all water resources and development engineering staff work.

- Development Engineering/Water Resources Manager

Dev. Eng. – 0.14 FTE:

Three staff members support the SSWM utility as part of their Development Engineering duties.

- Development Engineers (2)
- Development Construction Inspector

PCD Work Group – 0.03 FTE:

Eight to ten staff members support some SSWM utility work as part of their duties related to planning and overall community development.

- Planning Manager
- Building Inspectors (2–3)
- Permit Technicians and Permit Specialist (3–4)
- City Arborist
- Code Enforcement Office

Recommendations for SSWM Utility Staffing

It is recommended to increase staff levels to maintain Phase II Permit compliance and/or to accomplish the CIP or greater City goals.

Figure 5-1 displays the current annual staffing levels from Table 5-1 with the recommended annual staffing levels summarized in Table 5-5. Then Tables 5-2 through 5-4 provide more detailed information for the recommended staffing levels to achieve the minimum and additional enhanced SWMP and Climate Change Adaptation recommendations.

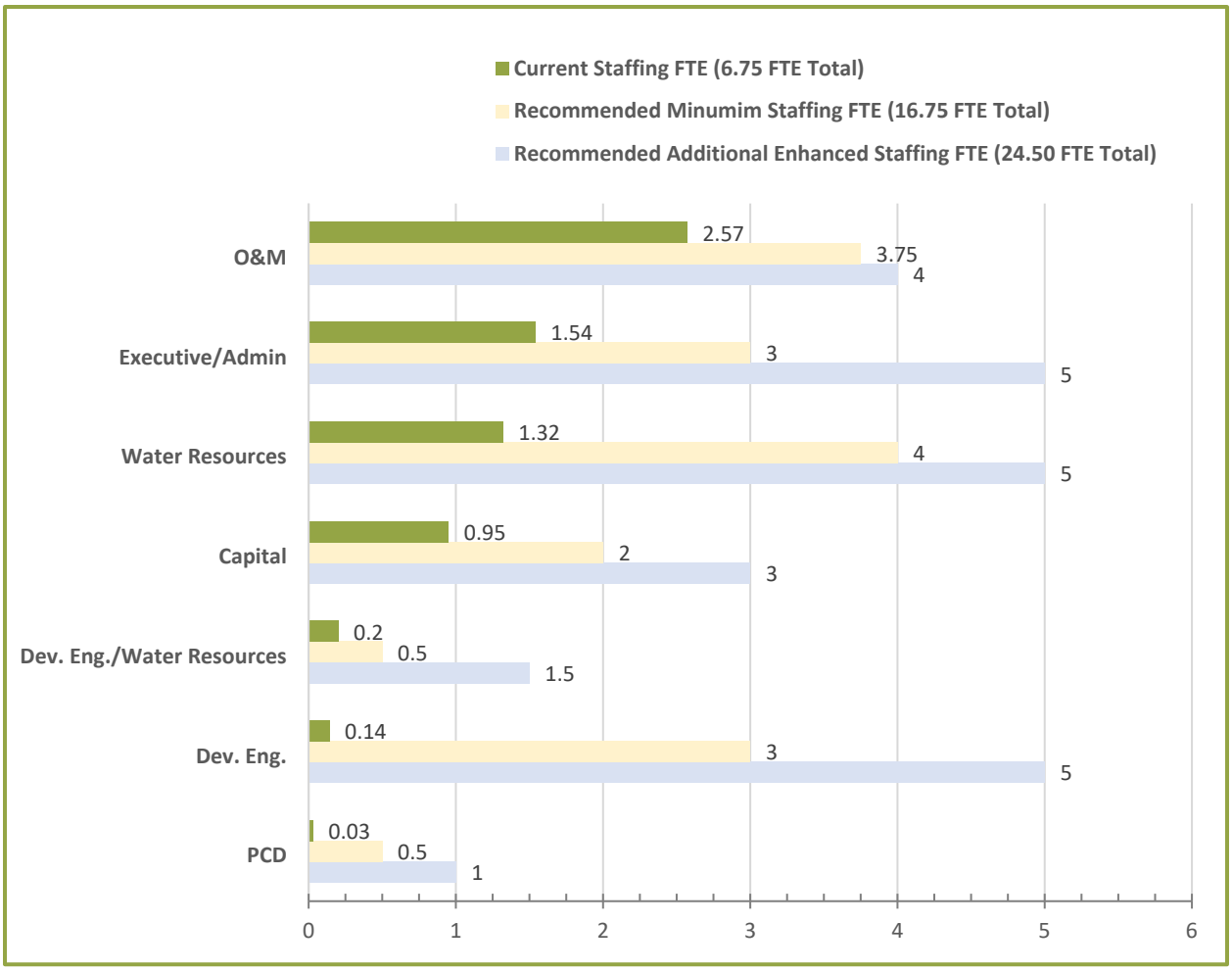


Figure 5-1. Comparison of Current and Recommended Optimal SSWM Utility FTE Staffing Levels.

Table 5-2 shows the summary of average annual staff hours/FTE estimated for the SWMP Recommendations from Tables B-1 through B-11 in Appendix B. Since the total staff hours for the SWMP recommendations only represent estimated hours for specialized staff to accomplish the specific task of the recommendation, there in an additional calculation provided in Table 5-2 that shows the total hours plus 23% to attempt to account for administrative and executive support staff hours also needed to support accomplishing the SWMP recommendations. The 23% is based on the analysis conducted and shown in Table 5-1 of the average annual expenditure for staff by work group; specialized staff are accounted for by each work group and the administrative and executive staff that support each work group is accounted for by the Exec/Admin work group.

Table 5-2. Summary of Annual Average Staff Hours/FTE Estimated to Support SWMP Recommendations.				
Recommendations Tiers	**Staff Hours**	**Staff Hours in FTE**	***Staff Hours + 23% Admin./Exec. Support***	***Staff Hours + 23% Admin./Exec. Support in FTE***
Minimum Effort SWMP One-Time Projects	4,236	2.42	*5,210*	*2.98*
Minimum Effort SWMP Ongoing Programs	12,286	7.03	*15,112*	*8.65*
All Minimum Effort SWMP Recommendations Total	**16,522**	**9.45**	***20,322***	***11.63***
Additional Enhanced Effort SWMP One-Time Projects	2,617	1.50	*3,219*	*1.84*
Additional Enhanced Effort SWMP Ongoing Programs	7,629	4.36	*9,384*	*5.36*
All Additional Enhanced Effort SWMP Recommendations Total	**10,246**	**5.86**	***12,603***	***7.21***
Combined Minimum + Additional Enhanced Effort SWMP One-Time Projects	6,853	3.92	*8,429*	*4.82*
Combined Minimum + Additional Enhanced SWMP Ongoing Programs	19,915	11.39	*24,495*	*14.01*
All Combined SWMP Recommendations Total	**26,768**	**15.31**	***32,925***	***18.84***

When comparing the annual average staff hours/FTE from the past five years in Table 5-1 with the annual average staff hours/FTE estimated for the SWMP recommendations for the next six years in Table 5-2, the difference indicates an estimated increase in annual staff hours/FTE of at least 2.70 FTE to accomplish the minimum effort recommendations and maintain Phase II Permit compliance (6.75 FTE currently compared to 9.45 FTE, or 11.63 FTE total when including admin/exec support). To accomplish the minimum effort recommendations as well as the additional enhanced effort recommendations to advance greater City goals, Table 5-2, indicates an estimated annual staff hours/FTE of at least 15.31 FTE, or 18.84 FTE total when including admin/exec support, which is more than double the current 6.75 FTE.

Table 5-3 shows the summary of average annual staff hours/FTE estimated to support the climate change adaptation recommendations from Table F-1 in Appendix F, and includes a calculation to account for administrative and executive support estimated at 23% of the total based on the analysis conducted and as shown in Table 5-1. Table 5-3 indicates an estimated increase in annual staff hours/FTE of no more than 0.54 FTE, or 0.67 FTE total when including admin/exec support, to accomplish all the minimum effort and additional enhanced effort recommendations for climate change adaptation.

Table 5-3. Summary of Annual Average Staff Hours/FTE Estimated to Support Climate Change Adaptation Recommendations.				
Recommendations Tiers	**Staff Hours**	**Staff Hours in FTE**	***Staff Hours + 23% Admin./Exec. Support***	***Staff Hours + 23% Admin./Exec. Support in FTE***
Minimum Effort Climate Change One-Time Projects	100	0.06	*123*	*0.07*
Minimum Effort Climate Change Ongoing Programs	100	0.06	*123*	*0.07*
All Minimum Effort Climate Change Recommendations Total	**200**	**0.11**	***246***	***0.14***
Additional Enhanced Effort Climate Change One-Time Projects	560	0.32	*689*	*0.39*
Additional Enhanced Effort Ongoing Programs	190	0.11	*234*	*0.13*
All Additional Enhanced Effort Climate Change Recommendations Total	**750**	**0.43**	**923**	**0.53**
Combined Minimum + Additional Enhanced Effort Climate Change One-Time Projects	**660**	0.38	*812*	*0.46*
Combined Minimum + Additional Enhanced Climate Change Ongoing Programs	**290**	0.17	*357*	*0.20*
All Combined Climate Change Recommendations Total	**950**	**0.54**	***1,169***	***0.67***

When adding the values from Tables 5-2 and 5-3, an estimated annual staff hours/FTE of no less than 9.56 FTE is needed to accomplish both the SWMP and Climate Change Adaptation minimum effort recommendations, which would be an overall increase of 2.81 FTE. This is shown in Table 5-4 that displays the breakdown and combined total for staff hours/FTE for climate change adaptation and SWMP recommendation by each section.

Table 5-4. Summary of Annual Average Staff Hours/FTE Estimated to Support Climate Change Adaptation Recommendations and SWMP Recommendations by Subject.

Subject/ SWMP Section	Minimum Effort Recommendations		Additional Enhanced Effort Recommendations		Combined Minimum + Additional Enhanced Recommendations	
	Staff Hours	Staff Hours in FTE	Staff Hours	Staff Hours in FTE	Staff Hours	Staff Hours in FTE
Climate Change	200	0.11	750	0.43	950	0.54
Stormwater Planning	476	0.27	1,074	0.61	1,550	0.89
Education & Outreach	268	0.15	304	0.17	572	0.33
Public Involvement	48	0.03	130	0.07	178	0.10
Mapping	4,470	2.56	2,188	1.25	6,658	3.81
IDDE	722	0.41	1,968	1.13	2,690	1.54
Controlling Runoff	7,052	4.03	2,372	1.36	9,424	5.39
O&M	1,532	0.88	1,332	0.76	2,864	1.64
Source Control	1,748	1.00	300	0.17	2,048	1.17
TMDL	8	0	398	0.23	406	0.23
Monitoring	28	0.02	100	0.06	128	0.07
Recordkeeping/Reporting	70	0.10	80	0.05	250	0.14
ALL COMBINED	**16,722**	**9.56**	**10,996**	**6.29**	**27,718**	**15.85**
All Combined Plus 23% Admin./Exec. Support	***20,568***	***11.76***	***13,525***	***7.74***	***34,093***	***19.50***

Please keep in mind there are a lot of staff hours not accounted for in the SWMP and climate change adaptation recommendations that are needed to accomplish SSWM Utility work, typically related to O&M, and CIP/R&M operationally, or SMAP and long-term planning work. The staff hours not accounted for in the recommendations are either because further assessment is needed (which is indicated in some recommendations) or because the activities are not required by the Phase II Permit and greater City goals or levels of service are not identified.

For O&M in particular, Table 5-1 indicates the annual average of 2.57 FTE for current staffing, and Table 5-4 shows an estimated annual average of 1.64 FTE to accomplish all the combined recommendations, not including admin./exec. staff support. The numbers suggest a decrease in staff

hours but that is not the case, the recommendation numbers do not account for the substantial number of O&M hours of nonregulatory work performed by O&M to achieve maintenance of culverts, ditches, pipes, as well as street sweeping and other activities. Based on staff time records for 2019–2023, the annual average total staff hours spent on culvert and ditch maintenance work was 1,110 hours, or 0.63 FTE; and for street sweeping it was 779 hours, or 0.45 FTE; together totaling 1.08 FTE. Therefore, it is assumed that these activities primarily account for the 0.93 FTE difference between Tables 5-1 and 5-2. So, when adding 1.64 FTE estimated to fulfill the SWMP recommendations, with 1.08 FTE estimated for nonregulatory maintenance work, and 1.0 FTE recommended as the SSWM Utility Lead, it seems that a total of 3.72 FTE specialized O&M staff, along with 0.86 FTE admin./exec. staff support at the 23% rate, may be most optimal for O&M of the SSWM Utility each year.

For Stormwater Management Action Plan (SMAP), which is not included in Table 5-4, some staff hours are accounted for in SMAP recommendations and some are not; so further assessment estimates may be helpful to better understand the staff hour needs to accomplish SMAP projects and programs.

For Capital Improvement Plan (CIP) and repair and maintenance (R&M) projects, which are not included in Table 5-4, Table 5-1 indicates the average annual of 0.95 FTE for current staffing to support SSWM Utility work. Table 4-2 in Chapter 4 displays a list of substantial stormwater infrastructure improvement projects recommended for prioritization, half of the projects are from the SMAP and half are on the current CIP project list, with an average cost for each project at approximately $1,000,000. So, given the current average annual expenditure for CIP/R&M is $440,357 with 0.95 FTE, and future projects are estimated to be approximately more than double that amount, it is projected that 1.0 additional FTE may be needed to accomplish priority projects between the years of 2024–2032. So, it is projected that 1.95 FTE specialized CIP/R&M staff, and 0.45 FTE admin./exec. staff support at the 23% rate, may be most optimal to accomplish CIP and R&M SSWM Utility projects every year.

In summary, and shown in Table 5-5, the optimal SSWM Utility FTE staff levels recommended is between 19.88 FTE to 24.46 FTE (13.59–19.88 FTE for specialized staff and 3.13–4.58 FTE for administrative and executive staff support). These numbers suggest future SSWM Utility staff levels could be more than triple current staff levels. For reference, the COBI 2006 Surface and Stormwater Management Program Analysis (Otak 2006) recommended SSWM Program staffing to be at least 12.5 FTE by 2011. This indicates that the SSWM Utility has been chronically understaffed for the better part of at least the last two decades and potentially renders the drastic changes in recommended staff levels a bit less surprising in the bigger picture.

Achieving recommended staff levels may be accomplished through reassigning/reallocating hours with existing staff and adding new staff positions.

Table 5-5. Summary of Estimated Annual Average Full-Time Equivalent Staff Recommended to Optimally Support the SSWM Utility.			
Program/Recommendations Tiers	**Specialized Staff FTE**	***Admin./Exec. Support Staff FTE (23%)***	**Combined Specialized Staff + Admin./Exec. Staff Total FTE**
CIP/R&M	**1.95**	***0.45***	**2.40**
O&M (for activities not accounted for with SWMP recommendations, and for one FTE O&M SSWM Utility Lead)	**2.08**	***0.48***	**2.56**
SWMP Minimum Effort Recommendations (Table 5-2)	9.45	*2.17*	11.62
Climate Change Minimum Effort Recommendations (Table 5-3)	0.11	*0.03*	0.14
Combined SWMP + Climate Change Minimum Effort Recommendations Total	**9.56**	**2.20**	**11.76**
COMBINED TOTAL FOR CIP/R&M/O&M/ SWMP + CLIMATE CHANGE MINIMUM EFFORT RECOMMENDATIONS	**13.59**	***3.13***	**16.72**
SWMP Additional Enhanced Effort Recommendations (Table 5-2)	5.86	*1.35*	7.21
Climate Change Additional Enhanced Effort Recommendations (Table 5-3)	0.43	*0.10*	0.53
Combined SWMP + Climate Change Additional Enhanced Effort Recommendations Total	**6.29**	***1.45***	**7.74**
COMBINED TOTAL FOR CIP/R&M/O&M/ SWMP + CLIMATE CHANGE ALL MINIMUM & ADDITIONAL ENHANCED EFFORT ECOMMENDATIONS	**19.88**	***4.58***	**24.46**

Suggested Existing Staff Hour Reassignments/Reallocations

Table 5-1 indicates a current annual average of 1.54 FTE SSWM Utility support by executive and administrative staff; which is a combination of time from multiple staff who provide general support for all SWMP activities, CIP/R&M, climate change adaptation, and SSWM Utility Fund work. The exec./admin staff hours account for a significant portion of staff hours for SSWM Utility work at 23%. There may be opportunities to realize more efficiency through streamlining exec./admin. functions, which could free up exec./admin. staff hours to be able to take on admin work currently completed by specialized staff. For example, recordkeeping that could be accomplished by administrative staff currently takes up a lot of specialized staff time that could otherwise be used for specialized work.

Table 5-1 indicates a current annual average of 1.32 FTE SSWM Utility support by Water Resources, and in theory the number could be closer to 2.0 FTE given these positions were specifically created to primarily support SSWM Utility work. In recent years these positions have supported other work to aid the organization, such as providing asset management assistance, Groundwater Management Plan guidance and help, mapping and technology assistance to IT, grant writing for CIP/R&M, or critical areas assessments for PCD. This information suggests there is opportunity to either relieve Water Resources staff of some of the non-SSWM Utility work they're currently doing to free up that time to focus more on SSWM Utility work; or COBI may want to hire an additional Water Resources staff person, which would bring that work group staff level back to what it was prior to 2019, with 3.0 FTE permanent positions.

Table 5-1 indicates a current annual average of 2.57 FTE SSWM Utility support by O&M. The O&M supervisor has communicated over many years that the work group is challenged to provide high quality operations and maintenance for the SSWM Utility. O&M work has been concentrated on quantity of work to be able to meet all the demands for regular operations and maintenance, completing needed repairs, fulfilling customer requests, and maintaining Phase II Permit compliance. There may be opportunities to realize greater efficiency for O&M to achieve high quality and quantity of work through a combination of improved recordkeeping (e.g., data management/asset management), work prioritizing and planning.



Suggested Additional New Staff Positions

Adding new staff positions will help relieve current staff from work overload and will increase capacity toward necessary compliance activities, addressing oversight, improving consistency, and advancing innovation.

Eight specific new full-time equivalent position recommendations have been presented for consideration and are listed below. The additional 8.0 FTE positions would bring SSWM Utility staffing levels to an estimated 14.75 FTE.

The first three listed positions are especially recommended to support improved SSWM Utility work planning and to accomplish more utility improvement projects. Then next five listed positions account for 5.0 FTE of the combined total 15.85 FTE in Table 5-4 recommended to support the Stormwater Management Program (SWMP) and climate change adaptation and mitigation as it relates to stormwater.

- Water Resources Technician/Specialist (reestablish this previously existing position)
- Utility Engineering Project Manager
- Operations and Maintenance SSWM Utility Lead
- SSWM Utility GIS Mapping Technician (Recommendations B4-R1 through B4-R8)
    - City Council approved an FTE Utility GIS Technician in 2023 that has yet to be filled.
- Asset Management Coordinator (Recommendation B4-R11)
- Code Enforcement Officer (Recommendation B5-R12)
- Construction Inspector (Recommendation B6-R8)
- Source Control Program Coordinator (Recommendation B8-R2)

Funding Capacity for SSWM Utility

For the purpose of the SWSP, a cursory financial analysis was conducted to assist better understanding of SWMP cost tracking for Phase II Permit compliance and of recent SSWM Utility revenues and expenditures to help relate those to the estimated costs of the recommendations presented in the SWSP. A thorough financial analysis of budgeting for the SSWM Utility was not conducted as part of the SWSP. It is recommended the City conduct a thorough financial analysis in conjunction with SSWM Utility rate studies. So, please keep in mind there are many costs to accomplish SSWM Utility work not accounted for in estimated costs to implement the SWMP and climate change adaptation recommendations, primarily equipment and materials costs, which can be substantial.

Based on the data from Table 1-3 in Chapter 1, the average annual total SSWM Utility expenditures between the years of 2019–2023 was $2,119,641, and the average annual total SSWM Utility revenues for the same years was $3,012,386; resulting in an annual average SSWM Utility Fund surplus of $892,745. The average surplus has contributed to the fund's current positive balance, which at the end of 2023 was $6,235,083.

The SSWM Utility Fund has maintained a positive balance for multiple years and it is generally understood that this is less by design and more a result of capacity issues. If it were by design, then the City would likely have a plan for the savings, such as funding a future substantial SSWM Utility infrastructure improvement project. The capacity issues are believed to be challenges with gaining environmental permits and Capital work group staffing levels too low to design and construct projects, therefore the funds go unused due to the lack of staff capacity to do the work. For reference, the 2006 Surface and Stormwater Management Program Analysis (Otak 2006) recommended adopting a pay as you go capital plan that allows CIP projects to be designed and constructed as annually accumulated SSWM Utility funds allow.

The current substantial fund balance offers many opportunities and choices for the City to consider for both the short-term and long-term. One opportunity to consider is to increase funding and staffing for ongoing programs, new programs and projects, as is suggested with the SWMP and climate change adaptation recommendations. It is highly recommended for the City to develop a policy and long-term plan regarding SSWM Utility levels of service and fund utilization to support customer expectations, work planning, budgeting, and determining future SSWM Utility rates.

Table 5-6, and Figure 5-2, shows the summary of estimated cost by year and tier for all SWMP recommendations from Tables C-1 through C-11 in Appendix C and also for the Climate Change Adaptation recommendations from Table F-2 in Appendix F, plus an added 22% overhead rate based on the budget report analysis completed and shown in Table 5-1. For all the combined minimum effort recommendations for Permit compliance, the estimated annual average cost is $1,455,257. For all combined additional enhanced effort recommendations to help meet greater City goals the estimated annual average cost is $1,157,983. For the total combined minimum effort recommendations plus additional enhanced effort recommendations the estimated annual average is $2,613,240.

Table 5-6. Summary of Total Estimated Costs from Tables C-1 through C-11 and Table F-2 (plus 22% overhead) for SWMP and Climate Change Recommendations by Tiers and Years.

Recommendations Tiers	Years						
	2024	2025	2026	2027	2028	2029	*Annual Avg.*
SWMP Minimum Effort Recs. Total Cost + 22% Overhead	$1,527,440	$1,560,380	$1,393,240	$1,417,640	$1,381,040	$1,376,160	*$1,442,650*
Climate Change Minimum Effort Recs. Total Cost + 22% Overhead	$20,740	$10,980	$10,980	$10,980	$10,980	$10,980	*$12,607*
Total Combined Minimum Effort Recs. Total Cost + 22% Overhead	**$1,548,180**	**$1,571,360**	**$1,404,220**	**$1,428,620**	**$1,392,020**	**$1,387,140**	***$1,455,257***
SWMP Additional Enhanced Effort Recs. Total + 22% Overhead	$825,940	$1,152,900	$894,260	$1,609,180	$1,234,640	$882,060	*$1,099,830*
Climate Change Additional Enhanced Effort Recs. Total + 22% Overhead	$167,140	$93,940	$21,960	$21,960	$21,960	$21,960	*$58,153*
Total Combined Enhanced Effort Recs. Total Cost + 22% Overhead	**$993,080**	**$1,246,840**	**$916,220**	**$1,631,140**	**$1,256,600**	**$904,020**	***$1,157,983***
SWMP Min. + Add. Enhanced Recs. + 22% Overhead Total	**$2,353,380**	**$2,713,280**	**$2,287,500**	**$3,026,820**	**$2,615,680**	**$2,258,220**	***$2,542,480***
Climate Change Min. + Add. Enhanced Recs. + 22% Overhead Total	**$187,880**	**$104,920**	**$32,940**	**$32,940**	**$32,940**	**$32,940**	***$70,760***
Total Combined SWMP & Climate Change Min. + Add. Enhanced Recs. + 22% Overhead Total	**$2,541,260**	**$2,818,200**	**$2,320,440**	**$3,059,760**	**$2,648,620**	**$2,291,160**	***$2,613,240***

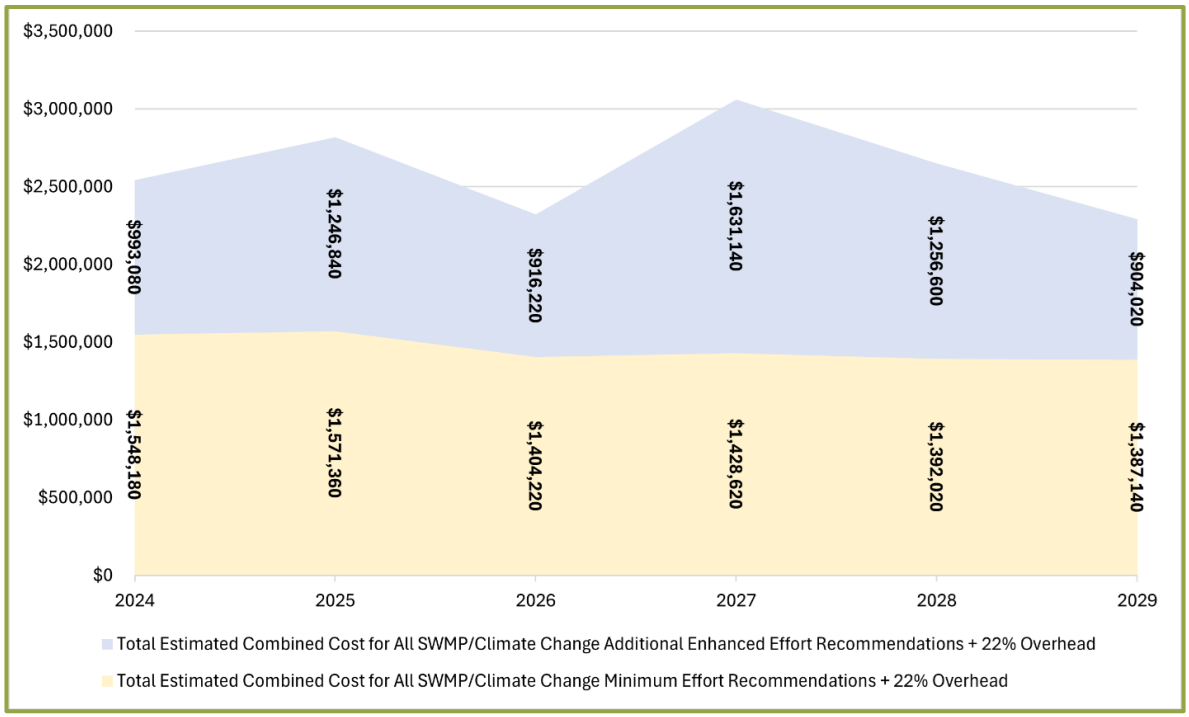


Figure 5-2. Total Estimated Costs Plus 22% Overhead for the SWMP and Climate Change Recommendations by Year and Tier as shown in Table 5-6.

Table 5-7 displays the summary of estimated SSWM utility revenues compared to the estimated total cost of all the SWMP and climate change adaptation recommendations, then the estimated remaining revenues through 2029. Since future estimated revenues are unknown, future revenues are shown as the same as the 2024 estimated revenues; but it is anticipated that future revenues will likely be higher since revenues have increased by 4.5% on average since 2019.

The numbers in Table 5-7 indicate that revenues would be sufficient to fund all the minimum effort and additional enhanced effort recommendations each year if they were approved for implementation by City Council; and the remaining revenues would be sufficient to fund CIP/R&M projects and also potentially SMAP programs and projects if approved for implementation by City Council (provided increasing staff capacity is also approved by City Council).

Additional funding resources are available to increase funding capacity.

Table 5-7. Summary of Estimated SSWM Utility Revenues Compared to Estimated Total Cost of SWMP and Climate Change Adaptation Recommendations; and Estimated Remaining Revenues.

Revenues and Recommendations	Years					
	2024	2025	2026	2027	2028	2029
Estimated SSWM Utility Revenues	$4,419,000	$4,419,000[a]	$4,419,000[a]	$4,419,000[a]	$4,419,000[a]	$4,419,000[a]
Estimated Total Cost of All SWMP & Climate Change Recommendations + 22% Overhead	$2,541,260	$2,818,200	$2,320,440	$3,059,760	$2,648,620	$2,291,160
Estimated Remaining Revenues	**$1,877,740**	**$1,600,800**	**$2,098,560**	**$1,359,240**	**$1,770,380**	**$2,127,840**

[a] 2024 estimated revenues are proxy for unknown future years revenues that are anticipated to be higher

Additional Funding Resources

If COBI is interested in procuring supplemental funds to help finance SSWM Utility/SWMP programs and projects, there are many options available including but not limited to the following:

- Utilizing funds from other sources, such as the General Fund or Water and Sewer Utility Fund when appropriate
- Increasing SSWM Utility rates
- Increasing certain fees, assess special fees, and collect on bonds related to development and redevelopment permitting reviews, inspections, and enforcement
- Assessing special fees/direct charges to recover costs for specific services, or as penalties for code violations (e.g., spill cleanup costs, multiple code enforcement inspections, etc.)
- Applying for grants
    - Continue to apply for the non-competitive biannual Department of Ecology Capacity Building Grant, and create plans for the grant fund use rather than continue to use it to supplement the Stormwater Management Program Coordinator's salary that is already a fully budgeted FTE position.
    - Continue to apply for grants through the Department of Ecology Water Quality Combined Funding Program
- Applying for loans
- Enter into cost sharing agreements through community-based public-private partnerships

- Public-Private Partnership (P3) models may provide an alternative for the finance, design, construction, and operation and maintenance of green stormwater infrastructure, such as green streets.

- Creating and assessing local improvement districts

All the options have pros and cons for COBI to consider. To better understand which options may be most appropriate for COBI, it is recommended for COBI to prioritize some focused work on long-term planning for the SSWM Utility. The planning effort will identify short-term and long-term project and program needs/goals and the related funding needs/goals.



CHAPTER 6: SUGGESTED NEXT STEPS

This final chapter provides suggestions for the next steps to adopt and implement the recommendations presented in Chapters 2 through 5 over the next six years and beyond, and to continue to develop the more comprehensive storm drainage plan desired per the Comp Plan.

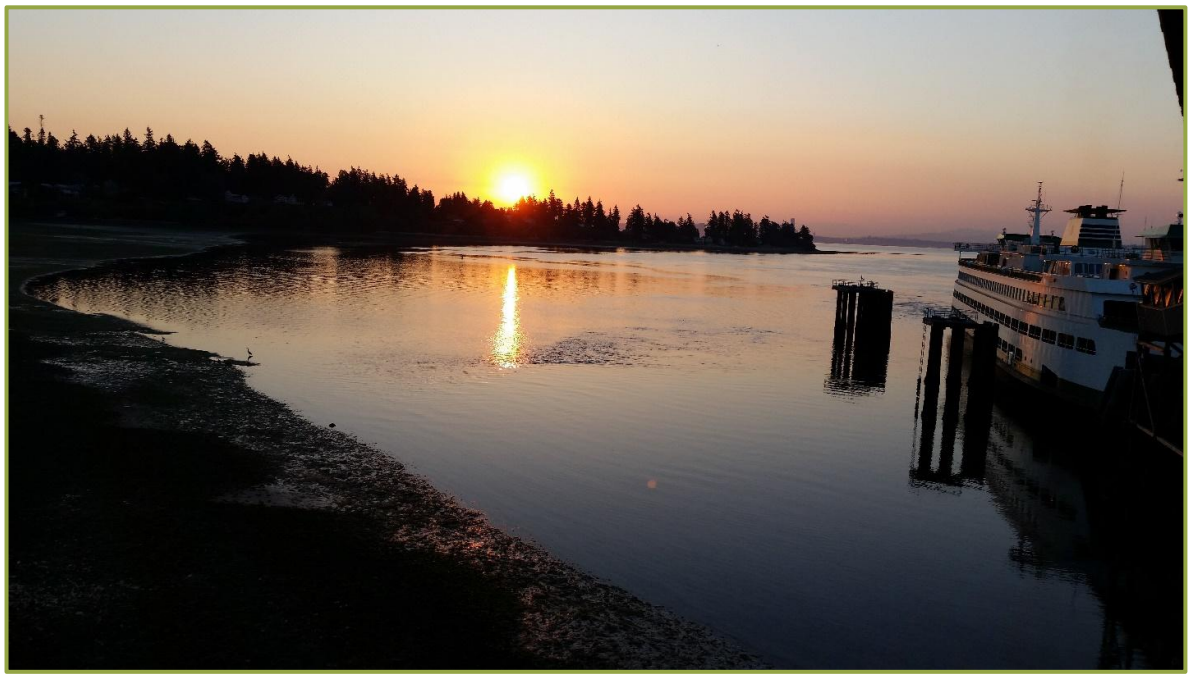
This Stormwater System Plan focuses on the programs supporting the SSWM Utility and serves as the starting place for the City to begin to fully develop its desired comprehensive storm drainage plan. A major missing component of this plan is a contemporary and thorough list of identified stormwater infrastructure or surface water areas of concern along with proposed potential improvement project ideas and strategies for implementation and funding. A major next step toward producing a comprehensive storm drainage plan is to consider and act on the recommendations and suggestions presented in SWSP Chapters 2 through 5.

Suggested next step actions for City Council and staff are:

- **Approve and adopt this Stormwater System Plan in part or in whole in 2024.**
  - Decide which recommendation tier, or individual recommendations, as well as the supplemental recommendations to approve and implement. This can serve as the baseline to more clearly establish SSWM Utility levels of service.
  - Task the stormwater planning inter-disciplinary team and/or proposed Stormwater Management Advisory Group to advise and oversee approved recommendations follow through and realization, and to annually present to City Council on the progress and to inform work planning and budgeting.
  - Approve an adequate budget based on the estimated costs and timelines of the approved recommendations.
- **Approve and begin implementation of the Stormwater Management Action Plan for Manzanita Watershed in 2024.**
  - Task the stormwater planning inter-disciplinary team and/or proposed Stormwater Management Advisory Group to advise and oversee SMAP recommendations follow through and realization.
  - Approve an adequate budget based on the estimated costs and timelines of the SMAP recommendations.
- **Decide if current asset management is adequate to inform current work and future planning, or if asset management shall be improved to increase confidence in data and the existence and condition of infrastructure to inform current work and future planning.**
  - If improvements are decided, task the IT department and inter-disciplinary team to oversee the improvements decided on. And, approve an adequate budget and timeline based on input from IT department and inter-disciplinary team.

- **Decide on staffing capacities for the SSWM Utility, through a combination of adding new positions and/or reassigning/reallocating existing staff hours.**
  - Hire a SSWM Utility GIS Mapping Technician in 2024 (fill the new FTE Utility GIS Technician position approved by City Council in 2023).
  - Create and fill a new Utility Engineering Project Manager position in 2024.
  - Reestablish the Water Resources Technician/Specialist position in 2024 and hire in 2025.
    - Reassign some allocated Water Resources staff hours to this new position; freeing up Water Resources staff hours for other water resources work.
  - Create and fill a new Source Control Program Coordinator position in 2024.
    - Reassign allocated O&M/CIP staff hours for the Sewer Pretreatment (FOG) Program to this new position; freeing up O&M/CIP staff hours for other O&M/CIP work. Also move the allocated budget for this program to the Source Control Program.
    - Reassign allocated Climate Mitigation and Adaptation Manager staff hours and budget for waste reduction and waste disposal for climate change adaptation to this new position; freeing up already allocated Climate Mitigation and Adaptation Manager staff hours for other Executive level work. Also move the allocated budget for this program to the Source Control Program.
  - Create and fill a new Asset Management Coordinator position in 2025.
  - Create and fill a new Code Enforcement Officer position in 2024 or 2025.
  - Create and fill a new Construction Inspector position in 2024 or 2025.
  - Create a new position and fill, or reallocate existing staff hours, to establish an FTE O&M SSWM Utility Lead in 2024 or 2025.
- **Task Finance and Public Works Departments to complete a thorough financial analysis of the SSWM Utility following the 2024 and future SSWM Utility rate studies and as needed for long-term planning.**
  - In 2025, decide on and document some general adaptive policies for the SSWM Utility Fund, such as for rate structure and fund utilization.
- **Task City departments with systemically documenting and following adaptative practices, policies, and procedures, especially as it relates to regulatory compliance and SSWM Utility data collection and reporting, starting in 2024 and ongoing thereafter.**
- **Create a policy in 2025 that integrates climate change adaptation and mitigation policies into the planning and management of all utilities. Then task the Public Works and Planning Departments to update or create documents/resources that reflect these policies in established design and development guidelines as well as operations and maintenance standards.**

- **Task Public Works Department in 2024 or 2025 to create the recommended SSWM Master List to identify problems, propose solutions, and provide strategies for implementation and funding. Then task the stormwater planning inter-disciplinary team and/or proposed Stormwater Management Advisory Group in 2025 to apply the recommended prioritization matrix to each item on the SSWM Master List. The results from the prioritization exercise will inform what projects are selected for the annual R&M Program and next Capital Improvement Plan update.**
- **Task the stormwater planning inter-disciplinary team and/or proposed Stormwater Management Advisory Group to begin to draft an adaptive long-term (6–20 years) comprehensive storm drainage plan and present it to City Council in 2026; then continue to update and adapt the plan and present it City Council every following two to five years to potentially coincide with the City's budget cycle or to coincide with the Phase II Permit cycle.**
- **Consistently and annually invite stakeholder and public input on the SSWM Utility and supporting programs, plans, and projects; and systematically incorporate the input into decision making.**



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APPENDIX A 2017 COMPREHENSIVE PLAN AND 2020 CLIMATE ACTION PLAN POLICIES, GOALS, STRATEGIES AND ACTIONS RELATED TO STORMWATER MANAGEMENT

CITY OF BAINBRIDGE ISLAND

2017 Comprehensive Plan and 2020 Climate Action Plan policies, Goals, Strategies and actions Related to Stormwater Management

Recommendations made throughout the SWSP support the following compilation of policies, goals, strategies, and actions most relevant to stormwater management found in the 2017 City of Bainbridge Island Comprehensive Plan and 2020 Climate Action Plan: A Plan for Mitigating and Adapting to Climate Change on Bainbridge Island.

Five of the ten Comprehensive Plan sections/elements have the most relevant stormwater management goals and policies, and those are highlighted for easy reference in the following sections:

- Comprehensive Plan – Capital Facilities Element
- Comprehensive Plan – Environmental Element
- Comprehensive Plan – Land Use Element
- Comprehensive Plan – Utilities Element
- Comprehensive Plan – Water Resources Element

Four of the ten Climate Action Plan sections have the most relevant stormwater management goals, strategies, and actions, and those are highlighted for easy reference in the following sections:

- Climate Action Plan – Section 5: Buildings
- Climate Action Plan – Section 6: The Natural Environment
- Climate Action Plan – Section 7: Waste
- Climate Action Plan – Section 8: Community Engagement

Comprehensive Plan – Capital Facilities [CF] Element

COMP PLAN GOAL CF-1

The Capital Facilities Element and Capital Improvement Plan (CIP) provides the public facilities needed to support orderly compact urban growth, protect and support public and private investments, maximize use of existing facilities, promote economic development and redevelopment, increase public well-being and safety, and implement the Comprehensive Plan.

Comp Plan Policy CF 1.1

Biennially review, update and amend a six-year CIP that:

- Is subject to review and adoption by the City Council.
- Is consistent with the Comprehensive Plan, functional plans and adopted capital and operating budgets.
- Defines the scope and location of capital projects or equipment;
- States why each project is needed and its relationship to established levels of service.

- Includes costs of property acquisition, if any, project construction costs, timing, funding sources, and projected operations and maintenance impacts.

Comp Plan Policy CF 1.2

Coordinate with other capital facilities service providers to keep each entity current, maximize cost savings, and schedule and upgrade facilities efficiently. In general, it is the policy of the City to transfer parklands to the Park District whenever desirable and practical.

Comp Plan Policy CF 1.3

Evaluate and prioritize proposed capital improvement projects using the following long-term financial strategy principles and guidelines:

- Preserve and maintain physical infrastructure.
- Use an asset management approach to the City's capital facilities.
- Use unexpected one-time revenues for one-time costs or reserves.
- Pursue innovative approaches.
- Maintain capacity to respond to emerging community needs.
- Address unfunded mandates.
- Selectively recover costs.
- Recognize the connection between the operating and capital budgets.
- Utilize partnerships wherever possible.
- Remain committed to City goals over the long run.
- Anticipate and respond to the impacts of climate change, including sea level rise.

Comp Plan Policy CF 1.4

Ensure that capital improvement projects are:

- Financially feasible.
- Consistent with planned growth patterns provided in the Comprehensive Plan
- Consistent with State and Federal law.
- Compatible with plans of state agencies.
- Sustainable within the operating budget.

Comp Plan Policy CF 1.5

Give priority consideration to projects that:

- Are required to comply with State or Federal law.
- Implement the Comprehensive Plan.
- Are needed to meet concurrency requirements for growth management.
- Are already initiated and to be completed in subsequent phases.
- Renovate existing facilities to remove deficiencies or allow their full use, and preserve the community's prior investment or reduce maintenance and operating costs.
- Replace worn-out or obsolete facilities.
- Are substantially funded through grants or other outside funding.
- Address public hazards.

COMP PLAN GOAL CF-2

Provide the capital facilities needed to direct and serve future development and redevelopment.

Comp Plan Policy CF 2.1

When planning for public facilities, consider expected future land use activity.

Comp Plan Policy CF 2.2

Capital facilities planning is an essential component of subarea planning and promoting development in designated centers.

Comp Plan Policy CF 2.3

Require new development to fund the capital facilities needed to serve the development.

COMP PLAN GOAL CF-3

Prudently manage fiscal resources to provide needed capital facilities.

Comp Plan Policy CF 3.1

Ensure a balanced approach to allocating financial resources among:

- Maintaining existing facilities and eliminating existing capital facility deficiencies, and
- Providing new or expanding facilities to serve development and encourage redevelopment.

Comp Plan Policy CF 3.2

Use the CIP to integrate all of the community's capital project resources (grants, bonds, city funds, donations, impact fees, and any other available funding).

Comp Plan Policy CF 3.3

Allow developers who install infrastructure with excess capacity to use latecomer's agreements wherever reasonable.

Comp Plan Policy CF 3.4

Assess the additional operations and maintenance costs associated with acquisition or development of new capital facilities. If accommodating these costs places a financial burden on the operating budget, consider adjusting the capital plans.

Comp Plan Policy CF 3.5

Achieve more efficient use of capital funds through joint use of facilities and services by utilizing measures such as interlocal agreements, regional authorities, and negotiated use of privately and publicly owned land.

Comp Plan Policy CF 3.6

Consider potential new revenue sources for funding capital facilities, such as:

- Growth-induced tax revenues.
- Additional voter-approved revenue.
- Impact Fees.
- Benefit Districts.
- Local Improvement Districts.

Comp Plan Policy CF 3.7

Choose among the following available contingency strategies should the City be faced with capital facility funding shortfalls:

- Increase general revenues, rates, or user fees; change funding source(s).
- Decrease level of service standards in the Comprehensive Plan and reprioritize projects to focus on those related to concurrency.
- Change project scope to decrease the cost of selected facilities or delay construction.
- Decrease the demand for the public services or facilities by placing a moratorium on development, developing only in served areas until funding is available, or changing project timing and/or phasing.
- Use Local Improvement Districts; or surplus City-owned assets.

Comp Plan Policy CF 3.8

Secure grants or private funds, when available, to finance capital facility projects when consistent with the Comprehensive Plan.

COMP PLAN GOAL CF-4

Public facilities constructed on Bainbridge Island meet appropriate safety, construction, energy conservation, durability and sustainability standards.

Comp Plan Policy CF 4.1

Adhere to the City's Engineering Development and Design Standards when constructing utility and transportation related facilities.

Comp Plan Policy CF 4.2

Regularly update the Engineering Development and Design Standards, and ensure that the Standards are consistent with the Comprehensive Plan.

Comp Plan Policy CF 4.3

Apply value engineering approaches on major projects in order to use resources efficiently and meet community needs.

Comprehensive Plan – Environmental [EN] Element

Environment [EN-1]

Comp Plan Policy EN 1.2

Taking into account the present and future need to reduce the potential for personal injury, loss of life, or property damage due to flooding, erosion, landslides, seismic events, climate change or soil subsidence, properties adjoining or adjacent to critical areas must be developed in observance of the following principles in descending order:

- Avoid the impact if possible.
- Minimize or limit the degree or magnitude of the action and its implementation by using appropriate technology to avoid or reduce impacts.
- Reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action.
- Rectify by repair, rehabilitation or restoration of the affected environment.
- Compensate for unavoidable impacts by replacing, enhancing or providing substitute resources or environments.

Critical areas are identified in order to flag concerns during the review process and to make applicants aware of potential hazards or areas where development may be constrained. Compatible development will be allowed which avoids designated critical areas, minimizes the impact or mitigates potential problems through engineering, siting or design. Proposals will be examined on a case-by-case basis to allow for creative solutions and to assure that the special combinations of factors in a particular case are addressed.

Comp Plan Policy EN 1.3

Protect and enhance the natural systems and environmental quality of Bainbridge Island by continuing to build cooperative relationships between the City, citizens, landowners and other public, non-profit and private organizations.

Comp Plan Policy EN 1.4

Maintain and enhance natural systems and protect wildlife, fish resources and open spaces through land use plans and development patterns including tree retention and planting.

Comp Plan Policy EN 1.5

Create and maintain overlay maps that show the location of agricultural lands, critical aquifer recharge areas, geologically hazardous areas, floodplains, streams, wetlands and fish and wildlife habitat. Integrate the maps from the Bainbridge Island Climate Impact Assessment (2016).

Comp Plan Policy EN 1.8

Consider the potential impacts of climate change and its impacts in all decisions related to natural systems and environmental quality.

Comp Plan Policy EN 2.1

In managing City government operations, take reasonable steps to reduce impacts to the environment and ecosystems upon which we depend. This includes recognizing and preparing for the impacts of climate change.

Comp Plan Policy EN 2.2

Seek to minimize the quantity and toxicity of materials used and waste generated for City facilities and operations through reduction, reuse and recycling. Use products made from recycled materials when available.

Comp Plan Policy EN 2.4

Utilize integrated pest management practices.

Comp Plan Policy EN 4.1

Employ conservation design methods and principles such as low impact development techniques for managing storm and waste water, green building materials, high-efficiency heating and lighting systems.

Comp Plan Policy EN 4.2

Create a program with effective mechanisms intended to offset development impacts to the Island's ecosystems

Fish and Wildlife [EN-5]

Comp Plan Policy EN 5.3

The protection and enhancement of mature trees, and fish and wildlife habitat are important criteria used when evaluating the preservation of open space as part of development techniques such as clustering, flexible lot design subdivisions and transfer of development rights (TDRs).

Comp Plan Policy EN 5.4

Protect fish and wildlife habitat and limit fragmentation of habitat that physically and genetically isolates fish and wildlife populations by identifying an interconnected system of corridors that will provide continuous links east to west and north to south connecting larger tracts that are important habitat.

Comp Plan Policy EN 5.5

Identify and classify streams and stream reaches which have an anadromous fish presence.

Comp Plan Policy EN 5.6

Protect wetlands and riparian areas.

Comp Plan Policy EN 5.8

Work closely with Tribes, the Park District, local conservation organizations and the Washington State Department of Fish and Wildlife (the agency with expertise to "preserve, protect, and perpetuate" wildlife resources of the state) in matters involving wildlife including identifying "priority fish and wildlife habitat.

Comp Plan Policy EN 5.9

Develop in coordination with the Department of Fish and Wildlife, the Bainbridge Island Metropolitan Park and Recreation District and the Bainbridge Island Land Trust a program to educate the citizens of the Island, particularly those citizens who reside adjacent to priority wildlife habitat, on ways to utilize private property in a manner that will help protect and enhance wildlife habitat.

Comp Plan Policy EN 5.10

Consider climate change and its impacts in all decisions related to wildlife, fish resources and natural systems.

Frequently Flooded Areas [EN-6]

COMP PLAN GOAL EN-6

Protect the natural functions of frequently flooded areas.

Comp Plan Policy EN 6.1

Minimize public and private losses due to flood conditions by limiting development in frequently flooded areas as shown on the Flood Insurance Rate Maps. Educate property owners and residents in proximity to frequently flooded areas about vulnerability over time.
Frequently flooded areas can and do migrate over time. Increased development may affect the level of occurrence and location of frequently flooded areas. The Flood Insurance Rate Maps adopted by the City were originally produced in 1975 and updated in 1977, and need to be kept current.

Comp Plan Policy EN 6.2

Limit the alteration of natural floodplains, stream channels and natural protective barriers that help accommodate, dissipate, or channel floodwaters.

Comp Plan Policy EN 6.3

Emphasize nonstructural methods such as setbacks and vegetation, to prevent or minimize flood damage

Sea Level Rise [EN-7]

COMP PLAN GOAL EN-7

Anticipate and prepare for the consequences of sea level rise. Sea level rise may happen as the result of natural or human activity such as geologic subduction or climate change. Here in the Puget Sound we experience the effects of both the geologic and climatological forces. Cumulative sea level rise has serious implications for the shorelines and lowland areas of the Island such as beach and bluff erosion and loss of intertidal zones. These areas serve such purposes as nursery habitat, feeding grounds for fish and fowl, stormwater collection and water filtration.

Comp Plan Policy EN 7.1

Consider the implications of sea level rise in all relevant decision-making by using regional sea level rise projections and shoreline instability maps (as provided by the WA Department of Ecology and utilized and interpreted with the Bainbridge Island Climate Impact Assessment).

Comp Plan Policy EN 7.2

Coordinate with Tribal, Federal, State and local agencies to address issues related to sea level rise.

Geologically Hazardous Areas [EN-8]

COMP PLAN GOAL EN-8

Protect landslide hazard areas and erosion hazard areas from the impacts of use and development for the protection of public safety, property and the environment.

Comp Plan Policy EN 8.1

Avoid land uses on landslide hazard and erosion hazard areas. If the hazard caused by development can be mitigated, then design land use to prevent damage to persons or property and environmental degradation and to preserve and enhance existing vegetation to the maximum extent possible.

Comp Plan Policy EN 8.2

As the degree of slope increases, decrease development intensity, site coverage, and vegetation removal to mitigate problems of drainage, erosion, siltation and landslides.

Comp Plan Policy EN 8.3

In order to protect landslide and erosion hazard areas from damage during construction and from intrusion following construction, an analysis by a geotechnical engineer and a certified arborist may be required.

Comp Plan Policy EN 8.4

Construct roads, driveways and utility corridors to preserve the integrity of the existing land forms, drainage ways, and natural systems minimizing impact to the landslide and erosion hazard areas. Utilize common access drives and utility corridors where feasible.

Comp Plan Policy EN 8.5

Allow clearing, grading or filling on sloped areas containing landslide hazard and erosion hazard areas only when other alternatives are not feasible and when it will not destabilize those areas. Such activity is limited to the dry period of the year.

Comp Plan Policy EN 8.6

Any alteration of a landslide hazard area or erosion hazard area may not increase the rate of surface water discharge or sedimentation and may not decrease slope stability on adjacent property. Landscape the altered area to provide erosion control.

Comp Plan Policy EN 9.1

Consider the best available science in mapping these high-risk areas and in regulating and permitting land use activities in areas that have a heightened risk from earthquakes such as liquefaction areas and fault rupture zones, tsunami or other geological hazards

Air Quality [EN-10]

Comp Plan Policy EN 10.2

Encourage the retention of existing trees and vegetation and the planting of new trees and vegetation that provides natural filtration of suspended particulate matter, removes carbon dioxide and improves air quality.

Comp Plan Policy EN 10.6

Reduce the quantity of airborne particulates through regulations for dust abatement of construction sites and street sweeping programs in areas with concentrations of both vehicular and pedestrian traffic.

Invasive Species [EN-14]

Comp Plan Policy EN 14.1

Coordinate with public agencies and nonprofit organizations to control and where feasible, eradicate invasive plant species from public lands.

Comp Plan Policy EN 14.2

Improve public outreach to encourage residents to control and where feasible, eradicate invasive plant species on private property.

Agriculture [EN-15]

Comp Plan Policy EN 15.8

Ensure protection of the Island's aquifers and streams by promoting agricultural uses that are not water intensive, and agriculture practices that protect water quality.

Comp Plan Policy EN 15.9

Work with the Conservation District and nonprofits to encourage farming that accounts for changing Island conditions with regard to hydrology, temperature and other climatologically influenced factors. Promote crops and commodities that are adapted to future conditions and do not rely on chemical amendments that may adversely impact future water availability.

Comp Plan Policy EN 15.10

Improve public information and creating new programs to promote agriculture while advocating for farming practices that protect water quality and quantity.

Comp Plan Policy EN 16.4

Cooperate with the Kitsap Conservation District to promote use of Best Management Practices

Comp Plan Policy EN 18.2

When acreage classified as timberlands or forest land is being converted to residential or agricultural use promote protection of the most valuable trees and forested area and compact development to limit the extent of clearing and soil disturbance.

Forests & Trees [EN-19]

Comp Plan Policy EN 19.1

Encourage protection, restoration and maintenance of existing vegetation that has environmental, wildlife habitat and aesthetic qualities including tree groves, significant tree stands, forested hillsides and vegetation associated with wetlands, stream corridors, riparian areas, steep slopes and areas subject to erosion.

Comp Plan Policy EN 19.2

Utilize various tools to understand and monitor existing conditions and changes of Island-wide tree cover, significant tree groves and significant individual trees over time. Undertake periodic tree inventories to assess canopy cover and health of forested areas and significant trees.

Comp Plan Policy EN 19.3

In pre-application conferences and as part of the review of development applications, encourage property owners to maximize the preservation of trees and to maintain and enhance the cohesive quality of tree groves through appropriate site design and construction methods as well as open space dedication of areas that contain these resources.
Incentives such as a building height bonus could be used to encourage tree preservation greater than the preservation required by code during site design. Update Guidelines for Commercial and Mixed Use Projects including Guidelines for Lynwood Center, Island Center and Rolling Bay to incorporate tree preservation practices and policies.

Comp Plan Policy EN 19.4

Implement a community-wide program to educate Island residents about the functions and values of trees.

Comp Plan Policy EN 19.6

Encourage Best Management Practices to protect and enhance community forests.

Comp Plan Policy EN 19.7

Encourage activities that enhance the community's awareness of the value of trees and the community forest.

Comp Plan Policy EN 19.8

Develop street tree programs for the commercial and mixed-use zones, and the more densely developed residential zones.

Comprehensive Plan – Land Use [LU] Element

Comp Plan Policy LU 2.2

Establish a public education program to foster the community's understanding of the natural systems on the Island and their carrying capacity

Comp Plan Policy LU 2.3

This Plan recognizes that stewardship of the land is a responsibility of individual citizens and the community as a whole. Through its status as an employer and landowner, the City sets an example of environmental stewardship so that others will be encouraged to do so.

Comp Plan Policy LU 2.4

Develop a City program that recognizes and rewards stewardship so that others will be encouraged to follow suit.

Comp Plan Goal LU-3

Develop a meaningful process for citizen participation that includes participation from all segments of the Island community.

Island-wide Conservation and Development Strategy [LU-4]

Comp Plan Policy LU 4.1

Focus development and redevelopment on the Island over the next fifty years in designated centers that have or will have urban levels of services and infrastructure while increasing conservation, protection and restoration on the Island, including shorelines, especially where there is interaction between the fresh and saltwater environments.

Comp Plan Policy LU 4.9

Coordinate the City's planning programs and development regulations concerning open space preservation with the efforts of appropriate organizations to identify and prioritize conservation and open space opportunities, and to acquire and administer conservation easements.

Comp Plan Policy LU 4.11

To the greatest degree practical, prohibit clearcutting and grading of the natural landscape.

Designated Centers [LU-5]

Comp Plan Policy LU 5.4

Sustainable development and redevelopment will be focused in the designated centers through a combination of intergovernmental and public-private partnerships, affordable housing programs, "green" capital projects and low impact development standards

Comp Plan Policy LU 5.5

Implement a green building code.

Neighborhood Centers [LU-9]

Comp Plan Policy LU 9.10

Proposed uses must consider the impact on water quality, stormwater runoff and environmentally sensitive areas such as wetlands, streams and aquifer recharge areas.

Comp Plan Policy LU 9.13

Establish and implement a street tree plan and planting program for major roadways at the Neighborhood Centers.

Business/Industrial [LU-10]

Comp Plan Policy LU 10.2

New manufacturing businesses that plan to utilize toxic/hazardous substances must list these substances and quantities projected for annual usage and demonstrate compliance with all Federal, State and Kitsap Public Health District requirements for their handling. Development proposals are evaluated using performance standards for the B/I district. Uses of certain toxic/hazardous substances can disqualify the application from approval because of potential environmental impact, however the City would consider factors such as quantity used, adequacy of storage, containment, spill management and waste disposal plans in reviewing such a proposal.

Comp Plan Policy LU 10.4

Applications for development approval within the B/I district must show that adequate water, wastewater, transportation, fire and storm drainage services are available to serve the development.

Comp Plan Policy LU 10.5

Ensure the adequate monitoring and enforcement of hazardous material regulations.

Comp Plan Policy LU 10.6

Performance standards for the B/I district address odor, lighting, noise, vibration, signage, traffic volumes, ingress and egress, parking, delivery and loading areas, and pedestrian and vehicle circulation, to create safe, efficient, compatible conditions among a variety of on-site uses and to protect adjacent residential neighborhoods.

Water-Dependent Industrial District [LU-11]

Comp Plan Policy LU 11.2

Water-dependent industrial development shall not be located on sensitive and ecologically valuable shorelines such as natural accretion shore forms, marshes, bogs, swamps, salt marshes and tidal flats, and wildlife habitat areas, nor on shores inherently hazardous to such development, such as flood and erosion prone areas and steep and unstable slopes.

Comp Plan Policy LU 11.3

Industrial uses shall employ best management practices (BMPs) and best available facilities practices and procedures concerning the various services and activities performed and their impacts on the surrounding water quality.

Island-Wide Conservation Area [LU-12]

Comp Plan Policy LU 12.3

Encourage the aggregation of nonconforming lots of record and undeveloped subdivisions and short plats in order to achieve a development pattern that is consistent with goals of the Plan to preserve open space, provide greenways through the Island, protect environmentally sensitive areas and protect water resources.

Comp Plan Policy LU 12.4

Protect aquifer recharge functions throughout the Island, all of which is an aquifer recharge area, through the application of critical areas development regulations, Shoreline Master Program use regulations, low impact development regulations and the wellhead protection regulations administered by the Kitsap Public Health District.

Comp Plan Policy LU 12.6

Work with Kitsap Public Health District to allow innovative solutions for on-site sewage treatment including community septic and grey water systems.

Comp Plan Policy LU 13.1

Manage existing vegetated buffers to preserve the Island's character and the forested view from the road. Remove invasive species in order to keep the native vegetation healthy.

Comp Plan Policy LU 13.3

Map tree-covered hillsides and hilltops, particularly the ridgelines so valued by the community. Adopt development regulations and programs to protect them for their visual and aesthetic benefits as well as their functions as wildlife habitat and erosion and runoff retardation.

Contaminated Sites [LU-23]

COMP PLAN GOAL LU-23

Incorporate awareness of known contaminated sites such as former lumber treatment facilities, former fueling stations and other pollutant-generating land uses into all water resources management, land use planning and capital facility management in order to remediate or clean-up sites as effectively as possible while preventing further impacts to the environment.

Comp Plan Policy LU 23.1

Assemble and maintain an inventory of contaminated sites on the Island to track site location, contaminant(s) of concern, cleanup status and potential to impact nearby surface or groundwater.

Comp Plan Policy LU 23.4

Consult the contaminated site inventory:

- Prior to property acquisition and weigh the cost/benefit of acquiring such a property;
- As part of development or redevelopment site plan review and take potential impacts into consideration when making land use decisions;
- As part of capital infrastructure construction or maintenance;
- As part of emergency management preparedness and response.

Comprehensive Plan – Utilities [U] Element

COMP PLAN GOAL U-2

Ensure that the utility services are comparable in terms of cost, quality, and technology to services available in similar jurisdictions in the Puget Sound region.

COMP PLAN GOAL U-3

Ensure that utility services are adequate to meet current demands, and that utility providers plan for future demands.

COMP PLAN GOAL U-4

Ensure that the provision of utility services is environmentally responsible and sustainable, and encourage utility services that are carbon neutral and do not contribute to climate change.

COMP PLAN GOAL U-5

Ensure that new or major renovations to existing utility facilities are designed to minimize adverse impacts on residents and the environment.

COMP PLAN GOAL U-6

Ensure that permits and approvals for utility facilities are processed in a fair, timely manner and in accord with development regulations and this Plan

COMP PLAN GOAL U-8

Cooperate with other jurisdictions and utility providers in planning and implementing utility facility additions, improvements, maintenance, and emergency response, so that such activities are coordinated for maximum efficiency and public benefit.

COMP PLAN GOAL U-9

Ensure that sufficient city resources are provided to implement the above goals by adopting systems and processes for meaningful and timely review of utility services, and by assigning to the Utility Advisory Committee (UAC) or other city organization the responsibility for advising the City Council on matters regarding all utility services on Bainbridge Island.

Storm and Surface Water [U-13]

COMP PLAN GOAL U-13

Manage stormwater runoff to protect life, property and habitat from flooding and erosion; to channel runoff to minimize impacts to daily activities; to protect the quality of groundwater, surface water, and the waters of Puget Sound; and to provide recharge of groundwater where appropriate.

Comp Plan Policy U 13.1

Maintain a comprehensive storm drainage plan that identifies problems, proposes solutions, provides a strategy for implementation and funding, and establishes design and development guidelines.

Comp Plan Policy U 13.2

Require new development to provide both on-site and off-site improvements necessary to avoid adverse water quality and quantity impacts.

Comp Plan Policy U 13.3

Use low impact development standards wherein infiltration of stormwater is preferred over surface discharge to downstream systems, so as to encourage the return of uncontaminated precipitation to the soil at natural rates near where it falls through the use of detention ponds, grassy swales, and infiltration facilities.

Comp Plan Policy U 13.4

Design and construct stormwater systems that provide for removal of pollutants and sediment through bio-filtration or other means.

Comp Plan Policy U 13.5

Minimize disruption and/or degradation of natural drainage systems, minimize impervious areas by restricting site coverage, and encourage site permeability by retaining natural vegetation and buffers, and specifying use of permeable materials.

Comp Plan Policy U 13.6

Manage surface water in a manner which prevents pollutants from industrial, commercial, and agricultural land uses from entering ground or surface waters.

Comp Plan Policy U 13.7

Consider a program of retrofitting existing roads with water quality and quantity stormwater system improvements in order to minimize pollution from runoff from roadways to natural drainage systems and the waters of Puget Sound.

Solid Waste Disposal, Recycling, and Composting [U-15]

Comp Plan Policy U 15.1

Seek a method to provide on-island collection site for moderate risk waste or household hazardous waste including oil based paints, stains, adhesives, aerosols, paint thinner, corrosive cleaners, yard chemicals, and pool/spa chemicals and a means for transferring these substances in a timely manner to the Kitsap County site.

Comp Plan Policy U 15.2

Support non-governmental organizations that provide outreach and education to citizens to ensure that the populace is informed about the latest waste reduction, composting, recycling and hazardous waste practices.

Comp Plan Policy U 15.4

Coordinate with Bainbridge Disposal and the County to improve access to updated information on solid waste, recycling and composting collection and disposal services. Increase visibility and outreach for special events for hard-to-recycle materials such as hazardous waste or polystyrene foam.

Comp Plan Policy U 15.5

Consider methods to reduce the amount of solid waste disposed, e.g. material bans, composting or compaction, or by the conversion of solid waste to energy, e.g. using a biodigester.

Comprehensive Plan – Water Resources [WR] Element

General Water Resources [WR-1]

COMP PLAN GOAL WR-1

Manage the water resources of the Island in ways that preserve, protect, maintain, and where possible restore and enhance their ecological and hydrologic function.

- Degradation of water resources is not allowed.
- The long-term sustainability of the Island's water resources is maintained, taking into account future climatic conditions and their effects on the water cycle.
- New development and population growth are managed so that water resources remain adequate and affordable for the indefinite future.
- Groundwater, surface water and stormwater monitoring, data assessment and reporting are current and available including future projections of availability, quality and need.
- Use current and future technology to maintain and protect water resources.

Comp Plan Policy WR 1.1

Study future climate and demand scenarios to accurately plan for future water resource conditions.

Comp Plan Policy WR 1.2

Groundwater, surface water and stormwater are resources that shall be protected and managed to preserve water quality and quantity, and to retain natural ecological and hydrologic function.

Comp Plan Policy WR 1.3

The City will provide sustainable water resource planning, protection, management, and monitoring in coordination with government agencies at all levels, drinking water purveyors, Tribes, non-profit organizations, and other stakeholders.

Comp Plan Policy WR 1.4

Apply the policies in this element together with the protective measures set by the City's Shoreline Management Master Program, Critical Areas Ordinance and any other environmental or water resources management ordinance established by the City and in compliance with county, State, and federal laws and regulations.

Comp Plan Policy WR 1.5

Identify the areas of the Island that are the most vulnerable to pollution from concentrations of fecal coliforms and nitrates (for example, septic fields, agricultural activities, or fertilizers), and monitor those areas to determine if and when preventative or restorative measures are warranted.

Groundwater Protection and Management [WR-2]

Comp Plan Policy WR 2.1

Recognize that the Island functions as an aquifer recharge area. Low impact development techniques are essential for maintaining aquifer recharge.
Development, if any in areas with high aquifer recharge should be limited to low impact uses and less intense development. Low impact uses include development for buildings, roads or parking that has a reduced area of impact on the land. Low impact uses do not depend on regular applications of fertilizers or pesticides.

Low impact development is an environmentally-friendly approach to site development and stormwater management emphasizing the integration of site design and planning techniques that conserve and protect the natural systems and hydrologic functions of a site.

Comp Plan Policy WR 2.2

Identify and assess areas of high aquifer recharge as part of a land use application. Minimize the effect of development on these areas.

Comp Plan Policy WR 2.6

Reduce the use of pesticides and herbicides by encouraging integrated pest management techniques and less toxic alternatives.

Comp Plan Policy WR 2.9

Recognizing that the Island aquifer system is a Sole Source Aquifer as designated by EPA, consider creation and application of one or more aquifer conservation zones for appropriate areas of the Island and institute an added level of development and re-development permit review to prevent or mitigate potential pollutant-generating activities or activities that could affect stormwater runoff and aquifer recharge associated with a proposed land use. The Island's aquifers are protected through critical area regulations and Revised Code of Washington (RCW) 36.70A.550.

Comp Plan Policy WR 2.14

Develop a program that incentivizes and facilitates innovative methods for homeowners and business owners to use stormwater and grey water as approved by the Washington State Department of Health and the Kitsap Public Health District.

Surface Water Protection and Management [WR-3]

Comp Plan Policy WR 3.1

Development in regulated aquatic critical areas or their associated water quality buffers shall not be allowed unless application of development regulations would deny any reasonable use of property. In such cases, minimize the allowed use and associated impacts, to maximize environmental protection.

Comp Plan Policy WR 3.4

Ensure that development activities are conducted so that aquatic resources and natural drainage systems are maintained and water quality and quantity are protected.

Comp Plan Policy WR 3.5

Prior to any clearing, grading or construction on a site, all wetlands, streams and buffer areas are to be specifically identified and accurately located in the field in order to protect these areas during development.

Comp Plan Policy WR 3.7

Prohibit access to aquatic critical areas by farm animals. Require a farm management plan for agricultural activities within proximity of aquatic resources addressing water quality and other natural resource protection.

Comp Plan Policy WR 3.9

Promote watershed-based mitigation to meet federal regulations, improve mitigation success and better preserve the ecological function of the island's watersheds.

Comp Plan Policy WR 3.10

Work with state and local health departments to evaluate the merits of new technologies such as grey water capture, package treatment plants and composting toilets as alternatives to septic and sewer systems.

Comp Plan Policy WR 3.11

Consider the impacts of climate change and ocean acidification when developing regulations or approving capital projects related to aquatic resources including marine nearshore, wetlands, streams, lakes, creeks, associated vegetated areas and frequently flooded areas.

Comp Plan Policy WR 3.13

Degraded channels and banks should be rehabilitated by various methods (e.g., culvert replacement, volunteer efforts, public programs, or as offsetting mitigation for new development) to restore the natural function of the riparian habitat for fish and wildlife.

Comp Plan Policy WR 3.14

Protect, preserve and enhance fish and wildlife habitat and adjacent riparian areas to ensure sustainable populations of resident aquatic life.

Comp Plan Policy WR 3.15

Require the construction of public facilities to avoid encroachment into and disturbances of aquatic resources.

Comp Plan Policy WR 3.16

Ensure a comprehensive program of surface water inventory, data gathering and analysis. The program shall include monitoring and assessment of physical, chemical, and biological health of surface water ecosystems to include streams, ephemeral streams, lakes, wetlands, and marine waters. This may include water, flow, sediment, habitat, pollutants, submerged aquatic vegetation, fish and shellfish tissue, aquatic species diversity and other ecosystem health indicators.

Comp Plan Policy WR 3.17

Support a community-wide program to educate Island residents about alternatives to using and disposing of herbicides, pesticides, and other household chemicals, to reduce impacts to marine shoreline areas, wetlands, streams, and other environmentally sensitive areas.

Comp Plan Policy WR 3.18

Promote and support volunteer or community-driven restoration projects.

Stormwater Protection and Management [WR-4]

COMP PLAN GOAL WR-4

Rather than capture and carry stormwater away as a waste stream, protect it from pollutants and retain it on site to replenish aquifers and maintain wetlands and natural stream flows, preserving or mimicking the natural water cycle to the maximum extent practicable.

Comp Plan Policy WR 4.1

Comply with all requirements of the City's National Pollutant Discharge Elimination System Phase II Municipal Stormwater Permit (NPDES Permit).

Comp Plan Policy WR 4.2

Provide ongoing opportunities for the public to participate in the decision-making process involving the development, implementation, and update of the City's Stormwater Management Program through advisory councils, public hearings, and watershed committees.

Comp Plan Policy WR 4.3

Improve and maintain 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.

Comp Plan Policy WR 4.4

Identify and eliminate sources of pollutants to the City's stormwater drainage system through proactive field screening techniques such as effluent monitoring, system inspections and cleaning, and commercial and industrial business inspection, and through the enforcement of the City's Illicit Discharge Detection and Elimination ordinance.

Comp Plan Policy WR 4.5

Ensure development of and adherence to required public and private stormwater pollution prevention plans for public facilities, construction sites and commercial and industrial land use. Encourage the use of such plans where not specifically required.

Comp Plan Policy WR 4.6

Ensure development of and adherence to erosion and sediment control plans on all construction and development sites of any size.

Comp Plan Policy WR 4.7

Develop and actively enforce a strong low impact development (LID) ordinance to require any and all LID methods and practices for new development and redevelopment to the maximum extent practicable and reasonable.

Comp Plan Policy WR 4.8

Prioritize LID-based retrofit of public and private stormwater drainage systems and built assets through the inventory, management, and fiscal planning process.

Comp Plan Policy WR 4.9

Incentivize LID retrofit of current built environment.

Comp Plan Policy WR 4.10

Use watershed and basin plans to reduce stormwater impacts and non-point source pollution.

Comp Plan Policy WR 4.11

Comply with all requirements specifically identified by the City's permit for any Total Maximum Daily Load (TMDL) in which the City is a stakeholder.

Comp Plan Policy WR 4.12

Conduct effectiveness monitoring and assessments to continue to adaptively manage stormwater to ensure optimal protection.

Residential On-Site Sewage Systems [WR-5]

COMP PLAN GOAL WR-5

Ensure that sewage is collected, treated, and disposed of properly to prevent public health hazards and pollution of groundwater, Island surface water and the waters of Puget Sound.

Comp Plan Policy WR 5.1

Regulations and procedures of the Washington State Department of Health and the Kitsap Public Health District apply to all on-site disposal systems. Coordinate with these agencies to assure regular inspection, maintenance, and repair of all sanitary sewer and on-site systems located on the Island.

Comp Plan Policy WR 5.5

Assist the Kitsap Public Health District in developing a program to require proper maintenance of all on-site waste disposal systems in order to reduce public health hazards and pollution. This program shall include periodic system inspection and pumping when necessary.

Comp Plan Policy WR 5.6

Work with the Kitsap Public Health District on a collaborative program to fund and pursue grants or low-cost loans for low and moderate-income households to repair failed septic systems. Incentivize maintenance, repair and replacement of systems for any income level.

Comp Plan Policy WR 5.9

Support the Kitsap Public Health District in maintaining and improving a public education program to foster proper construction, operation and maintenance of on-site septic systems.

Public Education and Outreach [WR-6]

COMP PLAN GOAL WR-6

The City, in concert with federal, state, and local governments, public water purveyors, watershed councils, non-profits, citizens and other appropriate entities will continue to improve and implement comprehensive public education and outreach program to promote protection and management of all water resources.

Comp Plan Policy WR 6.1

Educate and inform the public about:

- The purpose and importance of aquatic environments, their vulnerabilities and observed status and trends in ecological health and function;
- Expected climate change impacts and how these will affect the Island's water resources and their beneficial uses;
- The characteristics of the aquifer system, the Island's dependency upon it and its vulnerability to contamination (including seawater intrusion) and depletion;
- The Environmental Protection Agency's Sole Source Aquifer Designation Program and what this designation means for the Island's aquifer system;
- Wellhead protection and the critical importance of restricted chemical use or storage within the protection area around wells;
- Critical aquifer recharge areas(or other special conservation areas) and the purpose they serve to the aquifer system;

- How to report spills or illicit dumping of hazardous waste or other pollutants and how to access information about location and status of contaminated sites;
- How to find information about their well and how to properly maintain it;
- Methods to identify wastewater indoors and outdoors and practices to conserve water such as native landscaping, xeriscaping and water use reduction or reuse;
- Resources for streamside and shoreline landowners;
- Water resources protection best management practices for commercial, industrial, residential, agricultural and other land uses to prevent or reduce pollution. These practices include but are not limited to, septic system maintenance, pet and livestock waste management, landscaping and gardening, farm plans, appropriate methods for use, storage and disposal of hazardous materials and other chemicals, on-site drainage system maintenance and automotive care.

Comp Plan Policy WR 6.2

Promote opportunities for citizen stewardship and involvement.

Comp Plan Policy WR 6.3

Provide LID technical guidance and workshops to businesses and contractors working on the Island.

Climate Action Plan – Section 5: Buildings

CAP Strategy 5.A.1:

Adopt green building practices and standards for all new municipal, commercial, industrial and residential buildings and all renovations or additions of a certain size.

CAP Priority Action 5.A.1.a

Adopt Green Building Task Force recommendations on green building practices and standards for all new municipal, commercial, industrial and residential building and all renovations and additions over a certain size.

CAP Priority Action 5.A.2.a

Develop training and outreach programs to provide technical assistance to developers, contractors, architects, landscape architects, city employees, and homeowners on green building that includes the cost/benefit to occupants of green building, use of reused and recycled materials, and the health benefits from green buildings to occupants.

CAP GOAL 5.B

Establish procedures to ensure buildings and infrastructure are resilient to climate change impacts (e.g., higher precipitation, sea level rise, wildfire risk and temperatures).

CAP Strategy 5.B.1

Identify and protect City assets at risk due to sea level rise.

CAP Priority Action 5.B.1.a

As recommended by the 2019 CCAC Report on Sea Level Rise conduct a systematic, high-resolution analysis of exposure of City assets to sea level rise.

CAP Priority Action 5.B.1.b

As recommended by the 2019 CCAC Report on Sea Level Rise create a prioritized list for addressing COBI assets at high risk of sea level rise (e.g., roadways that are expected in the coming decades to be sufficiently flooded that they will not be functional for motorized transit.)

CAP Priority Action 5.B.1.c

As recommended by the 2019 CCAC Report on Sea Level Rise, integrate sea level rise analysis into all City planning to identify and avoid or minimize risk to planned infrastructure and development.

CAP Other Action 5.B.1.d

Create a tiered strategy for assets at longer-term risk (beyond 2030 but within infrastructure lifespan) and identify solutions for their management

CAP Strategy 5.B.2

Assist property owners in identifying risks to existing and planned infrastructure from sea level rise and other climate change impacts.

CAP Priority Action 5.B.2.a

Conduct a high-resolution analysis of all shoreline properties to inform landowners of exposure to sea level rises, make this information widely available for property owners to use in decision-making, and provide guidance on possible solutions and regulatory requirements.

CAP Priority Action 5.B.2.b

COBI integrates sea-level rise analysis into all City permitting to help applicants identify and avoid or minimize risk to existing infrastructure and land uses and planned infrastructure and development from sea level rise or other climate impacts.

CAP Priority Action 5.B.2.c

COBI hosts community workshops on climate impacts, how they might impact buildings, and how to prepare properties for these impacts.

CAP Other Action 5.B.2.d

Conduct similar analysis for other climate change impacts (e.g., higher precipitation and increased temperatures) and provide guidance on possible solutions and regulatory requirements.

Climate Action Plan – Section 6: The Natural Environment

CAP GOAL 6.A

Steward Bainbridge Island's natural resources to function as healthy, resilient ecosystems that can continue to provide multiple ecological functions including providing habitat, maintaining the hydrologic cycle, and storing carbon in the face of the added stresses of climate change.

CAP Strategy 6.A.1

Steward Bainbridge Island's natural areas using the best available scientific knowledge about local ecology and climate change.

CAP Priority Action 6.A.1.a

Ensure that the City is using the most appropriate, relevant, and recent data and information about natural resources, climate change and other associated parameters in decision-making. If data sources are missing, identify how to obtain needed information.

CAP Priority Action 6.A.1.b

Develop and adopt a comprehensive strategy for addressing invasive species on City lands to reduce these significant stressors on ecosystems.

CAP Other Action 6.A.1.d

Partner with community organizations to leverage additional data sources and monitoring efforts that contribute to well informed natural resource management. For example, update mapping resources of key wildlife habitat in interior forest cores and connective networks.

CAP Other Action 6.A.1.e

Incorporate ecological functions and ecosystem processes contributed by forested landscapes into COBI land use decisions and permitting.

CAP Other Action 6.A.1.f

Add staff training about climate change and its impacts on natural resources in order to build institutional knowledge and integrate climate-savvy thinking into planning decisions. Consider contracting with or adding a wildlife biologist or ecologist to COBI staff who is knowledgeable about climate change and would apply that knowledge and relevant tools to proactively manage natural resources and be a resource for staff and the community.

CAP Strategy 6.A.2

Proactively manage Bainbridge forests for anticipated vegetational composition shifts projected under climate change.

CAP Priority Action 6.A.2.a

Work with COBI arborist and partnering community groups, as appropriate, to create a preferred list of tree and plant species expected to be favored by climate change projections for use in City planning and restoration efforts. This list can also be used to advise local landowners and be applied to climate savvy development.

CAP Other Action 6.A.2.b

Collaborate with community groups to proactively foster climate savvy forest management through information sharing and partnering on education, outreach and stewardship.

CAP Other Action 6.A.2.c

Investigate and integrate best practices for maintaining and where possible improving soil and biomass carbon storage into COBI and other stakeholders' forest management plans.

CAP GOAL 6.B

Protect and maintain the integrity of our Island's surface and groundwater resources in the face of climate change.

CAP Strategy 6.B.1

Maximize protections for intact hydrologic processes including aquifer recharge, groundwater-surface water interactions, and stormwater runoff

CAP Priority Action 6.B.1.a

Incentivize and maximize opportunities for incorporating water conservation features in Green Design and Building Codes.

CAP Priority Action 6.B.1.b

Continue a robust surface water monitoring program that can identify trends in streamflow and water quality to inform adaptive management to protect stream health and integrate into monitoring climate change-sensitive parameters as appropriate.

CAP Other Action 6.B.1.c

Prioritize evaluation and adaptive management (e.g., ARPA implementation) of the Critical Areas Ordinance to maintain the integrity of streams, wetlands and their buffers.

CAP Other Action 6.B.1.d

Evaluate and revise stormwater code through the lens of likely increases in storm intensity and rainfall.

CAP Other Action 6.B.1.g

Partner with community organizations such as Sustainable Bainbridge, Washington State University Extension, and BILT to conduct education and outreach with the public about their role in protecting hydrologic processes given the realities of climate change via protecting intact functioning streams and wetlands, as well as incorporating rain gardens and other low impact development techniques into their properties.

CAP GOAL 6.D

Support an agricultural system that prioritizes climate change resilient, local food production and ecosystem services, including soil carbon storage and water management.

CAP Strategy 6.D.1

Maximize opportunities for agricultural practices that mitigate climate change, including lower energy intensive practices, carbon storage, aquifer recharge, and smaller foodsheds.

CAP Piority Action 6.D.1.a

Work collaboratively with individual farmers and community groups including Friends of the Farms, Master Gardeners, and Kitsap Conservation District to identify and promote agricultural policies that increase carbon storage (e.g., soil sequestration) and hydrologic integrity, and reduce emissions including permaculture and reduced energy inputs (e.g., fertilizer, fossil fuels).

CAP Other Action 6.D.1.e

Collaborate with Public Farmland partners and resource agencies (e.g., Kitsap Conservation District) to ensure water conservation efforts are integrated into public farmland management.

CAP Other Action 6.D.1.f

Work with partnering organizations including the Kitsap Conservation District to bring resources for water conservation to private and other community farming efforts.

CAP Strategy 6.D.2

Improve manure management to reduce emissions associated with livestock waste and fertilizer delivery.

CAP Priority Action 6.D.2.a

Work collaboratively with Kitsap Conservation District to offer technical resources to livestock owners for manure management. Consider development of a memorandum of understanding and funding to support additional manure management efforts.

CAP Other Action 6.D.2.b

Work with community groups and other entities to identify additional opportunities for manure management (e.g., community composting systems, digesters, or other resources that reduce manure emissions) and code changes that could facilitate the implementation of local green waste management.

Climate Action Plan – Section 7: Waste

CAP GOAL 7.A

Reduce Island residential, commercial, and industrial waste generation.

CAP Strategy 7.A.1

In collaboration with COBI's Green Team, promote sustainable consumption within COBI operations.

CAP Strategy 7.A.2

Promote sustainable consumption in the community.

CAP Priority Action 7.A.2.d

Work with partnering organizations to identify opportunities for providing space for the implementation of sustainability events and programs (e.g., fix-it fairs and lending libraries).

CAP Other Action 7.A.2.e

Consider creating a forum or platform whereby local businesses can share their ideas and problem-solve issues related to sustainable consumption (e.g., reducing packaging, increasing waste diversion, reducing single-use items, sourcing materials more sustainably).

Climate Action Plan – Section 8: Community Engagement

CAP GOAL 8.A

Increase the Bainbridge community's awareness and knowledge about current and future climate change related impacts and ways to reduce those impacts.

CAP Strategy 8.A.1

Provide easily and equitably accessible educational materials/information throughout the community about climate change.

CAP Priority Action 8.A.1.b

Consult with the Equity Task Force to ensure outreach efforts and education materials are designed and implemented to reach all segments of the Bainbridge community.

CAP Other Action 8.A.1.d

Actively support educational forums and opportunities provided by other community groups including digital and on-line information and activities.

CAP Other Action 8.A.1.e

Evaluate the vulnerability of COBI and non-COBI assets to climate change starting with a sea level rise assessment.

CAP Other Action 8.A.1.f

Hold community discussions around vulnerability of COBI and non-COBI sites from climate change.

CAP Other Action 8.A.1.g

Incorporate vulnerability evaluations into COBI decision-making for all projects.

CAP GOAL 8.B

Inspire action across the community and partner with local and regional organizations to take meaningful climate change mitigation and adaptation actions.

CAP Priority Action 8.B.1.c

Work cooperatively with other jurisdictions in Kitsap and King Counties (e.g., Poulsbo, Silverdale, Kingston, Bremerton, Seattle) and throughout Puget Sound to find regional solutions including mitigation and adaptation actions that would benefit from economies of scale or the sharing of lessons learned.

CAP Other Action 8.B.1.c

Encourage increased coordination/collaboration with other City Advisory Committees such as the Utilities Advisory Committee, Race Equity Task Force, Green Building Task Forces, Sustainable Transportation Task Force, Design Review Board and Bainbridge Island taxing entities.

CAP Other Action 8.B.1.e

Work collaboratively with and actively support work by existing community groups to disseminate information (Climate Action Bainbridge, Sustainable Bainbridge, Citizens Climate Lobby, Indivisible, BILT, FOTF, Bainbridge Island Woman's Club, BIPF and faith-based organizations).

CAP Strategy 8.B.2

COBI inspires Bainbridge community members to take meaningful individual action.

CAP Priority Action 8.B.2.a

Host workshops with hands-on demonstrations for community members to learn how to take specific actions (e.g., building a rain barrel, dehydrate food as part of emergency preparedness, build and use compost bin, use an electric bike, construct a rain garden, assemble an emergency kit, install less resource intensive landscaping).

CAP Priority Action 8.B.2.b

Host events for community project(s) to bring people together to work towards mitigation and adaptation (e.g., building a community rain garden, working on a trail, making signs for bike/pedestrian routes, pulling ivy, planting climate resilient plants, and constructing community pea patch).

APPENDIX B STORMWATER MANAGEMENT PROGRAM (SWMP) – ASSESSMENT AND RECOMMENDATIONS TABLES B1-B11

CITY OF BAINBRIDGE ISLAND

Table B-1. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Stormwater Planning.

2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Stormwater Planning section S5.C.1 language	Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management	Current COBI SWMP activities to meet Phase II Permit requirements	Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals
INTER-DISCIPLINARY TEAM AND COORDINATION WITH LONG-RANGE PLAN UPDATES			
"S5.C.1.a.Each Permittee shall convene an inter-disciplinary team to inform and assist in the development, progress, and influence of this program S5.C.1.b. Each Permittee shall 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 in their jurisdiction. The report shall describe the water quality and watershed protection policies, strategies, codes, and other measures intended to protect and improve local receiving water health through planning, or taking into account stormwater management needs or limitations. S5.C.1.b.i.(a) … respond to the series of Stormwater Planning Annual Report questions to describe how anticipated stormwater impacts on water quality were addressed, if at all, during the 2013-2019 permit term in updates to the Comprehensive Plan (or equivalent) and in other locally initiated or state-mandated, long-range land use plans that are used to accommodate growth or transportation. S5.C.1.b.i.(b) … submit a report responding to the same questions included in (a), above, to describe how water quality is being addressed, if at all, during this permit term in updates to the Comprehensive Plan (or equivalent) and in other locally initiated or state-mandated, long-range land use plans that are used to accommodate growth or transportation."	• CAP Priority Action 5.A.1.a • CAP Priority Action 5.B.1.c • CAP Goal 6.A • CAP Strategy 6.A.1 • CAP Priority Action 6.A.1.a • CAP Other Action 6.A.1.e • CAP Other Action 6.A.1.f • CAP Strategy 6.B.1 • CAP Priority Action 6.B.1.a • CAP Other Action 6.B.1.d • CAP Other Action 8.B.1.c • Comp Plan Goal CF-1 • Comp Plan Policy CF 1.1 • Comp Plan Policy CF 1.2 • Comp Plan Policy CF 1.4 • Comp Plan Policy CF 1.5 • Comp Plan Goal CF-2 • Comp Plan Policy EN 1.2 • Comp Plan Policy EN 1.3 • Comp Plan Policy EN 2.1 • Comp Plan Policy EN 5.10 • Comp Plan Policy EN 5.8 • Comp Plan Policy EN 7.2 • Comp Plan Goal LU-3 • Comp Plan Policy LU 4.1 • Comp Plan Policy LU 4.9 • Comp Plan Policy LU 9.10 • Comp Plan Goal LU-23 • Comp Plan Goal U-9 • Comp Plan Goal U-13 • Comp Plan Policy U 13.1 • Comp Plan Policy U 13.7 • Comp Plan Goal WR-1 • Comp Plan Policy WR 1.1 • Comp Plan Policy WR 1.2 • Comp Plan Policy WR 1.3 • Comp Plan Policy WR 1.4 • Comp Plan Policy WR 1.5 • Comp Plan Policy WR 3.9 • Comp Plan Policy WR 3.11 • Comp Plan Policy WR 3.14 • Comp Plan Policy WR 3.16 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.10	• COBI convened an inter-disciplinary team to oversee coordination with long-range plan updates and the development of COBI's Stormwater Management Action Plan (SMAP). The Team in 2024 includes the following staff: ○ Christian Berg – Water Resources Specialist ○ Dave Marquis – Operations and Maintenance Supervisor ○ DeWayne Pitts – Finance Director ○ Jennifer Sutton – Senior Planner ○ Paul Nylund – Development Engineering and Water Resources Manager ○ Peter Best – Senior Planner ○ Peter Corelis – City Engineer ○ Stella Collier – Stormwater Management Program Coordinator • The following stakeholder groups have also been invited to assist the inter-disciplinary team and Stormwater Planning program: ○ Bainbridge Island Land Trust ○ Bainbridge Island Metro Park & Recreation District ○ Bainbridge Island Watershed Council ○ Friends of the Farms ○ Kitsap Conservation District ○ Suquamish Tribe ○ Washington Department of Fish and Wildlife • COBI's inter-disciplinary team responded to a series of questions in the 2020 Annual Report and in a supplemental report submitted to the Washington State Department of Ecology (Ecology) on December 15, 2022 regarding how anticipated stormwater impacts on water quality are addressed, if at all, during the 2013-2019 Permit term and current 2019-2024 permit term in updates to the Comprehensive Plan (or equivalent) and in other locally initiated or state-mandated, long-range land use plans that are used to accommodate growth or transportation. Permit requirements S5.C.1.b.i.(a) and (b) have been met.	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate resources to: • **B1-R1: Expand Inter-disciplinary Team Role in Organization** Inter-disciplinary team to convene regularly to assess and inform long-range planning, development, and oversee the continued development and implementation of COBI's Stormwater Management Program (SWMP), including the Stormwater System Plan (SWSP), Stormwater Management Action Plan (SMAP), and low impact development (LID) code updates. • **B1-R2: Water Quality Stakeholders Involvement** Further involve water quality stakeholder groups to collaborate with Inter-disciplinary team efforts. Support and dedicate new resources to: • **B1-R5: Report on Watershed Protection Policies and Strategies** Inter-disciplinary team to formally review responses to questions submitted to Ecology and identify where/if improvements may be made in COBI planning efforts regarding addressing water quality, then develop recommendations for long-range planning for stormwater. And, no later than March 31, 2027, prepare and submit a report describing water quality and watershed protection policies, strategies, and other measures intended to protect and improve local receiving water health through planning.* **Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B1-R3: Stormwater Management Advisory Group** Establish a new or joint Advisory Group to provide recommendations to City Council on Stormwater Management. Stormwater management concerns cross over multiple existing Advisory Groups, including: ○ Climate Change Advisory Committee ○ Environmental Technical Advisory Committee ○ Planning Commission ○ Utility Advisory Committee Such a Stormwater Management Advisory Group would collaborate with the Inter-disciplinary team and water quality stakeholder groups. *(also see recommendations for Public Involvement and Participation, Table B-3)* • **B1-R4: Increase General Public Engagement** Encourage and facilitate engagement with the general public to participate in efforts to address water quality to assist Inter-disciplinary team and Advisory Group(s). *(also see recommendations for Public Involvement and Participation, Table B-3)*

* = A specific recommendation to meet requirement(s) in the draft 2024-2029 Phase II Permit (Appendix G)

Table B-1. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Stormwater Planning.			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Stormwater Planning section S5.C.1 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
LOW IMPACT DEVELOPMENT (LID) CODE-RELATED REQUIREMENTS			
"S5.C.1.c.i Permittees shall <u>continue to require LID Principles and LID BMPs</u> when updating, revising, and developing new local development related codes, rules, standards, or other enforceable documents, as needed. The intent shall be to make LID the preferred and commonly-used approach to site development. The local development-related codes, rules, standards, or other enforceable documents shall be designed to minimize impervious surfaces, native vegetation loss, and stormwater runoff in all types of development situations, where feasible. S5.C.1.C.i.(a) Annually, each Permittee shall <u>assess and document any newly identified administrative or regulatory barriers to implementation of LID Principles or LID BMPs</u> since local codes were updated in accordance with the 2013 Permit, and the measures developed to address the barriers. If applicable, the report shall describe mechanisms adopted to encourage or require implementation of LID principles or LID BMPs."	• Comp Plan Policy EN 1.4 • Comp Plan Policy EN 5.3 • Comp Plan Policy EN 10.2 • Comp Plan Policy EN 18.2 • Comp Plan Policy EN 19.1 • Comp Plan Policy EN 19.2 • Comp Plan Policy EN 19.3 • Comp Plan Policy EN 19.4 • Comp Plan Policy EN 19.5 • Comp Plan Policy EN 19.6 • Comp Plan Policy EN 19.7 • Comp Plan Policy EN 19.8 • Comp Plan Policy LU 4.11 • Comp Plan Policy LU 5.4 • Comp Plan Policy LU 5.5 • Comp Plan Policy LU 12.3 • Comp Plan Policy LU 12.4 • Comp Plan Policy LU 19.13 • Comp Plan Policy U 13.3 • Comp Plan Policy U 13.5 • Comp Plan Policy WR 2.1 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.7 • Comp Plan Policy WR 4.8 • Comp Plan Policy WR 4.9 • Comp Plan Policy WR 6.3	• COBI continues to require LID principles and LID BMPs when updating, revising, and developing new local development-related codes, rules, standards, or other enforceable documents, as needed. • COBI follows and enforces the following Bainbridge Island Municipal Code (BIMC) chapters to establish adherence to COBI-specific regulations regarding minimum requirement thresholds and LID standards in advance of construction activities and ensure minimum standards of maintenance for all stormwater facilities, including LID BMPs: ○ Chapter 15.19 – Site Assessment Review ○ Chapter 15.20 – Surface Water and Stormwater Management ○ Chapter 15.21 – Stormwater Facilities Maintenance Program • COBI staff meet annually, and as needed, to discuss and document any newly identified administrative barriers or regulatory barriers to implementation of LID principles or LID BMPs. • If new administrative barriers or regulatory barriers to implementation of LID principles or LID BMPs are identified, COBI will address the barriers and will document any new mechanisms adopted to encourage or require implementation of LID principles or LID BMPs. • Tree canopy cover goal recommendations were provided to City Council in May 2019 with the Tree Resource Code and Policy Revision Recommendations (COBI, December 2018).	**Recommendations for Minimum Effort Activities:** <u>Support and dedicate new resources to:</u> • **B1-R6: Address Barriers Related to Low Impact Development** Create a formal process, and document it, for continuing to annually assess and address administrative or regulatory barriers to implementation of LID principles or LID BMPs. • **B1-R7: Tree Canopy Goals** No later than December 31, 2028, adopt and implement tree canopy goals and policies to support stormwater management and water quality protection and improvement.* **Recommendation for Additional Enhanced Effort Activities:** <u>Support and dedicate new resources to:</u> • **B1-R8: LID Assistance Program** Develop and implement program(s) for LID to assist property owners in LID education, design, installation, materials, maintenance, and cost. *(also see Recommendation B7-R12 for Private Stormwater System Retrofit Program for O&M, Table B-7)*

* = A specific recommendation to meet requirement(s) in the draft 2024-2029 Phase II Permit (Appendix G)

Table B-1. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Stormwater Planning.			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Stormwater Planning section S5.C.1 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
STORMWATER MANAGEMENT ACTION PLANNING (SMAP)			
"S5.C.1.d.i. Receiving water assessment. Permittees shall document and assess existing information related to their local receiving waters and contributing area conditions to identify which receiving waters are most likely to benefit from stormwater management planning. By March 31, 2022, Permittees shall submit a watershed inventory and include a brief description of the relative conditions of the receiving waters and the contributing areas. The watershed inventory shall be submitted as a table with each receiving water name, its total watershed area, the percent of the total watershed area that is in the Permittee's jurisdiction, and the findings of the stormwater management influence assessment for each basin. Indicate which receiving waters will be included in the S5.C.1.d.ii prioritization process. Include a map of the delineated basins with references to the watershed inventory table. S5.C.1.d.i.(a) Identify which basins are expected to have a relatively low Stormwater Management Influence for SMAP. See the guidance document for definition and description of this assessment… S5.C.1.d.ii. Receiving water basin prioritization. Informed by the assessment of receiving water conditions in (i), above, and other local and regional information, Permittees shall 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 (different than the existing new and redevelopment requirements). The retrofits and actions shall be designed to: 1) conserve, protect, or restore receiving waters through stormwater and land management strategies that act as water quality management tools, 2) reduce pollutant loading, and 3) address hydrologic impacts from existing development as well as planned for and expected future buildout conditions. No later than June 30, 2022, document the prioritized and ranked list of receiving waters. S5.C.1.d.ii.(a) The Permittee shall document the priority ranking process used to identify high priority receiving waters. The Permittee may reference existing local watershed management plan(s) as source(s) of information or rationale for the prioritization. S5.C.1.d.ii.(b) The ranking process shall include the identification of high priority catchment area(s) for focus of the Stormwater Management Action Plan (SMAP) in (iii), below." *CONTINUED ON NEXT PAGE…*	• CAP Goal 6.A • CAP Strategy 6.A.1 • CAP Strategy 6.B.1 • Comp Plan Policy CF 1.4 • Comp Plan Policy CF 1.5 • Comp Plan Goal CF-2 • Comp Plan Policy EN 1.5 • Comp Plan Policy EN 5.5 • Comp Plan Policy EN 5.8 • Comp Plan Policy EN 5.10 • Comp Plan Policy WR 3.13 • Comp Plan Policy U 13.7 • Comp Plan Policy WR 1.5 • Comp Plan Policy WR 2.9 • Comp Plan Policy WR 3.9 • Comp Plan Policy WR 3.14 • Comp Plan Policy WR 3.16 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.10	• The SMAP receiving water assessment and receiving water prioritization was completed with consultant support in 2022, and stakeholder involvement, and was funded by Ecology Capacity-Building Grant. Materials were submitted to Ecology and are posted on COBI's website: ○ Watershed Inventory and Assessment ○ Watershed Inventory and Assessment – Appendix A ○ Watershed Prioritization • Of the 12 COBI watersheds, Manzanita watershed was selected as the top priority watershed and the eastern area of the watershed was selected as the priority catchment area of focus. A Stormwater Management Action Plan (SMAP) for Manzanita Watershed Eastern Catchment was submitted to Ecology in March 2023. SMAP implementation is subject to City Council approval.	**Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B1-R9: Adaptive Assessment Process** Revisit and review the completed receiving water assessment process, data, and stakeholder feedback, and apply adaptive management, especially if new data or inputs are received. • **B1-R10: Adaptive Prioritization Process** Revisit and review the completed receiving water prioritization process, data, and stakeholder feedback, and apply adaptive management, especially if new data or inputs are received.

Table B-1. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Stormwater Planning.			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Stormwater Planning section S5.C.1 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
STORMWATER MANAGEMENT ACTION PLANNING (SMAP) ***continued from previous page***			
"S5.C.1.d.iii. No later than March 31, 2023…develop a SMAP for at least one high priority catchment area from (ii), above, that identifies all of the following: S5.C.1.d.iii.(a) A description of the stormwater facility retrofits needed for the area, including the BMP types and preferred locations. S5.C.1.d.iii.(b) Land management/development strategies and/or actions identified for water quality management. S5.C.1.d.iii.(c) Targeted, enhanced, or customized implementation of stormwater management actions related to permit sections within S5, including: • IDDE field screening • Prioritization of Source Control inspections • O&M inspections or enhanced maintenance • Public Education and Outreach behavior change programs. Identified actions shall support other specifically identified stormwater management strategies and actions for the basin overall, or for the catchment area in particular. S5.C.1.d.iii.(d) If applicable, identification of changes needed to local long-range plans, to address SMAP priorities. S5.C.1.d.iii.(e) A proposed implementation schedule and budget sources for: • Short-term actions (i.e., actions to be accomplished within six years), and • Long-term actions (i.e., actions to be accomplished within seven to 20 years). S5.C.1.d.iii.(f) A process and schedule to provide future assessment and feedback to improve the planning process and implementation of procedures or projects."	*see previous page*	• SMAP for Manzanita Watershed-Eastern Catchment was submitted to Ecology with the 2022 Annual Report (due March 31, 2023). SMAP implementation is subject to City Council approval.	**Recommendations for Minimum Effort Activities:** Support and dedicate new resources to: • **B1-R11: Approve and Implement SMAP for Manzanita Watershed** Approve implementation of SMAP for Manzanita watershed submitted to Ecology in March 2023 (see SMAP in Appendix E). • **B1-R12: Update Manzanita SMAP or Create a Second SMAP** Create an SMAP for the new high priority catchment or update the SMAP for Manzanita watershed with additional actions that address transportation-related runoff.* **Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B1-R13: SMAP & Sub-Area Planning** Integrate SMAP, and receiving water assessment and prioritization results, into sub-area planning efforts. • **B1-R14: SMAP & Capital Projects Prioritization** Review and potentially reprioritize already identified Capital Improvement and Annual Drainage Program projects based on SMAP receiving water assessment and prioritization results.

* = A specific recommendation to meet requirement(s) in the draft 2024-2029 Phase II Permit (Appendix G)

Table B-2. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Public Education and Outreach.

2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Public Education and Outreach section S5.C.2 language	Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management	Current COBI SWMP activities to meet Phase II Permit requirements	Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals
GENERAL AWARENESS EDUCATION AND OUTREACH			
"S5.C.2.a.Each Permittee shall <u>implement an education and outreach program</u> for the area served by the MS4. The program design must be based on local water quality information and target audience characteristics to identify high priority target audiences, subject areas, and/or BMPs. Based on the target audience's demographic, the Permittee must consider delivering its selected messages in language(s) other than English, as appropriate to the target audience. S5.C.2.a.i. General awareness. To build general awareness, Permittees shall <u>annually select at a minimum one target audience and one subject area</u> from either (a) or (b): S5.C.2.a.i.(a) Target audiences: General public (including overburdened communities, or school age children), or businesses (including home-based, or mobile businesses). Subject areas: • General impacts of stormwater on surface waters, including impacts from impervious surfaces. • Low impact development (LID) principles and LID BMPs. S5.C.2.a.i.(b) Target audiences: Engineers, contractors, developers or land use planners. Subject areas: • Technical standards for stormwater site and erosion control plans. • LID principles. • Permanent Stormwater facilities, and LID BMPs S5.C.2.a.i.(c) Permittees shall provide subject area information to the target audience on an <u>ongoing or strategic schedule</u>."	• CAP Priority Action 5.A.2.a • CAP Priority Action 5.B.2.c • CAP Other Action 6.A.1.d • CAP Other Action 6.A.2.b • CAP Other Action 6.B.1.g • CAP Priority Action 7.A.2.d • CAP Other Action 7.A.2.e • CAP Priority Action 8.B.1.c • CAP Other Action 8.B.1.e • CAP Priority Action 8.B.2.a • Comp Plan Policy EN 5.9 • Comp Plan Policy EN 14.2 • Comp Plan Policy EN 15.8 • Comp Plan Policy EN 15.9 • Comp Plan Policy EN 15.10 • Comp Plan Policy EN 6.1 • Comp Plan Policy EN 16.4 • Comp Plan Policy EN 19.4 • Comp Plan Policy EN 19.6 • Comp Plan Policy EN 19.7 • Comp Plan Policy LU 2.2 • Comp Plan Policy U 15.2 • Comp Plan Policy U 15.4 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.3 • Comp Plan Policy WR 5.9 • Comp Plan Goal WR-6 • Comp Plan Policy WR 6.1 • Comp Plan Policy WR 6.3	• COBI works to improve awareness and involvement in the following subject areas with target audiences including the general public, businesses, engineers, contractors, developers, and land use planners. ○ General impacts of stormwater on surface waters, including impacts from impervious surfaces. ○ Low impact development (LID) principles and LID Best Management Practices (BMPs). ○ Technical standards for stormwater site and erosion control plans. ○ Stormwater treatment and flow control BMPs/facilities. • COBI provides opportunities and activities to gain accessible information, resources, support, and services and promote knowledge, training, and stewardship for target audiences. • As time permits throughout the year, Water Resources staff prepare general awareness information display in the City Hall lobby, notifications through COBI Water Resources Listserv, and engage in providing education and outreach when invited to do so with local community groups, organizations, and schools. • Every year, over the month of September the City participates in the Puget Sound Starts Here (PSSH) Month regional awareness campaign by City Council Proclamation, by Water Resources staff hosting a table at the Farmer's Market, and sharing information through articles in the City Manager's weekly newsletter. • COBI coordinates some education and outreach activities through formal and informal agreements and partnerships with other NPDES Permittees, agencies, and organizations such as: West Sound Stormwater Outreach Group (WSSOG); Kitsap Conservation District; Kitsap County Public Health; Kitsap Solid Waste; Washington Department of Fish and Wildlife; Sustainable Bainbridge Watershed Council; and Cooperative Weed Management Area. • Through the WSSOG, in 2020-2022, COBI joined Kitsap County and other jurisdictions in conducting an Overburdened Communities Assessment to help understand demographics of populations and identify potential communication strategies.	**Recommendations for Minimum Effort Activities:** <u>Continue to support and dedicate resources to:</u> • **B2-R1: Coordination of Education and Outreach Activities** Education and outreach activities, including coordination with other NPDES Permittees, agencies, and organizations; especially continue formal ILA partnership with WSSOG. <u>Support and dedicate new resources to:</u> • **B2-R2: Stormwater Education and Outreach Plan & Annual Awareness Campaign** Establish a COBI specific Stormwater Education and Outreach Plan, with the help of the Communications Coordinator, that provides strategies and tactics to schedule and employ to meet education and outreach goals; including developing and implementing annual campaigns for, at a minimum, one priority audience and one subject area. • **B2-R3: Consider Overburdened Communities** Use the 2021-2022 Kitsap County Overburdened Communities Assessment Study to identify overburdened communities on Bainbridge Island, then consider those communities as a priority audience for general awareness education and outreach. *(also see Recommendation B3-R3 to Involve Overburdened Communities for Public Involvement and Participation, Table B-3)* **Recommendations for Additional Enhanced Effort Activities:** <u>Support and dedicate new resources to:</u> • ***B1-R8: LID Assistance Program*** *(reiterated from Table B-1 for Stormwater Planning)* *Develop and implement program(s) for LID to assist property owners in LID education, design, installation, materials, maintenance, and cost.* *Develop and implement program(s) for LID to assist property owners in LID education, design, installation, materials, maintenance, and cost.* • **B2-R4: Multi-Year Awareness Campaign(s)** Establish a multi-year scheduled phased campaign(s) for one or more new priority audience(s) and one or more new subject area(s). Incorporate metrics to measure for effectiveness into campaigns. • **B2-R5: General Awareness Training for New Staff and Volunteers** Develop and implement on-boarding general awareness training for new staff and volunteers. • **B2-R6: General Awareness and BMPs Training Program for Staff** Develop and implement general awareness and BMP subject areas training and certification requirements for appropriate staff. *(see other Tables in Appendix B for further staff training needs)* • **B2-R7: Training and Certification Program for Priority Audiences** Develop and implement a training and certification program for general awareness and specific subject areas appropriate for businesses and contractors providing professional services on Bainbridge Island.

Table B-2. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Public Education and Outreach.			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Public Education and Outreach section S5.C.2 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
BEHAVIOR CHANGE EDUCATION AND OUTREACH			
"S5.C.2.a.ii. To affect behavior change, Permittees shall select, at a minimum, one target audience and one BMP: S5.C.2.a.ii.(a) Target Audiences: Residents, landscapers, property managers/owners, developers, school age children, or businesses (including home-based or mobile businesses). BMPs: • Use and storage of: pesticides, fertilizers, and/or other household chemicals. • Use and storage of: automotive chemicals, hazardous cleaning supplies, carwash soaps, and/or other hazardous materials. • Prevention of illicit discharges. • Yard care techniques protective of water quality. • Carpet cleaning. • Repair and maintenance BMPs for: vehicles, equipment, and/or home/buildings. • Pet waste management and disposal. • LID Principles and LID BMPs. • Stormwater facility maintenance, including LID facilities. • Dumpster and trash compactor maintenance. • Litter and debris prevention. • Sediment and erosion control. • (Audience specific) Source control BMPs (refer to S5.C.8). • (Audience specific) Locally-important, municipal stormwater-related subject area. S5.C.2.a.ii.(b) No later than July 1, 2020, each Permittee shall conduct a new evaluation of the effectiveness of the ongoing behavior change program (required under S5.C.1.a.ii and S5.C.1.c of the 2013 Permit). Permittees shall document lessons learned and recommendations for which option to select from S5.C.2.a.ii.(c) Permittees that select option S5.C.2.a.ii.(c)3, below, may forgo this evaluation if it will not add value to the overall behavior change program. S5.C.2.a.ii.(c) Based on the evaluation from S5.C.2.a.ii.(b), by February 1, 2021, each Permittee shall follow social marketing practices and methods, similar to Community-Based Social Marketing, and develop a program that is tailored to the community, including development of a program evaluation plan. Each Permittee shall 1. Develop a strategy and schedule to more effectively implement the existing program; or 2. Develop a strategy and schedule to expand the existing program to a new target audience or BMPs; or 3. Develop a strategy and schedule for a new target audience and BMP behavior change campaign. S5.C.2.a.ii.(d) No later than April 1, 2021, begin to implement the strategy developed in S5.C.2.a.ii.(c). S5.C.2.a.ii.(e) No later than March 31, 2024, evaluate and report on the changes in understanding and adoption of targeted behaviors resulting from the implementation of the strategy and any planned or recommended changes to the program in order to be more effective; describe the strategies and process to achieve the results. S5.C.2.a.ii.(f) Permittees shall use results of the evaluation to continue to direct effective methods and implementation of the ongoing behavior change program."	• Comp Plan Policy EN 1.3 • Comp Plan Policy EN 2.4 • Comp Plan Policy EN 5.9 • Comp Plan Policy EN 14.1 • Comp Plan Policy EN 14.2 • Comp Plan Policy EN 19.4 • Comp Plan Policy EN 19.6 • Comp Plan Policy EN 19.7 • Comp Plan Policy LU 13.1 • Comp Plan Policy WR 3.17 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.3 • Comp Plan Policy WR 6.1	• COBI is a partner in two regional behavior change campaigns with WSSOG: 1) The pet waste "Mutt Mitt" Program campaign; where the target audience is pet owners and property owners, and the selected BMP is pet waste management and disposal. This also supports compliance with TMDL Requirements (see Table B9). 2) The natural yard care social marketing campaign; where the target audience is residents/property owners, and the selected BMP is yard care techniques protective of water quality.	**Recommendation for Minimum Effort Activities:** Continue to support and dedicate new resources to: • **B2-R8: Existing Behavior Change Campaigns** Continue to partner with WSSOG on the next phases of the "Mutt Mitt" Program regional behavior change campaign and the natural yard care social marketing regional behavior change campaign. ○ Re-evaluate and document lessons learned by July 1, 2025* ○ Develop a strategy and schedule to more effectively implement existing campaign(s) and expand to a new priority audience by July 1, 2026* ○ Implement the strategy and schedule by Sept. 1, 2026* **Recommendation for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B2-R9: Expand Existing Behavior Change Campaign** Discontinue partnership in natural yard care social marketing regional behavior change campaign with WSSOG to create a customized local natural yard care campaign more specific to COBI residents and property owners.

* = A specific recommendation to meet requirement(s) in the draft 2024-2029 Phase II Permit (Appendix G)

Table B-2. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Public Education and Outreach.			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Public Education and Outreach section S5.C.2 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
STEWARDSHIP			
"S5.C.2.a.iii. Each Permittee shall <u>provide and advertise stewardship opportunities and/or partner with existing organizations</u> (including non-permittees) to encourage residents to participate in activities or events planned and organized within the community, such as: stream teams, storm drain marking, volunteer monitoring, riparian plantings, and education activities."	• CAP Goal 6.A • CAP Other Action 6.A.2.b • CAP Strategy 8.A.1 • CAP Priority Action 8.A.1.b • CAP Priority Action 8.A.1.d • CAP Strategy 8.B.2 • CAP Priority Action 8.B.2.b • Comp Plan Policy EN 1.3 • Comp Plan Policy EN 2.4 • Comp Plan Policy EN 5.9 • Comp Plan Policy EN 14.1 • Comp Plan Policy EN 14.2 • Comp Plan Policy EN 19.4 • Comp Plan Policy EN 19.6 • Comp Plan Policy EN 19.7 • Comp Plan Policy LU 2.3 • Comp Plan Policy LU 2.4 • Comp Plan Policy U 15.2 • Comp Plan Policy U 15.4 • Comp Plan Policy WR 3.18 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.3 • Comp Plan Policy WR 6.2 • Comp Plan Policy WR 3.13	• COBI promotes, and sometimes partners with, local and regional stewardship groups and agency programs that provide stewardship opportunities, such as the following: ○ Sustainable Bainbridge Community Groups: Watershed Council, Weed Warriors, Zero Waste, Bainbridge Beach Naturalists ○ Bainbridge Island Cooperative Weed Management Area (CWMA) ○ WSU Master Gardeners Outreach and Assistance Program ○ Bainbridge Island Metro Park & Recreation District ○ Kitsap Conservation District Outreach and Assistance Programs ○ Washington Department of Fish and Wildlife habitat monitoring and improvements projects • The COBI Pet Waste Control Program and partnership with WSSOG "Mutt Mitt" Program promotes and facilitates stewardship by reminding and assisting pet owners to pick up their pet waste and put it in the garbage to protect water quality. The program provides free pet waste bags and stations installed all around the island to help prevent fecal coliform bacteria release into the environment and TMDL area. In total, there are 51 public pet waste bag stations around the island (this total does not include the many privately owned and maintained stations located around the island). ○ For the COBI Pet Waste Control Program, Public Works staff regularly inspect and maintain 10 pet waste bag stations installed at COBI owned and operated lands adjacent to stream and marine shorelines within the TMDL area where people commonly walk their pets. ○ For the larger regional behavior change campaign "Mutt Mitt" Program with WSSOG, COBI purchases and promotes public access pet waste stations that are hosted and sponsored by volunteer private property owners. There are 41 stations installed around the island.	**Recommendations for Minimum Effort Activities:** <u>Continue to support and dedicate resources to:</u> • **B2-R10: Promote Stewardship Opportunities** Promote volunteer stewardship opportunities hosted by others. • **B2-R11: COBI Pet Waste Control Program** COBI Pet Waste Control Program as a stewardship opportunity and for TMDL compliance. **Recommendations for Additional Enhanced Effort Activities:** <u>Support and dedicate new resources to:</u> • **B2-R12: Provide a Stewardship Opportunity** Annually host and organize at least one stewardship opportunity on public property, this could be a one-time standalone project or a project that helps an existing program (e.g., hazardous waste collection event, rain barrel sale, community cleanup day, riparian vegetation planting or noxious weed control at stormwater facilities, etc.). • **B2-R13: Ongoing Stewardship Program** Create one ongoing stewardship program (e.g., Salmon Monitoring, Stream Stewards, Noxious Weed Control Team at Waterfront Park, Adopt-a-Catch-Basin, etc.).

Table B-3. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Public Involvement and Participation.

2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Public Involvement and Participation section S5.C.3 language	Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management	Current COBI SWMP activities to meet Phase II Permit requirements	Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals
"Permittees shall provide ongoing opportunities for public involvement and participation through advisory councils, public hearings, watershed committees, participation in developing rate-structures or other similar activities. Each Permittee shall comply with applicable state and local public notice requirements when developing elements of the SWMP and SMAP. The minimum performance measures are: S5.C.3.a. Permittees shall create opportunities for the public, including overburdened communities, to participate in the decision-making processes involving the development, implementation and update of the Permittee's SMAP and SWMP. S5.C.3.b. Each Permittee shall post on their website their SWMP Plan and the annual report required under S9.A, no later than May 31 each year. All other submittals shall be available to the public upon request."	• Comp Plan Policy EN 1.3 • Comp Plan Goal LU-3 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.2 • Comp Plan Policy WR 6.2	• COBI complies with state and local public notice requirements and provides opportunities for the public to review and provide input on Stormwater Management Program (SWMP) Plan and Stormwater Management Action Plan (SMAP) primarily through the following means: ○ COBI Water Resources Listserv ○ COBI Website ○ COBI Facebook Page ○ COBI Nextdoor Page ○ COBI SeeClickFix and Kitsap1 Incident Reporting ○ City Council and City Council Meetings ○ Citizen Advisory Groups and Meetings ○ E-mail: waterresources@bainbridgewa.gov ○ Telephone: 206-842-2016 ○ Mail: posted to City Hall ○ In person: at City Hall or elsewhere • The annual SWMP Plan from the current/upcoming year is prepared and submitted to Ecology with the Annual Report for the previous year no later than March 31 each year, and the SWMP is posted on COBI's website (www.bainbridgewa.gov/stormwater) no later than May 31 each year. • Through the West Sound Stormwater Outreach Group (WSSOG), in 2020-2021, COBI joined Kitsap County and other jurisdictions in conducting an Overburdened Communities Assessment to help understand demographics of populations and identify potential communication strategies.	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate resources to: • **B3-R1: Provide Opportunities for Public Input** Provide opportunities for public review and input on the SWMP, SMAP, Stormwater System Plan (SWSP), and any other storm and surface water utility related decisions, documents, and activities. • **B3-R2: Publicize the SWMP Plan and Annual Report** Continue to post the up-to-date SWMP Plan and Annual Report on COBI's website no later than May 31 each year. Support and dedicate new resources to: • **B3-R3: Involve Overburdened Communities** Create and provide involvement opportunities to identified overburdened communities. And, annually document these efforts, and methods to identify overburdened communities, and submit to Ecology no later than December 31, 2026.* *(also see recommendation B2-R3 to Consider Overburdened Communities for Public Education and Outreach, Table B-2)* **Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • ***B1-R3: Stormwater Management Advisory Group*** *(reiterated from Table B-1 for Stormwater Planning)* *Establish a new or joint Advisory Group to provide recommendations to City Council on Stormwater Management. Stormwater management concerns cross over multiple existing Advisory Groups, including:* ○ *Climate Change Advisory Committee* ○ *Environmental Technical Advisory Committee* ○ *Green Building Task Force* ○ *Planning Commission* ○ *Utility Advisory Committee* Such a Stormwater Management Advisory Group would collaborate with the Interdisciplinary Team and water quality stakeholder groups. • ***B1-R4: Increase General Public Engagement*** *(reiterated from Table B-1 for Stormwater Planning)* *Encourage and facilitate engagement with the general public to participate in efforts to address water quality to assist Interdisciplinary Team and Advisory Group(s).* • **B3-R4: Regular Public Presentation on SWMP Activities** Create and conduct an annual public presentation to City Council on SWMP planning and activities. • **B3-R5: Ongoing Public Forum through Engage Bainbridge** Develop and implement an Engage Bainbridge site as a public forum for information sharing and providing feedback on SWMP planning and activities. • **B3-R6: Regular Public Meetings and Workshops** Organize and conduct regular and special public meetings and workshops to engage the public in SWMP planning and activities and provide education and training opportunities for storm and surface water management.

* = A specific recommendation to meet requirement(s) in the draft 2024-2029 Phase II Permit (Appendix G)

Table B-4. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Municipal Separate Storm Sewer System (MS4) Mapping and Documentation.

2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – MS4 Mapping and Documentation section S5.C.4 language	Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management	Current COBI SWMP activities to meet Phase II Permit requirements	Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals
ONGOING MAPPING & NEW MAPPING			
"The SWMP shall include an <u>ongoing program for mapping and documenting</u> the [municipal separate storm sewer system] MS4." Each Permittee shall maintain mapping data for the features listed below: S5.C.4.a.i. Known MS4 outfalls and known MS4 discharge points. S5.C.4.a.ii. Receiving waters, other than ground water. S5.C.4.a.iii. Stormwater treatment and flow control [best management practices] BMPs/facilities owned or operated by the Permittee. S5.C.4.a.iv. Geographic areas served by the Permittee's MS4 that do not discharge stormwater to surface waters. S5.C.4.a.v. Tributary conveyances to all known outfalls and discharge points with a 24 inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems. The following attributes must be mapped: • Tributary conveyance type, material, and size where known. • Associated drainage areas. • Land use. S5.C.4.a.vi. Connections between the MS4 owned or operated by the Permittee and other municipalities or public entities. S5.C.4.a.vii. All connections to the MS4 authorized or allowed by the Permittee after February 16, 2007. S5.C.4.b.i. No later than January 1, 2020, begin to collect size and material for all known MS4 outfalls during normal course of business (e.g., during field screening, inspection, or maintenance) and update records. S5.C.4.b.ii. No later than August 1, 2023, complete mapping of all known connections from the MS4 to a privately owned stormwater system."	• CAP Other Action 6.A.1.d • CAP Strategy 5.B.1 • CAP Priority Action 5.B.1.a • CAP Priority Action 5.B.2.a • CAP Priority Action 5.B.2.d • Comp Plan Policy CF 1.3 • Comp Plan Policy EN 1.5 • Comp Plan Policy EN 5.5 • Comp Plan Policy EN 6.1 • Comp Plan Policy EN 7.1 • Comp Plan Policy EN 9.1 • Comp Plan Policy EN 19.2 • Comp Plan Policy LU 13.3 • Comp Plan Policy LU 23.1 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.8	• COBI has an electronic format map of the MS4 in ArcGIS with all of the ongoing mapping elements, but due to a reduction in staffing in Public Works Engineering mapping and documentation has not been updated since 2018. • In 2007, COBI completed a comprehensive outfall reconnaissance and mapping project that identified MS4 outfalls and documented their location, size, and material. • In 2018, the City submitted a non-compliance notification (G20) to Ecology regarding not meeting some mapping requirements. To correct this, COBI hired two seasonal interns to map stormwater assets in the field over the summer/fall. • In early 2020, due to limitations in staffing and technical issues, COBI contracted the GIS Consortium through the Association of Washington Cities for assistance in mapping technology and data standardization. Since that time, the City has been utilizing the professional services of FLO Analytics to upgrade mapping software and data organization and quality. • In 2023, the City submitted a non-compliance notification (G20) to Ecology regarding not meeting ongoing and new mapping requirements. The plan to correct non-compliance is for the City to hire a new staff position approved by City Council, a GIS Technician for Public Works, who is expected to be assigned to complete the ongoing and new mapping requirements before December 31, 2024.	**Recommendations for Minimum Effort Activities:** <u>Continue to support and dedicate new resources to:</u> • **B4-R1: One-time Map Updates** Update the MS4 map and documentation backlog from 2018 to present. • **B4-R2: Ongoing Map Updates** Ongoing and new SWMP mapping and documentation. • **B4-R3: Outfall and Discharge Points Update** Locate outfalls and discharge points (known and unknown), verify or update existing data for location, size and material, and complete initial inspections; then submit the data to Ecology no later than March 31, 2026* • **B4-R4: Acres managed and unmanaged by stormwater treatment and flow control BMPs/facilities** Develop a methodology to map and assess acreage of MS4 tributary basins to outfalls or discharge points that have public stormwater treatment and flow control BMPs/facilities. Submit to Ecology no later than December 31, 2027, the map and breakdown of acres managed and unmanaged by stormwater treatment and flow control BMPs/facilities.* • **B4-R5: Tree Canopy Map** No later than December 31, 2028, begin mapping tree canopy of COBI owned or operated properties.* *(also see recommendation B1-R7 for tree canopy goals for Stormwater Planning, Table B-1)* **Recommendations for Additional Enhanced Effort Activities:** <u>Support and dedicate new resources to:</u> • **B4-R6: Flow Direction Update** Add flow direction to all lines data based on invert elevations (e.g., pipes, ditches, etc.). Can be implemented in conjunction with recommendation B4-R1. • **B4-R7: Additional Mobile Technology and Software** Obtain additional mobile technology and software tools for field mapping reference and updating, and assign trained staff to manage the technology and data. • **B4-R8: Ongoing Public Works Mapping and Documentation** Ongoing mapping and documentation for all Public Works programs and managed COBI assets that effect stormwater planning and management (i.e., water and sanitary sewage utilities, septic systems, roads, signs, facilities, and projects). • **B4-R9: GIS Network/Stormwater Model** Develop a GIS network/stormwater model to aid decision making in stormwater management and planning.

* = A specific recommendation to meet requirement(s) in the draft 2024-2029 Phase II Permit (Appendix G)

Table B-4. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Municipal Separate Storm Sewer System (MS4) Mapping and Documentation.			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – MS4 Mapping and Documentation section S5.C.4 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
RECORDKEEPING AND DATA SHARING			
"S5.C.4.c. Beginning August 1, 2021, the required format for mapping is electronic, with fully described mapping standards. S5.C.4.d. To the extent consistent with national security laws and directives, each Permittee shall make available to Ecology, upon request, available maps depicting the information required in S5.C.4.a through c, above. S5.C.4.e. Upon request, and to the extent appropriate, Permittees shall provide mapping information to federally recognized Indian Tribes, municipalities, and other Permittees. This permit does not preclude Permittees from recovering reasonable costs associated with fulfilling mapping information requests by federally recognized Indian Tribes, municipalities, and other Permittees."	*see previous page*	• COBI maintains an electronic format map of the MS4 in ArcGIS (Geographic Information System) software and has informally adopted the documented mapping standards used by King County and has customized those standards as needed for COBI. • Mapping is available upon request to the Washington State Department of Ecology (Ecology), federally recognized Indian Tribes, municipalities, and other Permittees.	**Recommendation for Minimum Effort Activities:** Continue to support and dedicate new resources to: • **B4-R10: Mapping Standards** Establish and document mapping standards, procedures, and processes for consistency in asset inventory data collection. **Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B4-R11: Upgrade Recordkeeping and Reporting with Asset Management System Software** Upgrade recordkeeping and reporting for improved internal and external data sharing ideally by obtaining and maintaining an asset management system software compatible with ArcGIS mapping software, and staff assigned to oversee asset data management integrity. (*also see Appendix D for Supporting Documentation for Mapping and Asset Management Recommendation)* • **B4-R12: Asset Management Training Program** Develop and implement an asset data management training program for staff after obtaining asset management system software.

Table B-5. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Illicit Discharge Detection and Elimination (IDDE).

2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Illicit Discharge Detection and Elimination section S5.C.5 language	Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management	Current COBI SWMP activities to meet Phase II Permit requirements	Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals
IDDE PROGRAM			
"The SWMP shall include an ongoing program designed to prevent, detect, characterize, trace, and eliminate illicit connections and illicit discharges into the MS4. S5.C.5.a. The program shall include procedures for reporting and correcting or removing illicit connections, spills and other illicit discharges when they are suspected or identified. The program shall also include procedures for addressing pollutants entering the MS4 from an interconnected, adjoining MS4. Illicit connections and illicit discharges must be identified through, but not limited to: field screening, inspections, complaints/reports, construction inspections, maintenance inspections, source control inspections, and/or monitoring information, as appropriate."	• CAP Goal 7.A • CAP Strategy 7.A.1 • Comp Plan Policy EN 2.2 • Comp Plan Policy LU 10.5 • Comp Plan Policy LU 11.3 • Comp Plan Policy U 13.6 • Comp Plan Policy U 15.1 • Comp Plan Policy U 15.5 • Comp Plan Policy WR 2.6 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.4 • Comp Plan Goal WR-5 • Comp Plan Policy WR 5.1	• COBI's Illicit Discharge Detection and Elimination (IDDE) program is designed and implemented to meet permit requirements. • Public Works staff coordinate with other COBI departments and other agencies (e.g., Bainbridge Island Fire Department [BIFD], Kitsap Public Health District [KPHD], Pollution Prevention Assistance [PPA], Kitsap County, etc.) on IDDE reporting, response, and enforcement.	**Recommendation for Minimum Effort Activities:** Continue to support and dedicate resources to: • **B5-R1: IDDE Program Coordination** Coordinate on IDDE with other departments and agencies. **Recommendation for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B5-R2: Enhance the IDDE Program** Enhance the IDDE program, especially coordination, enforcement, and training.
INFORM PEOPLE ON HAZARDS OF ILLICIT DISCHARGES AND IMPROPER WASTE DISPOSAL			
Inform People on Hazards of Illicit Discharges and Improper Waste Disposal "S5.C.5.b. Permittees shall inform public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste."	• CAP Strategy 6.D.2 • CAP Priority Action 6.D.1.a • CAP Other Action 6.D.1.e • CAP Other Action 6.D.1.f • CAP Priority Action 6.D.2.a • CAP Priority Action 6.D.2.b • CAP Strategy 7.A.1 • Comp Plan Policy EN 15.8 • Comp Plan Policy EN 15.9 • Comp Plan Policy EN 15.10 • Comp Plan Policy EN 16.4 • Comp Plan Policy U 15.1 • Comp Plan Policy U 15.2 • Comp Plan Policy U 15.4 • Comp Plan Policy WR 2.6 • Comp Plan Policy WR 3.17 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.3 • Comp Plan Policy WR 5.9 • Comp Plan Goal WR-6 • Comp Plan Policy WR 6.1	• Staff are offered information and training on IDDE and proper waste disposal. • Public Works has partnered with and/or advertised Kitsap Solid Waste, and Sustainable Bainbridge Zero Waste and Watershed Council, and Police Drug Take Back events that both inform on the hazards of improper waste disposal and offer stewardship opportunities for people to collect and properly dispose of waste. • The COBI Agricultural Technical Assistance for Water Quality Program aka Farm Planning Assistance works specifically with agricultural properties to inform on, address, and prevent illicit discharges and improper waste disposal (especially manure management). • Executive staff are working to inform staff, businesses, general public on proper waste disposal as it relates to the Single-Use Foodware and Waste Reduction Program.	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate resources to: • **B5-R3: Offer Information to Staff** Offer information to COBI staff on IDDE and proper waste disposal through an ongoing informational campaign or training program. • **B5-R4: Partner on Waste Disposal** Partner with agencies, businesses, and community groups to inform on proper waste disposal and provide opportunities to collect hazardous waste for free. • **B5-R5: Continue Waste Reduction Program** Implement the Single-Use Foodware and Waste Reduction Program. *(see also recommendations for Source Control, Table B-8)* • **B5-R6: Agriculture Technical Assistance for Water Quality** Implement agricultural technical assistance for water quality through ILA with Kitsap Conservation District. **Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B5-R7: IDDE Public Awareness Program** Develop and implement a formal public information program/campaign on IDDE and proper waste disposal for the general public, businesses, and public employees. *(also see Education and Outreach recommendations, Table B-2)* • **B5-R8: Proper Waste Disposal Incentive Program** Encourage and incentivize local waste collection facilities for proper waste disposal at existing or new businesses, then promote and potentially partner with the businesses on collection events. • **B5-R9: Program for Businesses for Proper Waste Disposal** Develop and implement an information program/campaign on IDDE and proper waste handling and disposal specific for businesses. This may be achieved as part of the new Source Control program. *(see Table B-8 for Source Control)* • ***B8-R3: Source Control Program Consolidation*** *(reiterated from Table B-8 for Source Control)* *Consolidate and coordinate existing COBI resources and programs already related to source control (i.e., IDDE, FOG, waste rection and waste disposal for climate change adaptation) into the new Source Control Program (B8-R1).*

Table B-5. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Illicit Discharge Detection and Elimination (IDDE).			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Illicit Discharge Detection and Elimination section S5.C.5 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
ILLICIT DISCHARGE ORDINANCE			
"S5.C.5.c. Each Permittee shall <u>implement an ordinance or other regulatory mechanism</u> to effectively prohibit non-stormwater, illicit discharges into the Permittee's MS4 to the maximum extent allowable under state and federal law. S5.C.5.c.i. Allowable discharges… S5.C.5.c.ii. Conditionally allowable discharges… S5.C.5.c.iii. The Permittee shall further address any category of discharges in (i) or (ii), above, if the discharges are identified as significant sources of pollutants to waters of the State. S5.C.5.c.iv. The ordinance or other regulatory mechanism shall include escalating enforcement procedures and actions."	• Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.4	• The ordinance implemented for Illicit Discharge Detection and Elimination enforcement is Bainbridge Island Municipal Code (BIMC) Chapter <u>15.22</u> – Illicit Discharge Detection and Elimination.	**Recommendations for Minimum Effort Activities:** <u>Continue to support and dedicate resources to:</u> • **B5-R10: Stormwater Code Enforcement Assistance** Code Enforcement Officer position in Planning and Community Development to assist Public Works as needed with enforcement of stormwater management related codes under BIMC Title 15, Buildings and Construction. <u>Support and dedicate new resources to:</u> • **B5-R11: Illicit Discharge Detection and Elimination Code Update** Update BIMC Chapter 15.22, Illicit Discharge Detection and Elimination, to incorporate needed local changes and language changes as described in the draft 2024-2029 Phase II Permit no later than July 1, 2027.* **Recommendation for Additional Enhanced Effort Activities:** <u>Support and dedicate new resources to:</u> • **B5-R12: Code Enforcement Policy and Staff** Improving enforcement of stormwater management related codes under BIMC Title 15, Buildings and Construction, by developing and documenting clear policy and procedures for enforcement. It is further recommended to hire an additional second Code Enforcement Officer for the City to aid improved enforcement.

* = A specific recommendation to meet requirement(s) in the draft 2024-2029 Phase II Permit (Appendix G)

Table B-5. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Illicit Discharge Detection and Elimination (IDDE).			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Illicit Discharge Detection and Elimination section S5.C.5 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
ONGOING PROGRAM FOR DETECTING ILLICIT DISCHARGES			
"S5.C.5.d. Each Permittee shall implement an ongoing program designed to detect and identify non-stormwater discharges and illicit connections into the Permittee's MS4. The program shall include the following components: S5.C.5.d.i. Procedures for conducting investigations of the Permittee's MS4, including field screening and methods for identifying potential sources. These procedures may also include source control inspections. The Permittee shall implement a field screening methodology appropriate to the characteristics of the MS4 and water quality concerns. Screening for illicit connections may be conducted using Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual (Herrera Environmental Consultants, Inc.; May 2013), or another methodology of comparable or improved effectiveness. The Permittee shall document the field screening methodology in the Annual Report. S5.C.5.d.i.(a) All Permittees shall complete field screening for an average of 12% of the MS4 each year. Permittees shall annually track total percentage of the MS4 screened beginning August 1, 2019. S5.C.5.d.ii. A publicly listed and publicized hotline or other telephone number for public reporting of spills and other illicit discharges. S5.C.5.d.iii. An ongoing training program for all municipal field staff, who, as part of their normal job responsibilities, might come into contact with or otherwise observe an illicit discharge and/or illicit connection to the MS4, on the identification of an illicit discharge and/or connection, and on the proper procedures for reporting and responding to the illicit discharge and/or connection. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staffing. Permittees shall document and maintain records of the trainings provided and the staff trained."	• Comp Plan Policy WR 1.5 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.4 • Comp Plan Policy WR 5.5 • Comp Plan Policy WR 6.1	• COBI's IDDE program is organized and implemented to meet permit requirements including detecting and identifying illicit discharges and connections using the Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual methodologies. • Field screening of at least 12% of the MS4 annually occurs in conjunction with O&M inspection and maintenance activities. • The City conducts stormwater discharge monitoring as part of its own Water Quality and Flow Monitoring Program (WQFMP) for water quality indicators and to comply with IDDE/TMDL requirements (i.e., quarterly sampling and testing for fecal coliform (now E.coli) bacteria at 16 sites). • The City adopted Kitsap1, Kitsap County's hotline, as the publicly listed and publicized hotline for reporting spills and other illicit discharges. That number is 360-337-5777. Spill reports for COBI submitted through Kitsap1 are automatically routed to COBI to follow up on. • Individual initial hire and follow-up on-the job-training is offered to staff on an ongoing basis and as requested.	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate resources to: • **B5-R13: Kitsap1 for Spills Hotline** Adopt and publicize Kitsap1 as the hotline for public reporting of spills and other illicit discharges. • **B5-R14: Field Screening for IDDE/TMDL** Implement IDDE detection program including illicit discharge field screening for at least an average of 12% of the MS4 each year during inspections and maintenance activities. • **B5-R15: WQFMP Field Screening for IDDE/TMDL** Public Works Engineering Water Resources Work Group staff and community volunteers to collect and analyze water samples for water quality indicators, specifically bacteria, as part of the WQFMP to accomplish MS4 field screening activities for IDDE Program and TMDL Requirements. *See Recommendations B5-R17 through B5-R21 for training recommendations*

Table B-5. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Illicit Discharge Detection and Elimination (IDDE).			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Illicit Discharge Detection and Elimination section S5.C.5 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
ONGOING PROGRAM TO ADDRESS ILLICIT DISCHARGES			
"S5.C.5.e Each Permittee shall implement an ongoing program designed to address illicit discharges, including spills and illicit connections, into the Permittee's MS4. The program shall include: S5.C.5.e.i. Procedures for characterizing the nature of, and potential public or environmental threat posed by, any illicit discharges found by or reported to the Permittee. Procedures shall address the evaluation of whether the discharge must be immediately contained and steps to be taken for containment of the discharge. S5.C.5.e.ii. Procedures for tracing the source of an illicit discharge; including visual inspections, and when necessary, opening manholes, using mobile cameras, collecting and analyzing water samples, and/or other detailed inspection procedures. S5.C.5.e.iii. Procedures for eliminating the discharge; including notification of appropriate authorities (including owners or operators of interconnected MS4s); notification of the property owner; technical assistance; follow-up inspections; and use of the compliance strategy developed pursuant to S5.C.5.c.iv, including escalating enforcement and legal actions if the discharge is not eliminated." S5.C.5.e.iv. Compliance with the provisions in (i), (ii), and (iii), above, shall be achieved by meeting the following timelines: S5.C.5.e.iv.(a) Immediately respond to all illicit discharges, including spills, which are determined to constitute a threat to human health, welfare, or the environment, consistent with General Condition G3. S5.C.5.e.iv.(b) Investigate (or refer to the appropriate agency with the authority to act) within 7 days, on average, any complaints, reports or monitoring information that indicates a potential illicit discharge. S5.C.5.e.iv.(c) Initiate an investigation within 21 days of any report or discovery of a suspected illicit connection to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection. S5.C.5.e.iv.(d) Upon confirmation of an illicit connection, use the compliance strategy in a documented effort to eliminate the illicit connection within 6 months. All known illicit connections to the MS4 shall be eliminated."	• Comp Plan Policy LU 10.5 • Comp Plan Policy LU 11.3 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.4 • Comp Plan Policy WR 5.1 • Comp Plan Policy WR 5.6 • Comp Plan Policy WR 5.9	• COBI's IDDE program is organized and implemented to meet permit requirements including timely response using the Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual methodologies and best management practices (BMPs) from the Department of Ecology's 2019 Stormwater Management Manual for Western Washington (SWMMWW). • Between the years of 2019-2023, COBI staff conducted an annual average of 19 IDDE investigations in response to spill/incident reports received; this number doesn't include all IDDE incidents discovered and dealt with directly by staff.	**Recommendation for Minimum Effort Activities:** Continue to support and dedicate resources to: • **B5-R16: IDDE Policies and Procedures** Develop, document, and implement formal policies and procedures to follow for IDDE investigations including: timely response, characterizing, source tracing, and eliminating illicit connections and discharges, recordkeeping and tracking.

Table B-5. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Illicit Discharge Detection and Elimination (IDDE).			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Illicit Discharge Detection and Elimination section S5.C.5 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
STAFF TRAINING FOR IDDE			
"S5.C.5.f. Permittees shall train staff who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, and illicit connections, to conduct these activities. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements or staffing. Permittees shall <u>document and maintain records</u> of the training provided and the staff trained."	• Comp Plan Policy WR 4.1 • Comp Plan Policy WR 5.9	• Training opportunities are provided for staff who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, and illicit connections, to conduct these activities. • Training that is reported to the SWMP Coordinator is recorded and tracked in an Excel spreadsheet.	*The next six recommendations are reiterated across multiple tables since they apply for all training needs.* **Recommendations for Minimum Effort Activities:** <u>Support and dedicate new resources to:</u> • **B5-R17: Track Training in Excel** Provide training opportunities to staff and track training in an Excel spreadsheet. • **B5-R18: Formal Training Program for Staff** Develop and implement a training program that identifies, schedules, pays for, and tracks outside training and certifications for staff. • ***B11-R8: Records Retention Policy and Procedures*** *(reiterated from Table B-11 for Reporting and Recordkeeping)* *Develop, document, and implement a formal records retention policy and procedures for staff to follow to keep records related to the Phase II Permit and SWMP Plan for a minimum of five years.* **Recommendations for Additional Enhanced Effort Activities:** <u>Support and dedicate new resources to:</u> • **B5-R19: Require Formal Training and Continued Education for Staff** Require staff gain and maintain training and certifications along with continued education. • **B5-R20: COBI Specific Training Program for Staff** Create an in-house training program that is COBI specific and requires staff participation to gain and maintain ongoing training and continued education. • **B5-R21: Track Training with HR Coordination and Software** Coordinate training program with Human Resources (HR) and use HR software for training tracking.
IDDE RECORDKEEPING			
"S5.C.5.g. Recordkeeping: Each Permittee shall track and maintain records of the activities conducted to meet the requirements of this Section. In the Annual Report, each Permittee shall submit data for the illicit discharges, spills and illicit connections including those that were found by, reported to, or investigated by the Permittee during the previous calendar year. The data shall include the information specified in Appendix 12 and WQWebIDDE. Each Permittee may either use their own system or WQWebIDDE for recording this data. Final submittals shall follow the instructions, timelines, and format as described in Appendix 12."	• Comp Plan Policy WR 4.1	• As of January 1, 2020, COBI tracks and records IDDE reports, investigations and any resulting necessary corrective actions and/or enforcement actions in Department of Ecology's WQWebIDDE reporting database; and submits a link to that with the Annual Report. Since the WQWebIDDE database does not accept back up digital files, the City keeps any digital files (such as photos or enforcement notification) generated from IDDE activities on record in the COBI computer network. Prior to 2020, the City tracked IDDE activities in an Access database as well as digital files.	**Recommendations for Minimum Effort Activities:** <u>Continue to support and dedicate resources to:</u> • ***B5-R16: IDDE Policies and Procedures*** *(reiterated from this table)* *Develop, document, and implement formal policies and procedures to follow for IDDE investigations including: timely response, characterizing, source tracing, and eliminating illicit connections and discharges, recordkeeping and tracking.* • **B5-R22: IDDE Activities Tracking** Track IDDE program activities for Annual Reporting in digital files and WQWebIDDE. • ***B11-R8: Records Retention Policy and Procedures*** *(reiterated from Table B-11 for Recordkeeping and Reporting)* *Develop, document, and implement a formal records retention policy and procedures for staff to follow to keep records related to the Phase II Permit and SWMP Plan for a minimum of five years.*

Table B-6. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Controlling Runoff from New Development, Redevelopment, and Construction Sites.

2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Controlling Runoff from New Development, Redevelopment, and Construction Sites section S5.C.6 language	Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management	Current COBI SWMP activities to meet Phase II Permit requirements	Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals
PROGRAM TO ADDRESS RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT, AND CONSTRUCTION SITE PROJECTS			
"S5.C.6. Each Permittee shall implement and enforce a program to reduce pollutants in stormwater runoff to a regulated small MS4 from new development, redevelopment and construction site activities. The program shall apply to private and public development, including transportation projects."	• CAP Priority Action 5.A.1.a • CAP Priority Action 5.B.2.b • CAP Priority Action 6.A.1.a • CAP Other Action 6.A.1.e • CAP Strategy 6.B.1 • CAP Priority Action 6.B.1.a • CAP Other Action 6.B.1.c • CAP Other Action 6.B.1.d • Comp Plan Policy CF 2.1 • Comp Plan Policy CF 2.3 • Comp Plan Policy CF 3.1 • Comp Plan Policy CF 3.3 • Comp Plan Goal CF-4 • Comp Plan Policy CF 4.1 • Comp Plan Policy CF 4.2 • Comp Plan Policy CF 4.3 • Comp Plan Policy EN 1.2 • Comp Plan Policy EN 1.4 • Comp Plan Policy EN 1.5 • Comp Plan Policy EN 4.1 • Comp Plan Policy EN 4.2 • Comp Plan Policy EN 5.3 • Comp Plan Policy EN 5.4 • Comp Plan Policy EN 5.6 • Comp Plan Goal EN-6 • Comp Plan Policy EN 6.1 • Comp Plan Policy EN 6.2 • Comp Plan Policy EN 6.3 • Comp Plan Goal EN-7 • Comp Plan Goal EN-8 • Comp Plan Policy EN 8.1 • Comp Plan Policy EN 8.2 • Comp Plan Policy EN 8.3 • Comp Plan Policy EN 8.4 • Comp Plan Policy EN 8.5 • Comp Plan Policy EN 8.6 • Comp Plan Policy EN 10.2 • Comp Plan Policy EN 10.6 • Comp Plan Policy EN 18.2 *continued on next page*	• Public Works and Planning & Community Development staff coordinate review and approval of private and public development, redevelopment, construction, and transportation projects to ensure they are planned and fulfilled in a manner that will not contribute to additional pollutants in stormwater runoff.	**Recommendation for Minimum Effort Activities:** Continue to support and dedicate resources to: • **B6-R1: Coordinating Controlling Runoff Activities and Enforcement** Coordinate between Public Works and Planning & Community Development on project review, planning, permit issuance and enforcement for reducing pollutants in runoff from construction sites. **Recommendation for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B6-R2: Assess Controlling Runoff Coordination** Assess current coordination and processes between Public Works and Planning & Community Development for reducing pollutants in runoff, then implement and coordinate any recommended improvements. *(also see recommendations for Stormwater Planning, Table B-1)*

Table B-6. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Controlling Runoff from New Development, Redevelopment, and Construction Sites.

2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Controlling Runoff from New Development, Redevelopment, and Construction Sites section S5.C.6 language	Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management	Current COBI SWMP activities to meet Phase II Permit requirements	Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals
ORDINANCE TO ADDRESS RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT, AND CONSTRUCTION SITE PROJECTS			
"S5.C.6.a. Implement an ordinance or other enforceable mechanism that addresses runoff from new development, redevelopment, and construction site projects. Each Permittee shall adopt and make effective a local program, no later than June 30, 2022, that meets the requirements of S5.C.6.b(i) through (iii), below, and shall apply to all applications submitted: S5.C.6.a.i. On or after July 1, 2022. S5.C.6.a.ii. Prior to January 1, 2017, that have not started construction by January 1, 2022. S5.C.6.a.iii. Prior to July 1, 2022, that have not started construction by July 1, 2027. S5.C.6.b. The ordinance or other enforceable mechanism shall include, at a minimum: S5.C.6.b.i. The Minimum Requirements, thresholds, and definitions in Appendix 1, or the 2013 Appendix 1 amended to include the changes identified in Appendix 10, or Phase I program approved by Ecology and amended to include Appendix 10, for new development, redevelopment, and construction sites… S5.C.6.b.ii. The local requirements shall include the following requirements, limitations, and criteria that, when used to implement the minimum requirements in Appendix 1 (or program approved by Ecology under the 2019 Phase I Permit) will protect water quality, reduce the discharge of pollutants to the MEP, and satisfy the State requirement under Chapter 90.48 RCW to apply AKART prior to discharge: (a) Site planning requirements (b) BMP selection criteria (c) BMP design criteria (d) BMP infeasibility criteria (e) LID competing needs criteria (f) BMP limitations Permittees shall document how the criteria and requirements will protect water quality, reduce the discharge of pollutants to the MEP, and satisfy State AKART requirements. Permittees who choose to use the requirements, limitations, and criteria, above, in the Stormwater Management Manual for Western Washington, or a Phase I program approved by Ecology, may cite this choice as their sole documentation to meet this requirement. S5.C.6.b.iii. The legal authority, through the approval process for new development and redevelopment, to inspect and enforce maintenance standards for private stormwater facilities approved under the provisions of this section that discharge to the Permittee's MS4."	*continued from previous page* • Comp Plan Policy EN 19.1 • Comp Plan Policy EN 19.3 • Comp Plan Policy EN 19.6 • Comp Plan Policy EN 19.8 • Comp Plan Policy LU 4.1 • Comp Plan Policy LU 4.9 • Comp Plan Policy LU 4.11 • Comp Plan Policy LU 5.4 • Comp Plan Policy LU 5.5 • Comp Plan Policy LU 9.10 • Comp Plan Policy LU 10.2 • Comp Plan Policy LU 10.4 • Comp Plan Policy LU 11.2 • Comp Plan Policy LU 12.3 • Comp Plan Policy LU 12.4 • Comp Plan Goal LU-23 • Comp Plan Policy LU 23.4 • Comp Plan Goal U-3 • Comp Plan Goal U-4 • Comp Plan Goal U-5 • Comp Plan Goal U-6 • Comp Plan Goal U-7 • Comp Plan Goal U-8 • Comp Plan Goal U-13 • Comp Plan Policy U 13.1 • Comp Plan Policy U 13.2 • Comp Plan Policy U 13.3 • Comp Plan Policy U 13.4 • Comp Plan Policy U 13.5 • Comp Plan Policy U 13.6 • Comp Plan Policy U 13.7 • Comp Plan Goal WR-1 • Comp Plan Policy WR 1.2 • Comp Plan Policy WR 1.4 • Comp Plan Policy WR 2.1 • Comp Plan Policy WR 2.2 • Comp Plan Policy WR 2.9 *continued on next page*	• COBI adopted the Washington State Department of Ecology (Ecology) 2019 Stormwater Management Manual for Western Washington (SWMMWW) effective June 30, 2022, per BIMC 15.20 Surface Water and Stormwater Management, as the primary enforcement mechanism to require runoff controls from new development, redevelopment, and construction project sites. BIMC Chapter 15.19 (Site Assessment Review) supports BIMC Chapter 15.20. • Enforcement of BIMC Chapters 15.19 and 15.20 for public and private projects is shared and coordinated between Public Works and Planning & Community Development staff.	**Recommendation for Minimum Effort Activities:** Support and dedicate new resources to: • **B6-R3: Controlling Runoff Enforcement Mechanisms** Follow and enforce BIMC Chapters 15.19 and 15.20 to prevent runoff from new development, redevelopment, and construction sites. *(also see Recommendation B6-R5 for Permitting Process for Site Plan Review, Inspections, Enforcement)* **Recommendation for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B6-R4: Controlling Runoff Codes and Standards Review and Update** Review codes and standards for effectiveness in controlling runoff from sites during and after construction, then make recommendations to City Council, and implement updates upon approval. *(also see Recommendation B1-R6 to Address Barriers Related to Low Impact Development for Stormwater Planning, Table B-1)*

Table B-6. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Controlling Runoff from New Development, Redevelopment, and Construction Sites.

2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Controlling Runoff from New Development, Redevelopment, and Construction Sites section S5.C.6 language	Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management	Current COBI SWMP activities to meet Phase II Permit requirements	Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals
PERMITTING PROCESS WITH SITE PLAN REVIEW, INSPECTION, AND ENFORCEMENT			
"S5.C.6.c. The program shall include a permitting process with site plan review, inspection and enforcement capability to meet the standards listed in (i) through (iv) below, for both private and public projects, using qualified personnel (as defined in Definitions and Acronyms). At a minimum, this program shall be applied to all sites that meet the minimum thresholds adopted pursuant to S5.C.6.b.i, above. S5.C.6.c.i. Review of all stormwater site plans for proposed development activities. S5.C.6.c.ii. Inspect, prior to clearing and construction, all permitted development sites that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7 – Determining Construction Site Sediment Damage Potential. As an alternative to evaluating each site according to Appendix 7, Permittees may choose to inspect all construction sites that meet the minimum thresholds adopted pursuant to S5.C.6.b.i, above. S5.C.6.c.iii. Inspect all permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls. Enforce as necessary based on the inspection. S5.C.6.c.iv. Each Permittee shall manage maintenance activities to inspect all stormwater treatment and flow control BMPs/facilities, and catch basins, in new residential developments every six months, until 90% of the lots are constructed (or when construction has stopped and the site is fully stabilized), to identify maintenance needs and enforce compliance with maintenance standards as needed. S5.C.6.c.v. Inspect all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater facilities. Verify that a maintenance plan is completed and responsibility for maintenance is assigned for stormwater treatment and flow control BMPs/facilities. Enforce as necessary based on the inspection. S5.C.6.c.vi. Compliance with the inspection requirements in (ii) through (v), above, shall be determined by the presence and records of an established inspection program designed to inspect all sites. Compliance during this permit term shall be determined by achieving at least 80% of required inspections. The inspections may be combined with other inspections provided they are performed using qualified personnel. S5.C.6.c.vii. The program shall include a procedure for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities shall be maintained. S5.C.6.c.viii. An enforcement strategy shall be implemented to respond to issues of non- compliance."	*Continued from previous page* • Comp Plan Policy WR 3.1 • Comp Plan Policy WR 3.4 • Comp Plan Policy WR 3.5 • Comp Plan Policy WR 3.11 • Comp Plan Policy WR 3.13 • Comp Plan Policy WR 3.14 • Comp Plan Policy WR 3.15 • Comp Plan Goal WR-4 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.5 • Comp Plan Policy WR 4.6 • Comp Plan Policy WR 4.7 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.5 • Comp Plan Policy WR 4.6 • Comp Plan Policy WR 4.7 • Comp Plan Policy WR 4.8 • Comp Plan Policy WR 4.9	• Public Works Engineering and Planning & Community Planning staff coordinate and oversee stormwater site planning and permitting of public and private development, redevelopment and construction projects, which includes review and approval of stormwater site plans, conducting inspections and enforcement. Activities are tracked in the SmartGov permitting software.	**Recommendation for Minimum Effort Activities:** Continue to support and dedicate resources to: • **B6-R5: Permitting Process for Site Plan Review, Inspections, Enforcement** Implement the permitting process for site plan review, inspection, enforcement and coordinate and track all these activities across City work groups. **Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B6-R6: Site Plan Review Checklist/Template** Provide additional technical assistance to the development community, including creating and providing a checklist or template to assist with the plan review preparation and process. • **B6-R7: Permitted Projects Enforcement Policy** Develop and follow a formal and documented enforcement strategy for permitted projects out-of-compliance. • **B6-R8: Increase Permitted Project Inspections** Increase permitted project inspection frequency. • **B6-R9: Tracking Inspections and Enforcement** Develop a formal and trackable process for staff to know what status permitted projects are in and what inspection and enforcement actions occurred. • **B6-R10: Construction Quality and Future Management Assurance Process** Develop a formal process to ensure private stormwater infrastructure is constructed as approved, as-built plans are provided to the City, operations and maintenance plans are correct, and maintenance covenants are recorded with the County prior to final approval or occupancy. • **B6-R11: Inspection and Enforcement Software** Obtain inspection and enforcement software to assist with tracking and recordkeeping to ensure achievement of required annual percentages of inspections, such as the add-on SmartGov Inspection module.

Table B-6. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Controlling Runoff from New Development, Redevelopment, and Construction Sites.

2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Controlling Runoff from New Development, Redevelopment, and Construction Sites section S5.C.6 language	Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management	Current COBI SWMP activities to meet Phase II Permit requirements	Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals
MAKE NOTICE OF INTENT (NOI) AVAILABLE			
"S5.C.6.d. The program shall make available, as applicable, the link to the electronic Construction Stormwater General Permit Notice of Intent (NOI) form for construction activity and, as applicable, a link to the electronic Industrial Stormwater General Permit NOI form for industrial activity to representatives of proposed new development and redevelopment. Permittees shall continue to enforce local ordinances controlling runoff from sites that are also covered by stormwater permits issued by Ecology."	• Comp Plan Policy WR 4.1	• COBI makes available the link to Ecology's electronic Construction Stormwater General Permit Notice of Intent (NOI) form for construction activity and, as applicable, a link to the electronic Industrial Stormwater General Permit NOI form for industrial activity to representatives of proposed development and redevelopment. • COBI enforces local ordinance for controlling runoff from sites that are also covered by stormwater permits issued by Ecology.	**Recommendation for Minimum Effort Activities:** Continue to support and dedicate resources to: • **B6-R12: Provide Link to Notice of Intent (NOI)** Provide Notice of Intent (NOI) links to permit applicants. **Recommendation for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B6-R13: Additional Coordination with Ecology** Aid greater oversight of sites also permitted through Ecology, and coordinate with Ecology on site plan review, inspection, and enforcement activities.
STAFF TRAINING ON ADDRESSING RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT, AND CONSTRUCTION SITE PROJECTS			
"S5.C.6.e. Each Permittee shall ensure that all staff whose primary job duties are implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. Follow-up training shall be provided as needed to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained."	• CAP Priority Action 5.A.2.a • CAP Other Action 6.A.1.f • Comp Plan Policy WR 4.1	• Training opportunities are provided for employees whose primary job-functions are implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. • Training that is reported to the SWMP Coordinator is recorded and tracked in an Excel spreadsheet.	*The next six recommendations are reiterated across multiple tables since they apply for all training needs.* **Recommendations for Minimum Effort Activities:** Support and dedicate new resources to: • ***B5-R17: Track Training in Excel*** *Provide training opportunities to staff and track training in an Excel spreadsheet.* • ***B5-R18: Formal Training Program for Staff*** *Develop and implement a training program that identifies, schedules, pays for, and tracks outside training and certifications for staff.* • ***B11-R8: Records Retention Policy and Procedures*** *Develop, document, and implement a formal records retention policy and procedures for staff to follow to keep records related to the Phase II Permit and SWMP Plan for a minimum of five years.* **Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • ***B5-R19: Require Formal Training and Continued Education for Staff*** *Require staff gain and maintain training and certifications along with continued education.* • ***B5-R20: COBI Specific Training Program for Staff*** *Create an in-house training program that is COBI specific and requires staff participation to gain and maintain ongoing training and continued education.* • ***B5-R21: Track Training with HR Coordination and Software*** *Coordinate training program with Human Resources (HR) and use HR software for training tracking.*

Table B-7. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Operations and Maintenance (O&M).			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Operations and Maintenance section S5.C.7 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
MAINTENANCE STANDARDS			
"S5.C.7.a. Each Permittee shall implement maintenance standards that are as protective, or more protective, of facility function than those specified in the Stormwater Management Manual for Western Washington or a Phase I program approved by Ecology. For facilities which do not have maintenance standards, the Permittee shall develop a maintenance standard. No later than June 30, 2022, Permittees shall update their maintenance standards as necessary to meet the requirements of this Section. S5.C.7.a.i. The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facility's required condition at all times between inspections. Exceeding the maintenance standard between inspections and/or maintenance is not a permit violation. S5.C.7.a.ii. Unless there are circumstances beyond the Permittee's control, when an inspection identifies an exceedance of the maintenance standard, maintenance shall be performed: • Within 1 year for typical maintenance of facilities, except catch basins. • Within 6 months for catch basins. Within 2 years for maintenance that requires capital construction of less than $25,000."	• Comp Plan Policy CF 1.3 • Comp Plan Policy CF 1.4 • Comp Plan Policy CF 1.5 • Comp Plan Policy CF 3.1 • Comp Plan Policy CF 3.3 • Comp Plan Goal CF-4 • Comp Plan Policy CF 4.1 • Comp Plan Policy CF 4.3 • Comp Plan Policy EN 2.1 • Comp Plan Goal U-2 • Comp Plan Goal U-3 • Comp Plan Goal U-4 • Comp Plan Goal U-5 • Comp Plan Goal U-8 • Comp Plan Goal U-13 • Comp Plan Policy U 13.1 • Comp Plan Goal WR-1 • Comp Plan Policy WR 1.3 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.4 • Comp Plan Policy WR 4.12	• Effective June 30, 2022, COBI adopts the Washington State Department of Ecology (Ecology) 2019 Stormwater Management Manual for Western Washington (SWMMWW) and follows and enforces all maintenance standards per the 2019 SWMMWW, and Phase II Permit timelines, and develops standards for facilities which do not have maintenance standards based on the SWMMWW.	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate new resources to: • **B7-R1: Implement Maintenance Standards** Follow established maintenance standards for stormwater infrastructure. **Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B7-R2: Consistent Inspection and Maintenance Program and Schedule** Establish and implement a consistent inspection and maintenance program and schedule to ensure maintenance standards are sustained for both public (MS4) and private stormwater infrastructure. • **B7-R3: COBI Specific Maintenance Standards** Develop and implement maintenance standards that are most appropriate for COBI that may go above and beyond the 2019 SWMMWW.

Table B-7. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Operations and Maintenance (O&M).			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Operations and Maintenance section S5.C.7 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
Maintenance of Stormwater Facilities Regulated by COBI			
"S5.C.7.b.i. The program shall include provisions to verify adequate long-term O&M of stormwater treatment and flow control BMPs/facilities that are permitted and constructed pursuant to S.5.C.6.c and shall be maintained in accordance with S5.C.7.a. The provisions shall include: S5.C.7.b.i.(a) Implementation of an ordinance or other enforceable mechanism that: • Clearly identifies the party responsible for maintenance in accordance with maintenance standards established under S5.C.7.a. • Requires inspection of facilities in accordance with the requirements in (b), below. • Establishes enforcement procedures. S5.C.7.b.i.(b) Annual inspections of all stormwater treatment and flow control BMPs/facilities that discharge to the MS4 and were permitted by the Permittee according to S5.C.6.c, including those permitted in accordance with requirements adopted pursuant to the 2007-2019 Ecology municipal stormwater permits, unless there are maintenance records to justify a different frequency. Permittees may reduce the inspection frequency based on maintenance records of double the length of time of the proposed inspection frequency… SC.C.7.b.ii. Compliance with the inspection requirements in (b) above shall be determined by the presence and records of an established inspection program designed to inspect all facilities, and achieving at least 80% of required inspections. S5.C.7.b.iii. The program shall include a procedure for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities shall be maintained."	• Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.4	• COBI's enforceable mechanisms utilized to verify and enforce adequate long-term operations and maintenance (O&M) of stormwater treatment and flow control BMPs/facilities that are permitted through the following chapters of the Bainbridge Island Municipal Code (BIMC): ○ Chapter 15.19 – Site Assessment Review ○ Chapter 15.20 – Surface Water and Stormwater Management ○ Chapter 15.21 – Stormwater Facilities Maintenance Program • COBI achieves annual inspections of at least 80% of all stormwater treatment and flow control BMPs/facilities that discharge to the MS4 and were permitted after 2009. • COBI keeps records of and enforcement by staff in an Excel inspections spreadsheet.	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate resources to: • **B7-R4: Private Stormwater Facilities Maintenance Program Inspection and Enforcement** Annually inspect and enforce adequate O&M of at least 80% of all privately owned and operated stormwater treatment and flow control BMPs/facilities that discharge to the MS4 and were permitted after 2009. • **B7-R5: Private Stormwater Facilities Maintenance Program Tracking** Track installation, inspection, maintenance, and enforcement activities of the Private Stormwater Facilities Maintenance Program [for permitted private facilities] in an Excel spreadsheet. • **B7-R6: Code Updates for Stormwater Facilities Maintenance Program** Review and revise BIMC Chapters 15.20 and 15.21 to establish clear progressive enforcement policies and procedures to verify adequate long-term O&M of permitted privately owned and operated stormwater systems and facilities. **Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B7-R7: Improve Recordkeeping for Asset Management** Upgrade recordkeeping and reporting for stormwater BMPs/facilities installation, inspection, maintenance, and enforcement tracking, ideally with an asset management software compatible with mapping software and staff assigned to oversee data integrity. *(also see recommendations for MS4 Mapping and Documentation, Table B-4)* • **B7-R8: Private Stormwater Facilities Maintenance Assistance Program** Develop and implement an O&M assistance program for property owners with stormwater systems. • **B7-R9: Enhancement #1 to Private Stormwater Facilities Maintenance Program Inspection and Enforcement** Annually inspect and enforce adequate O&M of 100% of all known private stormwater treatment and flow control BMPs/facilities that discharge to the MS4 and were permitted after 2009. • **B7-R10: Complete Private Stormwater Treatment and Flow Control BMPs/Facilities Inventory** Identify, research, and create a complete inventory of all private stormwater treatment and flow control BMPs/facilities. • **B7-R11: Enhancement #2 to Private Stormwater Facilities Maintenance Program Inspection and Enforcement** Biennially inspect and enforce adequate O&M of 100% of all known private stormwater treatment and flow control BMPs/facilities. • **B7-R12: Private Stormwater System Retrofit Program** Develop and implement a program to assist and incentivize upgrading/retrofitting privately owned and operated stormwater systems to protect and improve water quality. *(also see recommendation B1-R8 for LID Assistance Program in Stormwater Planning, Table B-1)*

Table B-7. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Operations and Maintenance (O&M).			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Operations and Maintenance section S5.C.7 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
MAINTENANCE OF STORMWATER FACILITIES OWNED OR OPERATED BY COBI			
"S5.C.7.c.i. Each Permittee shall implement a program to annually inspect all municipally owned or operated permanent stormwater treatment and flow control BMPs/facilities, and taking appropriate maintenance actions in accordance with the adopted maintenance standards. Permittees may reduce the inspection frequency based on maintenance records of double the length of time of the proposed inspection frequency… S5.C.7.c.ii. Each Permittee shall spot check potentially damaged stormwater treatment and flow control BMPs/facilities after major storm events (24 hour storm event with a 10 year or greater recurrence interval). If spot checks indicate widespread damage/maintenance needs, inspect all stormwater treatment and flow control BMPs/facilities that may be affected. Conduct repairs or take appropriate maintenance action in accordance with maintenance standards established above, based on the results of the inspections. S5.C.7.c.iii. Each Permittee shall inspect all catch basins and inlets owned or operated by the Permittee every two years… The catch basin inspection schedule of every two years may be changed as appropriate to meet the maintenance standards based on maintenance records of double the length of time of the proposed inspection frequency… S5.C.7.c.iv. Compliance with the inspection requirements in S.5.C.7.c i-iii above shall be determined by the presence of an established inspection program designed to inspect all sites and achieving at least 95% of inspections."	• Comp Plan Policy CF 1.3 • Comp Plan Policy CF 1.4 • Comp Plan Policy CF 1.5 • Comp Plan Policy CF 3.1 • Comp Plan Policy CF 3.3 • Comp Plan Goal CF-4 • Comp Plan Policy CF 4.1 • Comp Plan Policy CF 4.3 • Comp Plan Policy EN 2.1 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.4	• Staff annually inspect all known permanent stormwater treatment and flow control BMPs/facilities owned and operated by COBI and perform maintenance based on inspection results and per S5.C.7.a. maintenance standards. ○ In 2023, the known stormwater treatment and flow control BMPs/facilities inventory count is 192 • Staff conduct spot check inspections of potentially damaged stormwater treatment and flow control BMPs/owned or operated by COBI after, and sometimes during, major storm events (10-year 24-hour event), which for COBI is 3 inches in 24 hours. Repairs and maintenance are conducted based on inspections. • Inspections of at least 95% of all known catch basins and inlets (in late 2023, the known inventory count is 1,902) are planned to be completed biennially based on the Phase II Permit schedule, and maintenance is completed per Phase II Permit time frames.	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate resources to: • ***B5-R14: Field Screening for IDDE/TMDL*** *(reiterated from Table B-5 for Illicit Discharge Detection and Elimination)* *Implement IDDE detection program including illicit discharge field screening for at least an average of 12% of the MS4 each year during inspections and maintenance activities.* • **B7-R13: Public (MS4) Stormwater Facility Inspections and Maintenance** Annually inspect 100% of the stormwater treatment and flow control BMPs/facilities owned or operated by COBI and complete maintenance per the established maintenance standards and timeframes, and keep records of these activities in an Excel spreadsheet. **B7-R14: Public (MS4) Stormwater Facility Spot Checks After Storm Events** Conduct spot check inspections at stormwater treatment and flow control BMPs/facilities owned or operated by COBI after major storm events. • **B7-R15: Public (MS4) Catch Basin and Inlet Inspections and Maintenance** Biennially complete inspections of at least 95% of all known MS4 catch basins and inlets, and complete identified maintenance needs, per the Phase II Permit schedule. **Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • ***B7-R2: Consistent Inspection and Maintenance Program and Schedule*** *(reiterated from this table)* • ***B7-R7: Improve Recordkeeping for Asset Management*** *(reiterated from this table)* • **B7-R16: Assess and Adapt Inspections and Maintenance Programs** Assess and adapt the public (MS4) and private stormwater infrastructure inspection and maintenance programs and schedules to ensure they are most efficient and adequate for COBI to meet Comp Plan policies and CAP goals as well as Phase II Permit requirements. • **B7-R17: Public (MS4) Stormwater Assets Retrofit Program** Develop and implement a program to upgrade/retrofit existing stormwater assets owned or operated by COBI to reduce and treat runoff.*

* = A specific recommendation to meet requirement(s) in the draft 2024-2029 Phase II Permit (Appendix G)

Table B-7. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Operations and Maintenance (O&M).			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Operations and Maintenance section S5.C.7 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
PRACTICES, POLICIES, AND PROCEDURES TO REDUCE STORMWATER IMPACTS			
"S5.C.7.d. Implement practices, policies and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the Permittee, and road maintenance activities under the functional control of the Permittee. No later than December 31, 2022, document the practices, policies, and procedures… The following activities shall be addressed: i. Pipe cleaning ii. Cleaning of culverts that convey stormwater in ditch systems iii. Ditch maintenance iv. Street cleaning v. Road repair and resurfacing, including pavement grinding vi. Snow and ice control vii. Utility installation viii. Pavement striping maintenance ix. Maintaining roadside areas, including vegetation management x. Dust control xi. Application of fertilizers, pesticides, and herbicides according to the instructions for their use, including reducing nutrients and pesticides using alternatives that minimize environmental impacts xii. Sediment and erosion control xiii. Landscape maintenance and vegetation disposal xiv. Trash and pet waste management xv. Building exterior cleaning and maintenance"	• CAP Goal 6.A • CAP Strategy 6.A.1 • CAP Priority Action 6.A.1.a • CAP Priority Action 6.A.1.b • CAP Strategy 6.A.2 • CAP Other Action 6.A.2.c • CAP Strategy 6.B.1 • CAP Goal 7.A • CAP Strategy 7.A.1 • Comp Plan Policy CF 1.3 • Comp Plan Policy CF 1.4 • Comp Plan Policy CF 1.5 • Comp Plan Goal CF-4 • Comp Plan Policy CF 4.1 • Comp Plan Policy CF 4.3 • Comp Plan Policy EN 2.1 • Comp Plan Policy EN 2.2 • Comp Plan Policy EN 2.4 • Comp Plan Policy EN 4.1 • Comp Plan Policy EN 10.2 • Comp Plan Policy EN 10.6 • Comp Plan Policy EN 19.6 • Comp Plan Policy EN 19.8 • Comp Plan Policy LU 9.13 • Comp Plan Policy LU 10.6 • Comp Plan Policy LU 13.1 • Comp Plan Policy LU 23.4 • Comp Plan Policy U 15.5 • Comp Plan Policy WR 1.2 • Comp Plan Policy WR 2.1 • Comp Plan Policy WR 2.6 • Comp Plan Policy WR 3.4 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.4 • Comp Plan Policy WR 4.5 • Comp Plan Policy WR 4.6 • Comp Plan Policy WR 4.8 • Comp Plan Policy WR 4.11 • Comp Plan Policy WR 4.12	• The 2022 O&M Manual documents COBI practices, policies, and procedures for each of the maintenance activities listed in the Phase II Permit to reduce stormwater impacts associated with runoff from all lands owned or maintained by COBI.	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate new resources to: • **B7-R18: Refine Practices, Policies, and Procedures for Maintenance Activities** Refine COBI practices, policies, and procedures for each of the maintenance activities listed in the Phase II Permit to reduce stormwater impacts associated with runoff from all lands owned or maintained by COBI.* • **B7-R19: Implement Practices, Policies, and Procedures for Maintenance Activities** Implement COBI practices, policies, and procedures for each of the activities listed in the Phase II Permit to reduce stormwater impacts associated with runoff from all lands owned or maintained by COBI. **Recommendation for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B7-R20: Adaptive Practices, Policies, and Procedures for Maintenance Activities** Use adaptive management to assess and modify COBI practices, policies, and procedures for each of the activities listed in the Phase II Permit to reduce stormwater impacts associated with runoff from all lands owned or maintained by COBI.

Table B-7. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Operations and Maintenance (O&M).			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Operations and Maintenance section S5.C.7 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
STAFF TRAINING FOR O&M			
"S5.C.7.e. Implement an ongoing training program for employees of the Permittee whose primary construction, operations or maintenance job functions may impact stormwater quality. The training program shall address the importance of protecting water quality, operation and maintenance standards, inspection procedures, relevant SWPPPs, selecting appropriate BMPs, ways to perform their job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staffing. Permittees shall document and maintain records of training provided. The staff training records to be kept include dates, activities or course descriptions, and names and positions of staff in attendance."	• CAP Priority Action 5.A.2.a • CAP Other Action 6.A.1.f • Comp Plan Policy WR 4.1	• Training opportunities are provided for employees whose primary job-functions in construction, operations, or maintenance may impact stormwater quality. • Training that is reported to the SWMP Coordinator is recorded and tracked in an Excel spreadsheet.	*These six recommendations are reiterated across multiple tables since they apply for all training needs.* **Recommendations for Minimum Effort Activities:** Support and dedicate new resources to: • ***B5-R17: Track Training in Excel*** *Provide training opportunities to staff and track training in an Excel spreadsheet.* • ***B5-R18: Formal Training Program for Staff*** *Develop and implement a training program that identifies, schedules, pays for, and tracks outside training and certifications for staff.* • ***B11-R8: Records Retention Policy and Procedures*** *(reiterated from Table B-11 for Reporting and Recordkeeping)* *Develop, document, and implement a formal records retention policy and procedures for staff to follow to keep records related to the Phase II Permit and SWMP Plan for a minimum of five years.* **Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • ***B5-R19: Require Formal Training and Continued Education for Staff*** *Require staff gain and maintain training and certifications along with continued education.* • ***B5-R20: COBI Specific Training Program for Staff*** *Create an in-house training program that is COBI specific and requires staff participation to gain and maintain ongoing training and continued education.* • ***B5-R21: Track Training with HR Coordination and Software*** *Coordinate training program with Human Resources (HR) and use HR software for training tracking.*

Table B-7. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Operations and Maintenance (O&M).			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Operations and Maintenance section S5.C.7 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
STORMWATER POLLUTION PREVENTION PLANS			
"S5.C.7.f. Implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the Permittee in areas subject to this Permit that are not required to have coverage under the Industrial Stormwater General Permit or another NPDES permit that authorizes stormwater discharges associated with the activity. As necessary, update SWPPPs no later than December 31, 2022, to include the following information. At a minimum, the SWPPP shall include: S5.C.7.f.i. A detailed description of the operational and structural BMPs in use at the facility and a schedule for implementation of additional BMPs when needed. BMPs selected must be consistent with the [SWMMWW]. The SWPPP must be updated as needed to maintain relevancy with the facility. S5.C.7.f.ii. At minimum, annual inspections of the facility, including visual observations of discharges, to evaluate the effectiveness of the BMPs, identify maintenance needs, and determine if additional or different BMPs are needed. The results of these inspections must be documented in an inspection report or check list. S5.C.7.f.iii. An inventory of the materials and equipment stored on-site, and the activities conducted at the facility which may be exposed to precipitation or runoff and could result in stormwater pollution. S5.C.7.f.iv. A site map showing the facility's stormwater drainage, discharge points, and areas of potential pollutant exposure. S5.C.7.f.v. A plan for preventing and responding to spills at the facility which could result in an illicit discharge."	• Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.5 • Comp Plan Policy WR 4.12	• COBI has two heavy equipment maintenance and storage yard SWPPPs: ○ Public Works Operations & Maintenance Facility at 7305 Hidden Cove Rd NE ○ Vactor Truck Decant Facility at 6400 Don Palmer Ave NE O&M staff complete SWPPP inspections at both sites at least once annually for the Phase II Permit. • In 2022, Public Works Operations & Maintenance Facility was identified by the Washington State Department of Ecology (Ecology) as a site qualified to require an Industrial Stormwater General Permit (ISGP); so, COBI now has an additional NPDES permit for the site that requires quarterly stormwater discharge monitoring and monthly SWPPP inspections. O&M staff complete the monthly inspections and Engineering staff from the Water Resources Work Group conduct the discharge monitoring at Public Works Operations & Maintenance Facility, starting in 2023. • SWPPPs are updated as needed to ensure effectiveness and compliance with both the Municipal Phase II Permit and ISGP.	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate resources to: • **B7-R21: Update SWPPPs** Update the Stormwater Pollution Prevention Plan (SWPPP) and SWPPP inspection form for the Public Works Operations & Maintenance Facility and the Vactor Truck Decant Facility. • **B7-R22: Public Works Operations & Maintenance Facility Monthly SWPPP Inspections** Conduct monthly SWPPP inspections at the Public Works Operations & Maintenance Facility and make improvements as needed at the facility based on inspections and monitoring. • **B7-R23: Public Works Operations & Maintenance Facility Quarterly Discharge Monitoring** Conduct stormwater discharge monitoring at the Public Works Operations & Maintenance Facility each calendar quarter to meet the ISGP requirement and make improvements as needed at the facility based on inspections and monitoring. • **B7-R24: Vactor Truck Decant Facility Annual SWPPP Inspections** Conduct annual SWPPP inspections at the Vactor Truck Decant Facility and make improvements as needed at the facility based on inspections and monitoring. **Recommendation for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B7-R25: Vactor Truck Decant Facility Annual Discharge Monitoring** Conduct stormwater discharge monitoring in conjunction with the annual SWPPP inspections (B7-R23) at the Vactor Truck Decant Facility.
MAINTAIN O&M RECORDS			
"S5.C.7.g. Maintain records of the activities conducted to meet the requirements of this Section."	• Comp Plan Policy WR 4.1	• Records for stormwater BMP inspection, maintenance, and enforcement actions are tracked by staff in various Excel spreadsheets.	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate new resources to: • ***B7-R5: Private Stormwater Facilities Maintenance Program Tracking*** *(reiterated from this table)* • ***B11-R8: Records Retention Policy and Procedures*** *(reiterated from Table B-11 for Reporting and Recordkeeping)* *Develop, document, and implement a formal records retention policy and procedures for staff to follow to keep records related to the Phase II Permit and SWMP Plan for a minimum of five years.* **Recommendation for Additional Enhanced Effort Activities:** Support and dedicate new resources to: ***B7-R7: Improve Recordkeeping for Asset Management*** *(reiterated from this table)*

Table B-7. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Operations and Maintenance (O&M).			
Draft 2024-2029 National Pollutant Discharge Elimination System (NPDES) Phase II Permit – Operations and Maintenance section NEW Requirements of note for SWSP	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
STREET SWEEPING PROGRAM			
"S5.C.9.e. No later than July 1, 2027, develop and implement a municipal street sweeping program to target high priority areas and times during the year that would reasonably be expected to result in maximum water quality benefits to receiving waters. The following program elements shall be included: S5.C.9.e.i. Apply street sweeping program to publicly owned roads in MS4 drainage areas that discharge to outfalls. Within those areas, sweep the following high priority areas, where applicable: a) High traffic roads, such as arterials; b) Accessible curb and gutter streets - permittees may need to implement parking restrictions or other effective methods to optimize pollutant removal; c) Areas with significant tire wear, e.g. roundabouts, high traffic intersections, municipal-operated parking lots; d) Areas with significant tree canopy with seasonal leaf litter drop; e) Municipal roads that serve commercial or industrial land use areas; and f) MS4 basins that discharge to surface receiving waters that support salmonids. S5.C.9.e.ii. Sweep high priority areas at least once between July and September each year and two additional times a year as determined by the Permittee to provide additional water quality benefits. For calendar year 2027, only one sweeping event is required. a. Permittees may document reasoning for alternative sweeping timing and frequency based on local conditions (e.g., climate) and estimated pollutant deposition quantities. Documentation shall also be based on actual maintenance experience and be certified in accordance with G19 – Certification and Signature. b. If a Permittees' existing overall street sweeping program provides equivalent or greater street sweeping frequency relative to the requirements above, the Permittee may continue to implement its existing street sweeping program. Documentation shall be certified in accordance with G19 – Certification and Signature. S5.C.9.e.iii. Annually sweep at least 90% of high priority areas within the MS4 drainage areas. S5.C.9.e.iv. Follow equipment design performance specifications to ensure that street sweeping equipment is operated at the proper design speed with appropriate verification, and that it is properly maintained. S5.C.9.e.v. Permittee shall dispose of sweeper waste material in accordance with Appendix 6- Street Waste Disposal. S5.C.9.e.vi.Document the road type and level of traffic served (e.g. AADT or estimated # of vehicles served) of roads swept, frequency, type of sweeper, lane miles, a map of the areas and land uses swept, and approximation of street waste removed. Begin reporting with the Annual Report March 31, 2029."	• Comp Plan Policy CF 1.3 • Comp Plan Policy CF 1.4 • Comp Plan Policy CF 1.5 • Comp Plan Policy CF 3.3 • Comp Plan Policy EN 10.6 • Comp Plan Policy WR 4.1	• Operations and Maintenance performs street sweeping activities throughout the year using a regenerative sweeper and power broom sweeper. O&M tracks and records these activities on checklists. ○ For in-town curb and gutter, a regenerative sweeper is used every Friday, October through December. ○ For out-of-town curb and gutter, a regenerative sweeper is used every other week, October through December. ○ With leaf drop, O&M may have both sweepers out sometimes every day, depending on how much is coming down at any given time. • Over summer months, curb and gutter sweeper may be completed once a month or more based on sweeping requests.	**Recommendations for Minimum Effort Activities:** Support and dedicate new resources to: • **B7-R26: Assess and Adapt Existing Street Sweeping Program** Assess the existing street sweeping program and adapt the program to meet anticipated future requirements as well as receiving water protection goals (see SMAP Stormwater Management Program Enhancement Recommendation SE-6, Appendix E).* • **B7-R27: Training for Staff on Street Sweeping** Provide staff training on the most safe and effective street sweeping methods and equipment maintenance. **Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B7-R28: GPS Tracking for Street Sweeping Activities** Replace street sweeping location checklists with mapped routes in ArcGIS software and install GPS trackers on street sweeping equipment to track and record sweeping activities.* • **B7-R29: New Street Sweeping Equipment** Purchase a new regenerative air sweeper for the street sweeping program.* • **B7-R30: Monitor Water Quality with Street Sweeping Activities** Enhance WQFMP to monitor water quality in conjunction with street sweeping activities to gather effectiveness data.

* = A specific recommendation to meet requirement(s) in the draft 2024-2029 Phase II Permit (Appendix G)

Table B-8. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Source Control Program for Existing Development.			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Source Control Program for Existing Development section S5.C.8 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
SOURCE CONTROL PROGRAM FOR EXISTING DEVELOPMENT			

"S5.C.8.a. The Permittee shall implement a program to prevent and reduce pollutants in runoff from areas that discharge to the MS4. The program shall include:
S5.C.8.a.i. Application of operational source control BMPs, and if necessary, structural source control BMPs or treatment BMPs/facilities, or both, to pollution generating sources associated with existing land uses and activities.
S5.C.8.a.ii. Inspections of pollutant generating sources at publicly and privately owned institutional, commercial and industrial sites to enforce implementation of required BMPs to control pollution discharging into the MS4.
S5.C.8.a.iii. Application and enforcement of local ordinances at sites, identified pursuant to S5.C.8.b.ii, including sites with discharges authorized by a separate NPDES permit. Permittees that are in compliance with the terms of this Permit will not be held liable by Ecology for water quality standard violations or receiving water impacts caused by industries and other Permittees covered, or which should be covered under an NPDES permit issued by Ecology.
S5.C.8.a.iv. Practices to reduce polluted runoff from the application of pesticides, herbicides, and fertilizers from the sites identified in the inventory."
	• CAP Strategy 6.D.2
	• CAP Priority Action 6.D.2.a
	• CAP Other Action 6.D.2.b
	• CAP Goal 7.A
	• CAP Goal 7.A.1
	• CAP Other Action 7.A.2.e
	• Comp Plan Policy EN 1.3
	• Comp Plan Policy EN 1.5
	• Comp Plan Policy EN 2.2
	• Comp Plan Policy EN 2.4
	• Comp Plan Policy EN 4.2
	• Comp Plan Policy EN 10.2
	• Comp Plan Policy EN 10.6
	• Comp Plan Policy EN 14.1
	• Comp Plan Policy EN 14.2
	• Comp Plan Policy LU 10.2
	• Comp Plan Policy LU 10.4
	• Comp Plan Policy LU 10.5
	• Comp Plan Policy LU 11.3
	• Comp Plan Policy LU 12.6
	• Comp Plan Policy U 13.6
	• Comp Plan Policy U 15.1
	• Comp Plan Policy U 15.2
	• Comp Plan Policy U 15.4
	• Comp Plan Policy U 15.5
	• Comp Plan Policy WR 3.10
	• Comp Plan Policy WR 1.2
	• Comp Plan Policy WR 1.4
	• Comp Plan Policy WR 1.5
	• Comp Plan Policy WR 2.6
	• Comp Plan Policy WR 2.9
	• Comp Plan Policy WR 2.14
	• Comp Plan Policy WR 3.7
	• Comp Plan Policy WR 3.17
	• Comp Plan Policy WR 4.1
	• Comp Plan Policy WR 4.3
	• Comp Plan Policy WR 4.4
	• Comp Plan Policy WR 4.5
	continued on next page
		• COBI has started developing a Source Control Program to meet permit requirement but does not currently have resources dedicated to support full program implementation. In 2023, the City submitted a non-compliance notification (G20) to Ecology regarding not meeting requirements for the Source Control Program. The G20 states the plan is to come into compliance by December 31, 2024, so management is working to find ways to make this happen.
		
		• COBI has three existing programs that are considered source control work, they are managed by separate COBI work groups and are not currently formally coordinated with SWMP activities.
		  ○ FOG (fats, oils, and grease) Program (Public Works Dept. - Operations)
		  ○ Single-Use Foodware and Waste Reduction Program (Executive Dept. – Climate Action)
		  ○ Agricultural Technical Assistance for Water Quality Program aka Farm Planning Assistance (Public Works Dept. - Engineering)
			Recommendations for Minimum Effort Activities:
			Continue to support and dedicate new resources to:
			• **B8-R1: Develop and Implement Source Control Program**
			Develop and implement a Source Control Program for existing development to prevent and reduce pollutants in runoff.
			• **B8-R2: Source Control Program Staff**
			Create and hire at least one new staff position to coordinate the recommended Source Control Program (B8-R1).
			
			Recommendations for Additional Enhanced Effort Activities:
			Support and dedicate new resources to:
			• **B8-R3: Source Control Program Consolidation**
			Consolidate and coordinate existing COBI resources and programs already related to source control (i.e., IDDE, FOG, waste reduction and waste disposal for climate change adaptation) into the new Source Control Program (B8-R1).
			• **B8-R4: Stormwater and Grey Water Reuse Incentive Program**
			Develop and implement a beneficial reuse program that incentivizes and facilitates innovative methods for homeowners and business owners to use stormwater and grey water as approved by the Washington State Department of Ecology (Ecology), Washington State Department of Health, and the Kitsap Public Health District.

* = A specific recommendation to meet requirement(s) in the draft 2024-2029 Phase II Permit (Appendix G)

Table B-8. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Source Control Program for Existing Development.			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Source Control Program for Existing Development section S5.C.8 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
SOURCE CONTROL ORDINANCE(S) OR OTHER ENFORCEABLE DOCUMENTS & IMPLEMENT PROGRESSIVE ENFORCEMENT POLICY FOR SOURCE CONTROL			

"S5.C.8.b.i. No later than August 1, 2022, Permittees shall adopt and make effective an ordinance(s), or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities (see Appendix 8 to identify pollutant generating sources).
The requirements of this subsection are met by using the source control BMPs in the SWMMWW, or a Phase I Program approved by Ecology. In cases where the manual(s) lack guidance for a specific source of pollutants, the Permittee shall work with the owner/operator to implement or adapt BMPs based on the best professional judgement of the Permittee.
Applicable operational source control BMPs shall be required for all pollutant generating sources. Structural source control BMPs, or treatment BMPs/facilities, or both, shall be required for pollutant generating sources if operational source control BMPs do not prevent illicit discharges or violations of surface water groundwater, or sediment management standards because of inadequate stormwater controls. Implementation of source control requirements may be done through education and technical assistance programs, provided that formal enforcement authority is available to the Permittee and is used as determined necessary by the Permittee, in accordance with S5.C.8.b.iv, below."
"S5.C.8.b.iv. No later than January 1, 2023, each Permittee shall implement a progressive enforcement policy that requires sites to comply with stormwater requirements within a reasonable time period as specified below:
S5.C.8.b.iv.(a) If the Permittee determines, through inspections or otherwise, that a site has failed to adequately implement required BMPs, the Permittee shall take appropriate follow-up action(s), which may include phone calls, reminder letters, emails, or follow-up inspections.
S5.C.8.b.iv.(b) When a Permittee determines that a site has failed to adequately implement BMPs after a follow-up inspection(s), the Permittee shall take enforcement action as established through authority in its municipal codes or ordinances, or through the judicial system.
S5.C.8.b.iv.(c) Each Permittee shall maintain records, including documentation of each site visit, inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating an effort to bring sites into compliance. Each Permittee shall also maintain records of sites that are not inspected because the property owner denies entry.
S5.C.8.b.iv.(d) A Permittee may refer non-emergency violations of local ordinances to Ecology, provided, the Permittee also makes a documented effort of progressive enforcement. At a minimum, a Permittee's enforcement effort shall include documentation of inspections and warning letters or notices of violation."
	Continued from previous page
	• Comp Plan Goal WR-5
	• Comp Plan Policy WR 5.1
	• Comp Plan Policy WR 5.5
	• Comp Plan Policy WR 5.6
	• Comp Plan Policy WR 5.9
	• Comp Plan Goal WR-6
	• Comp Plan Policy WR 6.1
		• For requiring source control BMPs, COBI may create a standalone ordinance for source control but may also utilize existing enforcement mechanisms including but not limited to the following chapters of the Bainbridge Island Municipal Code (BIMC):
		  ○ BIMC Chapter 5.04 – Business Licenses
		  ○ BIMC Chapter 8.16 – Litter Control
		  ○ BIMC Chapter 8.24 – Single-Use Foodware and Waste Reduction & Disposable Food Service Ware and Waste Reduction
		  ○ BIMC Chapter 12.40 – Watercraft and Floating Homes
		  ○ BIMC Chapter 13.12 – Sewers
		  ○ BIMC Chapter 13.28 – Solid Waste Management
		  ○ BIMC Chapter 15.16 – Flood Damage Prevention
		  ○ BIMC Chapter 15.20 – Surface Water and Stormwater Management
		  ○ BIMC Chapter 15.21 – Stormwater Facilities Maintenance Program
		  ○ BIMC Chapter 15.22 – Illicit Discharge Detection and Elimination
		  ○ BIMC Chapter 16.20 – Critical Areas
		  ○ BIMC Chapter 16.30 – Pest Management and Pesticide Use
		• COBI does not currently have a formal policy or dedicated resources to implementing a progressive enforcement program for source control or maintaining records for such a program. At least initially, to meet the permit deadline, staff will utilize and adapt current policy and procedures for enforcement based on the language for existing codes being enforced.
			Recommendations for Minimum Effort Activities:
			Continue to support and dedicate new resources to:
			• ***B5-R10: Stormwater Code Enforcement Assistance*** *(reiterated from Table B-5 for Illicit Discharge Detection and Elimination)*
			Code Enforcement Officer position in Planning and Community Development to assist Public Works as needed with enforcement of stormwater management related codes under BIMC Title 15, Buildings and Construction.
			• **B8-R5: New Source Control Ordinance**
			Develop and adopt a standalone source control ordinance and resulting code requiring source control best management practices (BMPs), site inspections, progressive enforcement, etc. for existing and future land uses and activities.
			
			Recommendation for Additional Enhanced Effort Activities:
			Support and dedicate new resources to:
			• ***B5-R12: Code Enforcement Policy and Staff*** *(reiterated from Table B-5 for Illicit Discharge Detection and Elimination)*
			Improving enforcement of stormwater management related codes under BIMC Title 15, Buildings and Construction, by developing and documenting clear policy and procedures for enforcement. It is further recommended to hire an additional second Code Enforcement Officer for the City to aid improved enforcement.

Table B-8. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Source Control Program for Existing Development.			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Source Control Program for Existing Development section S5.C.8 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
SOURCE CONTROL SITE INVENTORY			
"S5.C.8.b.ii. No later than August 1, 2022, the Permittees shall establish an inventory that identifies publicly and privately owned institutional, commercial, and industrial properties which have the potential to generate pollutants to the MS4. The inventory shall include: (a) Businesses and/or sites identified based on the presence of activities that are pollutant generating (refer to Appendix 8). (b) Other pollutant generating sources, based on complaint response, such as: home-based businesses and multi-family sites."	*See previous pages*	• COBI has established an initial inventory on Excel spreadsheet based on approved business licenses of publicly and privately owned institutional, commercial, and industrial sites which have potential to generate pollutants to the MS4.	**Recommendation for Minimum Effort Activities:** Continue to support and dedicate new resources to: • **B8-R6: Source Control Program Site Inventory** Track and update Source Control Program site inventory data in an Excel spreadsheet.
SOURCE CONTROL INSPECTION PROGRAM			
"S5.C.8.b.iii. No later than January 1, 2023, Permittees shall implement an inspection program for sites identified pursuant to S5.C.8.b.ii. above. S5.C.8.b.iii.(a) All identified sites with a business address shall be provided information about activities that may generate pollutants and the source control requirements applicable to those activities. This information must be provided by mail, telephone, electronic communications, or in person. This information may be provided all at one time or spread out over the permit term to allow for tailoring and distribution of the information during site inspections." S5.C.8.b.iii.(b) The Permittee shall annually complete the number of inspections equal to 20% of the businesses and/or sites listed in their source control inventory to assure BMP effectiveness and compliance with source control requirements. The Permittee may count follow-up compliance inspections at the same site toward the 20% inspection rate. The Permittee may select which sites to inspect each year and is not required to inspect 100% of sites over a 5-year period. Sites may be prioritized for inspection based on their land use category, potential for pollution generation, proximity to receiving waters, or to address an identified pollution problem within a specific geographic area or sub-basin. S5.C.8.b.iii.(c) Each Permittee shall inspect 100% of sites identified through credible complaints. S5.C.8.b.iii.(d) Permittees may count inspections conducted based on complaints, or when the property owner denies entry, to the 20% inspection rate."	*See previous pages*	• COBI does not currently have a dedicated resources to developing and implementing a source control inspection program. At least initially, to meet the permit deadline, COBI plans to provide sites information about source control BMPs and how to conduct self-inspections ahead of COBI staff conducting inspections. • COBI does conduct some source control site inspections for the FOG (fats, oils, and grease) Program and Single-Use Foodware and Waste Reduction Program and these may help meet some of the source control inspection requirements. • Also, in a limited capacity, COBI coordinates and tracks the source control inspections conducted on Bainbridge Island by the Pollution Prevention Assistance (PPA) Program at Kitsap County.	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate new resources to: • **B8-R7: Source Control Program Inspections, Enforcement, and Recordkeeping** Develop and implement an inspection program that includes organizing and conducting education and outreach, inspections, coordinating enforcement with the Code Enforcement Officer, recordkeeping and tracking. • **B8-R8: Source Control Education and Outreach Materials** Create and provide education and outreach materials as information for sites for source control. **Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B8-R9: Source Control Incentive Program** Create a reasonable and achievable award system as an incentive program for source control sites. • **B8-R10: Source Control Inspections Coordination** Coordinate co-inspections with internal (see recommendation B8-R3) and external source control related programs for efficiency and to eliminate duplication of efforts (i.e., COBI F.O.G Control Program, COBI Single-use Foodware and Waste Reduction Program, Kitsap Public Health District, Kitsap County Pollution Prevention Assistance Program, etc.).

Table B-8. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Source Control Program for Existing Development.			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Source Control Program for Existing Development section S5.C.8 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
STAFF TRAINING FOR SOURCE CONTROL			
"S5.C.8.b.v. Permittees shall train staff who are responsible for implementing the source control program to conduct these activities. The ongoing training program shall cover the legal authority for source control, source control BMPs and their proper application, inspection protocols, lessons learned, typical cases, and enforcement procedures. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staff. Permittees shall document and maintain records of the training provided and the staff trained."	*See previous pages*	• COBI does not currently have resources dedicated to developing and implementing a source control training program. Staff working to develop the program and who conduct site inspections for the existing programs have some limited training from outside sources.	*Six of the following recommendations are reiterated across multiple tables since they apply for all training needs.* **RECOMMENDATION(S) FOR MINIMUM EFFORT ACTIVITIES:** Support and dedicate new resources to: • ***B5-R17: Track Training in Excel*** *Provide training opportunities to staff and track training in an Excel spreadsheet.* • ***B5-R18: Formal Training Program for Staff*** *Develop and implement a training program that identifies, schedules, pays for, and tracks outside training and certifications for staff.* • ***B11-R8: Records Retention Policy and Procedures*** *Develop, document, and implement a formal records retention policy and procedures for staff to follow to keep records related to the Phase II Permit and SWMP Plan for a minimum of five years.* **RECOMMENDATION(S) FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES:** Support and dedicate new resources to: • ***B5-R19: Require Formal Training and Continued Education for Staff*** *Require staff gain and maintain training and certifications along with continued education.* • ***B5-R20: COBI Specific Training Program for Staff*** *Create an in-house training program that is COBI specific and requires staff participation to gain and maintain ongoing training and continued education.* • ***B5-R21: Track Training with HR Coordination and Software*** *Coordinate training program with Human Resources (HR) and use HR software for training tracking.* • **B8-R11: Source Control Training Program for Staff** Develop and implement a source control training program for staff. • **B8-R12: Source Control Training Program for Businesses** Develop and implement a source control training program for source control site property/business owners, managers, and their staff hosted by COBI.

Table B-9. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Compliance with Total Maximum Daily Load (TMDL) Requirements.			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – Compliance with TMDL section S7 and Appendix 2 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
S7.A AND APPENDIX 2 – WRIA 15 SINCLAIR AND DYES INLETS FECAL COLIFORM BACTERIA TOTAL MAXIMUM DAILY LOAD (TMDL)			
"City of Bainbridge Island Action Required: • Designate any previously unscreened areas discharging via the [municipal separate storm sewer system] MS4 to the TMDL area as the highest priority for illicit discharge detection and elimination routine field screening. Screen for bacteria sources when conducting illicit discharge detection and elimination field screening activities in these areas. Implement the schedules and activities identified in S5.C.5 of the Western Washington Phase II Permit for response to any illicit discharges found. • Install and maintain pet waste education and collection stations at Permittee owned and operated lands adjacent to stream and marine shorelines. Focus on locations where people commonly walk their dogs."	• CAP Goal 6.A • CAP Strategy 6.A.1 • CAP Priority Action 6.A.1.a • CAP Strategy 6.D.2 • CAP Priority Action 6.D.2.a • CAP Other Action 6.D.2.b • Comp Plan Policy EN 1.3 • Comp Plan Policy EN 1.6 • Comp Plan Policy LU 10.5 • Comp Plan Goal WR-1 • Comp Plan Policy WR 1.3 • Comp Plan Policy WR 1.5 • Comp Plan Policy WR 3.7 • Comp Plan Policy WR 3.16 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.4 • Comp Plan Policy WR 4.11 • Comp Plan Policy WR 4.12 • Comp Plan Policy WR 5.6 • Comp Plan Policy WR 5.9 • Comp Plan Goal WR-6 • Comp Plan Policy WR 6.1	• All areas of the known MS4 that discharge to the TMDL area are field screened for observable sources of fecal coliform bacteria by staff while conducting IDDE and O&M activities in accordance with S5.C.5.d.i. • The City conducts stormwater discharge monitoring as part of its own Water Quality and Flow Monitoring Program (WQFMP) for water quality indicators and to comply with IDDE/TMDL requirements (i.e., quarterly sampling and testing for fecal coliform (now E.coli) bacteria at 16 sites). • The COBI Pet Waste Control Program and partnership with WSSOG "Mutt Mitt" Program promotes and facilitates stewardship by reminding and assisting pet owners to pick up their pet waste and put it in the garbage to protect water quality. The program provides free pet waste bags and stations installed all around the island to help prevent fecal coliform bacteria release into the environment and TMDL area. In total, there are 51 public pet waste bag stations around the island (this total does not include the many privately owned and maintained stations located around the island). ○ For the larger regional behavior change campaign "Mutt Mitt" Program with WSSOG, COBI purchases and promotes public access pet waste stations that are hosted and sponsored by volunteer private property owners. There are 41 stations installed around the island. ○ For the COBI Pet Waste Control Program, Public Works staff regularly inspect and maintain 10 pet waste bag stations installed at COBI owned and operated lands adjacent to stream and marine shorelines within the TMDL area where people commonly walk their pets.	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate resources to: • ***B2-R8: Existing Behavior Change Campaigns*** *(reiterated from Table B-2 for Public Education and Outreach)* *Continue to partner with WSSOG on the next phase(s) of the Mutt Mitt regional behavior change campaign and the natural yard care social marketing regional behavior change campaign.* • ***B2-R11: COBI Pet Waste Control Program*** *(reiterated from Table B-2 for Public Education and Outreach)* *COBI Pet Waste Control Program as a stewardship opportunity and for TMDL compliance.* • ***B5-R14: Field Screening for IDDE/TMDL*** *(reiterated from Table B-5 for IDDE Program)* *Implement IDDE detection program including illicit discharge field screening for at least an average of 12% of the MS4 each year during inspections and maintenance activities.* • ***B5-R15: WQFMP Field Screening for IDDE/TMDL****(reiterated from Table B-5 for IDDE Program)* *Public Works Engineering Water Resources Work Group staff and volunteers to collect and analyze water samples for water quality indicators, specifically bacteria, as part of the WQFMP to accomplish MS4 field screening activities for IDDE Program and TMDL Requirements.* • **B9-R1: Annual TMDL Activities Report** Annually document a summary, along with quantitative and qualitative data, of relevant SWMP and TMDL activities to address the applicable TMDL parameter(s).* **Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B9-R2: Coordinate with Shoreline Master Program** Coordinate TMDL activities with the COBI Shoreline Master Program to ensure complimentary regulations, education and outreach, data tracking, and reporting. • **B9-R3: Enhanced WQFMP Field Screening Program** Assess and adaptively manage for effectiveness of WQFMP field screening; and identify and monitor areas of the Island that are the most vulnerable to pollution from concentrations of bacteria, nitrogen and phosphorous (e.g., septic fields, agricultural activities, or fertilizers) to help determine need for preventative or restorative measures. • **B9-R4: Enforce Preventative or Restorative Measures** Develop and implement a program to enforce action for preventative or restorative measures as determined warranted based on WQFMP monitoring (see Recommendation B9-R3) and field evidence. • **B9-R5: Add Pet Waste Station Collection Services** Install pet waste collection bins at the already installed 10 pet waste bag stations at COBI owned and operated lands, then provide regular and frequent waste collection services at the 10 pet waste stations.

* = A specific recommendation to meet requirement(s) in the draft 2024-2029 Phase II Permit (Appendix G)

Table B-10. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Monitoring and Assessment.			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit Requirements – Compliance with Monitoring and Assessment Section S8 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
S8.A – REGIONAL STATUS AND TRENDS MONITORING			
"S8.A.1. Permittees that chose S8.B Status and Trends Monitoring Option #1 in the Phase II Western Washington Municipal Stormwater Permit August 1, 2013 – July 31, 2018 (extended to July 31, 2019) shall make a one-time payment into the collective fund to implement regional small streams and marine nearshore areas status and trends monitoring in Puget Sound. This payment is due on or before December 1, 2019. S8.A.2. All City and County Permittees covered under the Phase II Western Washington Municipal Stormwater Permit, August 1, 2013 – July 31, 2018 (extended to July 31, 2019), except the Cities of Aberdeen and Centralia, shall notify Ecology in writing which of the following two options for regional status and trends monitoring (S8.A.2.a or S8.A.2.b) the Permittee chooses to carry out during this permit term. The written notification with G19 signature is due to Ecology no later than December 1, 2019. S8.A.2.a. Make annual payments into a collective fund to implement regional receiving water status and trends monitoring of either: small streams and marine nearshore areas in Puget Sound; or, urban streams in Clark and Cowlitz Counties in the Lower Columbia River basin, depending on the Permittee's location. The annual payments into the collective fund are due on or before August 15 each year beginning in 2020…"	• CAP Other Action 6.A.1.d • CAP Priority Action 6.B.1.b • Comp Plan Policy EN 1.3 • Comp Plan Goal WR-1 • Comp Plan Policy WR 1.3 • Comp Plan Policy WR 1.5 • Comp Plan Policy WR 3.16 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.4 • Comp Plan Policy WR 4.11 • Comp Plan Policy WR 4.12	• COBI's Stormwater Management Program Coordinator is a municipal representative, and voting member, of the Stormwater Work Group who oversees collective fund utilization for Regional Status and Trends Monitoring studies through Ecology's Stormwater Action Monitoring (SAM) Program. • COBI staff and community volunteers have participated in one of the status and trends monitoring studies, the Puget Sound nearshore mussels and marine sediment study. • COBI utilizes the data and results of all the Regional Status and Trends Monitoring Studies to inform stormwater management decisions. • COBI made the one-time payment to the Regional Status and Trends Monitoring for selecting S8.B Option #1 from the 2013-2018 Phase II Permit. And, COBI selected option S8.A.2.a from the 2019-2024 Phase II Permit, so COBI now makes annual payments of $3,961 to the Regional Status and Trends Monitoring collective fund. • The Bainbridge Island Salmon Monitoring Program is an unofficial status and trends monitoring that is occurring ongoing and was started by the Sustainable Bainbridge Watershed Council and is supported by COBI. This stewardship program recruits Bainbridge Island property owners and individuals to monitor salmonoid species presence in four Bainbridge Island streams.	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate resources to: • ***B2-R13: Ongoing Stewardship Program*** *(reiterated from Table B-2 for Public Education and Outreach)* *Create one ongoing stewardship program (e.g., Salmon Monitoring Program)* • **B10-R1: Regional Status and Trends Monitoring Collective Fund** Opt-in and make annual payments to the Stormwater Action Monitoring (SAM) collective fund for regional small streams and marine nearshore areas status and trends monitoring in Puget Sound ($6,265 each year 2024-2029) overseen by the Stormwater Work Group (SWG). Also recommended is to continue COBI staff participation in the SWG as a voting member.
S8.B – STORMWATER MANAGEMENT PROGRAM (SWMP) EFFECTIVENESS AND SOURCE IDENTIFICATION STUDIES			
"S8.B.1. All Permittees that chose S8.C Effectiveness Studies Option #1 in the Phase II Western Washington Municipal Stormwater Permit, August 1, 2013 – July 31, 2018 (extended to July 31, 2019), shall make a one-time payment into the collective fund to implement effectiveness studies and source identification studies. The payment is due on or before December 1, 2019. Submit payment according to Section S8.D, below. S8.B.2. All City and County Permittees covered under the Phase II Western Washington Municipal Stormwater Permit, August 1, 2013 – July 31, 2018 (extended to July 31, 2019), shall notify Ecology in writing which of the following two options (S8.B.2.a or S8.B.2.b) for effectiveness and source identification studies the Permittee chooses to carry out during this permit term. The written notification with G19 signature is due to Ecology no later than December 1, 2019. S8.B.2.a. Make annual payments into a collective fund to implement effectiveness and source identification studies. The annual payments into the collective fund are due on or before August 15 each year beginning in 2020… S8.B.3. All Permittees shall provide information as requested…"	• CAP Other Action 6.A.1.d • CAP Priority Action 6.B.1.b • Comp Plan Policy EN 1.3 • Comp Plan Goal WR-1 • Comp Plan Policy WR 1.3 • Comp Plan Policy WR 1.5 • Comp Plan Policy WR 3.16 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.4 • Comp Plan Policy WR 4.11 • Comp Plan Policy WR 4.12	• COBI's Stormwater Management Program Coordinator is a municipal representative, and voting member, of the Stormwater Work Group who oversees collective fund utilization for SWMP Effectiveness and Source Identification studies through Ecology's Stormwater Action Monitoring (SAM) Program. • COBI utilizes the data and results of all the SWMP Effectiveness and Source Identification Studies to inform stormwater management decisions. • COBI made the one-time payment for choosing S8.C SWMP Effectiveness Studies Option #1 from the 2013-2019 Phase II Permit. And, COBI selected option S8.B.2.a from the 2019-2024 Phase II Permit, so COBI now makes annual payments of $7,240 to the SWMP Effectiveness and Source Identification Studies collective fund. • COBI provides information as requested per the Phase II Permit.	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate resources to: • **B10-R2: SWMP Effectiveness and Source Identification Studies Collective Fund** Opt-in and make annual payments to the Stormwater Action Monitoring (SAM) collective fund for SWMP effectiveness studies and source identification studies ($9,272 each year 2024-2029) overseen by the Stormwater Work Group (SWG). Also recommended is to continue COBI staff participation in the SWG as a voting member. • **B10-R3: Provide Information to Aid SAM Studies** Provide information as requested, if available, for active SWMP Effectiveness and Source Identification Studies. **Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B10-R4: SWMP Effectiveness and Source Identification Studies Proposal and Implementation** Originate a SWMP Effectiveness and Source Identification Study proposal and apply for SAM funding, and if selected, conduct and complete the study on Bainbridge Island managed by COBI Public Works Engineering Water Resources Work Group staff.

Table B-10. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Monitoring and Assessment.			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit Requirements – Compliance with Monitoring and Assessment Section S8 language	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
S8.C – STORMWATER DISCHARGE MONITORING			
S8.C.1. "This Section applies only to Permittees who choose to conduct stormwater discharge monitoring per S8.A.2.b and/or S8.B.2.b in lieu of participation in the regional status and trends monitoring and/or effectiveness and source identification studies…"	• CAP Other Action 6.A.1.d • CAP Priority Action 6.B.1.b • Comp Plan Policy EN 1.3 • Comp Plan Goal WR-1 • Comp Plan Policy WR 1.3 • Comp Plan Policy WR 1.5 • Comp Plan Policy WR 3.16 • Comp Plan Policy WR 4.1 • Comp Plan Policy WR 4.4 • Comp Plan Policy WR 4.11 • Comp Plan Policy WR 4.12	• COBI does not conduct stormwater discharge monitoring per S8.A.2.b or S8.B.2.b of the Phase II Permit. • The City conducts stormwater discharge monitoring as part of its own Water Quality and Flow Monitoring Program (WQFMP) for water quality indicators and to comply with IDDE/TMDL requirements (i.e., quarterly sampling and testing for fecal coliform (now E.coli) bacteria at 16 sites). • In 2022, Public Works Operations & Maintenance Facility was identified by the Washington State Department of Ecology (Ecology) as a site qualified to require an Industrial Stormwater General Permit (ISGP), so COBI now has an additional NPDES permit for the site that requires quarterly stormwater discharge monitoring and monthly SWPPP inspections.	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate resources to: • ***B5-R15: WQFMP Field Screening for IDDE/TMDL*** *(reiterated from Table B-5 for Illicit Discharge Detection and Elimination)* *Public Works Engineering Water Resources Work Group staff and volunteers to collect and analyze water samples for water quality indicators, specifically bacteria, as part of the WQFMP to accomplish MS4 field screening activities for IDDE Program and TMDL Requirements.* • ***B7-R22: Public Works Operations & Maintenance Facility Quarterly Discharge Monitoring*** *(reiterated from Table B-7 for Operations & Maintenance)* *Conduct stormwater discharge monitoring at the Public Works Operations & Maintenance Facility each calendar quarter to meet the ISGP requirement and make improvements as needed at the facility based on inspections and monitoring.* **Recommendations for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • ***B7-R25: Vactor Truck Decant Facility Annual Discharge Monitoring*** *(reiterated from Table B-7 for Operations & Maintenance)* *Conduct stormwater discharge monitoring in conjunction with the annual SWPPP inspections (B7-R23) at the Vactor Truck Decant Facility.* • ***B7-R30: Monitor Water Quality with Street Sweeping Activities*** *(reiterated from Table B-7 for Operations & Maintenance)* *Enhance WQFMP to monitor water quality in conjunction with street sweeping activities to gather effectiveness data.** • **B10-R5: Augment WQFMP Stormwater Discharge Monitoring** Augment the current WQFMP stormwater discharge monitoring to add annual microbial source tracking, and upstream source sampling for source investigations. *(also see other related discharge recommendations B5-R15, B7-R23, B7-R25, B7-R30, B9-R3, B10-R4, F1-R10)*
S8.D – PAYMENTS INTO COLLECTIVE FUNDS			
S8.D.1. "Each Permittee's S8.A and S8.B payment amounts are listed in Appendix 11 and in the invoices that will be sent to the Permittee approximately three months in advance of each payment due date."	Comp Plan Policy WR 4.1	• Per 2024-2029 Phase II Permit, Appendix 11, COBI must contribute a total of $15,537 annually into the regional stormwater monitoring program starting in 2024 [$6,265 for S8.A-Regional Status And Trends Monitoring, and $9,272 for S8.B-Effectiveness and Source Identification Studies].*	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate new resources to: • ***B10-R1: Regional Status and Trends Monitoring Collective Fund*** *(reiterated from this table)* ***B10-R2: SWMP Effectiveness and Source Identification Studies Collective Fund*** *(reiterated from this table)*

* = A specific recommendation to meet requirement(s) in the draft 2024-2029 Phase II Permit (Appendix G)

Table B-11. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for SWMP Plan, Recordkeeping, and Annual Reporting.			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – section S5 and S9 language for overarching SWMP requirements	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
STORMWATER MANAGEMENT PROGRAM (SWMP) AND SWMP PLAN & SWMP DESIGNED TO REDUCE DISCHARGE OF POLLUTANTS TO THE MAXIMUM EXTENT POSSIBLE			
"S5.A. Each Permittee shall develop and implement a Stormwater Management Program (SWMP). A SWMP is a set of actions and activities comprising the components listed in S5 and any additional actions necessary, to meet the requirements of applicable TMDLs pursuant to S7 – Compliance with Total Maximum Daily Load Requirements and S8 – Monitoring and Assessment... S5.A.2. Each Permittee shall prepare written documentation of the SWMP, called the SWMP Plan. The SWMP Plan shall be organized according to the program components in S5.C or a format approved by Ecology, and shall be updated at least annually for submittal with the Permittee's annual reports to Ecology (see S9 – Reporting Requirements). The SWMP Plan shall be written to inform the public of the planned SWMP activities for the upcoming calendar year, and shall include a description of: S5.A.2.a. Planned activities for each of the program components included in S5.C. S5.A.2.b. Any additional planned actions to meet the requirements of applicable TMDLs pursuant to S7– Compliance with Total Maximum Daily Load Requirements. S5.A.2.c. Any additional planned actions to meet the requirements of S8 – Monitoring and Assessment. S5.A.3. The SWMP shall include an ongoing program for gathering, tracking, maintaining, and using information to evaluate SWMP development, implementation, and permit compliance and to set priorities. S5.A.3.a. Each Permittee shall track the cost or estimated cost of development and implementation of each component of the SWMP. This information shall be provided to Ecology upon request. S5.A.3.b. Each Permittee shall track the number of inspections, follow-up actions as a result of inspections, official enforcement actions and types of public education activities as required by the respective program component. This information shall be included in the annual report." S5.A.4. Permittees shall continue implementation of existing stormwater management programs until they begin implementation of the updated stormwater management program in accordance with the terms of this Permit, including implementation schedules. S5.B. "The SWMP shall be designed to reduce the discharge of pollutants from regulated small MS4s to the MEP [Maximum Extent Possible], meet state AKART [All Known, Available, and Reasonable methods of prevention, control, and Treatment] requirements, and protect water quality."	• Comp Plan Policy WR 1.3 • Comp Plan Policy WR 4.1	• The Stormwater Management Program (SWMP) is designed to meet all permit requirements and to reduce the discharge of pollutants from the MS4 and protect water quality. • The annual SWMP Plan for the current/upcoming year is prepared and submitted to Ecology with the annual report for the previous year no later than March 31 each year, and the SWMP Plan is posted on COBI's website (www.bainbridgewa.gov/stormwater) no later than May 31 each year. • Cost tacking for SWMP activities is coordinated between the Public Works and Finance Departments as Storm and Surface Water Management (SSWM) Utility Fund Expenditures.	**Recommendations for Minimum Effort Activities:** Continue to support and dedicate resources to: • **B11-R1: Design SWMP to Reduce Pollutants and Protect Water Quality** Annually review, and update if needed, the design of the SWMP to meet all Phase II Permit requirements and to protect water quality and reduce the discharge of pollutants from the MS4 to the maximum extent possible and by all known, available, and reasonable methods of prevention, control, and treatment requirements. • **B11-R2: Annual SWMP Plan** Prepare and submit the SWMP Plan for the current year to Ecology no later than March 31 of the same year, then post to COBI website no later than May 31 of the same year. Support and dedicate new resources to: • **B11-R3: Improve SWMP Cost Tracking** Improve tracking and reporting of SWMP activities cost. COBI must submit an average annual SWMP activity cost tracking report to Ecology no later than March 31, 2027.*

* = A specific recommendation to meet requirement(s) in the draft 2024-2029 Phase II Permit (Appendix G)

Table B-11. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for SWMP Plan, Recordkeeping, and Annual Reporting.			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – section S5 and S9 language for overarching SWMP requirements	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
COORDINATION AMONG PERMITTEES AND WITHIN JURISDICTION			
"S5.A.5.a. Coordination among entities covered under municipal stormwater NPDES permits may be necessary to comply with certain conditions of the SWMP. The SWMP shall include, when needed, coordination mechanisms among entities covered under a municipal stormwater NPDES permit to encourage coordinated stormwater-related policies, programs and projects within adjoining or shared areas, including: S5.A.5.a.i. Coordination mechanisms clarifying roles and responsibilities for the control of pollutants between physically interconnected MS4s covered by a municipal stormwater permit. S5.A.5.a.ii.Coordinating stormwater management activities for shared water bodies, or watersheds among Permittees to avoid conflicting plans, policies, and regulations. S5.A.5.b. The SWMP shall include coordination mechanisms among departments within each jurisdiction to <u>eliminate barriers to compliance</u> with the terms of this Permit. Permittees shall include a written description of internal coordination mechanisms in the annual report due no later than March 31, 2021."	• Comp Plan Policy EN 1.3 • Comp Plan Policy EN 14.1 • Comp Plan Policy U 15.4 • Comp Plan Policy WR 4.1	• Unlike most Phase II Permit jurisdictions, COBI doesn't share physical boundaries with other jurisdictions, so coordination mechanism between jurisdictions is not necessary; however, COBI does coordinate on some activities because it is helpful to share information and resources and to provide some unified messaging for the west Puget Sound region. • COBI coordinates with other Permittees directly as needed and regularly in the following Permittee group forums and partnerships: ○ Stormwater Action Monitoring (SAM) – Stormwater Work Group, PRO-C, and Municipal Caucus ○ Stormwater Outreach For Regional Municipalities (STORM) [regional coordination group] & Puget Sound Starts Here (PSSH) ○ West Sound Partners for Ecosystem Recovery (WSPER) – West Central Puget Sound Local Integrating Organization and Lead Entity ○ West Sound Stormwater Managers Group ○ West Sound Stormwater Outreach Group (WSSOG) [regional coordination though an Interlocal Agreement] • Multiple work groups and meeting groups within and across COBI departments and divisions provide regular opportunities for internal coordination to identify and eliminate barriers to compliance with the Phase II Permit. Work and meeting groups include: ○ Stormwater planning inter-disciplinary team ○ Water resources work group ○ Development engineering work group ○ Capital work group ○ Public Works Managers' meetings ○ NPDES/O&M check in meetings ○ NPDES/Police check in meetings ○ Development review coordination meeting ○ Development Review Committee ○ Pre-construction meetings ○ Mapping work group ○ Code enforcement meetings ○ Utilities Advisory Committee ○ Environmental Technical Advisory Committee	**Recommendations for Minimum Effort Activities:** <u>Continue to support and dedicate resources to:</u> • **B11-R4: Coordination with Other Permittees** Coordinate with other Permittees directly as needed and regularly in the Permittee group forums and partnerships. <u>Support and dedicate new resources to:</u> • **B11-R5: Eliminate Barriers to Compliance through Cross Department Coordination** Coordinate across COBI departments, divisions, work groups and meeting groups to eliminate barriers to compliance. No later than March 31, 2026, provide a written description of coordination mechanisms in the annual report.* *(see related recommendations for Stormwater Planning in Table B-1)*

* = A specific recommendation to meet requirement(s) specified in the draft 2024-2029 Phase II Permit

Table B-11. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for SWMP Plan, Recordkeeping, and Annual Reporting.			
2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Permit requirements – section S5 and S9 language for overarching SWMP requirements	**Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management**	**Current COBI SWMP activities to meet Phase II Permit requirements**	**Opportunities for COBI SWMP activities to meet current and future anticipated Phase II Permit requirements, CAP goals, and Comp Plan policies and goals**
ANNUAL REPORTING TO DEPARTMENT OF ECOLOGY			
"S9.A. No later than March 31 of each year beginning in 2020, each Permittee shall submit an annual report. The reporting period for the first annual report will be the previous calendar year unless otherwise specified … S9.D.1. A copy of the Permittee's current SWMP Plan, as required by S5.A.2. S9.D.2. Submittal of the annual report form as provided by Ecology pursuant to S9.A, describing the status of implementation of the requirements of this Permit during the reporting period. S9.D.3. Attachments to the annual report form including summaries, descriptions, reports, and other information as required, or as applicable, to meet the requirements of this Permit during the reporting period, or as a required submittal. Refer to Appendix 3 for annual report questions."	• Comp Plan Policy WR 4.1	• The annual report for the previous year is completed and submitted to Ecology no later than March 31 each year. • COBI proactively posts the completed annual report on the City's website (www.bainbridgewa.gov/stormwater) as a way to encourage public involvement and participation.	**Recommendation for Minimum Effort Activities:** Continue to support and dedicate resources to: • **B11-R6: Annual Reporting** Complete and submit the annual report for the previous year to Ecology no later than March 31 of the current year. **Recommendation for Additional Enhanced Effort Activities:** Support and dedicate new resources to: • **B11-R7: SWMP Plan and Annual Reporting Policy and Procedures** Develop, document, and implement formal policy and procedures for staff to follow to prepare for and complete the SWMP Plan and resulting annual report consistently each year.
RECORDS RETENTION AND RECORDS SHARING			
"S9.B. Each Permittee is required to keep all records related to this permit and the SWMP for at least five years. S9.C. Each Permittee shall make all records related to this Permit and the Permittee's SWMP available to the public at reasonable times during business hours. The Permittee will provide a copy of the most recent annual report to any individual or entity, upon request. A reasonable charge may be assessed by the Permittee for making photocopies of records. The Permittee may require reasonable advance notice of intent to review records related to this Permit."	• Comp Plan Policy WR 4.1	• COBI keeps all records related to the Phase II Permit and SWMP for at least five years. • COBI makes all existing records related to the Phase II Permit and SWMP available to the public upon request.	**Recommendation for Minimum Effort Activities:** Continue to support and dedicate new resources to: • **B11-R8: Records Retention Policy and Procedures** Develop, document, and implement a formal records retention policy and procedures for staff to follow to keep records related to the Phase II Permit and SWMP Plan for a minimum of five years after the expiration date of the Permit.*

* = A specific recommendation to meet requirement(s) specified in the draft 2024-2029 Phase II Permit

APPENDIX C TABLES C1-C12 FOR COSTS ASSOCIATED WITH STORMWATER MANAGEMENT PROGRAM (SWMP) RECOMMENDATIONS IN APPENDIX B

CITY OF BAINBRIDGE ISLAND

Table C-1. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Stormwater Planning (Table B-1).													
Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
		One-time [a]	Ongoing [b]		Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
TABLE B-1 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS												
Inter-disciplinary team and Coordination with Long-Range Plan Updates												
B1-R1	Expand Inter-disciplinary Team Role in Organization		X	Three 4-hour workshops (12 hours total) per year for the inter-disciplinary team (10 COBI staff) starting in 2024 then ongoing thereafter.	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$60,000	$10,000
B1-R2	Water Quality Stakeholders Involvement		X	Two 2-hour workshops per year between the stakeholder groups and inter-disciplinary team (10 COBI staff) starting in 2024 then ongoing thereafter.	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$24,000	$4,000
B1-R5	Report on Watershed Protection Policies and Strategies	X		This may be accomplished in late-2026 at no extra cost if the inter-disciplinary team and/or Advisory Team tackles the work during scheduled meetings/workshops.	$0	$0	$0	$0	$0	$0	$0	$0
Low Impact Development (LID) Code-Related Requirements												
B1-R6	Address Barriers Related to Low Impact Development		X	4 hours of staff time for LID code and permitting review between 4 staff starting in 2024 then ongoing thereafter.	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$12,000	$2,000
B1-R7	Tree Canopy Goals		X	If City Council adopts and requests implementation of the tree canopy goals offered with the Tree Resource Code and Policy Revision Recommendations, December 2018, then the cost is estimated at 20 hours of staff time each year to implement the goals through policy and enforcement in 2028 then ongoing thereafter.	$0	$0	$0	$0	$2,000	$2,000	$4,000	$2,000
Stormwater Management Action Planning (SMAP)												
B1-R11	Approve and Implement SMAP for Manzanita Watershed		X	240 hours of staff time each year starting in 2025 then ongoing thereafter to organize carrying out the activities defined in the SMAP, cost for each activity may be found in the SMAP, Appendix E.	$0	$20,000	$20,000	$20,000	$20,000	$20,000	$100,000	$20,000
B1-R12	Update Manzanita SMAP or Create a Second SMAP	X		This recommendation could be carried out by COBI staff or with a consultant for approximately $20,000 and 40 hours of staff time in 2026.	$0	$0	$24,000	$0	$0	$0	$24,000	$0
TABLE B-1 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$16,000**	**$36,000**	**$60,000**	**$36,000**	**$38,000**	**$38,000**	**$224,000**	**$38,000**

Table C-1. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Stormwater Planning (Table B-1).													
Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
		One-time [a]	Ongoing [b]		Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
TABLE B-1 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS												
Inter-disciplinary team and Coordination with Long-Range Plan Updates												
B1-R3	Stormwater Management Advisory Group		X	Four 2-hour advisory group workshops with 4 COBI staff for support annually (i.e., one workshop per quarter) starting in 2024 then ongoing thereafter.	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$18,000	$3,000
B1-R4	Increase General Public Engagement	X	X	40 hours of staff time in 2024 to create an Engage Bainbridge website for Public Participation in Stormwater Management. Then 48 hours of staff time each year to update the website and upload and analyze and report on the data inputs starting in 2025 then ongoing thereafter.	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$24,000	$4,000
Low Impact Development (LID) Code-Related Requirements												
B1-R8	LID Assistance Program	X	X	This program could be developed by COBI staff or with consultant support of approximately $50,000 in 2025; then approximately 874 hours per year of staff time (0.5 FTE) starting in 2026 then ongoing thereafter.	$0	$50,000	$71,000	$71,000	$71,000	$71,000	$334,000	$71,000
Stormwater Management Action Planning (SMAP)												
B1-R9	Adaptive Assessment Process	X		This recommendation could be carried out by COBI staff or with a consultant for approximately $10,000 and 20 hours of staff time in 2025.	$0	$12,000	$0	$0	$0	$0	$12,000	$0
B1-R10	Adaptive Prioritization Process	X		This recommendation could be carried out by COBI staff or with a consultant for approximately $10,000 and 20 hours of staff time in 2025.	$0	$12,000	$0	$0	$0	$0	$12,000	$0
B1-R13	SMAP & Sub-Area Planning	X		This recommendation could be carried out by COBI staff or with a consultant for approximately $10,000 and 20 hours of staff time in 2027.	$0	$0	$0	$12,000	$0	$0	$12,000	$0
B1-R14	SMAP & Capital Projects Prioritization	X		This recommendation could be carried out by COBI staff or with a consultant for approximately $10,000 and 20 hours of staff time in 2027.	$0	$0	$0	$12,000	$0	$0	$12,000	$0
TABLE B-1 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$7,000**	**$81,000**	**$78,000**	**$102,000**	**$78,000**	**$78,000**	**$424,000**	**$78,000**
TABLE B-1 COMBINED RECOMMENDATIONS ESTIMATED COSTS TOTAL					**$23,000**	**$117,000**	**$138,000**	**$138,000**	**$116,000**	**$116,000**	**$648,000**	**$116,000**

[a] One-time programs/projects are completed once, such as hiring a consultant to develop new training materials

[b] Ongoing programs/projects occur every year, such as continuing an inspection program or annual review of procedures

c The cost of one hour is equal to $80.75, which was developed using the Stormwater Management Program Coordinator 2023 composite hour rate (salary+benefits) as proxy. There are 1,748 working hours per year, which represents one full-time equivalent (FTE) employee. One FTE is equal to $141,154 annually.

[d] These costs are rounded to the nearest thousand dollar amount and do not include inflation.

Table C-2. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Public Education and Outreach (Table B-2).

Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
		One-time [a]	Ongoing [b]		Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
TABLE B-2 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS												
General Awareness Education and Outreach												
B2-R1	Coordination of Education and Outreach Activities		X	The current annual contract amount with WSSOG is $13,142 for 2024 and 2025, and if the contract is amended to continue into future years the annual amount may increase in 2025 and each year thereafter. 40 hours of staff time each year to manage the contract and coordinate on education and outreach activities, and a minor annual budget of $1,000 for outreach materials, starting in 2024 then ongoing thereafter.	$18,000	$18,000	$18,000	$18,000	$18,000	$18,000	$108,000	$18,000
B2-R2	Stormwater Education and Outreach Plan & Annual Awareness Campaign	X	X	40 hours of staff time in 2025 to create a Stormwater Education and Outreach Plan, then ongoing thereafter 48 hours of staff time each year to implement the plan.	$0	$4,000	$4,000	$4,000	$4,000	$4,000	$20,000	$4,000
B2-R3	Consider Overburdened Communities		X	8 hours per year for at least 4 staff to receive training and guidance on the topic and issues of overburdened communities and apply it in their work starting in 2024 then ongoing thereafter.	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$18,000	$3,000
Behavior Change Education and Outreach												
B2-R8	Existing Behavior Change Campaigns		X	40 hours of staff time to continue to support the regional behavior change campaigns at least through 2029.	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$24,000	$4,000
Stewardship												
B2-R10	Promote Stewardship Opportunities		X	12 hours of staff time each year to support promoting and advertising stewardship opportunities starting in 2024 then ongoing thereafter.	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$6,000	$1,000
B2-R11	COBI Pet Waste Control Program		X	52 total hours of staff time annually; for 48 hours of staff time each year to continue to regularly inspect and maintain the 10 pet waste stations managed by COBI starting in 2024 then ongoing thereafter, and 4 hours of staff time each year to coordinate with WSSOG and the "Mutt Mitt Program" starting in 2024 then ongoing thereafter.	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$30,000	$5,000
TABLE B-2 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$31,000**	**$35,000**	**$35,000**	**$35,000**	**$35,000**	**$35,000**	**$206,000**	**$35,000**

Table C-2. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Public Education and Outreach (Table B-2).

Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
					Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
		One-time [a]	Ongoing [b]		2024	2025	2026	2027	2028	2029		
TABLE B-2 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS												
B2-R4	Multi-Year Awareness Campaign(s)		X	This recommendation could be carried out by trained COBI outreach staff or with a consultant at approximately $10,000 total annually for $5,000 for consultant support/staff hours plus $5,000 education and outreach budget starting in 2025 then ongoing thereafter.	$0	$10,000	$10,000	$10,000	$10,000	$10,000	$50,000	$10,000
B2-R5	General Awareness Training for New Staff and Volunteers	X		This would be an internal ongoing training program that could be developed and implemented by COBI staff or with a consultant for approximately $10,000 in 2024.	$10,000	$0	$0	$0	$0	$0	$10,000	$0
B2-R6	General Awareness and BMPs Training Program for Staff	X	X	This would be an internal ongoing training program that could be developed by COBI staff or with a consultant for approximately $10,000 in 2024; then for an estimated 40 hours of staff time each year to accomplish the training starting in 2025 then ongoing thereafter.	$10,000	$4,000	$4,000	$4,000	$4,000	$4,000	$30,000	$4,000
B2-R7	Training and Certification Program for Priority Audiences	X	X	This would be an ongoing training program that could be developed by COBI staff or with a consultant at approximately $20,000 in 2025; then an estimated 40 hours of staff time each year to conduct the training starting in 2025 then ongoing thereafter.	$0	$24,000	$4,000	$4,000	$4,000	$4,000	$40,000	$4,000
Behavior Change Education and Outreach												
B2-R9	Expand Existing Behavior Change Campaign		X	This recommendation could be carried out by trained COBI outreach staff or with a consultant at approximately $10,000 total annually for $5,000 for consultant support/staff hours plus $5,000 education and outreach budget starting in 2025 then ongoing thereafter.	$0	$10,000	$10,000	$10,000	$10,000	$10,000	$50,000	$10,000
Stewardship												
B2-R12	Provide a Stewardship Opportunity		X	80 hours of staff time per year to support providing one annual stewardship opportunity starting in 2024 then ongoing thereafter.	$7,000	$7,000	$7,000	$7,000	$7,000	$7,000	$42,000	$7,000
B2-R13	Ongoing Stewardship Program		X	144 hours of staff time each year to support providing stewardship opportunities starting in 2024 then ongoing thereafter.	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000	$72,000	$12,000
TABLE B-2 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$39,000**	**$67,000**	**$47,000**	**$47,000**	**$47,000**	**$47,000**	**$294,000**	**$47,000**
TABLE B-2 COMBINED RECOMMENDATIONS ESTIMATED COSTS TOTAL					**$70,000**	**$102,000**	**$82,000**	**$82,000**	**$82,000**	**$82,000**	**$500,000**	**$82,000**

[a] One-time programs/projects are completed once, such as hiring a consultant to develop new training materials

[b] Ongoing programs/projects occur every year, such as continuing an inspection program or annual review of procedures

c The cost of one hour is equal to $80.75, which was developed using the Stormwater Management Program Coordinator 2023 composite hour rate (salary+benefits) as proxy. There are 1,748 working hours per year, which represents one full-time equivalent (FTE) employee. One FTE is equal to $141,154 annually.

[d] These costs are rounded to the nearest thousand dollar amount and do not include inflation.

Table C-3. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Public Involvement and Participation (Table B-3).

Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
		One-time [a]	Ongoing [b]		Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
TABLE B-3 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS												
B3-R1	Provide Opportunities for Public Input		X	4 hours of staff time each year to provide opportunities for public input starting in 2024 then ongoing thereafter.	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$6,000	$1,000
B3-R2	Publicize the SWMP Plan and Annual Report		X	4 hours of staff time each year to post the SWMP Plan and Annual Report in 2024 and ongoing thereafter.	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$6,000	$1,000
B3-R3	Involve Overburdened Communities		X	40 hours of staff time each year to create and provide involvement opportunities to overburdened communities and document the efforts starting in 2025 then ongoing thereafter.	$0	$4,000	$4,000	$4,000	$4,000	$4,000	$20,000	$4,000
TABLE B-3 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$2,000**	**$6,000**	**$6,000**	**$6,000**	**$6,000**	**$6,000**	**$32,000**	**$6,000**
TABLE B-3 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS												
B3-R4	Regular Public Presentation on SWMP Activities		X	40 hours of staff time each year to prepare materials and present to City Council starting in 2024 then ongoing thereafter.	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$24,000	$4,000
B3-R5	Ongoing Public Forum through Engage Bainbridge	X	X	40 hours of staff time in 2024 to develop and implement an Engage Bainbridge site and 10 hours of staff time each year to upkeep the site starting in 2025 then ongoing thereafter.	$4,000	$1,000	$1,000	$1,000	$1,000	$1,000	$9,000	$1,000
B3-R6	Regular Public Meetings and Workshops		X	40 hours of staff time each year to present the SWMP at public meetings and workshops starting in 2024 then ongoing thereafter.	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$24,000	$4,000
TABLE B-3 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$12,000**	**$9,000**	**$9,000**	**$9,000**	**$9,000**	**$9,000**	**$57,000**	**$9,000**
TABLE B-3 COMBINED RECOMMENDATIONS ESTIMATED COSTS TOTAL					**$14,000**	**$15,000**	**$15,000**	**$15,000**	**$15,000**	**$15,000**	**$89,000**	**$15,000**

[a] One-time programs/projects are completed once, such as hiring a consultant to develop new training materials

[b] Ongoing programs/projects occur every year, such as continuing an inspection program or annual review of procedures

c The cost of one hour is equal to $80.75, which was developed using the Stormwater Management Program Coordinator 2023 composite hour rate (salary+benefits) as proxy. There are 1,748 working hours per year, which represents one full-time equivalent (FTE) employee. One FTE is equal to $141,154 annually.

[d] These costs are rounded to the nearest thousand dollar amount and do not include inflation.

Table C-4. Costs Associated with Stormwater Management Program (SWMP) Recommendations for MS4 Mapping and Documentation (Table B-4).

Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
					Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
		One-time [a]	Ongoing [b]		2024	2025	2026	2027	2028	2029		
TABLE B-4 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS												
Ongoing Mapping & New Mapping												
B4-R1	One-time Map Updates	X		1,748 hours of staff time (1 FTE) for this estimated full-time 1-year project starting in 2024, and $15,000 for an additional ArcPro GIS software license start-up cost in 2024.	$157,000	$0	$0	$0	$0	$0	$157,000	$0
B4-R2	Ongoing Map Updates		X	874 hours of staff time (0.5 FTE) each year to regularly manage data updates to stormwater mapping, and $4,000 each year for the upkeep of an additional ArcPro GIS software license starting in 2025 then ongoing thereafter.	$0	$75,000	$75,000	$75,000	$75,000	$75,000	$375,000	$75,000
B4-R3	Outfall and Discharge Points Update	X		1,748 hours of staff time for this estimated full-time 6-month project with two COBI staff in 2025, and $5,000 for the drone and necessary training and certification in 2025.	$0	$147,000	$0	$0	$0	$0	$147,000	$0
B4-R4	Acres Managed and Unmanaged by Stormwater Treatment and Flow Control BMPs/Facilities	X		$30,000 for consultant support and 20 hours of staff support in 2027 to map MS4 tributary basins to outfalls or discharge points that have public stormwater treatment and flow control BMPs/facilities. This cost includes documentation for Ecology, but does not include field verification of any facilities/BMPs.	$0	$0	$0	$32,000	$0	$0	$32,000	$0
B4-R5	Tree Canopy Map	X		40 hours of staff time to develop the tree canopy map using already existing regional data in 2028.	$0	$0	$0	$0	$4,000	$0	$4,000	$0
Recordkeeping and Data Sharing												
B4-R10	Mapping Standards	X		40 hours of staff time to complete the update and documentation of stormwater mapping standards and procedures in 2024.	$4,000	$0	$0	$0	$0	$0	$4,000	$0
TABLE B-4 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$161,000**	**$222,000**	**$75,000**	**$107,000**	**$79,000**	**$75,000**	**$719,000**	**$75,000**

Table C-4. Costs Associated with Stormwater Management Program (SWMP) Recommendations for MS4 Mapping and Documentation (Table B-4).

Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
					Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
		One-time [a]	Ongoing [b]		2024	2025	2026	2027	2028	2029		
TABLE B-4 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS												
Ongoing Mapping & New Mapping												
B4-R6	Flow Direction Update	X		The cost is associated with and accounted for with the map update Recommendations B4-R1 and B4-R2.	$0	$0	$0	$0	$0	$0	$0	$0
B4-R7	Additional Mobile Technology and Software	X		$1,000 for the purchase of an additional field kit (tablet, charger, carrying case, GPS receiver) to access ESRI mobile applications in 2024.	$1,000	$0	$0	$0	$0	$0	$1,000	$0
B4-R8	Ongoing Public Works Mapping and Documentation		X	874 hours of staff time (0.5 FTE) each year for ongoing Public Works mapping and documentation starting in 2024 then ongoing thereafter. This recommendation would require general fund support for implementation.	$71,000	$71,000	$71,000	$71,000	$71,000	$71,000	$426,000	$71,000
B4-R9	GIS Network/Stormwater Model	X		To be cost effective, this effort would be a watershed-scale model focusing on a priority watershed. Approximately $200,000 of consultant support and 200 hours of staff support in 2028 to create and calibrate the model.	$0	$0	$0	$0	$217,000	$0	$217,000	$0
Recordkeeping and Data Sharing												
B4-R11	Upgrade Recordkeeping and Reporting with Asset Management System Software	X	X	$40,000 for the initial purchase of an asset management software in 2025, plus the $20,000 annual software fee, plus $50,000 for the asset management consultant, plus 80 hours of staff support to manage the project in 2025; then $20,000 for the annual software fee plus 874 hours of staff time (0.5 FTE) each year to implement and manage the asset management program starting in 2026 then ongoing thereafter.	$0	$117,000	$91,000	$91,000	$91,000	$91,000	$481,000	$91,000
B4-R12	Asset Management Training Program	X		$5,000 for a consultant to host the asset management training and an estimated 160 staff hours for 10 COBI staff to take 16 hours of training in 2025.	$0	$18,000	$0	$0	$0	$0	$18,000	$0
TABLE B-4 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$72,000**	**$206,000**	**$162,000**	**$162,000**	**$379,000**	**$162,000**	**$1,143,000**	**$162,000**
TABLE B-4 COMBINED RECOMMENDATIONS ESTIMATED COSTS TOTAL					**$233,000**	**$428,000**	**$237,000**	**$269,000**	**$458,000**	**$237,000**	**$1,862,000**	**$237,000**

[a] One-time programs/projects are completed once, such as hiring a consultant to develop new training materials

[b] Ongoing programs/projects occur every year, such as continuing an inspection program or annual review of procedures

c The cost of one hour is equal to $80.75, which was developed using the Stormwater Management Program Coordinator 2023 composite hour rate (salary+benefits) as proxy. There are 1,748 working hours per year, which represents one full-time equivalent (FTE) employee. One FTE is equal to $141,154 annually.

[d] These costs are rounded to the nearest thousand dollar amount and do not include inflation.

Table C-5. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Illicit Discharge Detection and Elimination (IDDE) (Table B-5).

Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
		One-time [a]	Ongoing [b]		Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
TABLE B-5 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS												
IDDE Program												
B5-R1	IDDE Program Coordination		X	120 hours of staff time each year to support IDDE activities starting in 2024 then ongoing thereafter.	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$60,000	$10,000
Inform People on Hazards of Illicit Discharges and Improper Waste Disposal												
B5-R3	Offer Information to Staff	X	X	$10,000 for consultant support and 10 hours of staff support in 2024 to develop an IDDE and waste disposal information campaign or training for staff. Then 40 hours of staff time each year to implement the ongoing campaign or training starting in 2025 then ongoing at least through 2029.	$11,000	$4,000	$4,000	$4,000	$4,000	$4,000	$31,000	$4,000
B5-R4	Partner on Waste Disposal		X	40 hours of staff time each year to support partnerships in waste collection education and collection starting in 2024 then ongoing thereafter.	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$24,000	$4,000
B5-R5	Continue Waste Reduction Program		X	40 hours of staff time each year to support collaborating on and conducting a combined program starting in 2024.	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$24,000	$4,000
B5-R6	Agriculture Technical Assistance for Water Quality		X	The current annual contract amount with KCD is $48,000 for 2024 and if the contract is amended to continue into future years the annual amount may increase in 2025 and each year thereafter. 10 hours of staff time each year to manage the contract and support the Agricultural Technical Assistance for Water Quality Program. The program cost is split 50/50 between the SSWM Fund and General Fund.	$49,000	$49,000	$49,000	$49,000	$49,000	$49,000	$294,000	$49,000
Illicit Discharge Ordinance												
B5-R10	Stormwater Code Enforcement Assistance		X	80 hours of staff time each year to coordinate enforcement of BIMC violations related to stormwater management and water quality starting in 2024 then ongoing thereafter.	$7,000	$7,000	$7,000	$7,000	$7,000	$7,000	$42,000	$7,000
B5-R11	Illicit Discharge Detection and Elimination Code Update	X		$10,000 for consultant support and 40 hours of staff support in 2024 to complete BIMC 15.22 updates in conjunction with other recommended code updates/additions (see Recommendations B7-R6 and B8-R5).	$14,000	$0	$0	$0	$0	$0	$14,000	$0
Ongoing Program for Detecting Illicit Discharges												
B5-R13	Kitsap1 for Spills Hotline		X	4 hours of staff time each year to coordinate with Kitsap1 and other COBI staff to ensure the hotline reporting and response process is working as intended, and to promote the Kitsap1 hotline whenever possible through COBI communication channels starting in 2024 then ongoing thereafter.	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$6,000	$1,000
B5-R14	Field Screening for IDDE/TMDL		X	The cost is associated with and accounted for with Operations & Maintenance and Water Quality and Flow Monitoring Program (WQFMP) activities (see Recommendation B5-R15 and B7-R15).	$0	$0	$0	$0	$0	$0	$0	$0
B5-R15	WQFMP Field Screening for IDDE/TMDL		X	64 hours of staff time each year to prepare, collect, and send 16 water samples for lab testing and analysis on a quarterly basis with lab costs of $12,000 annually starting in 2024 then ongoing thereafter.	$18,000	$18,000	$18,000	$18,000	$18,000	$18,000	$108,000	$18,000
Ongoing Program to Address Illicit Discharges												
B5-R16	IDDE Policies and Procedures	X		$10,000 for consultant support and 120 hours of staff support in 2024 to update IDDE policies and procedures.	$20,000	$0	$0	$0	$0	$0	$20,000	$0

Table C-5. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Illicit Discharge Detection and Elimination (IDDE) (Table B-5).													
Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
		One-time [a]	Ongoing [b]		Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
Staff Training for IDDE												
B5-R17	Track Training in Excel		X	24 hours of staff time each year to track staff training in Excel starting in 2024 then ongoing thereafter	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$12,000	$2,000
B5-R18	Formal Training Program for Staff	X	X	$10,000 for a one-time project in 2024 with consultant support and 40 hours of staff time to develop the training program. Then 60 hours of staff time each year to implement the training program starting in 2025 then ongoing thereafter, Note, this does not account for the cost of the total combined staff time to complete the trainings each year.	$14,000	$5,000	$5,000	$5,000	$5,000	$5,000	$39,000	$5,000
IDDE Recordkeeping												
B5-R22	IDDE Activities Tracking		X	30 hours of staff time each year to document IDDE activities starting in 2024 then ongoing thereafter.	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$18,000	$3,000
TABLE B-5 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$157,000**	**$107,000**	**$107,000**	**$107,000**	**$107,000**	**$107,000**	**$692,000**	**$107,000**
TABLE B-5 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS												
IDDE Program												
B5-R2	Enhance the IDDE Program		X	10 hours of staff time each year to develop and coordinate enhancements to the IDDE Program starting in 2024 then ongoing thereafter.	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$6,000	$1,000
Inform People on Hazards of Illicit Discharges and Improper Waste Disposal												
B5-R7	IDDE Public Awareness Program	X	X	$10,000 for consultant support and 10 hours of staff support to develop the public information program/campaign in 2026. Then 10 hours of staff time each year to implement the program starting in 2026 then ongoing thereafter.	$0	$0	$11,000	$1,000	$1,000	$1,000	$14,000	$1,000
B5-R8	Proper Waste Disposal Incentive Program	X	X	$10,000 for consultant support and 10 hours of staff support in 2025 to develop the program and collaborate with businesses on local waste collection. Then 10 hours of staff time each year to implement the program starting in 2026 then ongoing thereafter.	$0	$11,000	$1,000	$1,000	$1,000	$1,000	$15,000	$1,000
B5-R9	Program for Businesses for Proper Waste Disposal	X	X	$10,000 for consultant support and 10 hours staff support in 2024 to develop the proper waste disposal program. Then 10 hours of staff time each year to implement the program starting in 2025 then ongoing thereafter.	$11,000	$1,000	$1,000	$1,000	$1,000	$1,000	$16,000	$1,000
Illicit Discharge Ordinance												
B5-R12	Code Enforcement Policy and Staff	X	X	$20,000 for consultant support and 40 hours of staff support in 2024 to complete a one-time project to develop and document policy and procedures for enforcement of stormwater management codes under BIMC Title 15, and approximately $141,154 for the annual salary and benefits of a new second Code Enforcement Officer starting in 2024, this staff person would also assist the project.	$166,000	$142,000	$142,000	$142,000	$142,000	$142,000	$876,000	$142,000

Table C-5. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Illicit Discharge Detection and Elimination (IDDE) (Table B-5).													
Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
		One-time [a]	Ongoing [b]		Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
Staff Training for IDDE												
B5-R19	Require Formal Training and Continued Education for Staff		X	$25,000 as an initial annual overall budget to provide up to 50 staff members with an individual annual budget of $500 for required training and continued education plus 36 hours of staff time each year to track and record staff training starting in 2025 then ongoing thereafter. Note, this does not account for the cost of the total combined staff time to complete trainings and certifications each year.	$0	$28,000	$28,000	$28,000	$28,000	$28,000	$140,000	$28,000
B5-R20	COBI Specific Training Program for Staff	X	X	$10,000 for consultant support and 20 hours of staff support in 2024 to develop a COBI specific training program. Then 60 hours of staff time each year to implement the training program starting in 2025 then ongoing thereafter. Note, this does not account for the cost of the total combined staff time to participate in trainings each year.	$12,000	$5,000	$5,000	$5,000	$5,000	$5,000	$37,000	$5,000
B5-R21	Track Training with HR Coordination and Software	X	X	$10,000 for any new HR training software setup or addon costs in 2024, and 24 hours of staff support each year starting in 2024 then ongoing thereafter.	$12,000	$2,000	$2,000	$2,000	$2,000	$2,000	$22,000	$2,000
TABLE B-5 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$202,000**	**$190,000**	**$191,000**	**$181,000**	**$181,000**	**$181,000**	**$1,126,000**	**$181,000**
TABLE B-5 COMBINED RECOMMENDATIONS ESTIMATED COSTS TOTAL					**$359,000**	**$297,000**	**$298,000**	**$288,000**	**$288,000**	**$288,000**	**$1,818,000**	**$288,000**

[a] One-time programs/projects are completed once, such as hiring a consultant to develop new training materials

[b] Ongoing programs/projects occur every year, such as continuing an inspection program or annual review of procedures

c The cost of one hour is equal to $80.75, which was developed using the Stormwater Management Program Coordinator 2023 composite hour rate (salary+benefits) as proxy. There are 1,748 working hours per year, which represents one full-time equivalent (FTE) employee. One FTE is equal to $141,154 annually.

[d] These costs are rounded to the nearest thousand dollar amount and do not include inflation.

Table C-6. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Controlling Runoff from New Development, Redevelopment, and Construction Sites (Table B-6).													
Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
		One-time [a]	Ongoing [b]		Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
TABLE B-6 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS												
Program to Address Runoff from New Development, Redevelopment, and Construction Site Projects												
B6-R1	Coordinating Controlling Runoff Activities and Enforcement		X	60 hours of staff time each year to coordinate on construction activities and enforcement via email, phone, or in person starting in 2024 then ongoing thereafter.	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$30,000	$5,000
Ordinance to Address Runoff from New Development, Redevelopment, and Construction Site Projects												
B6-R3	Controlling Runoff Enforcement Mechanisms		X	The cost for this is associated and accounted for with Recommendation B6-R5, Permitting Process for Site Plan Review, Inspections, Enforcement.	$0	$0	$0	$0	$0	$0	$0	$0
Permitting Process with Site Plan Review, Inspection, and Enforcement												
B6-R5	Permitting Process for Site Plan Review, Inspections, Enforcement		X	6,992 staff hours each year (80% of time for 5 COBI staff) to support site plan review, inspection, enforcement and tracking of all these activities starting in 2024 then ongoing thereafter.	$565,000	$565,000	$565,000	$565,000	$565,000	$565,000	$3,390,000	$565,000
Make Notice of Intent (NOI) Available												
B6-R12	Provide Link to Notice of Intent (NOI)		X	The cost for this is associated and accounted for with Recommendation B6-R5, Permitting Process for Site Plan Review, Inspections, Enforcement.	$0	$0	$0	$0	$0	$0	$0	$0
TABLE B-6 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$570,000**	**$570,000**	**$570,000**	**$570,000**	**$570,000**	**$570,000**	**$3,420,000**	**$570,000**

Table C-6. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Controlling Runoff from New Development, Redevelopment, and Construction Sites (Table B-6).

Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
		One-time [a]	Ongoing [b]		Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
TABLE B-6 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS												
Program to Address Runoff from New Development, Redevelopment, and Construction Site Projects												
B6-R2	Assess Controlling Runoff Coordination	X	X	40 hours of staff time to assess coordination and develop an improvement plan, then 80 hours of staff time to implement the plan in 2024 then ongoing thereafter.	$10,000	$7,000	$7,000	$7,000	$7,000	$7,000	$45,000	$7,000
Ordinance to Address Runoff from New Development, Redevelopment, and Construction Site Projects												
B6-R4	Controlling Runoff Codes and Standards Review and Update	X		$20,000 for consultant support and 40 hours of staff support in 2024 to review and update controlling runoff codes under BIMC Title 15 and standards.	$24,000	$0	$0	$0	$0	$0	$24,000	$0
Permitting Process with Site Plan Review, Inspection, and Enforcement												
B6-R6	Site Plan Review Checklist/ Template	X		$15,000 for a one-time project in 2024 with consultant support and 40 staff hours to develop the checklist or template to aid in developing the checklist or template.	$19,000	$0	$0	$0	$0	$0	$19,000	$0
B6-R7	Permitted Projects Enforcement Policy	X		120 hours of staff time in 2024 to document enforcement policy and procedures for permitted projects.	$10,000	$0	$0	$0	$0	$0	$10,000	$0
B6-R8	Increase Permitted Project Inspections		X	1,748 staff hours for one additional full-time staff person to assist with permitted project inspections and enforcement starting in 2024 then ongoing thereafter.	$142,000	$142,000	$142,000	$142,000	$142,000	$142,000	$852,000	$142,000
B6-R9	Tracking Inspections and Enforcement	X		80 hours of staff time to develop and implement the tracking process in 2024.	$7,000	$0	$0	$0	$0	$0	$7,000	$0
B6-R10	Construction Quality and Future Management Assurance Process	X		80 hours of staff time to develop and implement the assurance process in 2024.	$7,000	$0	$0	$0	$0	$0	$7,000	$0
B6-R11	Inspection and Enforcement Software	X	X	60 hours of staff time to develop and implement the process for using Smartgov software for tracking inspections and enforcement starting in 2024 then ongoing thereafter; and 16 hours of training for at least 4 staff in 2024.	$11,000	$6,000	$6,000	$6,000	$6,000	$6,000	$41,000	$6,000
Make Notice of Intent (NOI) Available												
B6-R13	Additional Coordination with Ecology		X	20 hours of staff time each year to support coordination with Ecology starting in 2024 then ongoing thereafter.	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$12,000	$2,000
TABLE B-6 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$232,000**	**$157,000**	**$157,000**	**$157,000**	**$157,000**	**$157,000**	**$1,017,000**	**$157,000**
TABLE B-6 COMBINED RECOMMENDATIONS ESTIMATED COSTS TOTAL					**$802,000**	**$727,000**	**$727,000**	**$727,000**	**$727,000**	**$727,000**	**$4,437,000**	**$727,000**

[a] One-time programs/projects are completed once, such as hiring a consultant to develop new training materials

[b] Ongoing programs/projects occur every year, such as continuing an inspection program or annual review of procedures

c The cost of one hour is equal to $80.75, which was developed using the Stormwater Management Program Coordinator 2023 composite hour rate (salary+benefits) as proxy. There are 1,748 working hours per year, which represents one full-time equivalent (FTE) employee. One FTE is equal to $141,154 annually.

[d] These costs are rounded to the nearest thousand dollar amount and do not include inflation.

Table C-7. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Operations and Maintenance (O&M) (Table B-7).

Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
					Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
		One-time [a]	Ongoing [b]		2024	2025	2026	2027	2028	2029		
TABLE B-7 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS												
Maintenance Standards												
B7-R1	Implement Maintenance Standards		X	10 hours of staff time each year to collaborate on reviewing and documenting any needed updates to the COBI maintenance standards for stormwater infrastructure starting in 2024 then ongoing thereafter. This does not include staff time to ensure maintenance standards are being followed through inspections and enforcement which is covered by other recommendations.	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$6,000	$1,000
Maintenance of Stormwater Facilities Regulated by COBI												
B7-R4	Private Stormwater Facilities Maintenance Program Inspection and Enforcement		X	60 hours of staff time each year to conduct inspections of 80% of the permitted (private) BMPs/facilities and enforce maintenance standards as needed starting in 2024 then ongoing thereafter.	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$30,000	$5,000
B7-R5	Private Stormwater Facilities Maintenance Program Tracking		X	20 hours of staff time each year to record and track Private Facilities Maintenance Program activities in Excel starting in 2024 then ongoing thereafter.	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$12,000	$2,000
B7-R6	Code Updates for Stormwater Facilities Maintenance Program	X		$10,000 of consultant support and 40 hours of staff support in 2024 to complete BIMC 15.20 and 15.21 updates in conjunction with other recommended code updates/additions (see Recommendations B5-R11 and B8-R5).	$14,000	$0	$0	$0	$0	$0	$14,000	$0
Maintenance of Stormwater Facilities Owned or Operated By COBI												
B7-R13	Public (MS4) Stormwater Facility Inspections and Maintenance		X	768 hours of staff time each year (an average of 4 hours of time for each of the current 192 facilities) to complete stormwater facility inspections, maintenance, and recordkeeping started in 2024 then ongoing thereafter. This does not include the cost for equipment and materials.	$63,000	$63,000	$63,000	$63,000	$63,000	$63,000	$378,000	$63,000
B7-R14	Public (MS4) Stormwater Facility Spot Checks After Storm Events		X	16 hours of staff time each year (based on an average of 2 events per year at 8 hours of staff time for each event) to conduct and record spot checks starting in 2024 then ongoing thereafter.	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$12,000	$2,000
B7-R15	Public (MS4) Catch Basin and Inlet Inspections and Maintenance		X	460 hours of staff time (average of 15 minutes for each of the 1,835 assets) over two years to complete all catch basin and inlet inspections and maintenance starting in 2024 then ongoing thereafter. This does not include the cost for equipment and materials.	$19,000	$19,000	$19,000	$19,000	$19,000	$19,000	$114,000	$19,000
Practices, Policies, and Procedures to Reduce Stormwater Impacts												
B7-R18	Refine Practices, Policies, and Procedures for Maintenance Activities	X		$10,000 of consultant support and 40 hours of staff support in 2025 to refine COBI practices, policies, and procedures for each of the maintenance activities listed in the Phase II Permit.	$0	$14,000	$0	$0	$0	$0	$14,000	$0
B7-R19	Implement Practices, Policies, and Procedures for Maintenance Activities		X	The approximate annual cost for implementing (i.e., performing) COBI practices, policies, and procedures for each of the maintenance activities listed in the Phase II Permit is not fully known at this time but could be estimated in conjunction with Recommendations B7-R16 and/or B7-R18.	$0	$0	$0	$0	$0	$0	$0	$0

Table C-7. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Operations and Maintenance (O&M) (Table B-7).													
Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
		One-time [a]	Ongoing [b]		Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
Stormwater Pollution Prevention Plans												
B7-R21	Update SWPPPs	X		80 hours of staff time in 2024 to complete SWPPP and SWPPP form updates.	$7,000	$0	$0	$0	$0	$0	$7,000	$0
B7-R22	Public Works Operations & Maintenance Facility Monthly SWPPP Inspections		X	24 hours of staff time each year (2 hours every month) to complete and record a monthly SWPPP inspection at the Public Works Operations & Maintenance Facility starting in 2024 then ongoing thereafter. Cost does not include cost for implementing any needed operational or structural improvements.	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$12,000	$2,000
B7-R23	Public Works Operations & Maintenance Facility Quarterly Discharge Monitoring		X	32 hours of staff time each year (8 hours every quarter) to complete the quarterly stormwater discharge monitoring for the Public Works Operations & Maintenance Facility and submit to Ecology starting in 2024 then ongoing thereafter.	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$18,000	$3,000
B7-R24	Vactor Truck Decant Facility Annual SWPPP Inspections		X	2 hours of staff time each year to complete and record a SWPPP inspection at the Vactor Truck Decant Facility. Cost does not include cost for implementing any needed operational or structural improvements.	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$6,000	$1,000
Street Sweeping Program												
B7-R26	Assess and Adapt Existing Street Sweeping Program	X	X	80 hours in 2027 to assess and redevelop the Street Sweeping Program; and an estimated 80 hours of staff time each year to manage the program and perform the sweeping at least three times a year starting in 2027 then ongoing thereafter. Cost does not include costs for equipment and materials, or the separate sweeping recommendations in the Manzanita East Catchment SMAP (Appendix E) that assumes street sweeping cost at $12,000 per year for a total of six years.	$0	$0	$0	$7,000	$7,000	$7,000	$21,000	$7,000
B7-R27	Training for Staff on Street Sweeping	X	X	40 hours of staff time in 2027 to develop the program, then 10 hours of staff time to implement the training program and track the training in an Excel spreadsheet each year starting in 2027 then ongoing thereafter.	$0	$0	$0	$5,000	$1,000	$1,000	$7,000	$1,000
TABLE B-7 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$119,000**	**$112,000**	**$98,000**	**$110,000**	**$106,000**	**$106,000**	**$651,000**	**$106,000**

Table C-7. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Operations and Maintenance (O&M) (Table B-7).

Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
					Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
		One-time [a]	Ongoing [b]		2024	2025	2026	2027	2028	2029		
TABLE B-7 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS												
Maintenance Standards												
B7-R2	Consistent Inspection and Maintenance Program and Schedule	X	X	20 hours of staff time in 2024 to develop a program and schedule for inspection and maintenance of the MS4 and for private stormwater systems; then 4 hours of staff time each year to review and update the program and schedule as needed starting in 2025 then ongoing thereafter. This does not include staff time related to fulfilling the programs and schedules.	$2,000	$1,000	$1,000	$1,000	$1,000	$1,000	$7,000	$1,000
B7-R3	COBI Specific Maintenance Standards	X		$50,000 for consultant support and 40 hours of staff support in 2025 to develop the enhanced maintenance standards.	$0	$54,000	$0	$0	$0	$0	$54,000	$0
Maintenance of Stormwater Facilities Regulated by COBI												
B7-R7	Improve Recordkeeping for Asset Management	X	X	Refer to MS4 Mapping and Documentation section for specific asset management software staffing and/or funding assumptions.	$0	$0	$0	$0	$0	$0	$0	$0
B7-R8	Private Stormwater Facilities Maintenance Assistance Program	X	X	200 hours of staff time in 2025 to develop and implement the assistance program; then an estimated 40 hours of staff time each year to support the program starting in 2026 then ongoing thereafter.	$0	$17,000	$4,000	$4,000	$4,000	$4,000	$33,000	$4,000
B7-R9	Enhancement #1 to Private Stormwater Facilities Maintenance Program Inspection and Enforcement		X	60 hours of staff time each year to conduct inspections and enforce maintenance starting in 2024 then ongoing thereafter.	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$30,000	$5,000
B7-R10	Complete Private Stormwater Treatment and Flow Control BMPs/Facilities Inventory	X	X	$50,000 of consultant support and 80 hours of staff support to complete the inventory in 2024. Then ongoing updates to the inventory are estimated at 8 staff hours per year starting in 2025 then ongoing thereafter (also see Recommendation B4-R2 for Ongoing Map Updates).	$57,000	$1,000	$1,000	$1,000	$1,000	$1,000	$62,000	$1,000
B7-R11	Enhancement #2 to Private Stormwater Facilities Maintenance Program Inspection and Enforcement		X	80 hours of staff time each year to conduct the combination of annual and biennial inspections and enforce maintenance starting in 2024 then ongoing thereafter.	$7,000	$7,000	$7,000	$7,000	$7,000	$7,000	$42,000	$7,000
B7-R12	Private Stormwater System Retrofit Program	X	X	437 staff hours to develop and implement the Private Stormwater System Retrofit Program in 2025. Then 100 staff hours each year to support the program starting in 2026 then ongoing thereafter. This does not include costs associated with potential incentives that may be featured as part of the program.	$0	$36,000	$9,000	$9,000	$9,000	$9,000	$72,000	$9,000
Maintenance of Stormwater Facilities Owned or Operated By COBI												
B7-R16	Assess and Adapt Inspections and Maintenance Programs	X		$50,000 of consultant support and 40 hours of staff support in 2025 to assess and adapt the program for implementation in 2026 then ongoing thereafter.	$0	$54,000	$0	$0	$0	$0	$54,000	$0
B7-R17	Public (MS4) Stormwater Assets Retrofit Program	X		$10,000 of consultant support and 80 hours of staff support in 2027 to develop the program and integrate it into the Capital Improvement Planning process. Then ongoing implementation of the program into the CIP will be overseen by CIP staff.	$0	$0	$0	$17,000	$0	$0	$17,000	$0

Table C-7. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Operations and Maintenance (O&M) (Table B-7).

Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
		One-time [a]	Ongoing [b]		Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
Practices, Policies, and Procedures to Reduce Stormwater Impacts												
B7-R20	Adaptive Practices, Policies, and Procedures for Maintenance Activities	X		$20,000 of consultant support and 40 hours of staff support in 2026 to review and adapt COBI practices, policies, and procedures for maintenance activities.	$0	$0	$24,000	$0	$0	$0	$24,000	$0
Stormwater Pollution Prevention Plans												
B7-R25	Vactor Truck Decant Facility Annual Discharge Monitoring		X	3 hours of staff time each year to complete the annual stormwater discharge monitoring for the Vactor Truck Decant Facility starting in 2024 then ongoing thereafter.	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$6,000	$1,000
Street Sweeping Program												
B7-R28	GPS Tracking for Street Sweeping Activities	X		100 hours of staff time in 2027 to identify and map the street sweeping routes in ArcGIS, and provide technical support to purchase and install GPS equipment on street sweepers.	$0	$0	$0	$9,000	$0	$0	$9,000	$0
B7-R29	New Street Sweeping Equipment	X		$550,000 to purchase a new regenerative air sweeper vehicle in 2027.	$0	$0	$0	$550,000	$0	$0	$550,000	$0
B7-R30	Monitor Water Quality with Street Sweeping Activities		X	$20,000 to purchase new sampling equipment, pay for laboratory testing and staff time to develop and implement a basic monitoring program related to street sweeping starting in 2027 then ongoing thereafter.	$0	$0	$0	$20,000	$20,000	$20,000	$60,000	$20,000
TABLE B-7 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$72,000**	**$176,000**	**$52,000**	**$624,000**	**$48,000**	**$48,000**	**$1,020,000**	**$48,000**
TABLE B-7 COMBINED RECOMMENDATIONS ESTIMATED COSTS TOTAL					**$191,000**	**$288,000**	**$150,000**	**$734,000**	**$154,000**	**$154,000**	**$1,671,000**	**$154,000**

[a] One-time programs/projects are completed once, such as hiring a consultant to develop new training materials

[b] Ongoing programs/projects occur every year, such as continuing an inspection program or annual review of procedures

c The cost of one hour is equal to $80.75, which was developed using the Stormwater Management Program Coordinator 2023 composite hour rate (salary+benefits) as proxy. There are 1,748 working hours per year, which represents one full-time equivalent (FTE) employee. One FTE is equal to $141,154 annually.

[d] These costs are rounded to the nearest thousand dollar amount and do not include inflation.

Table C-8. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Source Control Program for Existing Development (Table B-8).

Recommendation Reference ID	Recommendation Title	Program/Project Type		One-Time[a]		Ongoing[b]			Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
		One-time [a]	Ongoing [b]	Funding	Staff Support (hours)	Funding	Support (hours/ year)	FTE[c]		Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
TABLE B-8 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS																	
Source Control Program for Existing Development																	
B8-R1	Develop and Implement Source Control Program		X	$0	0	$160,000	1748	1	Total approximate cost of Source Control Program development and implementation is not fully understood and is currently without staff support. Starting in 2024 then ongoing thereafter, a total approximate annual cost of $160,000 ($141,154 for one FTE staff person plus $18,849 for program expenses including training, education and outreach, recordkeeping technology, ordinance work, etc.) may cover the cost assumptions to fulfill this recommendation and other minimum effort recommendations for the Source Control Program for Existing Development (B8-R2 and B8-R5 through B8-R8).	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	$960,000	$160,000
B8-R2	Source Control Program Staff		X	$0	0	$0	0	0	The cost is associated with and accounted for with the cost assumptions for Recommendation B8-R1 to Develop and Implement Source Control Program.	$0	$0	$0	$0	$0	$0	$0	$0
Source Control Ordinance(s) or Other Enforceable Documents																	
B8-R5	New Source Control Ordinance	X		$0	0	$0	0	0	The cost is associated with and accounted for with the cost assumptions for Recommendation B8-R1 to Develop and Implement Source Control Program. It would be best to accomplish this recommendation as soon as possible in 2024 and in conjunction with other recommended code updates/additions (see Recommendations B5-R11 and B7-R6).	$0	$0	$0	$0	$0	$0	$0	$0
Source Control Site Inventory																	
B8-R6	Source Control Program Site Inventory		X	$0	0	$0	0	0	The cost is associated with and accounted for with the cost assumptions for Recommendation B8-R1 to Develop and Implement Source Control Program.	$0	$0	$0	$0	$0	$0	$0	$0
Source Control Inspection Program																	
B8-R7	Source Control Program Inspections, Enforcement, and Recordkeeping		X	$0	0	$0	0	0	The cost is associated with and accounted for with the cost assumptions for Recommendation B8-R1 to Develop and Implement Source Control Program.	$0	$0	$0	$0	$0	$0	$0	$0
B8-R8	Source Control Education and Outreach Materials		X	$0	0	$0	0	0	The cost is associated with and accounted for with the cost assumptions for Recommendation B8-R1 to Develop and Implement Source Control Program.	$0	$0	$0	$0	$0	$0	$0	$0
TABLE B-8 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS TOTAL										**$160,000**	**$160,000**	**$160,000**	**$160,000**	**$160,000**	**$160,000**	**$960,000**	**$160,000**

Table C-8. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Source Control Program for Existing Development (Table B-8).

Recommendation Reference ID	Recommendation Title	Program/Project Type		One-Time[a]		Ongoing[b]			Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
		One-time [a]	Ongoing [b]	Funding	Staff Support (hours)	Funding	Support (hours/ year)	FTE[c]		Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
TABLE B-8 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS																	
Source Control Program for Existing Development																	
B8-R3	Source Control Program Consolidation	X		$0	0	$0	0	0	Some cost savings for the City may be realized through consolidation of programs. Consolidation of programs will be best accomplished in conjunction with Recommendation B8-R1 in 2024.	$0	$0	$0	$0	$0	$0	$0	$0
B8-R4	Stormwater and Grey Water Reuse Incentive Program	X		$50,000	100	$0	0	0	$50,000 for consultant support and 100 hours of staff support in 2028 to develop a Stormwater and Grey Water Reuse Incentive Program.	$0	$0	$0	$0	$59,000	$0	$59,000	$0
Source Control Inspection Program																	
B8-R9	Source Control Incentive Program	X	X	$10,000	40	$0	40	0.02	$10,000 for consultant support and 40 hours of staff support in 2025 to develop an incentive program; then 40 hours of staff time each year to implement the program starting in 2026 then ongoing thereafter.	$0	$14,000	$4,000	$4,000	$4,000	$4,000	$30,000	$4,000
B8-R10	Source Control Inspections Coordination		X	$0	0	$0	40	0.02	40 hours of staff time each year to support coordinating source control inspections starting in 2024 then ongoing thereafter.	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$24,000	$4,000
Staff Training for Source Control																	
B8-R11	Source Control Training Program for Staff		X	$0	0	$0	0	0	The cost is associated with and accounted for with the cost assumptions for Recommendation B8-R1 to Develop and Implement Source Control Program.	$0	$0	$0	$0	$0	$0	$0	$0
B8-R12	Source Control Training Program for Businesses	X	X	$10,000	40	$0	40	0.02	$10,000 for consultant support and 40 hours of staff support in 2028 to develop the training; then 40 hours of staff time each year to implement the program in 2028 then ongoing thereafter.	$0	$0	$0	$0	$17,000	$4,000	$21,000	$4,000
TABLE B-8 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS TOTAL										**$4,000**	**$18,000**	**$8,000**	**$8,000**	**$84,000**	**$12,000**	**$134,000**	**$12,000**
TABLE B-8 COMBINED RECOMMENDATIONS ESTIMATED COSTS TOTAL										**$164,000**	**$178,000**	**$168,000**	**$168,000**	**$244,000**	**$172,000**	**$1,094,000**	**$172,000**

[a] One-time programs/projects are completed once, such as hiring a consultant to develop new training materials

[b] Ongoing programs/projects occur every year, such as continuing an inspection program or annual review of procedures

c The cost of one hour is equal to $80.75, which was developed using the Stormwater Management Program Coordinator 2023 composite hour rate (salary+benefits) as proxy. There are 1,748 working hours per year, which represents one full-time equivalent (FTE) employee. One FTE is equal to $141,154 annually.

[d] These costs are rounded to the nearest thousand dollar amount and do not include inflation.

Table C-9. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Total Maximum Daily Load (TMDL) Requirements (Table B-9).													
Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
		One-time [a]	Ongoing [b]		Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
TABLE B-9 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS												
B9-R1	Annual TMDL Activities Report		X	8 hours of staff time each year to prepare the report on annual TMDL activities starting in 2024 then ongoing thereafter.	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$6,000	$1,000
TABLE B-9 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$1,000**	**$1,000**	**$1,000**	**$1,000**	**$1,000**	**$1,000**	**$6,000**	**$1,000**
TABLE B-9 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS												
B9-R2	Coordinate with Shoreline Master Program		X	8 hours of staff time each year to coordinate between the TMDL Program and Shoreline Master Program starting in 2024 then ongoing thereafter.	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$6,000	$1,000
B9-R3	Enhanced WQFMP Field Screening Program	X	X	40 hours of staff time in 2024 to assess and adapt the WQFMP for the greatest effectiveness in field screening activities and to identify vulnerable areas; then 10 hours of staff time each year to monitor and reassess the WQFMP field screening program starting in 2025 and ongoing thereafter.	$4,000	$1,000	$1,000	$1,000	$1,000	$1,000	$9,000	$1,000
B9-R4	Enforce Preventative or Restorative Measures	X	X	80 hours of staff time in 2025 to develop an enforcement program based on WQFMP monitoring; then 20 hours of staff time each year to implement the program starting in 2026 then ongoing thereafter.	$0	$7,000	$2,000	$2,000	$2,000	$2,000	$15,000	$2,000
B9-R5	Add Pet Waste Station Collection Services		X	240 hours of staff time each year to collect pet waste twice each month from the 10 pet waste stations managed by COBI starting in 2024 then ongoing thereafter.	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$120,000	$20,000
TABLE B-9 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$25,000**	**$29,000**	**$24,000**	**$24,000**	**$24,000**	**$24,000**	**$150,000**	**$24,000**
TABLE B-9 COMBINED RECOMMENDATIONS ESTIMATED COSTS TOTAL					**$26,000**	**$30,000**	**$25,000**	**$25,000**	**$25,000**	**$25,000**	**$156,000**	**$25,000**

[a] One-time programs/projects are completed once, such as hiring a consultant to develop new training materials

[b] Ongoing programs/projects occur every year, such as continuing an inspection program or annual review of procedures

c The cost of one hour is equal to $80.75, which was developed using the Stormwater Management Program Coordinator 2023 composite hour rate (salary+benefits) as proxy. There are 1,748 working hours per year, which represents one full-time equivalent (FTE) employee. One FTE is equal to $141,154 annually.

[d] These costs are rounded to the nearest thousand dollar amount and do not include inflation.

Table C-10. Costs Associated with Stormwater Management Program (SWMP) Recommendations for Monitoring and Assessment (Table B-10).

Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
		One-time [a]	Ongoing [b]		Year 1 2024	Year 2 2025	Year 3 2026	Year 4 2027	Year 5 2028	Year 6 2029	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
TABLE B-10 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS												
S8.A – Regional Status and Trends Monitoring												
B10-R1	Regional Status and Trends Monitoring Collective Fund		X	12 hours of staff time each year to participate in SWG and coordinate the $6,265 payment to the SAM collective fund for Regional Status and Trends Monitoring starting in 2024 then ongoing thereafter.	$8,000	$8,000	$8,000	$8,000	$8,000	$8,000	$48,000	$8,000
S8.B – Stormwater Management Program (SWMP) Effectiveness and Source Identification Studies												
B10-R2	SWMP Effectiveness and Source Identification Studies Collective Fund		X	12 hours of staff time each year to participate in SWG and coordinate the $9,272 payment to the SAM collective fund for SWMP effectiveness studies and source identification studies starting in 2024 then ongoing thereafter.	$11,000	$11,000	$11,000	$11,000	$11,000	$11,000	$66,000	$11,000
B10-R3	Provide Information to Aid SAM Studies		X	4 hours of staff time each year to gather and share information, if available, for active SWMP Effectiveness and Source Identification Studies starting in 2024 then ongoing thereafter.	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$6,000	$1,000
TABLE B-10 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$20,000**	**$20,000**	**$20,000**	**$20,000**	**$20,000**	**$20,000**	**$120,000**	**$20,000**
TABLE B-10 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS												
S8.B – Stormwater Management Program (SWMP) Effectiveness and Source Identification Studies												
B10-R4	SWMP Effectiveness and Source Identification Studies Proposal and Implementation	X		80 hours of staff time in 2025 to develop a study proposal, then if the study is selected and fully funded as proposed, the implementation costs will be covered by SAM.	$0	$7,000	$0	$0	$0	$0	$7,000	$0
S8.C – Stormwater Discharge Monitoring												
B10-R5	Augment WQFMP Stormwater Discharge Monitoring		X	$3,000 for laboratory costs and 20 hours of staff time each year to collect and analyze samples starting in 2024 then ongoing thereafter.	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$30,000	$5,000
TABLE B-10 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$5,000**	**$12,000**	**$5,000**	**$5,000**	**$5,000**	**$5,000**	**$37,000**	**$5,000**
TABLE B-10 COMBINED RECOMMENDATIONS ESTIMATED COSTS TOTAL					**$25,000**	**$32,000**	**$25,000**	**$25,000**	**$25,000**	**$25,000**	**$157,000**	**$25,000**

[a] One-time programs/projects are completed once, such as hiring a consultant to develop new training materials

[b] Ongoing programs/projects occur every year, such as continuing an inspection program or annual review of procedures

c The cost of one hour is equal to $80.75, which was developed using the Stormwater Management Program Coordinator 2023 composite hour rate (salary+benefits) as proxy. There are 1,748 working hours per year, which represents one full-time equivalent (FTE) employee. One FTE is equal to $141,154 annually.

[d] These costs are rounded to the nearest thousand dollar amount and do not include inflation.

Table C-11. Costs Associated with Stormwater Management Program (SWMP) Recommendations for SWMP Plan, Recordkeeping, and Reporting (Table B-11).

Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
					Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
		One-time [a]	Ongoing [b]		2024	2025	2026	2027	2028	2029		
TABLE B-11 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS												
Stormwater Management Program (SWMP) and SWMP Plan & SWMP Designed to Reduce Discharge of Pollutants to the Maximum Extent Possible												
B11-R1	Design SWMP to Reduce Pollutants and Protect Water Quality		X	30 hours of staff time each year to review, and update if needed, the design of the SWMP starting in 2024 then ongoing thereafter.	$3,000	$3,000	$3,000	$3,000	$3,000	$3,000	$18,000	$3,000
B11-R2	Annual SWMP Plan		X	The cost for preparing, submitting, and posting the SWMP Plan each year is associated and accounted for with Recommendation B11-R1: reviewing, and updating if needed, the SWMP.	$0	$0	$0	$0	$0	$0	$0	$0
B11-R3	Improve SWMP Cost Tracking	X	X	60 hours of staff time in 2024 to review how the City tracks SWMP activities costs then adapt the tracking for reporting that will most sufficiently show what, when, and by whom SWMP activities are accomplished and their associated costs. Then 10 hours of staff time each year to continue to review and adapt as needed the SWMP activities cost tracking starting in 2025 then ongoing thereafter.	$5,000	$1,000	$1,000	$1,000	$1,000	$1,000	$10,000	$1,000
Coordination Among Permittees and Within Jurisdiction												
B11-R4	Coordination with Other Permittees		X	20 hours of staff time each year to coordinate with other Permittees as needed and as part of regular forums starting in 2024 then ongoing thereafter.	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$12,000	$2,000
B11-R5	Eliminate Barriers to Compliance through Cross Department Coordination		X	20 hours of staff time each year to work collaboratively toward eliminating known barriers to compliance starting in 2024 then ongoing thereafter (time includes recordkeeping and reporting of the barriers and barrier elimination coordination mechanisms).	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$12,000	$2,000
Annual Reporting to Department of Ecology												
B11-R6	Annual Reporting		X	20 hours of staff time each year to prepare and timely submit the Annual Report each year starting in 2024 then ongoing thereafter.	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$12,000	$2,000
Records Retention and Records Sharing												
B11-R8	Records Retention Policy and Procedures	X		10 hours of staff time in 2024 to develop and implement a records retention policy related to the Phase II Permit and SWMP Plan for staff to follow.	$1,000	$0	$0	$0	$0	$0	$1,000	$0
TABLE B-11 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$15,000**	**$10,000**	**$10,000**	**$10,000**	**$10,000**	**$10,000**	**$65,000**	**$10,000**
TABLE B-11 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS												
Annual Reporting to Department of Ecology												
B11-R7	SWMP Plan and Annual Reporting Policy and Procedures	X		80 hours of staff time in 2024 to develop the policy and procedures for staff to follow to prepare for and complete the SWMP Plan and resulting Annual Report consistently each year.	$7,000	$0	$0	$0	$0	$0	$7,000	$0
TABLE B-11 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$7,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$7,000**	**$0**
TABLE B-11 COMBINED RECOMMENDATIONS ESTIMATED COSTS TOTAL					**$22,000**	**$10,000**	**$10,000**	**$10,000**	**$10,000**	**$10,000**	**$72,000**	**$10,000**

[a] One-time programs/projects are completed once, such as hiring a consultant to develop new training materials

[b] Ongoing programs/projects occur every year, such as continuing an inspection program or annual review of procedures

c The cost of one hour is equal to $80.75, which was developed using the Stormwater Management Program Coordinator 2023 composite hour rate (salary+benefits) as proxy. There are 1,748 working hours per year, which represents one full-time equivalent (FTE) employee. One FTE is equal to $141,154 annually.

[d] These costs are rounded to the nearest thousand dollar amount and do not include inflation.

Table C-12. Cost Summary of Tables C-1 through C-11.									
Stormwater Management Program Sections	**Table**	**Tier**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**6 Year Total**
			2024	**2025**	**2026**	**2027**	**2028**	**2029**	
Stormwater Planning	C-1	Minimum	$16,000	$36,000	$60,000	$36,000	$38,000	$38,000	**$224,000**
		Additional Enhanced	$7,000	$81,000	$78,000	$102,000	$78,000	$78,000	**$424,000**
		Combined Total	*$23,000*	*$117,000*	*$138,000*	*$138,000*	*$116,000*	*$116,000*	*$648,000*
Public Education and Outreach	C-2	Minimum	$31,000	$35,000	$35,000	$35,000	$35,000	$35,000	**$206,000**
		Additional Enhanced	$39,000	$67,000	$47,000	$47,000	$47,000	$47,000	**$294,000**
		Combined Total	*$70,000*	*$102,000*	*$82,000*	*$82,000*	*$82,000*	*$82,000*	*$500,000*
Public Involvement and Participation	C-3	Minimum	$2,000	$6,000	$6,000	$6,000	$6,000	$6,000	**$32,000**
		Additional Enhanced	$12,000	$9,000	$9,000	$9,000	$9,000	$9,000	**$57,000**
		Combined Total	*$14,000*	*$15,000*	*$15,000*	*$15,000*	*$15,000*	*$15,000*	*$89,000*
MS4 Mapping and Documentation	C-4	Minimum	$161,000	$222,000	$75,000	$107,000	$79,000	$75,000	**$719,000**
		Additional Enhanced	$72,000	$206,000	$162,000	$162,000	$379,000	$162,000	**$1,143,000**
		Combined Total	*$233,000*	*$428,000*	*$237,000*	*$269,000*	*$458,000*	*$237,000*	*$1,862,000*
Illicit Discharge Detection and Elimination	C-5	Minimum	$157,000	$107,000	$107,000	$107,000	$107,000	$107,000	**$692,000**
		Additional Enhanced	$202,000	$190,000	$191,000	$181,000	$181,000	$181,000	**$1,126,000**
		Total Combined	*$359,000*	*$297,000*	*$298,000*	*$288,000*	*$288,000*	*$288,000*	*$1,818,000*
Controlling Runoff from New Development, Redevelopment, and Construction Sites	C-6	Minimum	$570,000	$570,000	$570,000	$570,000	$570,000	$570,000	**$3,420,000**
		Additional Enhanced	$232,000	$157,000	$157,000	$157,000	$157,000	$157,000	**$1,017,000**
		Combined Total	*$802,000*	*$727,000*	*$727,000*	*$727,000*	*$727,000*	*$727,000*	*$4,437,000*
Operations and Maintenance	C-7	Minimum	$119,000	$112,000	$98,000	$110,000	$106,000	$106,000	**$651,000**
		Additional Enhanced	$72,000	$176,000	$52,000	$624,000	$48,000	$48,000	**$1,020,000**
		Combined Total	*$191,000*	*$288,000*	*$150,000*	*$734,000*	*$154,000*	*$154,000*	*$1,671,000*
Source Control Program for Existing Development	C-8	Minimum	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	**$960,000**
		Additional Enhanced	$4,000	$18,000	$8,000	$8,000	$84,000	$12,000	**$134,000**
		Combined Total	*$164,000*	*$178,000*	*$168,000*	*$168,000*	*$244,000*	*$172,000*	*$1,094,000*
TMDL Requirements	C-9	Minimum	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	**$6,000**
		Additional Enhanced	$25,000	$29,000	$24,000	$24,000	$24,000	$24,000	**$150,000**
		Combined Total	*$26,000*	*$30,000*	*$25,000*	*$25,000*	*$25,000*	*$25,000*	*$156,000*
Monitoring and Assessment	C-10	Minimum	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	**$120,000**
		Additional Enhanced	$5,000	$12,000	$5,000	$5,000	$5,000	$5,000	**$37,000**
		Combined Total	*$25,000*	*$32,000*	*$25,000*	*$25,000*	*$25,000*	*$25,000*	*$157,000*
Recordkeeping and Reporting	C-11	Minimum	$15,000	$10,000	$10,000	$10,000	$10,000	$10,000	**$65,000**
		Additional Enhanced	$7,000	$0	$0	$0	$0	$0	**$7,000**
		Combined Total	*$22,000*	*$10,000*	*$10,000*	*$10,000*	*$10,000*	*$10,000*	*$72,000*
Total		**Minimum**	**$1,252,000**	**$1,279,000**	**$1,142,000**	**$1,162,000**	**$1,132,000**	**$1,128,000**	**$7,095,000**
		Additional Enhanced	**$677,000**	**$945,000**	**$733,000**	**$1,319,000**	**$1,012,000**	**$723,000**	**$5,409,000**
		Combined Total	***$1,929,000***	***$2,224,000***	***$1,875,000***	***$2,481,000***	***$2,144,000***	***$1,851,000***	***$12,504,000***

APPENDIX D ADDITIONAL INFORMATION FOR MAPPING AND DOCUMENTATION

Additional Information For Mapping And Documentation

This appendix provides additional detailed information to support Stormwater Management Program (SWMP) assessment and recommendations for mapping and documentation, Recommendations B4-R1 through B4-R12 (Appendix B, Table B-4). The recommendations ultimately aim to increase SSWM Utility accountability through improved stormwater infrastructure asset data management and utilization. The appendix is organized as follows:

- **Recommended timing sequence for mapping and data updates**
- **Staff to conduct mapping and data updates**
- **Technology to support mapping and data updates**
    - Mapping software licenses
    - Field equipment for data collection
    - Asset management system software

For reference, Table D-1 summarizes the current status or practice(s) for COBI's mapping and asset management.

Table D-1. Summary of COBI's current mapping and asset management systems.

Topic	Current Status or Practice(s) for Mapping and Asset Management
Mapping Data Access	• Web portal for internal staff or public access to GIS data • Limited desktop licenses • Online licenses/logins are available but rarely used (see **Software, Technology, and Tools**)
Mapping Data Quality and Completeness	• Data is not complete or standardize • Data has not been verified or is not indicated as verified • Undergoing third-party updates by FLO Analytics through AWC GIS Consortium. Includes server migration, upgrade to ArcGIS Enterprise, and working on a quality assurance system for versioning.
Mapping Data Sources	• Approved construction plans and hand drawn maps are not received and/or made available for private development or capital projects • Approximate 4-year backlog of approved construction plans and hand drawn maps for development, redevelopment, and capital projects

Asset Management	• Munis software – used by finance office to track bulk asset expenditures as well as staff and equipment time/cost • SmartGov software – used for permit tracking (intake, review, issuance) and some inspections and code enforcement, but not utilizing inspection module. Software is focused on permitting rather than asset management. • Microsoft Excel – most tracking and recordkeeping is in spreadsheets • Microsoft Access – some inspections and enforcement activities have been tracked in Access databases
Software, Technology, and Tools	Available software/tools: • ArcGIS Portal – managed by in-house GIS IT staff • ArcGIS Enterprise – migration in progress • ArcPro – limited desktop licenses/access • Esri Mobile Applications – rarely used • SmartGov– described as clunky, not fully utilized or integrated, zero to little training for staff • Munis – used by financial office, no connection to mapping activities, but a connection to resource and asset management/utilization • SeeClickFix - for community reporting of issues and maintenance requests • Microsoft Office Suite – Excel, Access, Word, Outlook, etc.
Staffing	• One full-time equivalent (FTE) IT staff person to address all GIS needs across all departments • One full-time equivalent (FTE) Public Works staff person to map utilities (NEW position as of late-2023 and not hired yet)
Staff Training, Cross-Training, and Knowledge Continuity	• Historically, staff training for mapping and data management has not been mandatory and is on individual staff to seek out and request • Historically, staff reductions, turnovers, and retirements has resulted in institutional knowledge loss and data loss

Recommended Timing Sequence for Mapping and Data Updates

Simultaneous implementation of GIS mapping improvements and asset management implementation can be a challenge. Asset management system software can be difficult to launch without quality data inputs, and GIS schema revisions can be difficult to finalize without knowing what asset management compatibility is needed.

Sequencing of timing of activities as recommended is shown in Table D-2 and the corresponding workflow is illustrated in Figure D-1 which also provides implementation notes and additional considerations.

For the past couple years, COBI has been transitioning mapping technologies to ArcGIS Enterprise and implementing data schema upgrades and restructuring (item #1 in Table D-2 and Figure D-1). While these upgrades are in progress, several key items to consider include:

- Prioritize mapping data and data access to meet Phase II Permit requirements.

Based on current layers, COBI's data contains much of the information required by the Phase II Permit, but in a format that is not necessarily easy to reference, analyze, or report. For example, COBI's outfall layer could benefit from attribute separation and restructuring for improved sorting by type, diameter, material, receiving water, etc. The outfall layer may also require field verification for missing diameter/size attributes and delineation of drainage areas for outfalls 24 inches or greater.

- Develop and implement standards, procedures, and processes for updating and adding new data to GIS. When digitizing new data, focus on mapping quality and connections, including the following:
    - Draw new conveyance features in the direction of flow and confirm flow direction as needed
    - Snap pipes to structures and other features
    - Consider adding phantom flow lines to track through facilities or other map connection gaps while improving overall connectivity of the mapped system
- Consider how to best standardize and organize GIS map and data for future compatibility with an asset management system software with the understanding that the City may someday purchase and implement one.

  Any changes to field type/format/length or other constraints should align with asset management data input needs to maximize GIS map integration within asset management software. This includes development of any electronic field forms (some asset management system software packages may provide their own electronic forms).

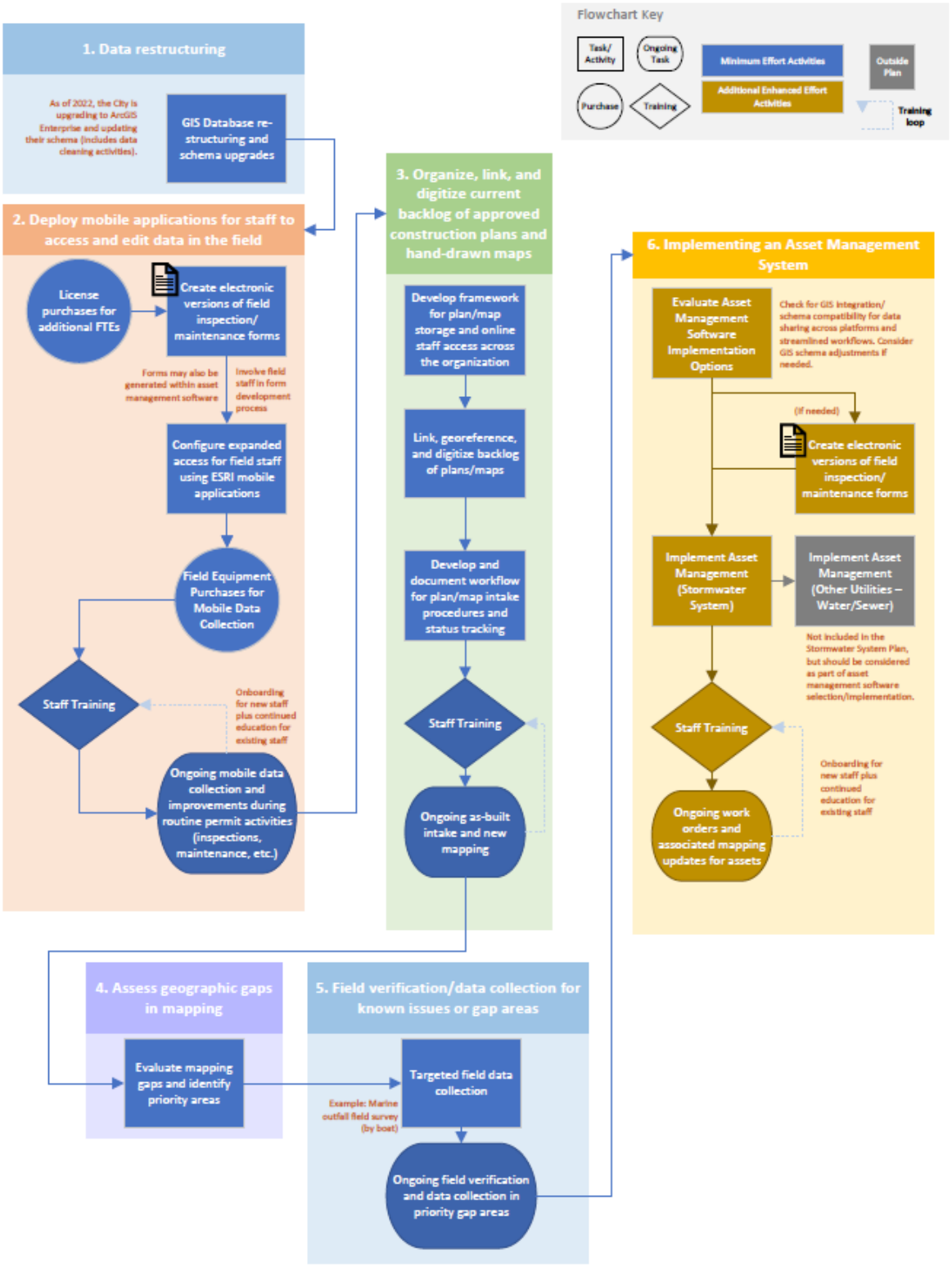
The recommended sequence begins by making foundational improvements to data structure and quality and improving staff access to GIS and asset data.

Table D-2. Recommended Sequence for Implementing Map Updates and Asset Management System

Recommended Action	Implementation Notes	Staffing and Funding Considerations
1. Data restructuring	COBI is already undergoing data re-structuring and transition to ArcGIS Enterprise.	Not applicable - already budgeted and in progress
2. Deploy mobile applications for staff to access and edit data in the field	COBI's current ArcGIS editing login(s) already include access to Esri mobile applications that can be configured to expand online or offline staff access to map information via desktop browser or mobile device, such as: ▪ ArcGIS Field Maps ▪ ArcGIS Survey123 ▪ ArcGIS Quick Capture	• Cost of additional ArcGIS Pro Advanced licenses for GIS staff to configure mobile access for other staff • Additional GIS staff or consultant to configure/launch and provide support for mobile applications • Cost of recommended field equipment: iPad(s), receiver(s), waterproof case, glare screen, etc. • Staff training

3. Organize, link, and digitize current backlog of approved construction plans and hand drawn maps	• Create a polygon feature class to map development footprints, include PDF approved construction plans and hand drawn maps as a geodatabase attachment or hyperlink for each footprint Or Deploy pre-constructed *ArcGIS Solutions* such as "Plans and Drawings" or similar solution • Ensure access to this information to COBI staff across the organization	• Current COBI GIS IT staff (1 FTE) do not have capacity to organize or map backlogged or future approved construction plans or hand drawn maps. This task will require hiring additional GIS staff or a consultant. The workload to address this backlog is estimated to be 1 FTE for 1 year. • Some of these elements may be addressed under the ongoing work with FLO Analytics.
4. Assess geographic gaps in mapping	After backlog of approved construction plans and hand drawn maps is addressed, consider holding a staff workshop to identify priority gap areas by neighborhood, watershed, grid, or other defined extent.	Internal staff exercise; may be facilitated by consultant or COBI GIS staff
5. Field verification/data collection for known issues or gap areas	This can occur as a dedicated effort and/or during other routine activities (maintenance activities, inspections, etc.)	If COBI does not have capacity for this effort and there are multiple high-priority gaps identified, hiring a consultant may be the fastest way to complete this task
6. Implementing an Asset Management System Software	Relies on organizational shift in recordkeeping practices, and structured and standardized existing data	• Cost for software purchase • Cost for implementation and training • Cost for staff hours to maintain data

Figure D-1. Recommended Sequencing of Minimum Effort and Additional Enhanced Effort Activities.



Staff to Conduct Mapping and Data Updates

COBI currently employs one full-time equivalent (FTE) staff in the Information Technology department to support mapping for all departments, but their role does not include conducting utility mapping activities. So, at this time, capacity for stormwater-focused mapping activities is limited. In late 2023, City Council approved a new Public Works staff position to accomplish mapping for utilities and it is hopeful that position will be filled in 2024. Stormwater mapping activities may be carried out by other staff with GIS training but most staff are already at workload capacity. Any staff working on stormwater mapping may require specialized training to conduct the work.

For reference to understanding GIS staffing at other Cities in the region, Table D-3 displays a summary of example Phase II Permit jurisdictions with similar population size. GIS staff at other jurisdictions are often housed in information technology, planning, or finance departments and may not be housed with the Public Works department or readily available to participate in stormwater mapping tasks. The example jurisdictions in Table D-3 typically have 1 to 2 GIS staff, often with multiple responsibilities beyond stormwater mapping, and are often occupied by other mapping needs related to records requests, public presentations, planning, parcels, critical areas, emergency routes, other utilities, etc. As a result, it is not uncommon for jurisdictions to hire consultants or seasonal interns to support the additional workload of meeting Phase II Permit mapping requirements

Table D-3. Staffing Comparison to Other Phase II Permit Jurisdictions.

Phase II Permit Jurisdiction	Population Size (2020 Census)	GIS Staff (FTE)	Notes
City of Bainbridge Island	24,825	1	1 GIS staff supports mapping for all departments with no specific time allocation to stormwater-focused mapping.
City of Maple Valley	28,013	1	The GIS Manager is housed in the Finance Dept. Approximately 50% of their time is dedicated to stormwater-related mapping requirements.
City of Mercer Island	25,748	2	Roles are GIS Analyst II and GIS Coordinator. Hired consultant (Herrera) to complete marine outfall mapping in 2019 by boat at cost of roughly $30,000 for 280 outfalls.
City of Port Orchard	15,587	1	1 GIS staff for public works with 0.5 FTE allocation for stormwater mapping. They would like to have 0.5 to 1.0 additional FTE to support stormwater mapping. Planning department also uses GIS licenses, but they do not have FTE allocations (not counted).
City of Arlington	19,868	2	No additional details.

If COBI pursues developing and implementing asset management system software, it is recommended that COBI add another staff position, or seek out consultant support or a software option with on-site implementation services and a robust customer support team. Even with consultant support, the endeavor will still require involvement from COBI staff (e.g., coordination, data sharing, training, etc.) for the short term implementation then long-term management of the system.

Technology to Support Mapping and Data Updates

Mapping Software Licenses

Esri software licenses are required to edit map data. COBI will need additional software licenses for any staff or support people who will be working on map updates.

Esri ArcGIS Pro (Advanced) licenses are recommended to provide full permissions and editing capabilities. The cost of a new license is approximately $15,000 per license with annual maintenance fees of approximately $4,000 per year.

Field Equipment for Data Collection

Improved field mobile access technology is recommended for both GIS and non-GIS staff. GIS staff will be most efficient with mobile equipment for field mapping and verification purposes. Non-GIS staff will be most efficient with mobile equipment for entering map updates, inspections and condition ratings, and maintenance information while conducting activities in the field.

Recommendation B4-R7 is to obtain additional mobile technology and software tools for field mapping reference and updating, and assign trained staff to manage the technology and data; specifically, to purchase a field kit to access Esri mobile applications. The recommended field kit items and their associated costs are listed in Table D-4. For basic tablet usage to view and edit data or fill out an inspection form, global positioning system (GPS) receivers are not necessary for inspectors or maintenance staff. However, for mapping new features in the field, an external GPS receiver is recommended to improve accuracy. Receivers are available at a wide range of costs to achieve desired accuracy. Additional staff hours will be required to configure the new technologies and to manage field data and equipment, but this cost is not included in Table D-4.

Table D-4. Field Equipment Recommendations and Costs.			
Equipment Type	**Description of Equipment**	**Estimated Cost**	**Notes**
Carrying case(s)	Kit carrying case (waterproof hard case)	$65	Not critical to function; recommended to protect and organize gear.
	Cable/electronics organizer	$27	
Tablet and charging	Portable power pack	$26	Tablets are available in multiple types/sizes. An iOS operating system is recommended for Esri mobile application usage. Data plan not included. Various charging options are available.
	Car charger	$14	
	Dual port wall charger	$23	
	Field tablet (e.g., iPad or iPad mini)	$617	
	Field tablet case (waterproof, anti-glare screen)	$30	
GPS receiver	2.5-meter GPS (e.g., Bad Elf GPS Pro+)	$238	Mobile device internal GPS is generally poor; GPS receiver recommended for higher accuracy mapping.
Total equipment cost per field kit		**$1,040**	Rounded down to $1,000 for incorporation into Appendix C.

Asset Management System Software

Recommendation B4-R11 is to upgrade recordkeeping and reporting for improved internal and external data sharing ideally by obtaining and maintaining an asset management system software compatible with ArcGIS mapping software, and staff assigned to oversee asset data management integrity.

Although an asset management system software is not required by the Phase II Permit, using one is highly recommended to improve tracking of inspection and maintenance activities for stormwater infrastructure assets that are required to be inventoried, inspected, and maintained per the Phase II Permit.

Asset management system software can vary in function from simple to advanced. Simple function is generally to house data for individual assets such as installation date, inspection and maintenance histories, and current condition rating; and when integrated with mapping software, such as ArcGIS, the interface allows users to see where assets are geographically located. Other simple functions typically include creating preventative or reactive work orders for assets. Advanced functions may include heat mapping based on data which is often used to identify assets or areas where more maintenance occurs which may indicate a need for an improvement project. Another advance function may include integration with issue reporting software technologies such as SeeClickFix (which COBI uses) to help users identify which assets they are reporting issues on and to help the City gather reports of issues and analyze them.

Implementing an asset management system is item #6 in Table D-2 and Figure D-1, shown as a last step in the sequence. However, software selection and planning can happen at any time; and it is recommended that it occur in coordination with any GIS structural upgrades to ensure compatibility and smooth two-way communication between the GIS and asset management systems.

Many off-the-shelf asset management software packages are available with various advantages and disadvantages. Some commonly used options include Cartegraph, Cityworks, and CentralSquare (formerly Lucity). COBI's current SmartGov permitting software vendor (Brightly) also offers a separate Asset Essentials package. Other cost-competitive platforms may also be available. Other software is available specifically for Phase II Permit support (e.g., NPDES Pro, CloudCompli, MS4 Front) and may have crossover functions to address needs specific to outreach, source control inspections, etc.

Key desired features and functions should be established for comparing asset management system software vendors and associated costs. These features may include:

- Compatible with other systems/software already in use by COBI (i.e., Esri ArcGIS, Munis, SeeClickFix)
- GIS integration (2-way communication is ideal for data updates versus limited 1-way communication)
- Capabilities for cloud hosting (and associated cost, if separate from annual subscription fee), based on COBI hosting preferences
- Mobile application offered for field data collection, or compatible with Esri mobile applications already available to COBI
- Robust vendor support, implementation services, and training modules readily available
- User-friendly interface for various users within COBI (e.g., administrative, maintenance technician, etc.)

Multiple Phase II Permit jurisdictions in the Puget Sound region have successfully implemented Cartegraph as their asset management system software as it addresses all key operational features listed above.

When selecting an asset management software, a comprehensive options review should consider other features and modules that COBI might be interested in using (or have compatibility needs for) beyond stormwater asset management but for all utilities, roads, and facilities. COBI is recommended to reach out to other Phase II Permit jurisdictions with asset management system software to learn from their implementation process and potentially borrow and adapt their process for COBI needs.

Asset Management System Software Costs

Cost will depend on software selection and needed functions. As part of SWSP development in 2023, ballpark costs were requested from Brightly (Asset Essentials), Cartegraph, CentralSquare, and Cityworks. Vendors provided different cost breakdowns based on their format for implementation/training, subscription renewal, cloud hosting fees, etc. Based on preliminary vendor feedback, the one-time implementation startup cost is estimated at $40,000, with an annual subscription renewal cost of $20,000 (including cloud hosting fees). One vendor provided an estimate for adding other utilities (e.g., water, sewer) if desired in the future at approximately $3,000 per utility.

APPENDIX E STORMWATER MANAGEMENT ACTION PLAN (SMAP) FOR MANZANITA WATERSHED EAST CATCHMENT

CITY OF BAINBRIDGE ISLAND

CITY OF BAINBRIDGE ISLAND
STORMWATER MANAGEMENT ACTION PLAN: MANZANITA EAST CATCHMENT

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March 20, 2023

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INTRODUCTION

The City of Bainbridge Island (COBI) Stormwater Management Action Plan (SMAP) is prepared pursuant to requirements of S5.C.1.d.iii of the 2019–2024 Western Washington Phase II National Pollutant Discharge Elimination System Municipal Stormwater Permit (NPDES Phase II Permit) issued by the Washington Department of Ecology (Ecology 2019).

COBI completed the *City of Bainbridge Island Watershed Inventory and Assessment* on March 21, 2022 (Herrera 2022a) and the *City of Bainbridge Island Watershed Prioritization* on June 22, 2022 (Herrera 2022b). Additionally, COBI is in the process of developing their Stormwater System Plan, anticipated in 2023. Much of the watershed data and analysis conducted for meeting the NPDES Phase II Permit requirements will serve future planning to better understand stormwater pressures upon water resources on a watershed basis. This SMAP will be incorporated into COBI's Stormwater System Plan.

COBI's Stormwater Interdisciplinary Team and relevant community stakeholder groups have been instrumental in the development of the receiving water assessment and the watershed prioritization. The Stormwater Interdisciplinary Team reviewed and commented on identified stormwater management actions for this SMAP.

This SMAP first describes how this plan is informed by COBI's watershed inventory and prioritization results and then the criteria used to identify stormwater management actions. The remaining content of the SMAP is presented in order of the NPDES Phase II Permit requirements of S5.C.1.d.iii:

iii. Stormwater Management Action Plan (SMAP). No later than March 31, 2023, Permittees shall develop a SMAP for at least one high-priority catchment area from (ii), above, that identifies all of the following:

(a) A description of the stormwater facility retrofits needed for the area, including the BMP types and preferred locations.

(b) Land management/development strategies and/or actions identified for water quality management.

(c) Targeted, enhanced, or customized implementation of stormwater management actions related to permit sections within S5, including:

- IDDE field screening,
- Prioritization of source control inspections,
- O&M inspections or enhanced maintenance, or
- Public education and outreach behavior change programs.

Identified actions shall support other specifically identified stormwater management strategies and actions for the basin overall, or for the catchment area in particular.

(d) If applicable, identification of changes needed to local long-range plans, to address SMAP priorities.

(e) A proposed implementation schedule and budget sources for:

- Short-term actions (i.e., actions to be accomplished within 6 years), and
- Long-term actions (i.e., actions to be accomplished within 7 to 20 years).

(f) A process and schedule to provide future assessment and feedback to improve the planning process and implementation of procedures or projects.

WATERSHED ASSESSMENT AND PRIORITIZATION PROCESS SUMMARY

Step 1 of the watershed assessment and prioritization process was to develop a list of watersheds for Bainbridge Island. The twelve watersheds are depicted in Figure 1.

Step 2 included developing a list of qualitative metrics to use from existing data to evaluate and compare watersheds. Upon evaluation, nine candidate watersheds were selected for the prioritization and scoring process. Three watersheds were set aside from the prioritization and scoring process due to low or no COBI stormwater influence. Through the scoring process, four watershed candidates emerged as higher priority, specifically for restoration, and were carried forward into Step 3.

Step 3 involved applying a second group of metrics, including social equity, promotes plans and projects and stakeholder feedback on the process and metrics.

Step 4 included combining the results of Step 3 with additional stakeholder feedback and selecting the Manzanita watershed as the highest priority watershed for restoration based on the following characteristics:

- High rating for community and aquatic life water importance:
  - High diversity of salmon species present including coho, resident trout and fall chum
  - High level of shoreline (90 percent) classified as “open” for shellfish harvest
  - Rated “highest” for water flow importance (Ecology 2021a)
  - Several species of nearshore forage fish use including sand lance, surf smelt and herring
- Moderate rating for level of existing and future development for the following landscape metrics:
  - Watershed impervious cover
  - Watershed stormwater infrastructure constructed prior to higher flow control requirements
  - Percentage of vacant lands to potentially undergo development
- High level of potential groundwater withdrawal due to anticipated future growth (Ecology 2021a)
- Moderate-high rating for water flow degradation due to development and increase of private wells (Ecology 2021b)
- High level of support with studies, plans and projects targeting stormwater retrofits for stream flow preservation, protection of water flow importance and reducing impacts of future groundwater wells
- Majority of stakeholder feedback agreed with selection of this watershed

Step 5 (the final step of the prioritization process) involved identifying a priority catchment within the selected priority watershed. Water processes for sub areas of concentrated flow paths and maximum infiltration in the Manzanita watershed area draining to the creek were evaluated. It was determined that the eastern portion of the watershed was critical for aquifer recharge and discharge to the stream and susceptible to future groundwater withdrawal due to private wells (Herrera 2022b). Thus, Manzanita East was selected as the priority catchment for the SMAP. Figure 2 depicts the 827-acre Manzanita East Catchment.

HERRERA

Figure 1.
City of Bainbridge Island Watersheds.

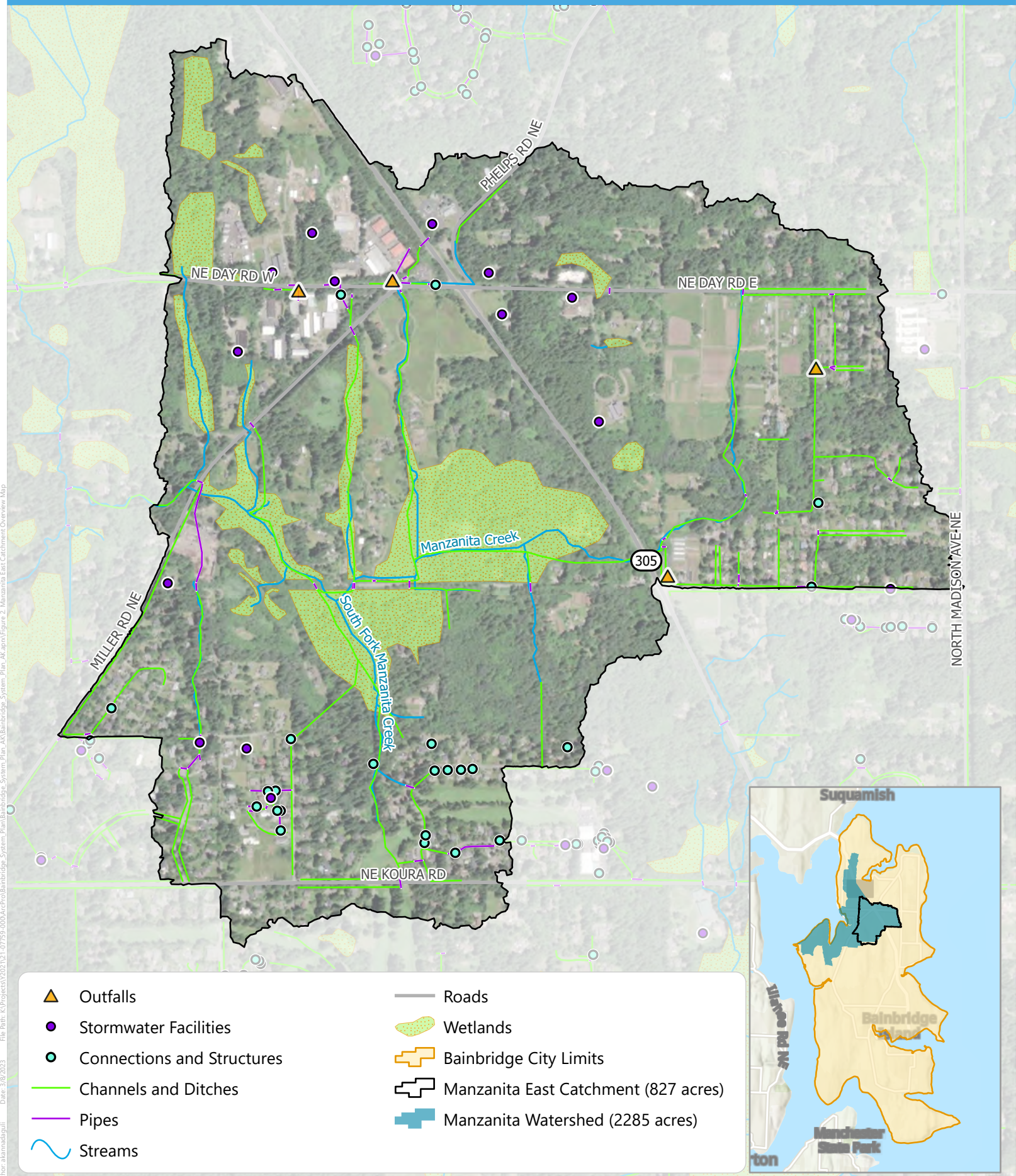


Produced by Herrera Environmental Consultants (herrerainc.com) | Sources: City of Bainbridge Island

0 0.5 1 2 Miles

HERRERA

Figure 2.
Manzanita East Catchment Overview Map.



Produced by Herrera Environmental Consultants (herrerainc.com) | Sources: City of Bainbridge Island

0 500 1,000 2,000 Feet

STORMWATER MANAGEMENT ACTIONS

Stormwater management actions considered by the project team included projects, programs, or policies to address water quality and water processes in the Manzanita East Catchment. The focus of the actions identified supplement aquifer recharge, provide water quality treatment, reduce pollutants from existing development, and engage the community through public education. Identified stormwater management actions are presented in three categories:

- **Strategic stormwater retrofit project opportunities (RP):** Project opportunities designed and constructed, usually a new facility or expansion/upgrade of an existing facility, to address existing stormwater. Project opportunities encourage infiltration so that stormwater is directed to groundwater in locations previously identified as important for groundwater/surface water interactions (Ecology 2021a) to supplement summer stream flow. Project opportunities may include a water quality treatment component.
- **Land management strategies (LM):** Programs, policies or studies targeting methods to improve or protect lands that are of high value or lands that can be converted to improve water quality or supplement groundwater.
- **Stormwater management program enhancements (SE):** Actions integrated with existing NPDES Phase II Permit programs that supplement permit requirements to address the primary water resource protection or improvement in the Manzanita East Catchment.

Criteria for Developing Stormwater Management Actions

The process to identity stormwater management actions for the Manzanita East Catchment included an evaluation of landscape characteristics, including:

- The existing stormwater system,
- zoning,
- vacant lands,
- stream buffers,
- wetlands,
- geohazard areas, and
- roadways.

In general, actions with potential to effectively protect or restore the Manzanita Creek receiving water were identified.

Identified actions and their anticipated general costs were presented to COBI's interdisciplinary team. The team's input was considered and incorporated into this SMAP.

Strategic Stormwater Retrofit Project Opportunities

Four strategic stormwater retrofit project opportunities (RP) were identified in the Manzanita East Catchment:

- RP-1. Design and construct Fieldstone Lane NE Regional Facility
- RP-2. Design and construct Bayhill Pond Naturalization Retrofit
- RP-3. Construct Bainbridge Island Food Forest Regional Facility
- RP-4. Design and construct Miller Road NE/NE Day Rd W Linear Facility Retrofits

The locations of the project opportunities are depicted in Figure 3. The projects, best management practice (BMP) types, and anticipated costs are summarized in Table 1.

Table 1. Manzanita East Catchment Strategic Stormwater Retrofit Project Opportunities.

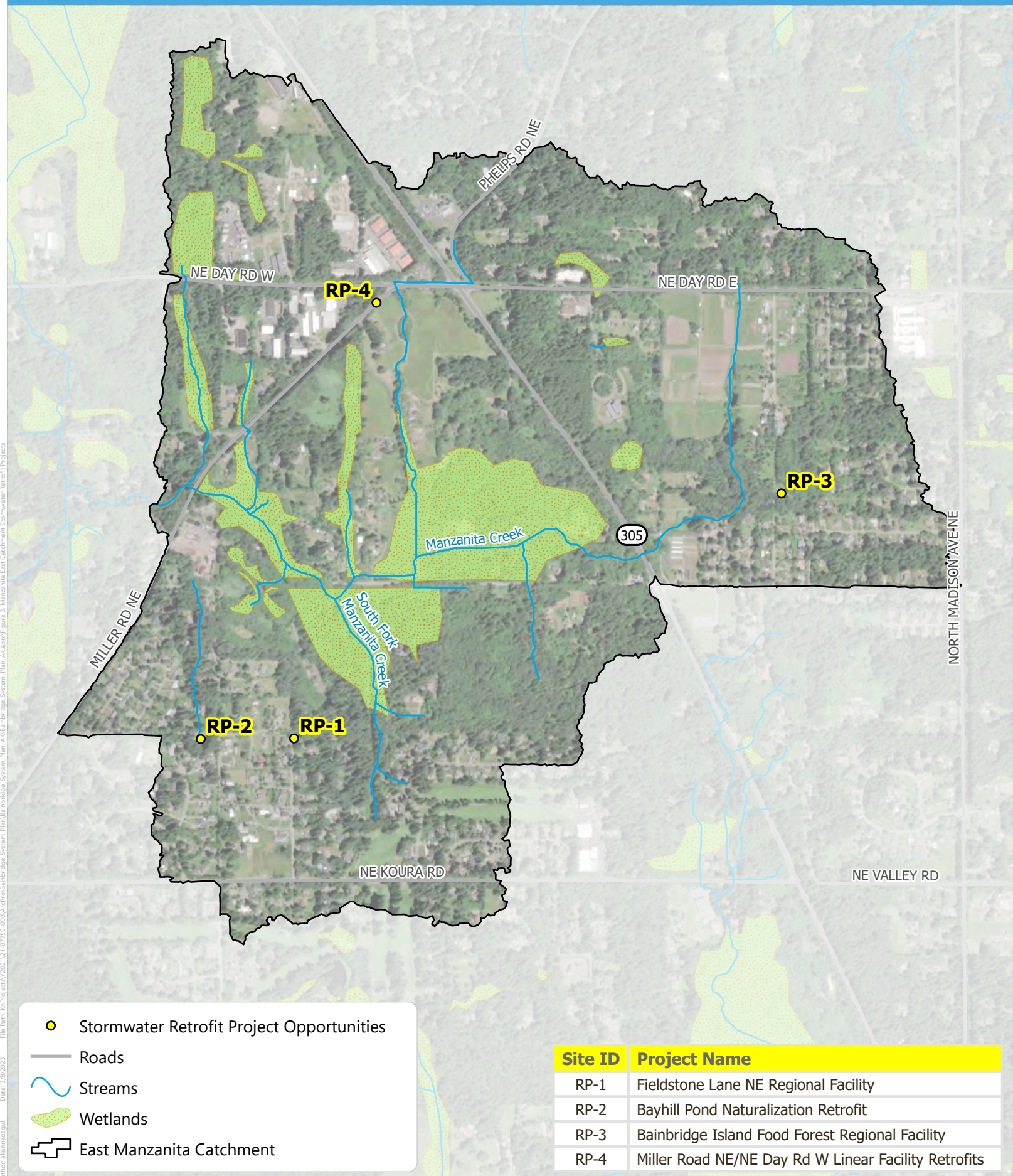
Action	Description	BMPs Considered[a]	Cost or Cost Range
RP-1. Design and construct Fieldstone Lane NE Regional Facility	Construct a biofiltration facility to provide water quality treatment for runoff from 9 acres of residential development draining to Manzanita Creek. Include educational signage and improve an existing trail connection. Protect and relocate existing underground utilities.	Biofiltration	Design[b] and Construction: $200,000
RP-2. Design and construct Bayhill Pond Naturalization Retrofit	The existing pond in this residential neighborhood may not meet current stormwater standards. This project will examine options for improving water quality treatment and flow control by creating additional volume or expanding treatment processes, including potentially expanding the footprint across the road.	Naturalization	Design and Construction: $30,000–75,000
RP-3. Construct Bainbridge Island Food Forest Regional Facility	Create a stormwater park to provide water quality treatment and flow control for stormwater runoff from 18 acres of residential land. The project would be a partnership between COBI's SSWM Utility and Friends of the Farms.	Detention Pond	Construction: $700,000
RP-4. Design and construct Miller Road NE/NE Day Rd W Linear Facility Retrofits	Unmanaged stormwater from a high use area of Miller Road NE and the southern portion of the intersection of Miller Road NE and NE Day Road flows to Manzanita Creek. This project would construct linear facilities to improve water quality and flow control.	Bioretention	Design: $200,000–300,000 Construction: $500,000–600,000

[a] These projects are in early design phase and the specific best management practice (BMP) that will be implemented may change.

[b] 30 percent design is complete. Design costs include advancing the project from 30 percent design to 100 percent design.

RP = retrofit project

Figure 3. Manzanita East Catchment Stormwater Retrofit Project Opportunities.



Site ID	Project Name
RP-1	Fieldstone Lane NE Regional Facility
RP-2	Bayhill Pond Naturalization Retrofit
RP-3	Bainbridge Island Food Forest Regional Facility
RP-4	Miller Road NE/NE Day Rd W Linear Facility Retrofits

Produced by Herrera Environmental Consultants (herrerainc.com) | Sources: City of Bainbridge Island

0 500 1,000 2,000 Feet

Land Management Strategies

Seven land management (LM) strategies related to restoration, conservation, or protection were identified in the Manzanita East Catchment. The action, description, and anticipated costs are shown in Table 2.

Table 2. Manzanita East Catchment Land Management Strategies.

Action	Description	Cost (Time Period)
LM-1. Develop forest and wildland preservation process and policy	Review existing process and policies related to land preservation. Identify opportunities to support or streamline the process.	$8,000 (one-time)
LM-2. Conduct soil restoration/ regeneration education	Develop and implement education of those who inspect, enforce, and implement post-construction soil quality and depth (Ecology BMP T5.13).	$8,000 (one-time)
LM-3. Conduct impervious surface conversion pilot project	Encourage removal of existing impervious surfaces and conversion to pervious surfaces (similar to the Depave Puget Sound initiative).	$40,000 (one-time)
LM-4. Conduct Manzanita Creek Floodplain Restoration Feasibility Study	Unmanaged stormwater from older portions of Day Road Industrial Park and surrounding areas flows to Manzanita Creek. This feasibility study would evaluate modifying the area surrounding the stream to expand the floodplain of Manzanita Creek, increase flood storage (flow control) and groundwater recharge. Additional benefits that would be investigated include providing habitat and water quality improvements.	$200,000 (one-time)
LM-5. Prioritize culvert replacements	Identify and prioritize culvert replacements, develop scheme where fish passage improvements are rated higher.	$3,200 (one-time)
LM-6. Identify annual drainage program projects – water quality/flow control improvement project identification	Identify projects in catchment that improve water flow or quality.	$8,000 (over 5 years)
LM-7. Conduct Lovgreen Road Flow Control Feasibility Study	This feasibility study would investigate using a linear facility to provide water quality treatment and flow control to reduce downstream erosion and flooding at the highway intersection. It will also evaluate coupling the linear facility with other road improvements (such as sidewalks) and expanding the linear facility onto adjacent COBI property (with potential impacts to the current use of the property).	$100,000 (one-time)

LM = land management

Stormwater Management Program Enhancements

COBI conducts activities for compliance with the current NPDES Phase II Permit, including activities associated with monitoring and assessment, illicit discharge field screening and Total Maximum Daily Load (TMDL), source control, operations and maintenance, public education and outreach, and public involvement and participation. This section describes identified stormwater management program enhancements (SE) that exceed current NPDES Phase II Permit requirements.

Monitoring and Assessment

To better understand water quality status and trends, and effectiveness of management actions, COBI identified conducting enhanced stream and outfall water quality monitoring in the Manzanita East Catchment as a potential SE.

Illicit Discharge Field Screening and TMDL

COBI is required to field screen 12 percent of their municipal separate storm sewer system (MS4) annually for illicit discharges. COBI identified focusing field screening activities in the Manzanita East Catchment as a potential SE, especially adjacent to properties with agriculture or septic systems since these are potential sources of bacteria.

Source Control Program for Existing Development

COBI is required to implement a source control program no later than January 1, 2023. Twenty percent of the businesses/sites in COBI's source control inventory are required to be inspected annually with provisions for responding to complaints and re-inspecting sites. COBI identified prioritizing source control activities in the Manzanita East Catchment as a potential SE.

Operations and Maintenance

COBI is required to inspect MS4 catch basins every 2 years and clean and repair as needed based on inspection. COBI identified developing an enhanced storm system maintenance plan for the Manzanita East Catchment as a potential SE.

COBI conducts street sweeping and power brooming throughout COBI to reduce road debris. COBI identified enhanced street sweeping in the Manzanita East Catchment as a potential SE.

Public Education and Outreach

COBI is required to implement public education and outreach programs to build awareness, foster behavior change, and provide stewardship opportunities to address and reduce the impacts from stormwater runoff. COBI identified expanding education and outreach activities in the Manzanita East Catchment as a potential SWM program enhancement. Specific activities may include:

- Developing a residential rain garden cost-share pilot program
- Developing tree, wetland, stream buffer, and noxious weeds homeowner education
- Developing a residential natural yard care pilot program

Public Involvement and Participation

COBI is required to create opportunities for the public to participate in decision-making processes. COBI meets the requirement through public notices. COBI identified enhancing communication with and encouraging public involvement and participation from the community in and around the Manzanita East Catchment with this SMAP.

The NPDES Phase II Permit section reference, potential action, and action costs are summarized in Table 3.

Table 3. Manzanita East Catchment Stormwater Management Program Enhancements.

NPDES Phase II Permit Section	Potential Action	Cost (time period)
Monitoring and Assessment (S8)	SE-1. Perform enhanced stream and outfall monitoring and assessment	$35,000 (over 5 years)
Illicit Discharge Detection and Elimination (S5.C.5) and Total Maximum Daily Load (S7)	SE-2. Perform field screening for bacteria adjacent to agricultural properties	$20,000 (over 2 years)
	SE-3. Perform field screening for bacteria adjacent to properties with septic systems	$12,500 (over 2 years)
Source Control Program for Existing Development (S5.C.8)	SE-4. Prioritize source control inspections	$0
Operations and Maintenance (S5.C.7)	SE-5. Develop enhanced storm system maintenance plan	$8,000 (one-time)
	SE-6. Perform enhanced street sweeping	$72,000 (over 6 years)
Public Education and Outreach (S5.C.2)	SE-7. Develop residential rain garden cost-share program	$20,000 (over 3 years)
	SE-8. Develop tree, wetland, stream buffer, and noxious weeds homeowner education pilot program	$20,000 (one-time)
	SE-9. Develop residential natural yard care pilot program	$20,000 (one-time)
Public Involvement and Participation (S5.C.3)	SE-10. Communicate with and encourage public involvement and participation from the people and property owners in and around Manzanita East Catchment	$0

SE = stormwater management program enhancement

Changes to Long-Range Plans

The SMAP will be incorporated into the 2023 Stormwater System Plan (SWSP), and COBI City Council may incorporate the SWSP into the 2024 COBI Comprehensive Plan periodic update.

BUDGET AND SCHEDULE

Cost estimates and time schedule for identified SMAP actions were determined for short-term (2024–2030) or long-term (2031–2044) implementation (Table 4). Some identified actions may be implemented annually while others are possibly a one-time project or program. The proposed schedule (see Figures 4 and 5) does not assume continuation of the Short-term projects or programs beyond the year 2030, and Long-term projects or programs beyond the year 2044.

Costs may be mitigated by grant funding programs or alternative funding programs (i.e., fees in lieu of onsite stormwater management or regional facility connection) (Lotus Water 2023). For this document, no assumptions have been included about grant or alternative funding programs. Detailed cost assumptions can be found in Appendix A. The total estimated cost for short-term actions is $1,099,000. The total estimated cost for long-term actions ranges from $1,105,700 to 1,350,700 depending on project complexity.

A summary of the identified short-term and long-term action costs is included in Table 4 and Figures 4 and 5.

Table 4. Manzanita East Catchment Stormwater Management Actions Schedule and Cost Summary.

Action	Schedule		Total Cost[b]
	Short- or Long-Term[a]	Duration	
RP-1. Design and construct Fieldstone Lane NE Regional Facility[c]	Short	One-time	$200,000
RP-3. Construct Bainbridge Island Food Forest Regional Facility	Short	One-time	$700,000
LM-1. Develop forest and wildland preservation process and policy	Short	One-time	$8,000
LM-2. Conduct soil restoration/regeneration education	Short	One-time	$8,000
LM-6. Identify annual drainage program projects – water quality/flow control improvement project identification	Short	5 years	$8,000
SE-1. Perform enhanced stream and outfall monitoring and assessment	Short	5 years	$35,000
SE-2. Perform field screening for bacteria adjacent to agricultural properties[d]	Short	2 years	$20,000
SE-4. Prioritize source control inspections	Short	One-time	$0
SE-5. Develop enhanced storm system maintenance plan	Short	One-time	$8,000
SE-6. Perform enhanced street sweeping	Short	6 years	$72,000
SE-8. Develop tree, wetland, stream buffer, and noxious weeds homeowner education pilot program	Short	One-time	$20,000
SE-9. Develop residential natural yard care pilot program	Short	One-time	$20,000
SE-10. Communicate with and encourage public involvement and participation from the people and property owners in and around Manzanita East Catchment	Short	Annual	$0
RP-2. Design and construct Bayhill Pond Naturalization Retrofit	Long	One-time	$30,000–$75,000
RP-4. Design Miller Road NE/NE Day Rd W Linear Facility Retrofits	Long	One-time	$200,000–$300,000
RP-4. Construct Miller Road NE/NE Day Rd W Linear Facility Retrofits	Long	One-time	$500,000–$600,000
LM-3. Conduct impervious surface conversion pilot project	Long	One-time	$40,000
LM-4. Conduct Manzanita Creek Floodplain Restoration Feasibility Study	Long	One-time	$200,000
LM-5. Prioritize culvert replacements	Long	One-time	$3,200
LM-7. Conduct Lovgreen Road Flow Control Feasibility Study	Long	One-time	$100,000
SE-3. Perform field screening for bacteria adjacent to properties with septic systems	Long	2 years	$12,500
SE-7. Develop residential rain garden cost-share pilot program	Long	3 years	$20,000
Total Short-Term (2024–2030) Cost		**$1,099,000**	
Total Long-Term (2031–2044) Cost		**$1,105,700–1,350,700**	

[a] Short-term = implementation between 2024 to 2030 Long-term = implementation between 2031 and 2044

[b] Cost estimates are in 2022 dollars. Inflation and escalation of costs were not incorporated into cost estimates.

[c] 30 percent design is complete. Design costs include taking the project from 30 percent design to 100 percent design.

[d] Includes agricultural property survey and an update to risk level.

LM = land management strategy, RP = strategic stormwater retrofit project opportunity, SE = stormwater management program enhancement
LID = low impact development, O&M = operations and maintenance, WQ = water quality

Figure 4. Manzanita East Catchment Identified Stormwater Management Short-Term Actions Schedule and Cost Estimate Summary.

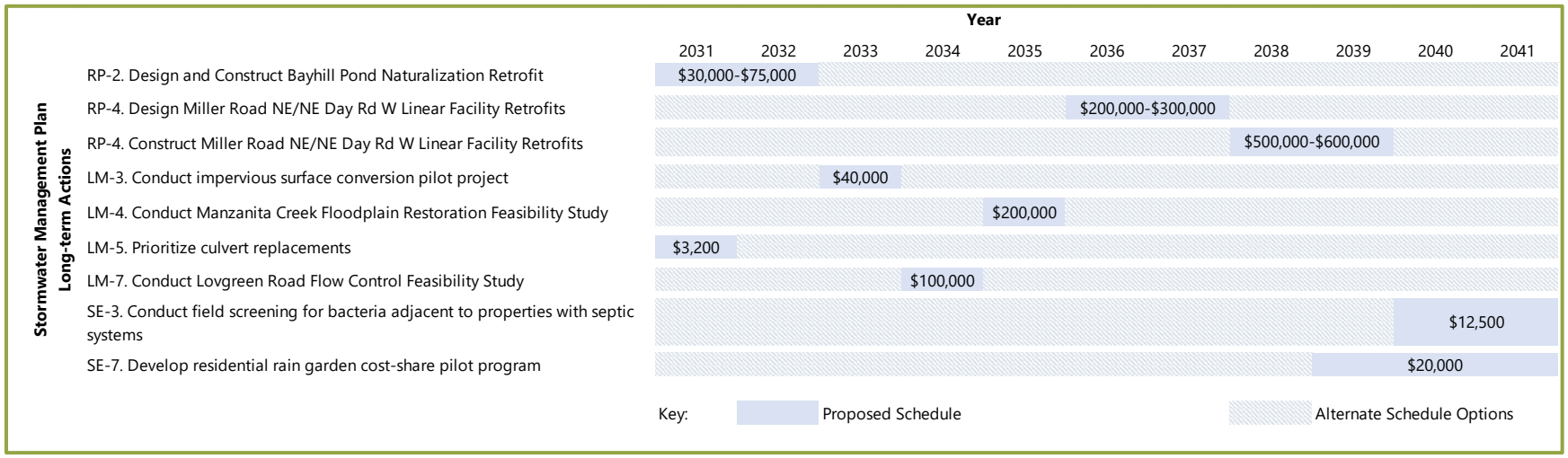
Stormwater Management Plan Short-term Actions	Year						
	2024	2025	2026	2027	2028	2029	2030
RP-1. Design and Construct Fieldstone Lane NE Regional Facility							$200,000
RP-3. Construct Bainbridge Island Food Forest Regional Facility		$700,000					
LM-1. Develop forest and wildland preservation process and policy			$8,000				
LM-2. Conduct soil restoration/regeneration education					$8,000		
LM-6. Identify annual drainage program projects	$1,600	$1,600	$1,600	$1,600	$1,600		
SE-1. Perform enhanced stream and outfall monitoring and assessment			$7,000	$7,000	$7,000	$7,000	$7,000
SE-2. Perform field screening for bacteria adjacent to agricultural properties		$10,000	$10,000				
SE-4. Prioritize source control inspections		$0					
SE-5. Develop enhanced storm system maintenance plan				$8,000			
SE-6. Perform enhanced street sweeping	$12,000	$12,000	$12,000	$12,000	$12,000	$12,000	
SE-8. Develop tree, wetland, stream buffer, noxious weeds homeowner education pilot program						$20,000	
SE-9. Develop residential natural yard care pilot program							$20,000
SE-10. Communicate with and encourage public involvement and participation from the people and property owners in and around Manzanita East Catchment	$0	$0	$0	$0	$0	$0	$0
Key:		Proposed Schedule			Alternate Schedule Options		

LM = land management strategy

RP = strategic stormwater retrofit project opportunity

SE = stormwater management program enhancement

Figure 5. Manzanita East Catchment Identified Stormwater Management Long-Term Actions Schedule and Cost Estimate Summary.



LM = land management strategy

RP = strategic stormwater retrofit project opportunity

SE = stormwater management program enhancement

SMAP FUTURE ASSESSMENT AND FEEDBACK

COBI proposes to assess implementation of this SMAP by tracking project implementation and program effectiveness. COBI will use the results of this assessment to adjust SMAP implementation over time.

Actions identified in this plan, and then determined to be implemented, based upon future permit requirements, will be tracked for status of implementation. Tracking and review of actions will be performed periodically with the Stormwater Interdisciplinary Team. Challenges, modifications, or implementation timelines may be adjusted during the review period. The status and modifications will be documented.

COBI staff may continue to review water quality data collected by Ecology, neighboring jurisdictions, and partners to determine long-term if SMAP implementation is adequate to meet receiving water improvement goals.

SMAP IMPLEMENTATION

This SMAP identifies and describes retrofit projects, land management strategies, and enhanced stormwater management program activities intended to protect and hopefully restore the receiving waters in the selected priority Manzanita East Catchment.

Implementation of the SMAP is contingent on future unknown NPDES Phase II Permit requirements and authority of approval and resources by COBI City Council.

SMAP REFERENCES

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APPENDIX A: SMAP COST ASSUMPTIONS

Table A-1. Stormwater Management Action Plan—Short-Term Action Cost Assumptions.

Action	Type	Description	One-Time Funding	Ongoing Funding	Cost Assumptions
RP-1. Design and construct Fieldstone Lane NE Regional Facility	Strategic Stormwater Retrofit Project Opportunity (RP)	Construct a biofiltration facility to provide water quality treatment for runoff from 9 acres of residential development draining to Manzanita Creek. Include educational signage and improve an existing trail connection. Protect and relocate existing underground utilities.	$200,000	$0	Assumes approximate cost based on 30% design opinion of probable cost. Cost includes advancing the project from 30% design to 100% design.
RP-3. Construct Bainbridge Island Food Forest Regional Facility	Strategic Stormwater Retrofit Project Opportunity (RP)	Create a stormwater park to provide water quality treatment and flow control for stormwater runoff from 18 acres of residential land. The project would be a partnership between COBI's SSWM Utility and Friends of the Farms.	$700,000	$0	Assumes approximate cost based on 30% design opinion of probable cost. Design is expected to be complete in 2023.
LM-1. Develop forest and wildland preservation process and policy	Land Management Strategy (LM)	Review existing process and policies related to land preservation. Identify opportunities to support or streamline the process.	$8,000	$0	Assumes consultant costs for policy review, similar to feasibility study.
LM-2. Conduct soil restoration/regeneration education	Land Management Strategy (LM)	Develop and implement education of those who inspect, enforce, and implement post-construction soil quality and depth (Ecology BMP T5.13).	$8,000	$0	Assumes cost to research similar programs, develop program, and implement.
LM-6. Identify annual drainage program projects – water quality/flow control improvement project identification	Land Management Strategy (LM)	Identify projects in catchment that improve water flow or quality.	$0	$8,000	Assumes the cost of 20 hours of planner staff time at a cost of $1,600 per year for a total of 5 years.
SE-1. Perform enhanced stream and outfall monitoring program	Stormwater Management Program Enhancement (SE)	Increase sampling points in COBI's stream and outfall monitoring program.	$0	$35,000	Assumes 9 bacteria sites with lab costs at $35/site and annual lab costs of $1,000 for a 2-year duration. Includes 3 sampling days over summer, 5 temperature/dissolved oxygen deployments, data collection, validation, and technical memorandum. Estimate includes 1 day to deploy, data download every 2 weeks, data validation, and summary report to occur during June to September. The cost also includes 96 hours of a field technician staff time.
SE-2. Perform field screening for bacteria adjacent to agricultural properties	Stormwater Management Program Enhancement (SE)	Conduct field screening for bacterial contamination in drainages adjacent to properties with agricultural activities. Partner with Kitsap Conservation District to update "risk" of contamination from agricultural properties (proximity to stream, number and type of animals, buffer condition). Identify and work with high-risk properties.	$0	$20,000	Assumes the field screening would be done by COBI staff or in a partnership with Kitsap Conservation District for a 2-year duration. This project could be a potential grant project if combined with updating the agricultural inventory. Current interlocal agreements with Kitsap Conservation District for the Manzanita watershed is for technical assistance for agricultural and non-agricultural properties.
SE-4. Prioritize source control inspections	Stormwater Management Program Enhancement (SE)	Catchment receives additional points for inspection prioritization. Can consider additional requirements or more frequent inspections.	$0	$0	Assumes no additional cost for the Manzanita East Catchment being prioritized for business source control inspections.
SE-5. Develop enhanced storm system maintenance plan	Stormwater Management Program Enhancement (SE)	Inventory and prioritize system for pipe cleaning (sediment removal).	$8,000	$0	Assumes the cost of 40 hours of planner staff time or consultant support.
SE-6. Perform enhanced street sweeping	Stormwater Management Program Enhancement (SE)	Enhance street sweeping frequency in the catchment.	$0	$72,000	Assumes enhance street sweeping frequency in the Manzanita East Catchment at $12,000 per year for a total of 6 years. Analogous cost estimates from two jurisdictions, and size of catchment. Estimate of area of catchment swept as a portion of the entire sweeping program.
SE-8. Develop tree, wetland, stream buffer, and noxious weeds homeowner education pilot program	Stormwater Management Program Enhancement (SE)	Develop and implement education resources, conduct outreach and implement "boots on the ground" projects related to retaining trees, retaining wetlands, preventing stream buffer encroachment, and controlling noxious weeds.	$20,000	$0	Assumes cost to create materials, distribute materials, measure response, graphics (assumes 20 hours for standard graphics and additional 10 hours for complex graphics), distribution (mail or electronic), and review from either West Sound Stormwater Outreach Group interlocal agreement or consultant support.
SE-9. Develop residential natural yard care pilot program	Stormwater Management Program Enhancement (SE)	Develop and implement residential natural yard care program. Can consider combining with tree, wetland, stream buffer, noxious weeds homeowner education program.	$20,000	$0	Assumes cost to create materials, distribute materials, measure response, graphics (assumes 20 hours for standard graphics and additional 10 hours for complex graphics), distribution (mail or electronic), and review from either West Sound Stormwater Outreach Group interlocal agreement or consultant support.

Table A-1 (continued). Stormwater Management Action Plan—Short-Term Action Cost Assumptions.

Action	Type	Description	One-Time Funding	Ongoing Funding	Cost Assumptions
SE-10. Communicate with and encourage public involvement and participation from the people and property owners in and around Manzanita East Catchment	Stormwater Management Program Enhancement (SE)	Work with people and property owners in and around Manzanita East Catchment to become more involved with the stormwater management program.	$0	$0	Assumes no additional cost for the public involvement in the Manzanita East Catchment.
			$964,000	**$135,000**	
				Total Short-Term Cost	**$1,099,000**

LM = land management strategy

RP = strategic stormwater retrofit project opportunity

SE = stormwater management program enhancement

Table A-2. Stormwater Management Action Plan—Long-Term Action Cost Assumptions.

Action	Type	Description	One-Time Funding	Ongoing Funding	Cost Assumptions
RP-2. Design and construct Bayhill Pond Naturalization	Strategic Stormwater Retrofit Project Opportunity (RP)	The existing pond in this residential neighborhood may not meet current stormwater standards. This project will examine options for improving water quality treatment and flow control by creating additional volume or expanding treatment processes, including potentially expanding the footprint across the road.	$30,000 to $75,000	$0	Assumes analogous cost based on similar pond naturalization project, which includes design, plants, planting, maintenance, and inspection.
RP-4. Design Miller Road NE/NE Day Rd W Linear Facility Retrofits	Strategic Stormwater Retrofit Project Opportunity (RP)	Unmanaged stormwater from a high use area of Miller Road NE and the southern portion of the intersection of Miller Road NE and NE Day Road flows to Manzanita Creek. This project would construct linear facilities to improve water quality and flow control.	$200,000 to $300,000	$0	Assumes approximate analogous design cost based on a similar project.
RP-4. Construct Miller Road NE/NE Day Rd W Linear Facility Retrofits	Strategic Stormwater Retrofit Project Opportunity (RP)		$500,000 to $600,000	$0	Assumes approximate analogous construction cost based on a similar project.
LM-3. Conduct impervious surface conversion project	Land Management Strategy (LM)	Encourage removal of existing impervious surfaces and conversion to pervious surfaces (similar to the Depave Puget Sound initiative).	$40,000	$0	Assumes cost to research similar programs, develop program, and implement.
LM-4. Conduct Manzanita Creek Floodplain Restoration Feasibility Study	Land Management Strategy (LM)	Unmanaged stormwater from older portions of Day Road Industrial Park and surrounding areas flows to Manzanita Creek. This feasibility study would evaluate modifying the area surrounding the stream to expand the floodplain of Manzanita Creek, increase flood storage (flow control) and groundwater recharge. Additional benefits that would be investigated include providing habitat and water quality improvements.	$200,000	$0	Assumes analogous cost based on similar feasibility study, which includes initial planning and site assessment, geotechnical analysis, hydrologic and hydraulic analysis and modeling, professional site survey, conceptual design drawings, preferred alternatives feasibility assessment report, and project management.
LM-5. Prioritize culvert replacements	Land Management Strategy (LM)	Identify and prioritize culvert replacements, develop scheme where fish passage improvements are rated higher.	$3,200	$0	Assumes the cost of 40 hours of planner staff time or consultant support.
LM-7. Conduct Lovgreen Road Flow Control Feasibility Study	Land Management Strategy (LM)	This feasibility study would investigate using a linear facility to provide water quality treatment and flow control to reduce downstream erosion and flooding at the highway intersection. It will also evaluate coupling the linear facility with other road improvements (such as sidewalks) and expanding the linear facility onto adjacent COBI property (with potential impacts to the current use of the property).	$100,000	$0	Assumes analogous feasibility study cost based on a similar project.
SE-3. Perform field screening for bacteria adjacent to properties with septic systems	Stormwater Management Program Enhancement (SE)	Conduct field screening for bacterial contamination in drainages adjacent to properties with septic systems. Partner with Kitsap Public Health to develop actions to identify failing systems, conduct maintenance education, or proactive/early response to inadequate systems.	$0	$12,500	Assumes $250 per property inspection for a total of 50 property inspections over a 2-year duration.
SE-7. Conduct a residential rain garden cost-share program	Stormwater Management Program Enhancement (SE)	Develop and implement a cost-share pilot program to install/ encourage residential rain gardens or other infiltrating projects on developed sites.	$0	$20,000	Assumes cost will be similar to that of a 3-year duration interlocal agreement for the same program between Bremerton and Kitsap Conservation District.
			$1,073,200 to $1,318,200	**$32,500**	
				Total Long-Term Cost	**$1,105,700 to 1,350,700**

LM = land management strategy

RP = strategic stormwater retrofit project opportunity

SE = stormwater management program enhancement

APPENDIX F CLIMATE CHANGE ADAPTATION AND STORMWATER MANAGEMENT ASSESSMENT AND RECOMMENDATIONS

CITY OF BAINBRIDGE ISLAND

Table F-1. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Climate Change Adaptation.

Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management	Current COBI SWMP activities most relevant to climate change adaptation	Opportunities to help meet Climate Action Plan and Comp Plan Policies

• CAP Strategy 5.A.1
• CAP Priority Action 5.A.1.a
• CAP Priority Action 5.A.2.a
• CAP Goal 5.B
• CAP Strategy 5.B.1
• CAP Priority Action 5.B.1.a
• CAP Priority Action 5.B.1.b
• CAP Priority Action 5.B.1.c
• CAP Other Action 5.B.1.d
• CAP Strategy 5.B.2
• CAP Priority Action 5.B.2.a
• CAP Priority Action 5.B.2.b
• CAP Priority Action 5.B.2.c
• CAP Other Action 5.B.2.d
• CAP Goal 6.A
• CAP Strategy 6.A.1
• CAP Priority Action 6.A.1.a
• CAP Priority Action 6.A.1.b
• CAP Priority Action 6.A.1.d
• CAP Other Action 6.A.1.e
• CAP Other Action 6.A.1.f
• CAP Strategy 6.A.2
• CAP Priority Action 6.A.2.a
• CAP Other Action 6.A.2.b
• CAP Other Action 6.A.2.c
• CAP Goal 6.B
• CAP Strategy 6.B.1
• CAP Priority Action 6.B.1.a
• CAP Priority Action 6.B.1.b
• CAP Other Action 6.B.1.c
• CAP Other Action 6.B.1.d
• CAP Other Action 6.B.1.g
• CAP Goal 6.D
• CAP Strategy 6.D.1
• CAP Priority Action 6.D.1.a
• CAP Other Action 6.D.1.e
• CAP Other Action 6.D.1.f
• CAP Strategy 6.D.2
• CAP Priority Action 6.D.2.a
• CAP Other Action 6.D.2.b
• CAP Goal 7.A
• CAP Strategy 7.A.1
• CAP Priority Action 7.A.2.d
• CAP Other Action 7.A.2.e
 	
continued on next page
	• COBI Climate Mitigation and Adaptation Manager participates in the Stormwater Planning Interdisciplinary Team.
	
	• CAP activities for plastic and food waste reduction are reported on for Phase II Permit compliance as part of the Source Control Program (see Appendix B, Table B-8) and is also considered a way to prevent illicit discharges (see Appendix B, Table B-5).
	
	• Public Works staff offer information and training on IDDE and proper waste disposal that is available anytime to all City employees and is regularly advertised to staff.
	
	• Public Works has partnered with and/or advertised Sustainable Bainbridge Zero Waste and Watershed Council events that both inform on the hazards of improper waste disposal and offer stewardship opportunities for people to collect and properly dispose of waste.
	
	• COBI coordinates on NPDES education and outreach activities through formal and informal agreements and partnerships with other NPDES Permittees, agencies, and organizations such as: West Sound Stormwater Outreach Group (WSSOG); Kitsap Conservation District; Kitsap County Public Health; Kitsap Solid Waste; Washington Department of Fish and Wildlife; Sustainable Bainbridge Watershed Council; and Cooperative Weed Management Area.
	
	• COBI promotes, and sometimes partners with, local and regional stewardship groups and agency programs that provide stewardship opportunities, such as the following:
	  ○ Sustainable Bainbridge Community Groups: Watershed Council, Weed Warriors, Zero Waste, Bainbridge Beach Naturalists
	  ○ Bainbridge Island Cooperative Weed Management Area (CWMA)
	  ○ WSU Master Gardeners Outreach and Assistance Program
	  ○ Bainbridge Island Metro Park & Recreation District
	  ○ Kitsap Conservation District Outreach and Assistance Programs
	  ○ Washington Department of Fish and Wildlife habitat monitoring and improvements projects
	
	• Through the WSSOG, in 2020-2022, COBI joined Kitsap County and other jurisdictions in conducting an Overburdened Communities Assessment to help understand demographics of populations and identify potential communication strategies.
		RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES BY SUBJECT:
		Coordination:
		• ***B2-R1: Coordination of Education and Outreach Activities*** *(reiterated from Table B-2 for Public Education and Outreach)*
		Education and outreach activities, including coordination with other NPDES Permittees, agencies, and organizations; especially continue formal ILA partnership with WSSOG.
		• **F1-R1: Cross Department Coordination**
		Coordinate across departments to maximize efforts for work that addresses both CAP goals as well as Stormwater Management Program (SWMP) requirements.
		Education & Outreach:
		• ***B2-R2: Stormwater Education and Outreach Plan & Annual Awareness Campaign*** *(reiterated from Table B-2 for Public Education and Outreach)*
		Establish a COBI specific Stormwater Education and Outreach Plan, with the help of the Communications Coordinator, that provides strategies and tactics to schedule and employ to meet education and outreach goals; including developing and implementing annual campaigns for, at a minimum, one priority audience and one subject area.
		• ***B2-R3: Consider Overburdened Communities*** *(reiterated from Table B-2 for Public Education and Outreach)*
		Use the 2021-2022 Kitsap County Overburdened Communities Assessment Study to identify overburdened communities on Bainbridge Island, then consider those communities as a priority audience for general awareness education and outreach.
		• ***B2-R8: Existing Behavior Change Campaigns*** *(reiterated from Table B-2 for Public Education and Outreach)*
		Continue to partner with WSSOG on the next phase(s) of the Mutt Mitt regional behavior change campaign and the natural yard care social marketing regional behavior change campaign.
		Community Engagement & Stewardship:
		• ***B2-R10: Promote Stewardship Opportunities*** *(reiterated from Table B-2 for Public Education and Outreach)*
		Promote volunteer stewardship opportunities hosted by others.
		• ***B3-R1: Provide Opportunities for Public Input*** *(reiterated from Table B-3 for Public Involvement and Participation)*
		Provide opportunities for public review and input on the SWMP, SMAP, Stormwater System Plan (SWSP), and any other storm and surface water utility related decisions, documents, and activities.
		• ***B3-R3: Involve Overburdened Communities*** *(reiterated from Table B-3 for Public Involvement and Participation)*
		*Create and provide involvement opportunities to identified overburdened communities. And, annually document these efforts, and methods to identify overburdened communities, and submit to Ecology no later than December 31, 2026.**
		Waste:
		• ***B5-R3: Offer Information to Staff*** *(reiterated from Table B-5 for Illicit Discharge Detection and Elimination)*
		Offer information to COBI staff on IDDE and proper waste disposal through an ongoing informational campaign or training program.
		• ***B5-R4: Partner on Waste Disposal*** *(reiterated from Table B-5 for Illicit Discharge Detection and Elimination)*
		Partner with agencies, businesses, and community groups to inform on proper waste disposal and provide opportunities to collect hazardous waste for free.
		• ***B5-R5: Continue Waste Reduction Program*** *(reiterated from Table B-5 for Illicit Discharge Detection and Elimination)*
		Implement the Single-Use Foodware and Waste Reduction Program.
		• ***B5-R6: Agriculture Technical Assistance for Water Quality*** *(reiterated from Table B-5 for Illicit Discharge Detection and Elimination)*
		Implement agricultural technical assistance for water quality through ILA with Kitsap Conservation District.
		• ***B8-R1: Develop and Implement Source Control Program*** *(reiterated from Table B-8 for Source Control)*
		Develop and implement a Source Control Program for existing development to prevent and reduce pollutants in runoff.
		• ***B8-R2: Source Control Program Staff*** *(reiterated from Table B-8 for Source Control)*
		Create and hire at least one new staff position to coordinate the recommended Source Control Program (B8-R1).
		Vegetation:
		• ***B1-R7: Tree Canopy Goals*** *(reiterated from Table B-1 for Stormwater Planning)*
		*No later than December 31, 2028, adopt and implement tree canopy goals and policies to support stormwater management and water quality protection and improvement.**
		• **F1-R2: Integrated Pest Management Plan**
		Develop and implement an Integrated Pest Management (IPM) Plan and Program specially to control the spread of noxious weeds on Bainbridge Island in accordance with RCW 17.10 and WAC 16-750, and identify staff to coordinate and oversee the IPM Program.

Table F-1. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Climate Change Adaptation.

Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management	Current COBI SWMP activities most relevant to climate change adaptation	Opportunities to help meet Climate Action Plan and Comp Plan Policies
continued from previous page • CAP Goal 8.A • CAP Strategy 8.A.1 • CAP Priority Action 8.A.1.b • CAP Other Action 8.A.1.d • CAP Other Action 8.A.1.e • CAP Other Action 8.A.1.f • CAP Other Action 8.A.1.g • CAP Goal 8.B • CAP Other Action 8.B.1.c • CAP Other Action 8.B.1.e • CAP Strategy 8.B.2 • CAP Priority Action 8.B.2.a • CAP Priority Action 8.B.2.b • Comp Plan Policy EN 1.5 • Comp Plan Policy EN 1.8 • Comp Plan Policy EN 2.1 • Comp Plan Policy EN 2.2 • Comp Plan Policy EN 2.4 • Comp Plan Goal EN 7 • Comp Plan Policy EN 7.1 • Comp Plan Policy EN 7.2 • Comp Plan Policy EN 15.9 • Comp Plan Policy EN 19.2 • Comp Plan Policy LU 12.6 • Comp Plan Policy U 15.2 • Comp Plan Policy U 15.4 • Comp Plan Policy U 15.5 • Comp Plan Policy WR 1.1 • Comp Plan Policy WR 2.14 • Comp Plan Policy WR 3.10 • Comp Plan Policy WR 3.11 • Comp Plan Policy WR 4.2	• The City conducts stormwater discharge monitoring as part of its own Water Quality and Flow Monitoring Program (WQFMP) for water quality indicators and to comply with IDDE/TMDL requirements (i.e., quarterly sampling and testing for fecal coliform (now E.coli) bacteria at 16 sites). • The Bainbridge Island Salmon Monitoring Program is an unofficial status and trends monitoring that is occurring ongoing and was started by the Sustainable Bainbridge Watershed Council and is supported by COBI. This stewardship program recruits Bainbridge Island property owners and individuals to monitor salmonoid species presence in four Bainbridge Island streams.	**RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES BY SUBJECT:** **Coordination:** • ***B1-R3: Stormwater Management Advisory Group*** *(reiterated from Table B-1 for Stormwater Planning)* *Establish a new or joint Advisory Group to provide recommendations to City Council on Stormwater Management. Stormwater management concerns cross over multiple existing Advisory Groups, including:* ○ *Climate Change Advisory Committee* ○ *Environmental Technical Advisory Committee* ○ *Green Building Task Force* ○ *Planning Commission* ○ *Utility Advisory Committee* *Such a Stormwater Management Advisory Group would collaborate with the Interdisciplinary Team and water quality stakeholder groups. (also see recommendations for Public Involvement and Participation, Table B-3)* • ***B8-R3: Source Control Program Consolidation*** *(reiterated from Table B-8 for Source Control)* *Consolidate and coordinate existing COBI resources and programs already related to source control (i.e., IDDE, FOG, waste rection and waste disposal for climate change adaptation) into the new Source Control Program (B8-R1).* **Education & Outreach:** • ***B2-R9: Expand Existing Behavior Change Campaign*** *(reiterated from Table B-2 for Public Education and Outreach)* *Discontinue partnership in natural yard care social marketing regional behavior change campaign with WSSOG to create a customized local natural yard care campaign more specific to COBI residents and property owners.* • **F1-R3: Climate Change Informational Resources** Develop informational resources for everyday reference, such as on the COBI website, on climate change and stormwater management relevant topics including: improving property drainage, climate change resilient tree and plant species, invasive and noxious weed control, rain barrel/garden installations, natural chemical free lawn care, and proper waste disposal. • **F1-R4: Climate Change Education and Training Events** Host free education and training events on climate change and stormwater management relevant topics such as improving property drainage, protecting shorelines, creating rain gardens, planting climate change resilient plants, invasive and noxious weed control, natural chemical free lawn care, and proper waste disposal. • **F1-R6 : Climate Change Training for Staff** Provide annual staff training on climate change to ensure staff are referencing up-to-date science data and COBI policies on climate change to incorporate into stormwater management. **Community Engagement & Stewardship:** • ***B2-R12: Provide a Stewardship Opportunity*** *(reiterated from Table B-2 for Public Education and Outreach)* *Annually host and organize at least one stewardship opportunity on public property, this could be a one-time standalone project or a project that helps an existing program (e.g., hazardous waste collection event, rain barrel sale, community cleanup day, riparian vegetation planting or noxious weed control at stormwater facilities, etc.).* • ***B2-R13: Ongoing Stewardship Program*** *(reiterated from Table B-2 for Public Education and Outreach)* *Create one ongoing stewardship program (e.g., Salmon Monitoring, Stream Stewards, Noxious Weed Control Team at Waterfront Park, Adopt-a-Catch-Basin, etc.).* **Waste:** • ***B8-R4: Stormwater and Grey Water Reuse Incentive Program*** *(reiterated from Table B-8 for Source Control)* *Develop and implement a beneficial reuse program that incentivizes and facilitates innovative methods for homeowners and business owners to use stormwater and grey water as approved by the Washington State Department of Ecology (Ecology), Washington State Department of Health, and the Kitsap Public Health District.* **Vegetation:** • **F1-R5: Climate Change Resilient Tree and Plant Species List** Build off the work of COBI arborists on incorporating FireWise specific plants into a climate change resilient tree and plant species list and also creating a climate change resilient plant species list suited for stormwater management, especially for low impact development (LID) facilities and tree canopy.

Table F-1. City of Bainbridge Island (COBI) Stormwater Management Program (SWMP) Assessment and Recommendations for Climate Change Adaptation.		
Climate Action Plan (CAP) and Comp Plan goals and policies most relevant to stormwater management	**Current COBI SWMP activities most relevant to climate change adaptation**	**Opportunities to help meet Climate Action Plan and Comp Plan Policies**
see previous page	*see previous page*	**RECOMMENDATION(S) FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES BY SUBJECT continued:** **<u>Building & Infrastructure:</u>** • **F1-R7: Refine LID Preference in Design for Bainbridge** Refine LID preference as part of Design For Bainbridge. • **F1-R8: Refine LID in Design and Construction Standards** Refine LID design and construction standards as part of the *City of Bainbridge Island Design and Construction Standards and Specifications.* • **F1-R9: Climate Change and Stormwater Infrastructure Improvements** Develop policy/guidelines for incorporating climate change into design and construction of Capital stormwater infrastructure improvement and repair projects. • **F1-R11: Identify and Address Vulnerable Stormwater Infrastructure** Utilize the City's sea level rise study data to identify vulnerable stormwater infrastructure located within and/or impacted by predicted sea level rise hazard areas, then determine risk and how to address the service area. • **F1-R12: Identify and Address Capacity Constrained (Historic Flooding) Areas** Develop dataset on known capacity constrained (historic flooding) areas, then incorporate the dataset into the COBI Development Review Checklist and into the Capital infrastructure improvement project identification and prioritization processes. **<u>Water Quality Monitoring:</u>** • ***B9-R3: Enhanced WQFMP Field Screening Program*** *(reiterated from Table B-9 for Total Maximum Daily Load Requirements)* *Assess and adaptively manage for effectiveness of WQFMP field screening; and identify and monitor areas of the Island that are the most vulnerable to pollution from concentrations of bacteria, nitrogen and phosphorous (e.g., septic fields, agricultural activities, or fertilizers) to help determine need for preventative or restorative measures.* • ***B9-R4: Enforce Preventative or Restorative Measures*** *(reiterated from Table B-9 for Total Maximum Daily Load Requirements)* *Develop and implement a program to enforce action for preventative or restorative measures as determined warranted based on WQFMP monitoring (Recommendation B9-R3) and field evidence.* • **F1-R10: Augment Water Quality Flow Monitoring Program** Augment COBI's Water Quality Flow Monitoring Program (WQFMP) to incorporate climate change sensitive parameters into storm, surface, and ground water monitoring.

* = A specific recommendation to meet requirement(s) in the draft 2024-2029 Phase II Permit (Appendix G)

Table F-2. Costs Associated with Stormwater Management Program (SWMP) Assessment and Recommendations for Climate Change Adaptation (Table F-1).

Recommendation Reference ID	Recommendation Title	Program/Project Type		Recommendation Cost Assumptions	Approximate Cost Per Year over 2024-2029 Phase II Permit Years and Beyond[c, d]							
					Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total for 2024-2029	Annual Ongoing Funding for 2030 and Beyond
		One-time [a]	Ongoing [b]		2024	2025	2026	2027	2028	2029		
TABLE F-1 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS												
F1-R1	Cross Department Coordination		X	40 hours of staff time each year for staff to meet to identify and coordinate on work for CAP policies and goals and Stormwater Management Program planning and activities starting in 2024 then ongoing thereafter.	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$24,000	$4,000
F1-R2	Integrated Pest Management Plan	X	X	100 hours of staff time in 2024 to develop the IPM with the CWMA; then 60 hours of staff time each year to oversee implementation of the IPM along with the CWMA in 2024 then ongoing thereafter.	$13,000	$5,000	$5,000	$5,000	$5,000	$5,000	$38,000	$5,000
TABLE F-1 RECOMMENDATIONS FOR MINIMUM EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$17,000**	**$9,000**	**$9,000**	**$9,000**	**$9,000**	**$9,000**	**$62,000**	**$9,000**
TABLE F-1 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS												
F1-R3	Climate Change Informational Resources	X		$10,000 for consultant support and 40 hours of staff support in 2024 to develop information resources on climate change as it relates to stormwater management.	$14,000	$0	$0	$0	$0	$0	$14,000	$0
F1-R4	Climate Change Education and Training Events		X	40 hours of staff time each year to host education and training events for climate change and stormwater management relevant topics starting in 2025 then ongoing thereafter.	$0	$4,000	$4,000	$4,000	$4,000	$4,000	$20,000	$4,000
F1-R5	Climate Change Resilient Tree and Plant Species List	X		Approximately 40 hours of staff time in 2024 to create the climate change resilient tree and plant species lists.	$4,000	$0	$0	$0	$0	$0	$4,000	$0
F1-R6	Climate Change Training for Staff		X	10 hours of staff time each year to develop the training, and 40 hours of staff time each year to conduct the training for 4 hours for ten staff starting in 2024 then ongoing thereafter.	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$30,000	$5,000
F1-R7	Refine LID Preference in Design for Bainbridge	X		40 hours of staff time in 2024 to review and refine LID (aka GSI) preference language and resources for Design for Bainbridge.	$4,000	$0	$0	$0	$0	$0	$4,000	$0
F1-R8	Refine LID Design and Construction Standards	X		$80,000 for consultant support and 200 hours of staff support in 2024 to develop and implement LID design and construction standards and specifications.	$97,000	$0	$0	$0	$0	$0	$97,000	$0
F1-R9	Climate Change and Stormwater Infrastructure Improvements	X		$50,000 for consultant support and 100 hours of staff support in 2025 to develop the policy/guidelines.	$0	$59,000	$0	$0	$0	$0	$59,000	$0
F1-R10	Augment Water Quality Flow Monitoring Program		X	500 hours of staff time to review and adapt the WQFMP to incorporate climate change sensitive parameters into storm, surface, and ground water monitoring across the years of 2025-2029. The cost of technical and laboratory costs associated with potential adaptations are unknown.	$0	$9,000	$9,000	$9,000	$9,000	$9,000	$45,000	$9,000
F1-R11	Identify and Address Vulnerable Stormwater Infrastructure	X		40 hours of staff time in 2024 to use existing sea level rise study data to identify and assess risk to stormwater infrastructure and identify projects to reduce risk and add those projects to the prioritization process.	$4,000	$0	$0	$0	$0	$0	$4,000	$0
F1-R12	Identify and Address Capacity Constrained (Historic Flooding) Areas	X		100 hours of staff time in 2024 to develop the dataset and incorporate it into COBI Development Review Checklist and into the Capital infrastructure improvement project identification and prioritization processes.	$9,000	$0	$0	$0	$0	$0	$9,000	$0
TABLE F-1 RECOMMENDATIONS FOR ADDITIONAL ENHANCED EFFORT ACTIVITIES ESTIMATED COSTS TOTAL					**$137,000**	**$77,000**	**$18,000**	**$18,000**	**$18,000**	**$18,000**	**$286,000**	**$18,000**
TABLE F-1 COMBINED RECOMMENDATIONS ESTIMATED COSTS TOTAL					**$154,000**	**$86,000**	**$27,000**	**$27,000**	**$27,000**	**$27,000**	**$348,000**	**$27,000**

[a] One-time programs/projects are completed once, such as hiring a consultant to develop new training materials

[b] Ongoing programs/projects occur every year, such as continuing an inspection program or annual review of procedures

[c] The cost of one hour is equal to $80.75, which was developed using the Stormwater Management Program Coordinator composite hour rate (salary+benefits) as proxy. There are 1,748 working hours per year, which represents one full-time employee. A full-time employee is equal to $141,154.32 annually.

[d] These costs are rounded to the nearest thousand dollar amount and do not include inflation.

APPENDIX G DRAFT 2024–2029 WESTERN WASHINGTON PHASE II MUNICIPAL STORMWATER PERMIT

CITY OF BAINBRIDGE ISLAND

Issuance Date: ~~—~~ July 1, ~~2019~~2024
Effective Date: ~~–~~ August 1, ~~2019~~2024
Expiration Date: July 31, ~~2024~~2029

WESTERN WASHINGTON PHASE II MUNICIPAL STORMWATER PERMIT

National Pollutant Discharge Elimination System and
State Waste Discharge General Permit for discharges from
~~Small Municipal Separate Storm Sewers~~
Small Municipal Separate Storm Sewer Systems
In Western Washington

State of Washington
Department of Ecology
Olympia, WA ~~-~~98504-7600

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1251 *et seq*.

Until this Permit expires, is modified, or revoked, Permittees that have properly obtained coverage under this Permit are authorized to discharge to waters of the State in accordance with the special and general conditions which follow.

~~Heather R. Bartlett~~

Vincent McGowan, PE
Water Quality Program Manager
Department of Ecology

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ADA Accessibility

The Department of Ecology is committed to providing people with disabilities access to information and services by meeting or exceeding the requirements of the Americans with Disabilities Act (ADA), Section 504 and 508 of the Rehabilitation Act, and Washington State Policy #188.

To request ADA Accommodation, contact Water Quality Reception at 360-407-6600. For Washington Relay Service or TTY call 711 or 877-833-6341. Visit Ecology's accessibility webpage[1] for more information.

For document translation services, call Water Quality Reception at 360-407-6600.

Por publicaciones en espanol, por favor llame Water Quality Reception al 360-407-6600.

[1] https://ecology.wa.gov/About-us/Accessibility-equity/Accessibility/

SPECIAL CONDITIONS

S1. PERMIT COVERAGE AREA AND PERMITTEES

A. Geographic Area of Permit Coverage

This Permit is applicable to owners or operators of regulated small Municipal Separate Storm Sewer Systems (MS4s) located west of the eastern boundaries of the following counties: Whatcom, Skagit, Snohomish, King, Pierce, Lewis, and Skamania.

1. For all cities required to obtain coverage under this Permit, the geographic area of coverage is the entire incorporated area of the city.
2. For all counties required to have coverage under this Permit, the geographic area of coverage is the ~~urbanized~~urban areas and urban growth areas associated with permitted cities under the jurisdictional control of the county. The geographic area of coverage also includes any urban growth area contiguous to permitted ~~urbanized~~urban areas under the jurisdictional control of the county.
3. For Whatcom County, the geographic area of coverage also includes the unincorporated Birch Bay urban growth area.

   For Thurston County, the geographic area of coverage also includes the unincorporated Yelm urban growth area.
4. For Secondary Permittees required to obtain coverage under this Permit, the minimum geographic area of coverage is all areas identified under S1.A.1 and S1.A.2. At the time of permit coverage, the Washington State Department of Ecology (Ecology) may establish a geographic area of coverage specific to an individual Secondary Permittee.
5. All regulated small MS4s owned or operated by the Permittees named in S1.D.2.a(i), and (ii), and S1.D.2.b and located in another city or county area requiring coverage under this Permit, or the *Phase I Municipal Stormwater Permit* or the *Eastern Washington Phase II Municipal Stormwater Permit*, are also covered under this Permit.

~~B.~~A. Regulated Small Municipal Separate Storm Sewer Systems (MS4s)

All operators of regulated small MS4s are required to apply for and obtain coverage under this Permit or be permitted under a separate individual permit, unless waived or exempted in accordance with condition S1.C.

1. A regulated small MS4:
   a. Is a "Small MS4" as defined in the *Definitions and Acronyms* section at the end of this Permit; and
   b. Is located within, or partially located within, an ~~urbanized~~urban area as defined by the latest decennial census conducted by the U.S. Census Bureau, or designated by Ecology pursuant to 40 CFR 123.35(b) or 40 CFR 122.26(f); and
   c. Discharges stormwater from the MS4 to a surface water of Washington State; and
   d. Is not eligible for a waiver or exemption under S1.C, below.
2. All other operators of MS4s, including special purpose districts, which meet the criteria for a regulated small MS4 shall obtain coverage under this Permit. Other operators of small MS4s may include, but are not limited to: flood control, or diking and drainage districts; schools, including universities; and correctional facilities that own or operate a small MS4 serving non-agricultural land uses.
3. Any other operators of small MS4s may be required by Ecology to obtain coverage under this Permit or an alternative NPDES permit if Ecology determines the small MS4 is a significant source of pollution to surface waters of the State. Notification of Ecology's determination that permit coverage is required will be through the issuance of an Administrative Order issued in accordance with ~~RCW~~Chapter 90.48 RCW.
4. The owner or operator of a regulated small MS4 may obtain coverage under this Permit as a Permittee, Co-Permittee, or Secondary Permittee as defined in S1.D.1, below.
5. Pursuant to 40 CFR 122.26(f), any person or organization may petition Ecology to require that additional small MS4s obtain coverage under this Permit. The process for petitioning Ecology is:
   a. The person or organization shall submit a complete petition in writing to Ecology. A complete petition shall address each of the relevant factors for petitions outlined on Ecology's website.
   b. In making its determination on the petition, Ecology may request additional information from either the petitioner or the entity that is the subject of the petition.
   c. Ecology will make a final determination on a complete petition within 180 days of receipt of the petition and inform both the petitioner and the MS4 of the decision, in writing.

d. If Ecology's final determination is that the candidate MS4 will be regulated, Ecology will issue an order to the operator of the MS4 requiring them to obtain coverage under this Permit. The order will specify:

i. The geographic area of permit coverage for the MS4~~.~~;

ii. Any modified dates or deadlines for developing and implementing this Permit, as appropriate to the MS4, and for submitting their first annual report~~.~~; and

iii. A deadline for the operator of the MS4 to submit a complete Notice of Intent (NOI, provided on Ecology's website) to Ecology.

A. Permit Waivers

Owners and operators of an otherwise regulated small MS4 are not required to obtain coverage under this Permit if:

1. The small MS4 is operated by:

a. A federal entity, including any department, agency, or instrumentality of the executive, legislative, and judicial branches of the Federal government of the United States.

b. Federally recognized Indian Tribes located within Indian Country, including all trust or restricted lands within the 1873 Survey Area of the Puyallup Tribe of Indians.

c. The Washington State Department of Transportation.

Or

2. The portions of the small MS4 located within the census defined ~~urbanized~~urban area(s) serve a total population of less than 1000 people and a, b, and c, below ***all*** apply:

a. The small MS4 is not contributing substantially to the pollutant loadings of a physically interconnected MS4 that is regulated by the NPDES stormwater program.

b. The discharge of pollutants from the small MS4 has not been identified as a cause of impairment of any water body to which the MS4 discharges.

c. In areas where an EPA approved TMDL has been completed, stormwater controls on the MS4 have not been identified as necessary to meet wasteload allocations established in the TMDL that address the pollutant(s) of concern.

~~c.~~ In determining the total population served, both resident and commuter populations shall be included. For example:

- For publicly operated school complexes including universities and colleges, the total population served would include the sum of the average annual student enrollment plus staff.
- For flood control, diking, and drainage districts, the total population served would include residential population and any non-residents regularly employed in the areas served by the small MS4.

~~D.~~B. Obtaining ~~coverage under~~Coverage Under this Permit~~.~~

All operators of regulated small MS4s are required to apply for and obtain coverage in accordance with this Section, unless waived or exempted, in accordance with ~~Section~~ S1.C.

1. Unless otherwise noted, the term "Permittee" shall include a city, town, or county Permittee, New Permittee, Co-Permittee, Secondary Permittee, and New Secondary Permittee as defined below:

a. "Permittee" is a city, town, or county owning or operating a regulated small MS4 applying and receiving a permit as a single entity.

b. "New Permittee" is a city, town, or county that is subject to *the Western Washington Phase II Municipal Stormwater General Permit* and was not subject to the Permit prior to August 1, ~~2019~~2024**.**

c. "Co-Permittee" is any owner or operator of a regulated small MS4 that is applying in a cooperative agreement with at least one other applicant for coverage under this Permit. Co-Permittees own or operate a regulated small MS4 located within or in proximity to another regulated small MS4.

d. A "Secondary Permittee" is an operator of a regulated small MS4 that is not a city, town, or county. Secondary Permittees include special purpose districts and other MS4s that meet the criteria for a regulated small MS4 in S1.B, above.

e. "New Secondary Permittee" is a Secondary Permittee that is covered under a Municipal Stormwater General Permit and was not covered by the Permit prior to August 1, ~~2019~~2024**.**

2. Operators of regulated small MS4s have submitted, or shall submit, to Ecology either a Notice of Intent (NOI) for Coverage under National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater General Permit or a Duty to Reapply - NOI provided on Ecology's website.

a. The following Permittees and Secondary Permittees submitted a Duty to Reapply - NOI to Ecology prior to February 1, ~~2018:~~ 2024:

i. **Cities and towns:** Aberdeen, Algona, Anacortes, Arlington, Auburn, Bainbridge Island, Battle Ground, Bellevue, Bellingham, Black Diamond, Bonney Lake, Bothell, Bremerton, Brier, Buckley, Burien, Burlington, Camas, Centralia, Clyde Hill, Covington, Des Moines, DuPont, Duvall, Edgewood, Edmonds, Enumclaw, Everett, Federal Way, Ferndale, Fife, Fircrest, Gig Harbor, Granite Falls, Issaquah, Kelso, Kenmore, Kent, Kirkland, Lacey, Lake Forest Park, Lake Stevens, Lakewood, Longview, Lynden, Lynnwood, Maple Valley, Marysville, Medina, Mercer Island, Mill Creek, Milton, Monroe, Mountlake Terrace, Mount Vernon, Mukilteo, Newcastle, Normandy Park, Oak Harbor, Olympia, Orting, Pacific, Port Orchard, Port Angeles, Poulsbo, Puyallup, Redmond, Renton, Sammamish, SeaTac, Sedro-Woolley, Shelton, Shoreline, Snohomish, Snoqualmie, Steilacoom, Sumner, Tukwila, Tumwater, University Place, Vancouver, Washougal, and Woodinville.

~~ii.~~i. **Counties:** Cowlitz, Kitsap, Thurston, Skagit, and Whatcom.

~~iii.~~ii. **Secondary Permittees:** Bainbridge Island School District #303, Bellingham School District, Bellingham Technical College, Cascadia College, Central Kitsap School District, Centralia College, Clark College, Consolidated Diking Improvement District #1 of Cowlitz County, Edmonds Community College, Evergreen College, Highline Community College, Kelso School District, Kent School District, Longview School District, Lower Columbia College, Port of Anacortes, Port of Bellingham, Port of Everett, Port of Olympia, Port of Skagit County, Port of Vancouver, Skagit County Drainage District #19, Skagit Valley College, University of Washington Bothell, Washington State University Vancouver, Washington State Department of Enterprise Services (Capitol Campus), Washington Department of Corrections~~,~~ (Larch Corrections Center, Monroe Correctional Complex, Washington Corrections Center for Women, and Washington State Penitentiary), Western Washington University, and Whatcom Community College.

b. Operators of regulated small MS4s have submitted or shall submit to Ecology a "Notice of Intent (NOI) for Coverage under National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater General Permit" provided on Ecology's website before the effective date of this Permit, with the following exceptions:

i. Operators of regulated small MS4s located in the ~~City~~Cities of ~~Shelton,~~Ridgefield and ~~the Clallam County urban growth area~~

~~surrounding Port Angeles~~Yelm, and Sound Transit a shall submit a NOI or application to Ecology no later than 30 days after the effective date of this Permit.

ii. Operators of regulated small MS4s listed in S1.D.2.a do not need to submit a new application to be covered under this Permit.

c. For operators of regulated small MS4s listed in S1.D.2.a, coverage under this Permit is automatic and begins on the effective date of this Permit, unless the operator chooses to opt out of this General Permit. Any operator of a regulated small MS4 that is opting out of this Permit shall submit an application for an individual MS4 permit in accordance with 40 CFR 122.33(b)(2)(ii) no later than the effective date of this Permit.

d. Operators of regulated small MS4s which want to be covered under this Permit as Co-Permittees shall each submit a NOI to Ecology.

e. Operators of regulated small MS4s which are relying on another entity to satisfy all of their permit obligations shall submit a NOI to Ecology.

f. Operators of small MS4s designated by Ecology pursuant to S1.B.3 of this Permit shall submit a NOI to Ecology within 120 days of receiving notification from Ecology that permit coverage is required.

3. Application Requirements

a. For NOIs submitted after the issuance date of this Permit, the applicant shall include a certification that the public notification requirements of ~~WAC~~Chapter 173-226-130(5) WAC have been satisfied. Ecology will notify applicants in writing of their status concerning coverage under this Permit within 90 days of Ecology's receipt of a complete NOI.

b. Each Permittee applying as a Co-Permittee shall submit a NOI provided on Ecology's website. The NOI shall clearly identify the areas of the MS4 for which the Co-Permittee is responsible.

c. Permittees relying on another entity or entities to satisfy one or more of their permit obligations shall notify Ecology in writing. The notification shall include a summary of the permit obligations that will be carried out by another entity. The summary shall identify the other entity or entities and shall be signed by the other entity or entities. During the term of the Permit, Permittees may terminate or amend shared responsibility arrangements by notifying Ecology, provided this does not alter implementation deadlines.

S1.S1.A.1.a Secondary Permittees required to obtain coverage under this Permit, and the Phase I Municipal Stormwater Permit or the Eastern Washington Phase II Municipal Stormwater Permit, may obtain coverage by submitting a single NOI.

~~d.~~ **Secondary Permittees required to obtain coverage under this Permit, and the *Phase I Municipal Stormwater Permit* or the *Eastern Washington Phase II Municipal Stormwater Permit*, may obtain coverage by submitting a single NOI.**

S2. AUTHORIZED DISCHARGES

A. Stormwater Discharges

This Permit authorizes the discharge of stormwater to surface waters and to groundwaters of the State from MS4s owned or operated by each Permittee covered under this Permit, in the geographic area covered pursuant to S1.A. These discharges are subject to the following limitations:

1. Discharges to groundwaters of the State through facilities regulated under the Underground Injection Control (UIC) program, Chapter 173-218 WAC, are not authorized under this Permit.

2. Discharges to groundwaters not subject to regulation under the federal *Clean Water Act* are authorized in this Permit only under state authorities, Chapter 90.48 RCW, the *Water Pollution Control Act*.

A. Non-Stormwater Discharges

This Permit authorizes discharges of non-stormwater flows to surface waters and to groundwaters of the State from MS4s owned or operated by each Permittee covered under this Permit, in the geographic area covered pursuant to S1.A, only under one or more of the following conditions:

1. The discharge is authorized by a separate NPDES or State Waste Discharge permit.

2. The discharge is from emergency firefighting activities and does not involve PFAS-containing aqueous film-forming foams (AFFFs). After the emergency has ceased, non-stormwater discharges (e.g., discharges associated with cleanup) to the MS4 are prohibited. Determination of cessation of the emergency is at the discretion of the emergency on-scene coordinator.

3. The discharge is from emergency firefighting activities and involves PFAS-containing AFFFs, the following conditions apply:

    a. No later than December 31, 2026, the Permittee shall coordinate with firefighting agencies/departments that serve the areas that drain to the MS4 to develop a PFAS management plan which will implement measures to minimize discharges of PFAS via the MS4 during emergency firefighting activities. The Permittee is not expected to deploy control measures during an emergency. The Permittee shall implement the PFAS management plan to minimize discharges of PFAS via the MS4 during post-emergency activities, including immediate clean-up in all situations where AFFFs have been used, diversions, and other measures that prevent discharges via the MS4.

b. No later than December 31, 2027, the Permittee shall implement specific protocols for minimizing the resuspension, conveyance, and discharge of PFAS already in the MS4, both during normal operations and during all maintenance.

~~3.~~4. The discharge is from another illicit or non-stormwater discharge that is managed by the Permittee as provided in ~~Special Condition~~ S5.C.5 or S6.D.3.

These discharges are also subject to the limitations in S2.A.1 and S2.A.2, above.

B. Responsibilities and Liabilities

This Permit does not relieve entities that cause illicit discharges, including spills of oil or hazardous substances, from responsibilities and liabilities under state and federal laws and regulations pertaining to those discharges.

C. Compliance with State and Local Authorizations

Discharges from MS4s constructed after the effective date of this Permit shall receive all applicable state and local permits and use authorizations, including compliance with Chapter 43.21C RCW (the *State Environmental Policy Act*).

D. Indian Country

This Permit does not authorize discharges of stormwater to waters within Indian Country as defined in 18 U.S.C. §1151, or to waters subject to water quality standards of Indian Tribes, including portions of the Puyallup River and other waters on trust or restricted lands within the 1873 Survey Area of the Puyallup Tribe of Indians Reservation, except where authority has been specifically delegated to Ecology by the U.S. Environmental Protection Agency. The exclusion of such discharges from this Permit does not waive any rights the State may have with respect to the regulation of the discharges. Indian Country includes:

1. All land within any Indian Reservation notwithstanding the issuance of any patent, and including rights-of-way running through the reservation. This includes all federal, tribal, and Indian and non-Indian privately owned land within the reservation.

1. All off-reservation Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

2. All off-reservation federal trust lands held for Native American Tribes. Puyallup Exception: Following the "*Puyallup Tribes of Indians Land Settlement Act of 1989*," 25 USC §1773; the permit does apply to land within the Puyallup

Reservation except for discharges to surface water on land held in trust by the federal government.

S3. RESPONSIBILITIES OF PERMITTEES

A. Compliance with Conditions

Each Permittee covered under this Permit is responsible for compliance with the terms of this Permit for the regulated small MS4s that they own or operate. Compliance with (1) or (2) below is required as applicable to each Permittee, whether the Permittee has applied for coverage as a Permittee, Co-Permittee, or Secondary Permittee.

1. All city, town, and county Permittees are required to comply with all conditions of this Permit, including any appendices referenced therein, except for ~~Special Condition~~ S6 – *Stormwater Management Program for Secondary Permittees*.
2. All Secondary Permittees are required to comply with all conditions of this Permit, including any appendices referenced therein, except for ~~Section~~ S5 – *Stormwater Management Program for Cities, Towns, and Counties* and S8 – *Monitoring and Assessment*.

A. Reliance on Another Entity

Permittees may rely on another entity to satisfy one or more of the requirements of this Permit. Permittees that are relying on another entity to satisfy one or more of their permit obligations remain responsible for permit compliance if the other entity fails to implement permit conditions. Permittees may rely on another entity provided all the requirements of 40 CFR 122.35(a) are satisfied~~,~~ including, but not limited to:

1. The other entity, in fact, implements the Permit requirements.

~~2.~~ **The other entity agrees to take on responsibility for implementation of the Permit requirement(s) ~~as~~on the Permittee's behalf. This shall be indicated on the NOI~~.~~**

2. or Annual Report.

S4. COMPLIANCE WITH STANDARDS

A. Prohibition of Discharge of Toxicants

In accordance with ~~RCW~~Chapter 90.48.520 RCW, the discharge of toxicants to waters of the State of Washington which would violate any water quality standard, including toxicant standards, sediment criteria, and dilution zone criteria is prohibited. The required response to such discharges is defined in ~~Section~~ S4.F, below.

A. Compliance with Standards

This Permit does not authorize a discharge which would be a violation of Washington State *Surface Water Quality Standards* (Chapter 173-201A WAC), *Groundwater Quality Standards* (Chapter 173-200 WAC), *Sediment Management Standards* (Chapter 173-204 WAC), or human health-based criteria in the *National Toxics Rule* (40 CFR 131.45). The required response to such discharges is defined in ~~Section~~ S4.F, below.

B. MEP Standard

The Permittee shall reduce the discharge of pollutants to the Maximum Extent Practicable (MEP).

C. AKART Standard

The Permittee shall use All Known, Available, and Reasonable methods of prevention, control, and Treatment (AKART) to prevent and control pollution of waters of the State of Washington.

D. Responsibilities of Permittees

In order to meet the goals of the *Clean Water Act*, and comply with S4.A, S4.B, S4.C, and S4.D, each Permittee shall comply with all of the applicable requirements of this Permit as identified in S3 – *Responsibilities of Permittees*.

E. Violations of Water Quality Standards and Adaptive Management

A Permittee remains in compliance with S4 despite any discharges prohibited by S4.A or S4.B, when the Permittee undertakes the following response toward long-term water quality improvement:

1. A Permittee shall notify Ecology in writing within 30 days of becoming aware, based on credible site-specific information that a discharge from the MS4 owned or operated by the Permittee is causing or contributing to a known or likely violation of Water Quality Standards in the receiving water. Written notification provided under this subsection shall, at a minimum, identify the source of the site-specific information, describe the nature and extent of the known or likely violation in the receiving water, and explain the reasons why the MS4 discharge is believed to be causing or contributing to the problem. For ongoing or continuing violations, a single written notification to Ecology will fulfill this requirement.

2. In the event that Ecology determines, based on a notification provided under S4.F.1 or through any other means, that a discharge from an MS4 owned or operated by the Permittee is causing or contributing to a violation of Water Quality Standards in a receiving water, Ecology will notify the Permittee in writing that an adaptive management response, outlined in S4.F.3, below, is required, unless:

   a. Ecology also determines that the violation of Water Quality Standards is already being addressed by a Total Maximum Daily Load (TMDL) or other enforceable water quality cleanup plan; or

   b. Ecology concludes the MS4 contribution to the violation will be eliminated through implementation of other permit requirements.

3. Adaptive Management Response

   a. Within 60 days of receiving a notification under S4.F.2, or by an alternative date established by Ecology, the Permittee shall review its Stormwater Management Program (SWMP) and submit a report to Ecology. The report shall include:

      i. A description of the operational and/or structural BMPs that are currently being implemented to prevent or reduce any pollutants that are causing or contributing to the violation of Water Quality Standards, including a qualitative assessment of the effectiveness of each Best Management Practice (BMP).

      ~~ii.~~i. A description of potential additional operational and/or structural BMPs that will or may be implemented in order to apply AKART on a site-specific basis to prevent or reduce any pollutants that are causing or contributing to the violation of Water Quality Standards.

~~iii.~~ii. A description of the potential monitoring or other assessment and evaluation efforts that will or may be implemented to monitor, assess, or evaluate the effectiveness of the additional BMPs.

~~iv.~~iii. A schedule for implementing the additional BMPs including, as appropriate: funding, training, purchasing, construction, monitoring, and other assessment and evaluation components of implementation.

b. Ecology will, in writing, acknowledge receipt of the report within a reasonable time and notify the Permittee when it expects to complete its review of the report. Ecology will either approve the additional BMPs and implementation schedule or require the Permittee to modify the report as needed to meet AKART on a site-specific basis. If modifications are required, Ecology will specify a reasonable time frame in which the Permittee shall submit, and Ecology will review the revised report.

c. The Permittee shall implement the additional BMPs, pursuant to the schedule approved by Ecology, beginning immediately upon receipt of written notification of approval.

d. The Permittee shall include with each subsequent annual report a summary of the status of implementation and the results of any monitoring, assessment or evaluation efforts conducted during the reporting period. If, based on the information provided under this subsection, Ecology determines that modification of the BMPs or implementation schedule is necessary to meet AKART on a site-specific basis, the Permittee shall make such modifications as Ecology directs. In the event there are ongoing violations of water quality standards despite the implementation of the BMP approach of this Section, the Permittee may be subject to compliance schedules to eliminate the violation under ~~WAC~~Chapter 173-201A-510(4) WAC and ~~WAC~~Chapter 173-226-180 WAC or other enforcement orders as Ecology deems appropriate during the term of this Permit.

e. A TMDL or other enforceable water quality cleanup plan that has been approved and is being implemented to address the MS4's contribution to the Water Quality Standards violation supersedes and terminates the S4.F.3 implementation plan.

f. Provided the Permittee is implementing the approved adaptive management response under this Section, the Permittee remains in compliance with ~~Special Condition~~ S4, despite any on-going violations of Water Quality Standards identified under S4.A or B, above.

g. The adaptive management process provided under ~~Section~~ S4.F is not intended to create a shield for the Permittee from any liability it may face under 42 U.S.C. 9601 et seq. or Chapter 70.105D RCW.

F. Revoke and Reissue Permit

Ecology may modify or revoke and reissue this General Permit in accordance with G14 –~~–~~ *General Permit Modification and Revocation*, if Ecology becomes aware of additional control measures, management practices, or other actions beyond what is required in this Permit that are necessary to:

1. Reduce the discharge of pollutants to the MEP~~,~~;

2. Comply with the state AKART requirements~~,~~; or

~~3.~~ Control the discharge of toxicants to waters of the State of Washington.

S5. STORMWATER MANAGEMENT PROGRAM FOR CITIES, TOWNS, AND COUNTIES

A. Stormwater Management Program General Requirements

Each Permittee shall develop and implement a Stormwater Management Program (SWMP). A SWMP is a set of actions and activities comprising the components listed in S5 and any additional actions necessary~~,~~ to meet the requirements of applicable TMDLs pursuant to S7 – *Compliance with Total Maximum Daily Load Requirements* and S8 – *Monitoring and Assessment*. This Section applies to all cities, towns, and counties covered under this Permit (termed as "Permittee," including cities, towns, and counties that are Co-Permittees).

New Permittees subject to this Permit, as described in S1.D.1.b, shall fully meet the requirements in S5 as modified in footnotes below~~,~~ or as specified in an alternate schedule as a condition of coverage by Ecology. Permittees obtaining coverage after the issuance date of this Permit shall fully meet the requirements in S5 as specified in an alternate schedule as a condition of coverage by Ecology.

1. At a minimum, the Permittee's SWMP shall be implemented throughout the geographic area subject to this Permit as described in S1.A.[2]
2. Each Permittee shall prepare written documentation of the SWMP, called the SWMP Plan. The SWMP Plan shall be organized according to the program components in S5.C or a format approved by Ecology~~,~~ and shall be updated at least annually for submittal with the Permittee's annual reports to Ecology (see S9 – *Reporting Requirements*). The SWMP Plan shall be written to inform the public of the planned SWMP activities for the upcoming calendar year, and shall include a description of:
    a. Planned activities for each of the program components included in S5.C~~.~~;
    b. Any additional planned actions to meet the requirements of applicable TMDLs pursuant to S7– *Compliance with Total Maximum Daily Load Requirements*~~.~~; and
    c. Any additional planned actions to meet the requirements of S8 – *Monitoring and Assessment*.
3. The SWMP shall include an ongoing program for gathering, tracking, maintaining, and using information to evaluate SWMP development, implementation, ~~and~~ permit compliance and to set priorities.

[2] New Permittees shall fully develop and implement the SWMP in accordance with the schedules contained in this Section no later than ~~February 2, 2024.~~March 31, 2029.

a. Each Permittee shall track the cost or estimated cost of development and implementation of each component of the SWMP.[3] This information shall be provided with the Annual Report due no later than March 31, 2027. Permittees shall provide annual average costs (or estimates) to Ecology upon request.implement the SWMP and TMDL requirements.[4]

b. Each Permittee shall track the number of inspections, follow-up actions as a resultbecause of inspections, official enforcement actions, and types of public education activities as required by the respective program component. This information shall be included in the annual report.

4. Permittees shall continue implementation of existing stormwater management programs until they begin implementation of the updated stormwater management program in accordance with the terms of this Permit, including implementation schedules.

5. Coordination among Permittees

a. Coordination among entities covered under municipal stormwater NPDES permits may be necessary to comply with certain conditions of the SWMP. The SWMP shall include, when needed, coordination mechanisms among entities covered under a municipal stormwater NPDES permit to encourage coordinated stormwater-related policies, programs, and projects within adjoining or shared areas, including:

i. Coordination mechanisms clarifying roles and responsibilities for the control of pollutants between physically interconnected MS4s covered by a municipal stormwater permit.; and

ii. Coordinating stormwater management activities for shared water bodies, or watersheds among Permittees to avoid conflicting plans, policies, and regulations.

b. The SWMP shall include coordination mechanisms among departments within each jurisdiction to eliminate barriers to compliance with the terms of this Permit. Permittees shall include a written description of internal coordination mechanisms in the Annual Report due no later than March 31, 20212026.

[3] New Permittees shall begin implementing the requirements of S5.A.3.a, no later than August 1, 2021.

[4] New Permittees shall begin cost tracking as required in S5.A.3.a, no later than January 1, 2026.

B. Stormwater Management Program Standards

The SWMP shall be designed to reduce the discharge of pollutants from regulated small MS4s to the MEP, meet state AKART requirements, and protect water quality.

C. Stormwater Management Program Components

The SWMP shall include the components listed below. To the extent allowable under state or federal law, all components are mandatory for city, town, or county Permittees covered under this Permit.

1. ~~Stormwater planning~~ Stormwater Planning

~~1.~~ Each Permittee shall 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 minimum performance measures are:~~

The minimum performance measures are:~~By August 1, 2020, each~~

~~5.~~a. Each Permittee shall continue to convene an inter-disciplinary team to inform and assist in the development, progress, and influence of this program.[5]

~~6.~~b. Coordination with long-range plan updates.

~~7.~~i. Each Permittee shall describe how stormwater management needs and protection/improvement of receiving water health are (or are not) informing the long-range or comprehensive planning update processes and influencing policies and implementation strategies in their jurisdiction~~.~~ in the Annual Report due March 31, 2027. The report shall describe the water quality and watershed protection policies, strategies, codes, and other measures intended to protect and improve local receiving water health through planning, ~~or taking into account~~considering stormwater management needs or limitations.

~~(a) On or before March 31, 2021, the Permittee shall respond to the series of Stormwater Planning Annual Report questions to describe how anticipated stormwater impacts on water quality were addressed, if at all, during the 2013-2019 permit term in updates to the Comprehensive Plan (or equivalent) and in other locally initiated or state-mandated, long-range land use plans that are used to accommodate growth or transportation.~~

[5] New Permittees shall convene an interdisciplinary team no later than August 1, 2025.

~~(b) On or before January 1, 2023, the Permittee shall submit a report responding to the same questions included in (a), above, to describe how water quality is being addressed, if at all, during this permit term in updates to the Comprehensive Plan (or equivalent) and in other locally initiated or state-mandated, long-range land use plans that are used to accommodate growth or transportation.~~

~~b.~~c. Low ~~impact development~~Impact Development (LID) code-related requirements.

i. Permittees shall continue to require LID Principles and LID BMPs when updating, revising, and developing new local development-related codes, rules, standards, or other enforceable documents, as needed.

The intent shall be to make LID the preferred and commonly~~-~~ used approach to site development. The local development-related codes, rules, standards, or other enforceable documents shall be designed to minimize impervious surfaces, native vegetation loss, and stormwater runoff in all types of development situations, where feasible.

(a) Annually, each Permittee shall assess and document any newly identified administrative or regulatory barriers to implementation of LID Principles or LID BMPs since local codes were updated in accordance with the 2013 Permit, and the measures developed to address the barriers. If applicable, the report shall describe mechanisms adopted to encourage or require implementation of LID principles or LID BMPs.

i. By December 31, ~~2023~~2028, New Permittees shall review, revise, and make effective their local development-related codes, rules, standards, or other enforceable documents to incorporate and require LID principles and LID BMPs. New Permittees shall conduct a similar review and revision process, and consider the range of issues, outlined in the following document: *Integrating LID into Local Codes: A Guidebook for Local Governments* (Puget Sound Partnership, 2012).

New Permittees shall submit a summary of the results of the review and revision process with the annual report due no later than March 31, ~~2024~~2029. This summary shall be in the required format described in Appendix 5 and include, at a minimum, a list of the participants (job title,

brief job description, and department represented), the codes, rules, standards, and other enforceable documents reviewed, and the revisions made to those documents which incorporate and require LID principles and LID BMPs. The summary shall include existing requirements for LID principles and LID BMPs in development-related codes. The summary ~~must~~shall be organized as follows:

(a) Measures to minimize impervious surfaces~~.~~;

(b) Measures to minimize loss of native vegetation~~.~~; and

(c) Other measures to minimize stormwater runoff.

ii. No later than December 31, 2028, Permittees shall adopt and implement tree canopy goals and policies to support stormwater management and water quality improvement in receiving waters.

~~c.~~d. Stormwater Management Action Planning[6] (SMAP).[7] Permittees shall conduct a similar process and consider the range of issues outlined in the *Stormwater Management Action Planning Guidance* (Ecology, 2019; Publication no. 19-10-010~~). Permittees may rely on another jurisdiction to meet all or part of SMAP requirements at a watershed-scale, provided a SMAP is completed~~) for ~~at least~~ one new priority catchment ~~located within the Permittee's jurisdiction.~~.[8]

~~i. **Receiving Water Assessment. Permittees shall document and assess existing information related to their local receiving waters and contributing area conditions to identify which receiving waters are most likely to benefit from stormwater management planning.**~~

~~**By March 31, 2022, Permittees shall submit a watershed inventory and include a brief description of the relative conditions of the receiving waters and the contributing areas. The watershed inventory shall be submitted as a table with each receiving water name, its total watershed area, the percent of the total watershed area that is in the Permittee's jurisdiction, and the findings of the stormwater management influence assessment for each basin. Indicate which receiving waters will be included in the S5.C.1.d.ii prioritization process. Include a map of the delineated basins with references to the watershed inventory table.**~~

[6] ~~New Permittees are exempt from S5.C.1.d. for this permit term.~~
[7] New Permittees are exempt from S5.C.1.d. for this permit term.
[8] City of Shelton shall follow the SMAP requirements outlined in Appendix 14.

~~(a) *Identify which basins are expected to have a relatively low Stormwater Management Influence for SMAP. See the guidance document for definition and description of this assessment.*~~

~~*Basins having relatively low expected Stormwater Management Influence for SMAP do not need to be included in S5.C.1.d.ii-iii.*~~

~~ii. *Receiving Water Prioritization. Informed by the assessment of receiving water conditions in (i), above, and other local and regional information, Permittees shall 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 (different than the existing new and redevelopment requirements). The retrofits and actions shall be designed to:*~~
~~*1) conserve, protect, or restore receiving waters through stormwater and land management strategies that act as water quality management tools, 2) reduce pollutant loading, and 3) address hydrologic impacts from existing development as well as planned for and expected future buildout conditions.*~~

~~*No later than June 30, 2022, document the prioritized and ranked list of receiving waters.*~~

~~(a) *The Permittee shall document the priority ranking process used to identify high priority receiving waters. The Permittee may reference existing local watershed management plan(s) as source(s) of information or rationale for the prioritization.*~~

~~(b) *The ranking process shall include the identification of high priority catchment area(s) for focus of the* Stormwater Management Action Plan (SMAP)~~ ~~*) in (iii), below.*~~

~~iii.~~i. ~~Stormwater Management Action Plan (SMAP).~~). No later than ~~March~~December 31, ~~2023~~2026, Permittees shall ~~develop~~complete a SMAP for at least one new high priority catchment area ~~from (ii), above~~, or additional actions for an existing SMAP, that identifies all of the following:

(a) A description of the stormwater facility retrofits needed for the area, including the BMP types and preferred locations. Include projects that address transportation-related runoff, such as projects that address tire wear runoff.

(b) Land management/development strategies and/or actions identified for water quality management.

(c) Targeted, enhanced, or customized implementation of stormwater management actions related to permit sections within S5, including:

- IDDE field screening~~,~~;
- Prioritization of Source Control inspections~~,~~;
- O&M inspections or enhanced maintenance~~,~~; or
- Public Education and Outreach behavior change programs.

Identified actions shall support other specifically identified stormwater management strategies and actions for the basin overall, or for the catchment area in particular.

~~(e)~~(d) If applicable, identification of changes needed to local long-range plans~~,~~ to address SMAP priorities.

~~(f)~~(e) A proposed implementation schedule and budget sources for:

- Short-term actions (i.e., actions to be accomplished within six years~~),~~); and
- Long-term actions (i.e., actions to be accomplished within seven to 20 years).

~~(g)~~(f) A process and schedule to provide future assessment and feedback to improve the planning process and implementation of procedures or projects.

2. Public Education and Outreach

~~2.~~ The SWMP shall include an 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~~.~~; and
- Create stewardship opportunities that encourages community engagement in addressing the impacts from stormwater runoff.

Permittees may choose to meet these requirements individually or as a member of a regional group. Regional collaboration on general awareness or behavior change programs, or both, includes Permittees developing a consistent message, determining best methods for communicating the message, and when

appropriate, creating strategies to effect behavior change. If a Permittee chooses to adopt one or more elements of a regional program, the Permittee should participate in the regional group and shall implement the adopted element(s) of the regional program in the local jurisdiction.

The minimum performance measures are:

a. Each Permittee shall implement an education and outreach program ~~for the area served by the MS4.~~. The program design shall be based on local or regional (or both) water quality information and ~~target~~priority audience characteristics to identify high priority ~~target~~ audiences, subject areas, and/or BMPs. Based on the ~~target~~priority audience's demographic, the Permittee shall consider delivering its selected messages in language(s) other than English, as appropriate to the ~~target~~priority audience.[9]

   i. ***General awareness.*** To build general awareness, Permittees shall annually select, at a minimum, one ~~target~~priority audience and one subject area from either (a) or (b):

      (a) ~~*Target*~~*Priority audiences:* General public (including overburdened communities, ~~or~~ school age children, college/university, or trade students) or businesses (including home-based, or mobile businesses). Subject areas:

      - General impacts of stormwater on surface waters, including impacts from impervious surfaces~~.~~; or
      - Low impact development (LID) principles and LID BMPs.

      (b) ~~*Target*~~*Priority audiences:* Engineers, contractors, developers, property owners/managers, or land use planners.
      Subject areas:

      - Technical standards for stormwater site and erosion control plans~~.~~;
      - LID principles and LID BMPs~~.~~;
      - Stormwater treatment and flow control BMPs/facilities~~.~~; or
      - Source control BMPs for building materials to reduce pollution to stormwater, including but not limited to stormwater pollution from PCB-containing materials.

[9] New Permittees shall begin implementing the requirements of S5.C.2.a no later than August 1, ~~2021~~2027.

(c) Permittees shall provide subject area information to the ~~target~~priority audience on an ongoing or strategic schedule.

ii. ***Behavior change.*** To affect behavior change, Permittees shall select, at a minimum, one ~~target~~priority audience and one BMP.

(a) ~~*Target*~~*Priority Audiences:* Residents, landscapers, property managers/owners, developers, school age children, college/university, or trade students, or businesses (including home-based or mobile businesses).

~~*BMPs:*~~

BMPs:

- Use and storage of: pesticides, fertilizers, and/or other household chemicals~~.~~;
- Use and storage of: automotive chemicals, hazardous cleaning supplies, carwash soaps, and/or other hazardous materials~~.~~;
- Prevention of illicit discharges~~.~~;
- Yard care techniques protective of water quality~~.~~;
- Carpet cleaning~~.~~;
- Repair and maintenance BMPs for: vehicles, equipment, and/or home/buildings~~.~~;
- Pet waste management and disposal~~.~~;
- LID Principles and LID BMPs~~.~~;
- Stormwater facility maintenance, including LID facilities~~.~~;
- Dumpster and trash compactor maintenance~~.~~;
- Litter and debris prevention~~.~~;
- Sediment and erosion control~~.~~;
- (Audience specific) Source control BMPs (refer to S5.C.8~~).~~); or
- (Audience specific) Locally~~-~~important, municipal stormwater-related subject area.

(b) No later than July 1, ~~2020~~2025, each Permittee shall ~~conduct a new evaluation of~~evaluate the effectiveness of an ongoing behavior

change campaign (required under S5.C.~~1~~2.a.ii ~~and S5.C.1.c~~ of the ~~2013~~2019 Permit). Permittees shall document lessons learned and recommendations for which option to select from S5.C.2.a.ii(c~~).~~

), below.

Permittees that select option S5.C.2.a.ii(c)3, below, may forgo this evaluation if it will not add value to the overall behavior change program.

(c) Based on the recommendation from S5.C.2.a.ii(b), by ~~February~~July 1, ~~2021~~2026, each Permittee shall follow social marketing practices and methods~~, similar to community-based social marketing,~~ and develop a campaign that is tailored to the community, including development of a program evaluation plan. Each Permittee shall:[10]

~~1.~~ 1. Develop a strategy and schedule to more effectively implement the existing campaign; ~~or~~

~~2.~~ 2. Develop a strategy and schedule to expand the existing campaign to a new ~~target~~priority audience or BMPs; or

~~3.~~ 3. Develop a strategy and schedule for a new ~~target~~priority audience and BMP behavior change campaign.

(d) No later than ~~April~~September 1, ~~2021~~2026, begin to implement the strategy developed in S5.C.2.a.ii~~.~~(c).[11]

(e) No later than March 31, ~~2024~~2029, evaluate and submit report on:

~~1.~~ 1. The changes in understanding and adoption of targeted behaviors resulting from the implementation of the strategy; and

~~2.~~ 2. Any planned or recommended changes to the campaign ~~in order~~ to be more effective; describe the strategies and process to achieve the results.

(f) Permittees shall use results of the evaluation to continue to direct effective methods and implementation of the ongoing behavior change program.

[10] No later than August 1, ~~2021, new~~2025, New Permittees shall follow social marketing practices and methods~~, similar to Community-Based Social Marketing,~~ to develop a behavior change program that is tailored to the community~~.~~ per S5.C.2.a.ii(c).

[11] No later than October 1, ~~2021~~2025, New Permittees shall begin to implement the strategy developed in S5.C.2.a.ii(~~c~~d).

iii. ***Stewardship.*** Each Permittee shall ~~provide and advertise~~partner or promote (or both) stewardship opportunities ~~and/or partner with existing organizations (including non-permittees)~~ to encourage residents or businesses to participate in activities or events planned and organized within the community, such as: stream teams, storm drain marking, volunteer monitoring, ~~riparian plantings, and education activities.~~ and riparian plantings. Permittees may partner or promote (or both) stewardship opportunities created or organized by existing organizations (including non-permittees).[12]

3. Public Involvement and Participation

Permittees shall provide ongoing opportunities for public involvement and participation through advisory councils, public hearings, watershed committees, participation in developing rate-structures or other similar activities. Each Permittee shall comply with applicable state and local public notice requirements when developing elements of the SWMP and SMAP.

~~3.~~ ***The minimum performance measures are:***

a. Permittees shall create opportunities for the public, including overburdened communities, to participate in the decision-making processes involving the development, implementation, and update of the Permittee's SMAP and SWMP.[13]

i. Annually, Permittees shall document specific public involvement opportunities provided to overburdened communities.

ii. No later than December 31, 2026, document methods used to identify overburdened communities.

b. Each Permittee shall post on their website their SWMP Plan and the ~~annual report~~Annual Report, required under S9.A, no later than May 31 each year. All other submittals shall be available to the public upon request. ~~To comply with the posting requirement, a Permittee that does not maintain a website may submit the updated SWMP in electronic format to Ecology for posting on Ecology's website.~~

[12] New Permittees shall implement the stewardship requirements according to S5.C.2.a.iii no later than August 1, 2027.

[13] New Permittees shall develop and begin to implement requirements according to S5.C.3.a no later than August 1, ~~2020.~~ 2025. New Permittees are exempt from SMAP this permit term.

4. MS4 Mapping and Documentation

The SWMP shall include an ongoing program for mapping and documenting the MS4.[14]

4. ***The minimum performance measures are:***

a. *Ongoing Mapping:* Each Permittee shall maintain mapping data for the features listed below:

i. Known MS4 outfalls and known MS4 discharge points.:

a. Map outfall size and material, where known;

ii. Receiving waters, other than groundwater.;

iii. Stormwater treatment and flow control BMPs/facilities owned or operated by the Permittee.;

iv. Geographic areas served by the Permittee's MS4 that do not discharge stormwater to surface waters.;

v. Tributary conveyances to all known outfalls and discharge points with a 24- inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems. The following features or attributes (or both) shall be mapped:

(a) Tributary conveyance type, material, and size where known.;

(b) Associated drainage areas.; and

(c) Land use.

vi. Connections between the MS4 owned or operated by the Permittee and other municipalities or public entities.;

vii. All connections to the MS4 authorized or allowed by the Permittee after February 16, 2007.;[15,16] and

[14] New Permittees shall meet the requirements to map the MS4 according to S5.C.4 no later than ~~February 2, 2024~~March 31, 2029, except where otherwise noted in this Section.

[15] New Permittees shall meet the requirements of S5.C.4.a.vii after August 1, ~~2019~~2024, for all connections to the MS4 authorized after August 1, ~~2019~~2024.

[16] Permittees do not need to map the following residential connections: individual driveways, sump pumps, or roof downspouts.

viii. All known connections from the MS4 to a privately owned stormwater system.

b. *New Mapping:* Each Permittee shall:

i. No later than ~~January 1, 2020, begin to collect size and material for~~ March 31, 2026, Permittees shall submit locations of all known MS4 outfalls ~~during normal course of business (e.g. during field screening, inspection, or maintenance) and update records~~according to the standard templates and format provided in the Annual Report. This reporting shall include the size and material of the outfalls.

~~ii. *No later than August 1, 2023, complete mapping of all known connections from the MS4 to a privately owned stormwater system.*~~

ii. ~~No later than August 1, 2021, the~~No later than December 31, 2027, develop a methodology to map and assess acreage of MS4 tributary basins to outfalls or discharge points that have stormwater treatment and flow control BMPs/facilities owned or operated by the Permittee. Submit with the Annual Report a map and breakdown of acres managed or unmanaged by stormwater treatment and flow control BMPs/facilities.

iii. No later than December 31, 2028, begin mapping of Permittee-owned or operated properties with tree canopy based on available, existing data.

c. The required format for mapping is electronic (e.g. Geographic Information System, CAD drawings, or other software that can map and store points, lines, polygons, and associated attributes), with fully described mapping standards.

d. To the extent consistent with national security laws and directives, each Permittee shall make available to Ecology, upon request, available maps depicting the information required in S5.C.4.a through c, above.

e. Upon request, and to the extent appropriate, Permittees shall provide mapping information to federally recognized Indian Tribes, municipalities, and other Permittees. This Permit does not preclude Permittees from recovering reasonable costs associated with fulfilling mapping information requests by federally recognized Indian Tribes, municipalities, and other Permittees.

5. Illicit Discharge Detection and Elimination

The SWMP shall include an ongoing program designed to prohibit non-stormwater discharges into the MS4, prevent, detect, characterize, trace, and

eliminate illicit connections and illicit discharges into the MS4.[17]

~~5.~~ ***The minimum performance measures are:***

a. The program shall include procedures for reporting and correcting or removing illicit connections, spills, and other illicit discharges when they are suspected or identified. The program shall also include procedures for addressing pollutants entering the MS4 from an interconnected, adjoining MS4.

~~a.~~ Illicit connections and illicit discharges ~~must~~shall be identified through, but not limited to~~:~~, field screening, inspections, complaints/reports, construction inspections, maintenance inspections, source control inspections, and/or monitoring information, as appropriate.

b. Permittees shall inform public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste.

c. Each Permittee shall implement an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illicit discharges, including spills, into the Permittee's MS4 to the maximum extent allowable under state and federal law. The Permittee's ordinance or other regulatory mechanism in effect as of the effective date of this Permit shall be revised, if necessary, to meet the requirements of this Section no later than July 1, 2027.

i. *Allowable Discharges:* The regulatory mechanism does not need to prohibit the following categories of non-stormwater discharges:

(a) Diverted stream flows;

(b) Rising groundwaters;

(c) Uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(b)(20~~))~~));

(d) Uncontaminated pumped groundwater~~-~~;

(e) Foundation drains;

(f) Air conditioning condensation;

[17] New Permittees shall meet the requirements of S5.C.5 no later than August 1, ~~2021~~2026 except where otherwise noted in this Section.

(g) Irrigation water from agricultural sources that is commingled with urban stormwater;

(h) Springs;

(i) Uncontaminated water from crawl space pumps;

(j) Footing drains;

(k) Flows from riparian habitats and wetlands;

(l) Non-stormwater discharges authorized by another NPDES or ~~state waste discharge~~State Waste Discharge permit; and

(m) ~~Discharges~~Non-stormwater discharges from emergency firefighting activities in accordance with S2 Authorized Discharges. After the emergency has ceased, non-stormwater discharges (e.g., discharges associated with cleanup) to the MS4 are prohibited.

ii. *Conditionally allowable discharges:* The regulatory mechanism may allow the following categories of non-stormwater discharges only if the stated conditions are met:

(a) Discharges from potable water sources, including but not limited to water line flushing, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be dechlorinated to a total residual chlorine concentration of 0.1 ppm or less, pH-adjusted, if necessary, and volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4.

(b) Discharges from lawn watering and other irrigation runoff. These discharges shall be minimized through, at a minimum, public education activities and water conservation efforts.

(c) ~~Dechlorinated~~Discharges from swimming pool, spa, and hot tub ~~discharges~~. The discharges shall be dechlorinated to a total residual chlorine concentration of 0.1 ppm or less~~,~~; pH-adjusted ~~and reoxygenized~~; reoxygenated, if necessary~~,~~; and volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4. Discharges shall be thermally controlled to prevent an increase in temperature of the receiving water. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4.

(d) Street and sidewalk wash water~~,~~ and water used to control dust~~, and routine external building washdown~~ that does not use detergents.

The Permittee shall reduce these discharges through, at a minimum, public education activities and/or water conservation efforts. To avoid washing pollutants into the MS4~~,~~ Permittees shall minimize the amount of street wash and dust control water used.

(e) Routine external building washdown that does not use detergents for buildings built or renovated before 1950 and after 1980. The Permittee shall reduce these discharges through, at minimum, public education activities or water conservation efforts, or both. To avoid washing pollutants into the MS4 Permittees shall minimize the amount of wash water used.

Commercial, industrial, and multi-story residential structures constructed or remodeled between the years 1950 and 1980 (i.e. those most likely to have PCB containing building materials), shall be assessed for PCB-containing materials consistent with *How to find and address PCBs in building materials* (Ecology, October 2022, Publication No. 22-04-024) prior to routine building washdown. Structures confirmed or suspected to have PCB-containing materials shall not discharge washdown to the MS4. Single-family residential buildings are exempt from PCB assessment. Structures built or renovated between 1950-1980 and determined to be without PCB-containing materials may conduct routine building washdown (without detergents) as described above.

~~(e)~~(f) Other non-stormwater discharges. The discharges shall be in compliance with the requirements of a pollution prevention plan reviewed by the Permittee~~,~~ which addresses control of such discharges.

iii. The Permittee shall further address any category of discharges in (i) or (ii), above~~,~~ if the discharges are identified as significant sources of pollutants to waters of the State.

iv. The ordinance or other regulatory mechanism shall include escalating enforcement procedures and actions.

d. Each Permittee shall implement an ongoing program designed to detect and identify non-stormwater discharges and illicit connections into the Permittee's MS4.[18] The program shall include the following components:

[18] New Permittees shall fully implement the requirements of S5.C.5.d no later than August 1, ~~2023.~~ 2028.

i. Procedures for conducting investigations of the Permittee's MS4, including field screening and methods for identifying potential sources. These procedures may also include source control inspections.

The Permittee shall implement a field screening methodology appropriate to the characteristics of the MS4 and water quality concerns. Screening for illicit connections may be conducted using *Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual* (Herrera Environmental Consultants, Inc.; May ~~2013~~2020), or another methodology of comparable or improved effectiveness. The Permittee shall document the field screening methodology in the Annual Report.

(a) All Permittees shall complete field screening for an average of 12% of the MS4 each year.[19] ~~Permittees shall annually track total percentage of the MS4 screened beginning August 1, 2019.~~

ii. A publicly listed and publicized hotline or other telephone number for public reporting of spills and other illicit discharges.

iii. An ongoing training program for all municipal field staff~~,~~ who, as part of their normal job responsibilities, might come into contact with or otherwise observe an illicit discharge and/or illicit connection to the MS4, on the identification of an illicit discharge and/or connection, and on the proper procedures for reporting and responding to the illicit discharge and/or connection. Follow-up training shall be provided, as needed, to address changes in procedures, techniques, requirements, or staffing. Permittees shall document and maintain records of the trainings provided and the staff trained.[20]

e. Each Permittee shall implement an ongoing program designed to address illicit discharges, including spills and illicit connections, into the Permittee's MS4.[21] The program shall include:

i. Procedures for characterizing the nature of, and potential public or environmental threat posed by, any illicit discharges found by or reported to the Permittee. Procedures shall address the evaluation of whether the

[19] New Permittees shall complete S5.C.5.d.i requirements for field screening covering at least ~~12~~40% of the MS4 within the Permittee's coverage area no later than December 31, ~~2023~~2028, and on average 12% each year thereafter.

[20] New Permittees shall develop and begin implementing the ongoing training program described in S5.C.5.d.iii no later than ~~February 2, 2021.~~March 31, 2026.

[21] New Permittees shall fully develop and implement the requirements of S5.C.5.e no later than August 1, ~~2023~~2028.

discharge must be immediately contained and steps to be taken for containment of the discharge.

ii. Procedures for tracing the source of an illicit discharge; including visual inspections~~,~~ and, when necessary, opening manholes, using mobile cameras, collecting and analyzing water samples, and/or other detailed inspection procedures.

iii. Procedures for eliminating the discharge~~,~~ including notification of appropriate authorities (including owners or operators of interconnected MS4s~~);~~), notification of the property owner~~;~~, technical assistance~~;~~, follow-up inspections~~;~~, and use of the compliance strategy developed pursuant to S5.C.5.c.iv, including escalating enforcement and legal actions if the discharge is not eliminated.

iv. Compliance with the provisions in (i), (ii), and (iii), above, shall be achieved by meeting the following timelines:

(a) Immediately respond to all illicit discharges, including spills, which are determined to constitute a threat to human health, welfare, or the environment, consistent with General Condition G3.

(b) Investigate (or refer to the appropriate agency with the authority to act) within 7 days, on average, any complaints, reports, or monitoring information that indicates a potential illicit discharge.

(c) Initiate an investigation within 21 days of any report or discovery of a suspected illicit connection to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection.

(d) Upon confirmation of an illicit connection, use the compliance strategy in a documented effort to eliminate the illicit connection within 6 months. All known illicit connections to the MS4 shall be eliminated.

f. Permittees shall train staff who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, and illicit connections, to conduct these activities. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staffing. Permittees shall document and maintain records of the training provided and the staff trained.[22]

[22] New Permittees shall meet the requirements of S5.C.5.f no later than ~~February 2, 2021~~March 31, 2026.

g. Recordkeeping: Each Permittee shall track and maintain records of the activities conducted to meet the requirements of this Section. In the Annual Report~~,~~ each Permittee shall submit data for the illicit discharges, spills, and illicit connections including those that were found by, reported to, or investigated by the Permittee during the previous calendar year. The data shall include the information and format specified in Appendix ~~12~~13 and WQWebIDDE. Each Permittee may either use their own system or WQWebIDDE for recording this data. ~~Final submittals shall follow the instructions, timelines, and format as described in Appendix 12.~~

6. Controlling Runoff from New Development, Redevelopment, and Construction Sites

~~6.~~ Each Permittee shall implement and enforce a program to reduce pollutants in stormwater runoff to a regulated small MS4 from new development, redevelopment, and construction site activities. The program shall apply to private and public development, including transportation projects.[23]

The minimum performance measures are:

a. Implement an ordinance or other enforceable mechanism that addresses runoff from new development, redevelopment, and construction site projects.

~~Each~~No later than June 30, 2027, each Permittee shall adopt and make effective a local program~~, no later than June 30, 2022~~, that meets the requirements of S5.C.6.b(i) through (iii), below, and shall apply to all applications[24] submitted:

i. On or after July 1, ~~2022.~~ 2027;

ii. Prior to January 1, 2017, that have not started construction[25] by ~~January~~July 1, 2022~~.~~;[26]

iii. Prior to July 1, 2022, that have not started construction by July 1, 2027~~.~~; and

iv. Prior to July 1, 2027, that have not started construction by July 1, 2032.

b. The ordinance or other enforceable mechanism shall include, at a minimum:

[23] For continuing Permittees, this means continuing to implement existing programs developed under previous permits until updates are made to meet the schedules defined. *New Permittees shall meet the requirements of S5.C.6 no later than ~~December 31, 2022~~June 30, 2027, except where otherwise specified in this Section.*

[24] In this context, "application" means, at a minimum a complete project description, site plan, and, if applicable, SEPA checklist. Permittees may establish additional elements of a completed application.

[25] In this context "started construction" means the site work associated with, and directly related to the approved project has begun. For example: grading the project site to final grade or utility installation. Simply clearing the project site does not constitute the start of construction. Permittees may establish additional requirements related to the start of construction.

[26] ~~For Permittees in **Lewis and Cowlitz counties**: Prior to July 1, 2017, that have not started construction by June 30, 2022.~~ **For Lynden, Snoqualmie S5.C.6.a.ii is replaced with these dates**: Prior to January 1, 2018, that have not started construction by January 1, 2023. **For Aberdeen S5.C.6.a.ii is replaced with these dates**: Prior to July 1, 2018, that have not started construction by June 30, 2023. **Shelton ~~and Clallam County~~** ~~shall adopt and make effective a local program that meets the requirements of S5.C.6.b(i) through (~~**S5.C.6.a.ii and iii**~~) no later than December 31, 2022. The local program shall apply to all applications submitted on or after January 1, 2023, and shall apply to applications submitted prior to~~ **is replaced with these dates:** Prior to January 1, 2023, which have not started construction by January 1, 2028.

~~S1.~~i. The Minimum Requirements, thresholds, and definitions in Appendix 1, or the ~~2013~~2019 Appendix 1 amended to include the changes identified in Appendix 10, or Phase I program approved by Ecology and amended to include Appendix 10, for new development, redevelopment, and construction sites. Adjustment and variance criteria equivalent to those in Appendix 1 shall be included. More stringent requirements may be used, and/or certain requirements may be tailored to local circumstances through the use of Ecology-approved basin plans or other similar water quality and quantity planning efforts. Such local requirements and thresholds shall provide equal protection of receiving waters and equal levels of pollutant control to those provided in Appendix 1.

~~i.~~ii. The local requirements shall include the following requirements, limitations, and criteria that, when used to implement the minimum requirements in Appendix 1 (or program approved by Ecology under the ~~2019~~2024 Phase I Permit~~)~~), will protect water quality, reduce the discharge of pollutants to the MEP, and satisfy the State requirement under Chapter 90.48 RCW to apply AKART prior to discharge:

(a) Site planning requirements;

(b) BMP selection criteria;

(c) BMP design criteria;

(d) BMP infeasibility criteria;

(e) LID competing needs criteria; and

(f) BMP limitations.

Permittees shall document how the criteria and requirements will protect water quality, reduce the discharge of pollutants to the MEP, and satisfy ~~State~~the state AKART requirements.

Permittees who choose to use the requirements, limitations, and criteria~~,~~ above~~,~~ in the *Stormwater Management Manual for Western Washington*, or a Phase I program approved by Ecology, may cite this choice as their sole documentation to meet this requirement.

~~ii.~~iii. The legal authority, through the approval process for new development and redevelopment, to inspect and enforce maintenance standards for private stormwater facilities approved under the provisions of this Section that discharge to the Permittee's MS4.

~~b.~~c. The program shall include a permitting process with site plan review, inspection, and enforcement capability to meet the standards listed in (i) through (iv) below, for both private and public projects, using qualified personnel (as defined in *Definitions and Acronyms*). At a minimum, this program shall be applied to all sites that meet the minimum thresholds adopted pursuant to S5.C.6.b.i, above.

i. Review of all stormwater site plans for proposed development activities.

ii. Inspect, prior to clearing and construction, all permitted development sites that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7 – *Determining Construction Site Sediment Damage Potential*. As an alternative to evaluating each site according to Appendix 7, Permittees may choose to inspect all construction sites that meet the minimum thresholds adopted pursuant to S5.C.6.b.i, above.

iii. Inspect all permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls. Enforce, as necessary, based on the inspection.

iv. Each Permittee shall manage maintenance activities to inspect all stormwater treatment and flow control BMPs/facilities, and catch basins, in new residential developments every six months, until 90% of the lots are constructed (or when construction has stopped and the site is fully stabilized), to identify maintenance needs and enforce compliance with maintenance standards as needed.

v. Inspect all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater facilities. Verify that a maintenance plan is completed and responsibility for maintenance is assigned for stormwater treatment and flow control BMPs/facilities. Enforce, as necessary, based on the inspection.

vi. Compliance with the inspection requirements in (ii) through (v), above, shall be determined by the presence and records of an established inspection program designed to inspect all sites. Compliance ~~during this permit term~~ shall be determined by achieving at least 80% of required inspections annually. The inspections may be combined with other inspections provided they are performed using qualified personnel.

vii. The program shall include a procedure for keeping records of inspections and enforcement actions by staff~~,~~ including inspection reports, warning

letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities shall be maintained.

viii. An enforcement strategy shall be implemented to respond to issues of non-compliance.

~~c.~~d. The program shall make available to representatives of proposed new development and redevelopment, as applicable~~,~~: the link to the ~~electronic~~ online *Construction Stormwater General Permit* Notice of Intent (NOI) form for construction activity ~~and, as applicable~~, a link to the ~~electronic~~online *Industrial Stormwater General Permit* NOI form for industrial activity ~~to representatives of proposed new development and redevelopment~~, and a link to the online registration requirements for Underground Injection Control (UIC) wells. Permittees shall continue to enforce local ordinances controlling runoff from sites that are also covered by stormwater permits issued by Ecology.[27]

~~d.~~e. Each Permittee shall ensure that all staff whose primary job duties are implementing the program to ~~control stormwater runoff~~*Control Stormwater Runoff* *from* ~~new development, redevelopment~~*New Development, Redevelopment*, *and* ~~construction sites~~*Construction Sites*, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. Follow-up training ~~must~~shall be provided as needed to address changes in procedures, techniques, or staffing. Permittees shall document and maintain records of the training provided and the staff trained.[28]

[27] New Permittees shall meet the requirements of S5.C.6.d beginning no later than August 1, ~~2019~~2024.
[28] New Permittees shall meet the requirements of S5.C.6.e no later than December 31, ~~2022~~2027.

7. Stormwater Management for Existing Development

Each Permittee shall implement a Program to control or reduce stormwater discharges to waters of the State from areas of existing development.[29] The Program shall aim to focus on strategic stormwater investments over longer planning timeframes.

Minimum performance measures:

a. Permittees shall implement stormwater facility retrofits, or tailored SWMP actions that meet the criteria described in Appendix 12, using one or a combination of the following:

   i. Strategic stormwater investments identified in Stormwater Management Action Plan(s) (SMAPs, S5.C.1.d.), or similar stormwater planning process; and/or

   ii. Opportunistic stormwater investments identified by leveraging projects outside of SMAP areas to improve stormwater management and infrastructure.

b. No later than March 31, 2028, Permittees shall fully fund, start construction, or completely implement project(s) that meet the assigned equivalent acreage and submit documentation with the Annual Report as described in Appendix 12.[30]

   i. Projects that started construction on or after January 1, 2023, may be included towards achieving the acres required.

   ii. Permittees may contribute to meeting an overall regional goal to satisfy this permit requirement as described in S5.C.7.c.

   iii. Permittees that complete projects by the expiration date of this permit that will exceed the area required for this permit term may use the excess as a credit to be used for the 2029 Permit term, not to exceed 50% of the next Permit's requirement.

c. Permittees may collaborate to meet a regional goal.

   iv. Each Permittee is required to manage at least 0.3 acres within their own jurisdiction but may receive acreage credit for contributing to meeting an overall regional goal outside their defined MS4 Permit coverage area. For Permittees assigned 0.3 acres, participation and in-kind services to

[29] New Permittees are exempt from this permit section.
[30] In this context, "fully fund" means stormwater facility retrofits are at or beyond 60% design and there is a documented source of funding and commitment to complete the project during the next permit cycle.

regional collaboration projects may count as the contribution for this permit term if there is regional agreement on the strategy.

v. Permittees may contribute to a regional goal, that is the sum of Phase II partners assigned acreage from Appendix 12. Projects may be implemented outside of permit coverage areas to meet their individual requirement as part of a regional goal where benefits to receiving waters within the permit coverage are identified and anticipated.

d. Permittees shall develop a method and report the amount of estimated or projected equivalent acres managed by stormwater facility retrofits and SMAP project costs for the 2029 permit term. This report shall be submitted to Ecology no later than March 31, 2028.

8. Source Control Program for Existing Development

The Permittee shall implement a program to prevent and reduce pollutants in runoff from areas of existing development that discharge to the MS4. The program shall include application of source control BMPs, inspections, and enforcement.

The minimum performance measures are:

a. Permittees shall enforce ordinance(s), or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities (see Appendix 8 to identify pollutant generating sources). [31]

The requirements of this subsection are met by using the source control BMPs in the SWMMWW, or a Phase I Program approved by Ecology. In cases where the manual(s) lack guidance for a specific source of pollutants, the Permittee shall work with the owner/operator to implement or adapt BMPs based on the best professional judgement of the Permittee.

Applicable operational source control BMPs shall be required for all pollutant generating sources. Structural source control BMPs, or treatment BMPs/facilities, or both, shall be required for pollutant generating sources if operational source control BMPs do not prevent illicit discharges or violations of surface water, groundwater, or sediment management standards because of inadequate stormwater controls. Implementation of source control requirements may be done through education and technical assistance programs, provided that formal enforcement authority is available to the Permittee and is used as determined necessary by the Permittee, in accordance with S5.C.8.a.iii, below.

b. Permittees shall implement a program to identify publicly and privately owned institutional, commercial, and industrial sites which have the potential to generate pollutants to the MS4.[32] Permittees shall update the inventory at least once every 5 years. The inventory shall include:

i. Businesses and/or sites identified based on the presence of activities that are pollutant generating (refer to Appendix 8); and

ii. Other pollutant generating sources, based on complaint response, such as: home-based businesses and multi-family sites.

[31] No later than August 1, 2026, New Permittees shall adopt and make effective ordinance(s), or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities (see Appendix 8 to identify pollutant generating sources).
[32] No later than August 1, 2027, New Permittees shall establish an inventory that follows this permit section.

c. Permittees shall implement an inspection program, performed by qualified personnel, for sites identified pursuant to S5.C.8.a.i, above.[33]

i. All identified sites with a business address shall be provided information about activities that may generate pollutants and the source control requirements applicable to those activities. This information shall be provided by mail, telephone, electronic communications, or in person. This information may be provided all at one time or spread out over the permit term to allow for tailoring and distribution of the information during site inspections.

ii. The Permittee shall annually complete the number of inspections equal to 20% of the businesses and/or sites listed in their source control inventory to assess BMP effectiveness and compliance with source control requirements. The Permittee may count follow-up compliance inspections at the same site toward the 20% inspection rate. The Permittee may select which sites to inspect each year and is not required to inspect 100% of sites over a 5-year period. Sites may be prioritized for inspection based on their land use category, potential for pollution generation, proximity to receiving waters, or to address an identified pollution problem within a specific geographic area or sub-basin.

iii. Each Permittee shall inspect 100% of sites identified through credible complaints.

iv. Permittees may count inspections conducted based on complaints, or when the property owner denies entry, to the 20% inspection rate.

v. Annual Reporting of inspections shall be organized by business type or activities with potential to generate pollutants to the MS4. Standard Industrial Code (SIC), Major Group, and NAICS numbers may be provided for reference as noted in Appendix 8.

d. Permittees shall implement a progressive enforcement policy that requires sites to comply with stormwater requirements within a reasonable time period as specified below[34]:

i. If the Permittee determines, through inspections or otherwise, that a site has failed to adequately implement required BMPs, the Permittee shall take appropriate follow-up action(s), which may include phone calls, reminder letters, emails, or follow-up inspections.

[33] No later than January 1, 2028, New Permittees shall implement an inspection program for sites identified.
[34] No later than January 1, 2028, New Permittees shall implement a progressive enforcement policy as described in this permit section.

ii. When a Permittee determines that a site has failed to adequately implement BMPs after a follow-up inspection(s) the Permittee shall take enforcement action as established through authority in its municipal codes or ordinances, or through the judicial system.

iii. Each Permittee shall maintain records including documentation of each site visit, inspection reports, warning letters, notices of violations, and other enforcement records demonstrating an effort to bring sites into compliance. Each Permittee shall also maintain records of sites that are not inspected because the property owner denies entry.

iv. A Permittee may refer non-emergency violations of local ordinances to Ecology provided the Permittee also makes a documented effort of progressive enforcement. At a minimum, a Permittee's enforcement effort shall include documentation of inspections and warning letters or notices of violation.

v. Application and enforcement of local ordinances at sites identified pursuant to S5.C.8.a.i including sites with discharges authorized by a separate NPDES permit. Permittees that are in compliance with the terms of this Permit will not be held liable by Ecology for water quality standard violations or receiving water impacts caused by industries and other Permittees covered, or which should be covered, under an NPDES permit issued by Ecology.

e. Permittees shall train staff who are responsible for implementing the source control program to conduct these activities.[35] The ongoing training program shall cover the legal authority for source control, source control BMPs and their proper application, inspection protocols, lessons learned, typical cases, and enforcement procedures. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staff. Permittees shall document and maintain records of the training provided and the staff trained.

[35] New Permittees shall develop and implement a training program no later than December 31, 2027.

9. Operations and Maintenance

~~2.~~ Each Permittee shall implement and document a program to regulate maintenance activities and to conduct maintenance activities by the Permittee to prevent or reduce stormwater impacts.[36]

~~The minimum performance measures are:~~

The minimum performance measures are:

a. Each Permittee shall implement maintenance standards that are as protective, or more protective, of facility function than those specified in the *Stormwater Management Manual for Western Washington*, or a Phase I program approved by Ecology. For facilities which do not have maintenance standards, the Permittee shall develop a maintenance standard. No later than June 30, ~~2022~~2027, Permittees shall update their maintenance standards as necessary to meet the requirements of this Section.

   i. The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facility's required condition at all times between inspections. Exceeding the maintenance standard between inspections and/or maintenance is not a permit violation.

   ii. Unless there are circumstances beyond the Permittee's control, when an inspection identifies an exceedance of the maintenance standard, maintenance shall be performed:

   - Within 1 year for typical maintenance of facilities, except catch basins~~.~~;
   - Within 6 months for catch basins~~.~~; and
   - Within 2 years for maintenance that requires capital construction of less than $25,000.

   Circumstances beyond the Permittee's control include denial or delay of access by property owners, denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to perform emergency work. For each exceedance of the required timeframe, the Permittee shall document the circumstances and how they were beyond their control.

[36] New Permittees shall develop and implement the requirements of S5.C.~~7~~9 no later than ~~December 31, 2022~~June 30, 2027 except where otherwise noted in this Section.

b. Maintenance of stormwater treatment and flow control BMPs/facilities regulated by the Permittee:

i. The program shall include provisions to verify adequate long-term O&M of stormwater treatment and flow control BMPs/facilities that are permitted and constructed pursuant to S.5.C.6.c and shall be maintained in accordance with S5.C.~~7.a.~~

9.a.~~The provisions shall include:~~

The provisions shall include:

(a) Implementation of an ordinance or other enforceable mechanism that:

- Clearly identifies the party responsible for maintenance in accordance with maintenance standards established under S5.C.~~7~~9.a.
- Requires inspection of facilities in accordance with the requirements in (b), below.
- Establishes enforcement procedures.

(b) Annual inspections, by qualified personnel, of all stormwater treatment and flow control BMPs/facilities that discharge to the MS4 and were permitted by the Permittee according to S5.C.6.c, including those permitted in accordance with requirements adopted pursuant to the 2007-~~2019~~2024 Ecology municipal stormwater permits, unless there are maintenance records to justify a different frequency.

Permittees may reduce the inspection frequency based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the Permittee may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with G19 – *Certification and Signature*.

ii. Compliance with the inspection requirements in (b), above, shall be determined by the presence and records of an established inspection program designed to inspect all facilities, and achieving at least 80% of required inspections~~.~~ annually.

iii. If deemed necessary for post-construction access, the ordinance or other regulatory mechanism may, in lieu of requiring that continued access be granted to the Permittee's staff or qualified personnel, instead require private property owners to provide annual certification by a qualified third party that adequate maintenance has been performed and the facilities are operating as designed to protect water quality.

~~iii.~~iv. The program shall include a procedure for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities shall be maintained.

c. Maintenance of stormwater facilities owned or operated by the Permittee~~.~~:

i. Each Permittee shall implement a program to annually inspect all municipally owned or operated stormwater treatment and flow control BMPs/facilities~~, and taking~~. Permittees shall implement appropriate maintenance ~~actions~~action(s) in accordance with the adopted maintenance standards.

The inspection program shall be implemented by qualified personnel.

Permittees may reduce the inspection frequency based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the Permittee may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with G19 – *Certification and Signature*.

ii. Each Permittee shall spot check potentially damaged stormwater treatment and flow control BMPs/facilities after major storm events (24~~-~~-hour storm event with a 10 year or greater recurrence interval). If spot checks indicate widespread damage/maintenance needs, inspect all stormwater treatment and flow control BMPs/facilities that may be affected. Conduct repairs or take appropriate maintenance action in accordance with maintenance standards established above, based on the results of the inspections.

iii. Each Permittee shall continue to inspect all catch basins and inlets owned or operated by the Permittee every two years~~.~~ by December 31.[37,38] Clean catch basins if the inspection indicates cleaning is needed to comply with maintenance standards established in the *Stormwater Management Manual for Western Washington.* Decant water shall be disposed of in accordance with Appendix 6 – *Street Waste Disposal*.

The following alternatives to the standard approach of inspecting all catch basins every two years may be applied to all or portions of the system:

(a) The catch basin inspection schedule of every two years may be changed as appropriate to meet the maintenance standards based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records for catch basins, the Permittee may substitute written statements to document a specific, less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experiences and shall be certified in accordance with G19 – *Certification and Signature*.

(b) Inspections every two years may be conducted on a "circuit basis" whereby 25% of catch basins and inlets within each circuit are inspected to identify maintenance needs. Include an inspection of the catch basin immediately upstream of any MS4 outfall, discharge point, or connections to public or private storm systems, if applicable. Clean all catch basins within a given circuit for which the inspection indicates cleaning is needed to comply with maintenance standards established under S5.C.7.a, above.

(c) The Permittee may clean all pipes, ditches, and catch basins and inlets within a circuit once during the permit term. Circuits selected for this alternative must drain to a single point.

[37] Continuing Permittees shall implement the two-year schedule established under previous permits, except inspections shall be completed by December 31.

[38] New Permittees shall inspect and, if needed, clean all catch basins and inlets owned or operated by the Permittee in accordance with the requirements of S5.C.7.c once during the permit term, to be completed no later than ~~February 2, 2024.~~December 31, 2028.

iv. Compliance with the inspection requirements in S5.C.7.c.i-iii, above, shall be determined by the presence of an established inspection program achieving at least 95% of required inspections.

d. Implement practices, policies, and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the Permittee, and road maintenance activities under the functional control of the Permittee. No later than December 31, ~~2022~~2027, document the practices, policies, and procedures. Lands owned or maintained by the Permittee include~~,~~ but are not limited to: streets~~,~~; parking lots~~,~~; roads~~,~~; highways~~,~~; buildings~~,~~; parks~~,~~; open space~~,~~; road ~~right~~rights-of-~~ways,~~way; maintenance yards~~,~~; and stormwater treatment and flow control BMPs/facilities.

The following activities shall be addressed:

i. Pipe cleaning;

ii. Cleaning of culverts that convey stormwater in ditch systems;

iii. Ditch maintenance;

iv. Street cleaning;

v. Road repair and resurfacing, including pavement grinding;

vi. Snow and ice control;

vii. Utility installation-;

viii. Pavement striping maintenance;

ix. Maintaining roadside areas, including vegetation management;

x. Dust control;

xi. Application of fertilizers, pesticides, and herbicides according to the instructions for their use~~,~~ including reducing nutrients and pesticides using alternatives that minimize environmental impacts;

xii. Sediment and erosion control;

xiii. Landscape maintenance and vegetation disposal;

xiv. Trash and pet waste management;

xv. Building exterior cleaning and maintenance; and

(a) For Permittee-owned buildings built or renovated between 1950-1980, update policies, practices, or procedures to include Source Control BMPs to minimize PCBs from entering the MS4. Permittees

shall not discharge washdown water to the MS4 if the building is confirmed or suspected to have PCB-containing materials.

xvi. Preparing Permittee-owned buildings for renovation or demolition.

(a) Update policies, practices, or procedures to include Source Control BMPs for building materials to prevent PCBs from entering the MS4 in preparation for and during demolition and renovations.

e. No later than July 1, 2027, develop and implement a municipal street sweeping program to target high priority areas and times during the year that would reasonably be expected to result in the maximum water quality benefits to receiving waters. The following program elements shall be included:

i. Apply street sweeping program to publicly owned roads in MS4 drainage areas that discharge to outfalls. Within those areas, sweep the following high priority areas, where applicable:

(a) High traffic roads, such as arterials;

(b) Accessible curb and gutter streets - permittees may need to implement parking restrictions or other effective methods to optimize pollutant removal;

(c) Areas with significant tire wear, e.g. roundabouts, high traffic intersections, municipal-operated parking lots;

(d) Areas with significant tree canopy with seasonal leaf litter drop;

(e) Municipal roads that serve commercial or industrial land use areas; and

(f) MS4 basins that discharge to surface receiving waters that support salmonids.

ii. Sweep high priority areas at least once between July and September each year and two additional times a year as determined by the Permittee to provide additional water quality benefits. For calendar year 2027, only one sweeping event is required.

a. Permittees may document reasoning for alternative sweeping timing and frequency based on local conditions (e.g., climate) and estimated pollutant deposition quantities. Documentation shall also be based on actual maintenance experience and be certified in accordance with G19 – *Certification and Signature*.

b. If a Permittees' existing overall street sweeping program provides equivalent or greater street sweeping frequency relative to the requirements above, the Permittee may continue to implement its existing street sweeping program. Documentation shall be certified in accordance with G19 – *Certification and Signature*.

iii. Annually sweep at least 90% of high priority areas within the MS4 drainage areas.

iv. Follow equipment design performance specifications to ensure that street sweeping equipment is operated at the proper design speed with appropriate verification, and that it is properly maintained.

v. Permittee shall dispose of sweeper waste material in accordance with Appendix 6- *Street Waste Disposal*.

vi. Document the road type and level of traffic served (e.g. AADT or estimated # of vehicles served) of roads swept, frequency, type of sweeper, lane miles, a map of the areas and land uses swept, and approximation of street waste removed. Begin reporting with the Annual Report March 31, 2029.

f. Implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards and material storage facilities owned or operated by the Permittee in areas subject to this Permit that are not required to have coverage under the Industrial Stormwater General Permit or another NPDES permit that authorizes stormwater discharges associated with the activity. SWPPPs shall include the following information, at a minimum:

i. A detailed description of the operational and structural BMPs in use at the facility and a schedule for implementation of additional BMPs when needed. BMPs selected shall be consistent with the *Stormwater Management Manual for Western Washington*, or a Phase I program approved by Ecology. The SWPPP shall be updated as needed to maintain relevancy with the facility.

ii. At minimum, annual inspections of the facility, including visual observations of discharges, to evaluate the effectiveness of the BMPs, identify maintenance needs, and determine if additional or different BMPs are needed. The results of these inspections shall be documented in an inspection report or check list.

iii. An inventory of the materials and equipment stored on-site, and the activities conducted at the facility which may be exposed to precipitation or runoff and could result in stormwater pollution.

iv. A site map showing the facility's stormwater drainage, discharge points, and areas of potential pollutant exposure.

v. A plan for preventing and responding to spills at the facility which could result in an illicit discharge.

~~e.~~g. Implement an ongoing training program for employees of the Permittee whose primary construction, operations, or maintenance job functions may impact stormwater quality. The training program shall address the importance of protecting water quality, operation and maintenance standards, inspection procedures, relevant SWPPPs, selecting appropriate BMPs, street sweeper operation, ways to perform their job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staffing. Permittees shall document and maintain records of training provided. The staff training records to be kept include dates, activities or course descriptions, and names and positions of staff in attendance.

~~f. **Implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards and material storage facilities owned or operated by the Permittee in areas subject to this Permit that are not required to have coverage under the** Industrial Stormwater General Permit **or another NPDES permit that authorizes stormwater discharges associated with the activity. As necessary, update SWPPPs no later than December 31, 2022, to include the following information. At a minimum, the SWPPP shall include:**~~

~~i. A detailed description of the operational and structural BMPs in use at the facility and a schedule for implementation of additional BMPs when needed. BMPs selected must be consistent with the *Stormwater Management Manual for Western Washington*, or a Phase I program approved by Ecology. The SWPPP must be updated as needed to maintain relevancy with the facility.~~

~~ii.~~i. ~~At minimum, annual inspections of the facility, including visual observations of discharges, to evaluate the effectiveness of the BMPs, identify maintenance needs, and determine if additional or different BMPs are needed. The results of these inspections must be documented in an inspection report or check list.~~

~~iii.~~i. ~~An inventory of the materials and equipment stored on-site, and the activities conducted at the facility which may be exposed to precipitation or runoff and could result in stormwater pollution.~~

~~iv.~~i. ~~A site map showing the facility's stormwater drainage, discharge points, and areas of potential pollutant exposure.~~

~~v.~~i. ~~A plan for preventing and responding to spills at the facility which could result in an illicit discharge.~~

~~g.~~h. Maintain records of the activities conducted to meet the requirements of this Section.

~~3. Source Control Program for Existing Development~~

~~a. The Permittee shall implement a program to prevent and reduce pollutants in runoff from areas that discharge to the MS4. The program shall include:~~

~~i. *Application of operational source control BMPs, and if necessary, structural source control BMPs or treatment BMPs/facilities, or both, to pollution generating sources associated with existing land uses and activities.*~~

~~ii. *Inspections of pollutant generating sources at publicly and privately owned institutional, commercial and industrial sites to enforce implementation of required BMPs to control pollution discharging into the MS4.*~~

~~iii. *Application and enforcement of local ordinances at sites, identified pursuant to S5.C.8.b.ii, including sites with discharges authorized by a separate NPDES permit. Permittees that are in compliance with the terms of this Permit will not be held liable by Ecology for water quality standard violations or receiving water impacts caused by industries and other Permittees covered, or which should be covered under an NPDES permit issued by Ecology.*~~

~~iv. *Practices to reduce polluted runoff from the application of pesticides, herbicides, and fertilizers from the sites identified in the inventory.*~~

~~b. *Minimum performance measures:*~~

~~i. *No later than August 1, 2022, Permittees shall adopt and make effective an ordinance(s), or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities (see Appendix 8 to identify pollutant generating sources).*~~

~~*The requirements of this subsection are met by using the source control BMPs in the SWMMWW, or a Phase I Program approved by Ecology. In cases where the manual(s) lack guidance for a specific source of*~~

pollutants, the Permittee shall work with the owner/operator to implement or adapt BMPs based on the best professional judgement of the Permittee.

Applicable operational source control BMPs shall be required for all pollutant generating sources. Structural source control BMPs, or treatment BMPs/facilities, or both, shall be required for pollutant generating sources if operational source control BMPs do not prevent illicit discharges or violations of surface water, groundwater, or sediment management standards because of inadequate stormwater controls. Implementation of source control requirements may be done through education and technical assistance programs, provided that formal enforcement authority is available to the Permittee and is used as determined necessary by the Permittee, in accordance with S5.C.8.b.iv, below.

~~ii.a.~~No later than August 1, 2022, the Permittees shall establish an inventory that identifies publicly and privately owned institutional, commercial, and industrial sites which have the potential to generate pollutants to the MS4. The inventory shall include:

~~(a)~~ ***Businesses and/or sites identified based on the presence of activities that are pollutant generating (refer to Appendix 8).***

~~(b)~~ ***Other pollutant generating sources, based on complaint response, such as: home-based businesses and multi-family sites.***

~~iii.~~ ***No later than January 1, 2023, Permittees shall implement an inspection program for sites identified pursuant to S5.C.8.b.ii, above.***

~~(a)~~ ***All identified sites with a business address shall be provided information about activities that may generate pollutants and the source control requirements applicable to those activities. This information shall be provided by mail, telephone, electronic communications, or in person. This information may be provided all at one time or spread out over the permit term to allow for tailoring and distribution of the information during site inspections.***

~~(b)i.~~ ~~The Permittee shall annually complete the number of inspections equal to 20% of the businesses and/or sites listed in their source control inventory to assess BMP effectiveness and compliance with source control requirements. The Permittee may count follow-up compliance inspections at the same site toward the 20% inspection rate. The Permittee may select which sites to inspect each year and is not required to inspect 100% of sites over a 5-year period. Sites may be prioritized for inspection based on their land use category, potential for pollution~~

~~generation, proximity to receiving waters, or to address an identified pollution problem within a specific geographic area or sub-basin.~~

~~(c)i. Each Permittee shall inspect 100% of sites identified through credible complaints.~~

~~**(d) *Permittees may count inspections conducted based on complaints, or when the property owner denies entry, to the 20% inspection rate.***~~

~~iv. **No later than January 1, 2023, each Permittee shall implement a progressive enforcement policy that requires sites to comply with stormwater requirements within a reasonable time period as specified below:***~~

~~(a)i. If the Permittee determines, through inspections or otherwise, that a site has failed to adequately implement required BMPs, the Permittee shall take appropriate follow-up action(s), which may include phone calls, reminder letters, emails, or follow-up inspections.~~

~~**(b) *When a Permittee determines that a site has failed to adequately implement BMPs after a follow-up inspection(s), the Permittee shall take enforcement action as established through authority in its municipal codes or ordinances, or through the judicial system.***~~

~~(c)i. Each Permittee shall maintain records, including documentation of each site visit, inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating an effort to bring sites into compliance. Each Permittee shall also maintain records of sites that are not inspected because the property owner denies entry.~~

~~(d)i. A Permittee may refer non-emergency violations of local ordinances to Ecology, provided, the Permittee also makes a documented effort of progressive enforcement. At a minimum, a Permittee's enforcement effort shall include documentation of inspections and warning letters or notices of violation.~~

~~v.~~a. ~~Permittees shall train staff who are responsible for implementing the source control program to conduct these activities. The ongoing training program shall cover the legal authority for source control, source control BMPs and their proper application, inspection protocols, lessons learned, typical cases, and enforcement procedures. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staff. Permittees shall document and maintain records of the training provided and the staff trained.~~

S5.S1.A.1.a.9 The Permittee shall implement a program to prevent and reduce pollutants in runoff from areas that discharge to the MS4. The program shall include:

~~S2.~~S6. STORMWATER MANAGEMENT PROGRAM FOR SECONDARY PERMITTEES

A. Secondary Permittees and New Secondary Permittees Coverage

This Section applies to all Secondary Permittees and all New Secondary Permittees, whether coverage under this Permit is obtained individually or as a Co-Permittee with a city, town, county, or another Secondary Permittee.

New Secondary Permittees subject to this Permit shall fully meet the requirements of this Section as modified in the footnotes in S6.D below, or as established as a condition of coverage by Ecology.

1. To the extent allowable under state, federal or local law, all components are mandatory for each Secondary Permittee covered under this Permit, whether covered as an individual Permittee or as a Co-Permittee.
2. Each Secondary Permittee shall develop and implement a Stormwater Management Program (SWMP). A SWMP is a set of actions and activities comprising the components listed in S6 and any additional actions necessary to meet the requirements of applicable TMDLs pursuant to S7 – *Compliance with Total Maximum Daily Load Requirements*. The SWMP shall be designed to reduce the discharge of pollutants from regulated small MS4s to the MEP and protect water quality.
3. Unless an alternate implementation schedule is established by Ecology as a condition of permit coverage, the SWMP shall be developed and implemented in accordance with the schedules contained in this Section and shall be fully developed and implemented no later than four and one-half years from the initial permit coverage date. Secondary Permittees that are already implementing some or all of the required SWMP components shall continue implementation of those components.
4. Secondary Permittees may implement parts of their SWMP in accordance with the schedule for cities, towns, and counties in S5, provided they have signed a memorandum of understanding or other agreement to jointly implement the activity or activities with one or more jurisdictions listed in S1.D.2.a or S1.D.2.b~~,~~ and submitted a copy of the agreement to Ecology.
5. Each Secondary Permittee shall prepare written documentation of the SWMP, called the SWMP Plan. The SWMP Plan shall be updated annually to include a description of program activities for the upcoming calendar year~~.~~, and shall be submitted with the Annual Report.

A. Coordination

Secondary Permittees shall coordinate stormwater-related policies, programs, and projects within a watershed and interconnected MS4s. Where relevant and appropriate, the SWMP shall coordinate among departments of the Secondary Permittee to ensure compliance with the terms of this Permit.

B. Legal Authority

To the extent allowable under state law and federal law, each Secondary Permittee shall be able to demonstrate that they can operate pursuant to legal authority which authorizes or enables the Secondary Permittee to control discharges to and from MS4s owned or operated by the Secondary Permittee.

This legal authority may be a combination of statutes, ordinances, permits, contracts, orders, interagency agreements, or similar instruments.

C. Stormwater Management Program for Secondary Permittees

The SWMP for Secondary Permittees shall include the following components:

1. Public Education and Outreach

~~1.~~ Each Secondary Permittee shall implement the following stormwater education strategies:

a. Storm drain inlets owned or operated by the Secondary Permittee that are located in maintenance yards, in parking lots, along sidewalks, and at pedestrian access points shall be clearly labeled with a message similar to "Dump no waste – Drains to waterbody."[39]

~~a.~~ As identified during visual inspection and regular maintenance of storm drain inlets per the requirements of S6.D.3.d and S6.D.6.a.i, below, or as

[39] New Secondary Permittees shall label all inlets as described in S6.D.1.a no later than four years from the initial date of permit coverage.

otherwise reported to the Secondary Permittee, any inlet having a label that is no longer clearly visible and/or easily readable shall be re-labeled within 90 days.

b. Each year beginning no later than three years from the initial date of permit coverage, public ports, colleges, and universities shall distribute educational information to tenants and residents on the impact of stormwater discharges on receiving waters, and steps that can be taken to reduce pollutants in stormwater runoff. Distribution may be by hard copy or electronic means. Appropriate topics may include:

i. How stormwater runoff affects local water bodies~~.~~;

ii. Proper use and application of pesticides and fertilizers~~.~~;

iii. Benefits of using well-adapted vegetation~~.~~;

iv. Alternative equipment washing practices, including cars and trucks that minimize pollutants in stormwater~~.~~;

v. Benefits of proper vehicle maintenance and alternative transportation choices; proper handling and disposal of vehicle wastes, including the location of hazardous waste collection facilities in the area~~.~~;

vi. Hazards associated with illicit connections and illicit discharges~~.~~;

vii. Benefits of litter control of pet waste~~.~~; and

viii. Source control BMPs for building materials to reduce pollution to stormwater, including but not limited to, stormwater pollution from PCB-containing materials.

2. Public Involvement and Participation

~~**2.**~~ Each year, no later than May 31, each Secondary Permittee shall:

a. Make the annual report available on the Permittee's website~~.~~; and

b. Make available on the Permittee's website, the latest updated version of the SWMP Plan.

~~c. **A Secondary Permittee that does not maintain a website may submit the updated SWMP Plan and annual report in electronic format to Ecology for posting on Ecology's website.**~~

3. Illicit Discharge Detection and Elimination

~~**3.**~~ Each Secondary Permittee shall:

a. From the initial date of permit coverage, comply with all relevant ordinances, rules, and regulations of the local jurisdiction(s) in which the Secondary Permittee is located that govern non-stormwater discharges.

b. Implement appropriate policies prohibiting illicit discharges,[40] and an enforcement plan to ensure compliance with illicit discharge policies.[41] These policies shall address, at a minimum: illicit connections, non-stormwater discharges, including spills of hazardous materials, and improper disposal of pet waste and litter.

i. *Allowable discharges*: The policies do not need to prohibit the following categories of non-stormwater discharges:

(a) Diverted stream flows~~.~~;

(b) Rising groundwaters;

(c) Uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(b)(20~~))~~));

(d) Uncontaminated pumped groundwater;

(e) Foundation drains~~.~~;

(f) Air conditioning condensation;

(g) Irrigation water from agricultural sources that is commingled with urban stormwater;

(h) Springs;

(i) Uncontaminated water from crawl space pumps;

(j) Footing drains;

(k) Flows from riparian habitats and wetlands;

(l) Discharges from emergency firefighting activities in accordance with S2 – ~~.~~*Authorized Discharges*; and

(m) Non-stormwater discharges authorized by another NPDES or ~~state waste discharge~~State Waste Discharge permit.

[40] New Secondary Permittees shall develop and implement appropriate policies prohibiting illicit discharges~~,~~ and identify possible enforcement mechanisms as described in S6.D.3.b no later than one year from the initial date of permit coverage.

[41] New Secondary Permittees shall develop and implement an enforcement plan as described in S6.D.3.b no later than 18 months from the initial date of permit coverage.

~~ii.~~i. *Conditionally allowable discharges*: The policies may allow the following categories of non-stormwater discharges only if the stated conditions are met and such discharges are allowed by local codes:

(a) Discharges from potable water sources, including but not limited to water line flushing, hyperchlorinated water line flushing~~,~~.

(b) Fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be dechlorinated to a total residual chlorine concentration of 0.1 ppm or less, pH-adjusted if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4.

(c) Discharges from lawn watering and other irrigation runoff. These discharges shall be minimized through, at a minimum, public education activities and water conservation efforts conducted by the Secondary Permittee and/or the local jurisdiction.

(d) ~~Dechlorinated~~Discharges from swimming ~~pool, spa~~pools, spas, and hot ~~tub discharges~~tubs. The discharges shall be dechlorinated to a total residual chlorine concentration of 0.1 ppm or less, pH-adjusted and reoxygenated if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4. Discharges shall be thermally controlled to prevent an increase in temperature of the receiving water. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4.

(e) Street and sidewalk wash water, water used to control dust~~, and routine external building washdown~~ that does not use detergents. The Secondary Permittee shall reduce these discharges through, at a minimum, public education activities and/or water conservation efforts conducted by the Secondary Permittee and/or the local jurisdiction. To avoid washing pollutants into the MS4, the Secondary Permittee shall minimize the amount of street wash and dust control water used.

(f) Routine external building washdown that does not use detergents for buildings built before 1950 and after 1980. The Permittee shall reduce these discharges through, at minimum, public education activities or water conservation efforts, or both. To avoid washing pollutants into the MS4, Permittees shall minimize the amount of wash water used.

Commercial, public, institutional, and industrial structures constructed or remodeled between the years 1950 and 1980 (i.e.

those most likely to have PCB containing building materials), shall be assessed for PCB-containing materials consistent with *How to Find PCBs in Building Materials* guidance (Ecology, 2022; Publication No. 22-040-024) prior to routine building washdown. Structures confirmed or suspected to have PCB-containing materials shall not discharge washdown water to the MS4. Structures built between 1950-1980, without PCB-containing materials, may proceed with routine building washdown (without detergents) as described above.

~~(f)~~(g) Other non-stormwater discharges shall be in compliance with the requirements of a pollution prevention plan reviewed by the Permittee which addresses control of such discharges.

~~iii.~~ii. The Secondary Permittee shall address any category of discharges in (i) or (ii), above, if the discharge is identified as a significant source of pollutants to waters of the State.

c. Maintain a storm sewer system map showing the locations of all known MS4 outfalls and discharge points, labeling the receiving waters (other than groundwater) and delineating the areas contributing runoff to each outfall and discharge point. Make the map (or completed portions of the map) available on request to Ecology and to the extent appropriate~~,~~ to other Permittees. ~~The preferred format for mapping is an electronic format with fully described mapping standards.~~[42]

i. No later than December 31, 2026, the required format for mapping is an electronic format with fully described mapping standards.[43]

ii. No later than March 31, 2027, Permittees shall submit locations of all known MS4 outfalls according to the standard templates and format provided in the Annual Report. This reporting shall include the size and material of the outfalls.

d. Conduct field inspections and visually inspect for illicit discharges at all known MS4 outfalls and discharge points. Visually inspect at least one third (on average) of all known outfalls and discharge points each year beginning no later than two years from the initial date of permit coverage. Implement procedures to identify and remove any illicit discharges. Keep records of inspections and follow-up activities.

~~[42] New Secondary Permittees shall meet the requirements of S6.D.3.c no later than four and one-half years from the initial date of permit coverage.~~

[43]New Secondary Permittees shall meet the requirements of S6.D.3.c no later than four and one-half years from the initial date of permit coverage.

e. Implement a spill response plan that includes coordination with a qualified spill responder.[44]

f. No later than two years from initial date of permit coverage, provide staff training or coordinate with existing training efforts to educate staff on proper BMPs for preventing illicit discharges, including spills. Train all Secondary Permittee staff who, as part of their normal job responsibilities, have a role in preventing such illicit discharges.

4. Construction Site Stormwater Runoff Control

~~4.~~ From the initial date of permit coverage, each Secondary Permittee shall:

a. Comply with all relevant ordinances, rules, and regulations of the local jurisdiction(s) in which the Secondary Permittee is located that govern construction phase stormwater pollution prevention measures.

b. Ensure that all construction projects under the functional control of the Secondary Permittee which require a construction stormwater permit obtain coverage under the NPDES *Construction Stormwater General Permit* or an individual NPDES permit prior to discharging construction related stormwater.

c. Coordinate with the local jurisdiction regarding projects owned or operated by other entities which discharge into the Secondary Permittee's MS4, to assist the local jurisdiction with achieving compliance with all relevant ordinances, rules, and regulations of the local jurisdiction(s).

d. Provide training or coordinate with existing training efforts to educate relevant staff in erosion and sediment control BMPs and requirements~~,~~ or hire trained contractors to perform the work.

e. Coordinate, as requested, with Ecology or the local jurisdiction to provide access for inspection of construction sites or other land disturbances which are under the functional control of the Secondary Permittee during land disturbing activities and/or construction period.

5. Post-Construction Stormwater Management for New Development and Redevelopment

~~5.~~ From the initial date of permit coverage, each Secondary Permittee shall:

[44] New Secondary Permittees shall develop and implement a spill response plan as described in S6.D.3.e no later than four and one-half years from the initial date of permit coverage.

a. Comply with all relevant ordinances, rules, and regulations of the local jurisdiction(s) in which the Secondary Permittee is located that govern post-construction stormwater pollution prevention measures.

b. Coordinate with the local jurisdiction regarding projects owned or operated by other entities which discharge into the Secondary Permittee's MS4~~,~~ to assist the local jurisdiction with achieving compliance with all relevant ordinances, rules, and regulations of the local jurisdiction(s).

6. Pollution Prevention and Good Housekeeping for Municipal Operations

~~**Each Secondary Permittee shall:**~~

Each Secondary Permittee shall:

a. Implement a municipal operation and maintenance (O&M) plan to minimize stormwater pollution from activities conducted by the Secondary Permittee. The O&M Plan shall include appropriate pollution prevention and good housekeeping procedures for all ~~of~~ the following operations, activities, and/or types of facilities that are present within the Secondary Permittee's boundaries and under the functional control of the Secondary Permittee.[45] The O&M Plan Shall be updated, as needed, no later than July 1, 2027.

i. *Stormwater collection and conveyance systems~~,~~* including catch basins, stormwater pipes, open channels, culverts, and stormwater treatment and flow control BMPs/facilities. The O&M Plan shall address, at a minimum: scheduled inspections and maintenance activities~~,~~ including cleaning and proper disposal of waste removed from the system. Secondary Permittees shall properly maintain stormwater collection and conveyance systems owned or operated by the Secondary Permittee and annually inspect and maintain all stormwater facilities to ensure facility function.

Secondary Permittees shall establish maintenance standards that are as protective or more protective of facility function than those specified in the *Stormwater Management Manual for Western Washington*. Secondary Permittees shall review their maintenance standards to ensure they are consistent with the requirements of this Section.

[45] New Secondary Permittees shall develop and implement the operation and maintenance plan described in S6.D.6.a no later than three years from initial date of permit coverage.

Secondary Permittees shall conduct spot checks of potentially damaged permanent stormwater treatment and flow control BMPs/facilities following major storm events (24-hour storm event with a 10-year or greater recurrence interval).

~~ii.~~i. *Roads, highways, and parking lots*. The O&M Plan shall address, ~~but is not limited to~~at a minimum: deicing, anti-icing, and snow removal practices; snow disposal areas; material (e.g., salt, sand, or other chemical) storage areas; and all-season BMPs to reduce road and parking lot debris and other pollutants from entering the MS4.

~~iii.~~ii. *Vehicle fleets*. The O&M Plan shall address, ~~but is not limited to~~at a minimum: storage, washing, and maintenance of Secondary Permittee vehicle fleets; and fueling facilities. Secondary Permittees shall conduct all vehicle and equipment washing and maintenance in a self-contained covered building or in designated wash and/or maintenance areas.

~~iv.~~iii. *External building maintenance*. The O&M Plan shall address, at a minimum: building exterior cleaning and maintenance including cleaning, washing, painting; ~~and~~ maintenance and management of dumpsters; and other maintenance activities. For buildings owned by the Secondary Permittee and built between 1950 and 1980, the O&M Plan shall include building material assessment for PCBs consistent with *How to Find and Address PCBs in Building Materials* guidance (Ecology, 2022; Publication No. 22-040-024) prior to exterior building washdown. Structures confirmed or suspected to have PCB-containing materials shall not discharge washdown water to the MS4.

iv. ~~*Parks and open space*. The O&M Plan shall address, but is not limited to~~*Preparing Permittee-owned buildings for renovation or demolition.* The O&M Plan shall address Source Control BMPs for building materials to prevent PCBs from entering the MS4 in preparation for and during demolition and renovations.

v. *Parks and open space*. The O&M Plan shall address, at a minimum: proper application of fertilizer, pesticides, and herbicides; sediment and erosion control; BMPs for landscape maintenance and vegetation disposal; and trash and pet waste management.

vi. *Material storage facilities and heavy equipment maintenance or storage yards*. Secondary Permittees shall develop and implement a Stormwater Pollution Prevention Plan to protect water quality at each of these facilities owned or operated by the Secondary Permittee and not covered under the *Industrial Stormwater General Permit* or under another NPDES

permit that authorizes stormwater discharges associated with the activity.

vii. *Other facilities* that would reasonably be expected to discharge contaminated runoff. The O&M Plan shall address proper stormwater pollution prevention practices for each facility.

b. From the initial date of permit coverage, Secondary Permittees shall also have permit coverage for all facilities operated by the Secondary Permittee that are required to be covered under the Industrial Stormwater General Permit or another NPDES permit that authorizes discharges associated with the activity.

c. The O&M Plan shall include sufficient documentation and records as necessary to demonstrate compliance with the O&M Plan requirements in S6.D.6.a(i) through (vii), above.

d. No later than three years from the initial date of permit coverage, Secondary Permittees shall implement a program designed to train all employees whose primary construction, operations, or maintenance job functions may impact stormwater quality. The training shall address:

i. The importance of protecting water quality~~.~~;

ii. The requirements of this Permit~~.~~;

iii. Operation and maintenance requirements~~.~~;

iv. Inspection procedures~~.~~;

v. Ways to perform their job activities to prevent or minimize impacts to water quality~~.~~; and

~~vi.~~ ***Procedures for reporting water quality concerns, including potential illicit discharges (including spills).***

~~S3.~~S7. COMPLIANCE WITH TOTAL MAXIMUM DAILY LOAD REQUIREMENTS

The following requirements apply if an applicable TMDL is approved for stormwater discharges from MS4s owned or operated by the Permittee. Applicable TMDLs are TMDLs which have been approved by EPA on or before the issuance date of this Permit or prior to the date that Ecology issues coverage under this Permit, whichever is later.

A. TMDL Specific Requirements

~~A.~~1. For applicable TMDLs listed in Appendix 2, affected Permittees shall comply with the specific requirements identified in Appendix 2. Each Permittee shall keep records of all actions required by this Permit that are relevant to applicable TMDLs within their jurisdiction. The status of the TMDL implementation shall be included as part of the annual report submitted to Ecology. Each annual report shall include a summary of relevant SWMP and Appendix 2 activities conducted in the TMDL area to address the applicable TMDL parameter(s).

~~B.~~2. For applicable TMDLs not listed in Appendix 2, compliance with this Permit shall constitute compliance with those TMDLs.

~~C. FOR TMDLS THAT ARE APPROVED BY EPA AFTER THIS PERMIT IS ISSUED, ECOLOGY MAY ESTABLISH TMDL RELATED PERMIT REQUIREMENTS THROUGH FUTURE PERMIT MODIFICATION IF ECOLOGY DETERMINES IMPLEMENTATION OF ACTIONS, MONITORING, OR REPORTING NECESSARY TO DEMONSTRATE REASONABLE FURTHER PROGRESS TOWARD ACHIEVING TMDL WASTE LOAD ALLOCATIONS, AND OTHER TARGETS, ARE NOT OCCURRING AND SHALL BE IMPLEMENTED DURING THE TERM OF THIS PERMIT OR WHEN THIS PERMIT IS REISSUED. PERMITTEES ARE ENCOURAGED TO PARTICIPATE IN DEVELOPMENT OF TMDLS WITHIN THEIR JURISDICTION AND TO BEGIN IMPLEMENTATION.~~

~~S4.~~S8. MONITORING AND ASSESSMENT

A. Regional Status and Trends Monitoring

1. All Permittees that chose S8.~~B~~A.2 Regional Status and Trends Monitoring Option ~~#1~~ in the *Phase II Western Washington Municipal Stormwater Permit*, August 1, ~~2013~~2019 – July 31, ~~2018 (extended to July 31, 2019),~~2024, shall make a one-time payment into the Stormwater Action Monitoring (SAM) collective fund to implement regional small streams and marine nearshore areas status and trends monitoring in Puget Sound~~.~~ or, urban streams in the Lower Columbia River basin. This payment is due on or before December 1, ~~2019~~2024. Submit payment according to ~~Section~~ S8.D, below.

2. All City and County Permittees covered under the *Phase II Western Washington Municipal Stormwater Permit*, August 1, ~~2013~~2019 – July 31, ~~2018 (extended to July 31, 2019),~~2024, except the Cities of Aberdeen and Centralia, shall notify Ecology in writing which of the following two options for regional status and trends monitoring (S8.A.2.a or S8.A.2.b) the Permittee chooses to carry out during this permit term. The written notification with G19 signature is due to Ecology no later than December 1, 2024. Either option will fully satisfy the Permittee's obligations under this Section (S8.A.2). Each Permittee shall select a single option for this permit term.~~2019.~~

a. Make annual payments into a Stormwater Action Monitoring (SAM) collective fund to implement regional receiving water status and trends monitoring of either: small streams and marine nearshore areas in Puget Sound~~;~~, or~~,~~ urban streams in Clark and Cowlitz Counties in the Lower Columbia River basin, depending on the Permittee's location. The annual payments into the collective fund are due on or before August 15 each year beginning in ~~2020~~2025. Submit payments according to ~~Section~~ S8.D, below.

Or

b. Conduct stormwater discharge monitoring per the requirements in S8.C.

~~**Either option will fully satisfy the Permittee's obligations under this Section (S8.A.2). Each Permittee shall select a single option for this permit term.**~~

~~B.~~A. Stormwater Management Program (SWMP) Effectiveness and Source Identification Studies

1. All Permittees that chose S8.~~C~~B Effectiveness Studies Option ~~#1~~ in the *Phase II Western Washington Municipal Stormwater Permit,* August 1, ~~2013~~2019 – July 31, ~~2018 (extended to July 31, 2019),~~2024, shall make a one-time payment into the collective fund for Stormwater Action Monitoring (SAM) to implement effectiveness studies and source identification studies. The payment is due on or before December 1, ~~2019~~2024. Submit payment according to ~~Section~~ S8.D, below.

2. All City and County Permittees covered under the *Phase II Western Washington Municipal Stormwater Permit*, August 1, ~~2013~~2019 – July 31, ~~2018 (extended to July 31, 2019),~~2024, shall notify Ecology in writing which of the following two options (S8.B.2.a or S8.B.2.b) for effectiveness and source identification studies the Permittee chooses to carry out during this permit term. The written notification with G19 signature is due to Ecology no later than December 1, 2024. Either option will fully satisfy the Permittee's obligations under this Section (S8.B.2). ~~2019~~Each Permittee shall select a single option for this permit term.

a. Make annual payments into a SAM collective fund to implement effectiveness and source identification studies. The annual payments into the collective fund are due on or before August 15 each year beginning in ~~2020~~2025. Submit payments according to ~~Section~~ S8.D, below.

Or

b. Conduct stormwater discharge monitoring per the requirements in S8.C.

~~**Either option will fully satisfy the Permittee's obligations under this Section (S8.B.2). Each Permittee shall select a single option for this permit term.**~~

3. All Permittees shall provide information as requested for effectiveness and source identification studies that are under contract with Ecology as active Stormwater Action Monitoring (SAM) projects. These requests will be limited to records of SWMP activities and associated data tracked and/or maintained in accordance with S5 – *Stormwater Management Program for Cities, Towns, and Counties* and/or S9 – *Reporting Requirements*. A maximum of three requests during the permit term from the SAM Coordinator will be transmitted to the Permittee's permit coordinator via Ecology's regional permit manager. The Permittee shall have 90 days to provide the requested information.

~~C.~~A. Stormwater discharge monitoring.

1. This Section applies only to Permittees who choose to conduct stormwater discharge monitoring per S8.A.2.b and/or S8.B.2.b in lieu of participation in the regional status and trends monitoring and/or effectiveness and source identification studies. These Permittees shall conduct monitoring in accordance with Appendix 9 and an Ecology-approved Quality Assurance Project Plan (QAPP) as follows:

a. Permittees who choose the option to conduct stormwater discharge monitoring for either S8.A.2 or S8.B.2 shall monitor three independent discharge locations.

   Permittees who choose the option to conduct stormwater discharge monitoring for both S8.A.2 and S8.B.2 shall conduct this monitoring at a total of six locations; at least four locations shall be independent (one location may be nested in another basin).

b. No later than February 1, ~~2020~~2025, each Permittee shall submit to Ecology a draft stormwater discharge monitoring QAPP for review and approval. The QAPP shall be prepared in accordance with the requirements in Appendix 9. The final QAPP shall be submitted to Ecology for approval as soon as possible following finalization, and before August 15, ~~2020~~2025 or within 60 days of receiving Ecology's comments on the draft QAPP (whichever is later).

c. Flow monitoring shall begin no later than October 1, ~~2020~~2025, or within 30 days of receiving Ecology's approval of the final QAPP (whichever is later). Stormwater discharge monitoring shall be fully implemented no later than October 1, ~~2021.~~ 2026.

d. Data and analyses shall be reported annually in accordance with the Ecology-approved QAPP. Each Permittee shall enter into the Department's Environmental Information Management (EIM) database all water and solids concentration data collected pursuant to Appendix 9.

i. Within 60 days of completing the study, or no later than March 31, 2029, publish a final report with the results of the study and recommended future actions based on findings, include a summary of results.

A. Payments into the Stormwater Action Monitoring Collective Fund.

~~D.~~**1.** This Section applies to all Permittees who choose to make annual payments into the SAM collective funds for S8.A *Regional Status and Trends Monitoring* and/or S8.B *Effectiveness and Source Identification Studies*.

~~1.~~**2.** Each Permittee's S8.A and S8.B payment amounts are listed in Appendix 11 and in the invoices that will be sent to the Permittee approximately three months in advance of each payment due date. Mail payments according to the instructions in the invoice.

~~**2. Mail payments according to the instructions in the invoice, or via United States Postal Service to:**~~

~~Department of Ecology Cashiering Unit~~
~~P.O. Box 47611~~
~~Olympia, WA 98405-7611~~

~~S5.~~S9. REPORTING & RECORDKEEPING REQUIREMENTS

A. Annual Report Submittal

~~A.~~1. No later than March 31 of each year beginning in ~~2020~~2025, each Permittee shall submit an ~~annual report.~~Annual Report. The reporting period for the ~~annual report~~first Annual Report will be from January 1, 2024, through December 31, 2024. The reporting period for all subsequent Annual Reports will be the previous calendar year unless otherwise specified.

~~B.~~2. Permittees shall submit ~~annual reports~~Annual Reports electronically using Ecology's Water Quality Permitting Portal (WQWebPortal) available on Ecology's website.

~~C.~~3. Permittees unable to submit electronically through Ecology's WQWebPortal shall contact Ecology to request a waiver and obtain instructions on how to submit an annual report in an alternative format.

A. Records Retention

Each Permittee is required to keep all records related to this Permit and the SWMP for at least five years~~.~~ after the expiration date of this Permit.

B. Records Available to the Public

Each Permittee shall make all records related to this Permit and the Permittee's SWMP available to the public at reasonable times during business hours. The Permittee will provide a copy of the most recent annual report to any individual or entity, upon request.

1. A reasonable charge may be assessed by the Permittee for making photocopies of records.
2. The Permittee may require reasonable advance notice of intent to review records related to this Permit.

C. ~~The annual report~~Annual Report for ~~cities, towns~~Cities, Towns, and ~~counties~~ Counties

Each annual report shall include the following:

1. A copy of the Permittee's current Stormwater Management Program Plan (SWMP Plan~~,~~), as required by S5.A.2.

~~2.~~ **Submittal of the annual report form as provided by Ecology pursuant to S9.A, describing the status of implementation of the requirements of this Permit during the reporting**

period.~~Submittal of the annual report form as provided by Ecology pursuant to S9.A, describing the status of implementation of the requirements of this Permit during the reporting period.~~

2.

3. Attachments to the annual report form including summaries, descriptions, reports, and other information as required, or as applicable, to meet the requirements of this Permit during the reporting period, or as a required submittal. Refer to Appendix 3 for annual report questions.[46]
4. If applicable, notice that the MS4 is relying on another ~~governmental~~ entity to satisfy any of the obligations under this Permit.
5. Certification and signature pursuant to G19.D, and notification of any changes to authorization pursuant to G19.C.
6. A notification of any annexations, incorporations or jurisdictional boundary changes resulting in an increase or decrease in the Permittee's geographic area of permit coverage during the reporting period.

A. Annual ~~report~~Report for Secondary Permittees

Each annual report shall include the following:

1. A copy of the Permittee's current Stormwater Management Program Plan (SWMP Plan), as required by S6.A.2.

~~1.~~2. Submittal of the annual report form as provided by Ecology pursuant to S9.A, describing the status of implementation of the requirements of this Permit during the reporting period. ~~Submittal of the annual report form as provided by Ecology pursuant to S9.A, describing the status of implementation of the requirements of this Permit during the reporting period.~~

~~2.~~3. Attachments to the annual report form including summaries, descriptions, reports, and other information as required, or as applicable, to meet the requirements of this Permit during the reporting period. Refer to Appendix 4 for annual report questions.

~~3.~~4. If applicable, notice that the MS4 is relying on another ~~governmental~~ entity to satisfy any of the obligations under this Permit.

~~4.~~5. Certification and ~~signature~~Signature pursuant to G19.D, and notification of any changes to authorization pursuant to G19.C.

~~5.~~6. A notification of any jurisdictional boundary changes resulting in an increase or decrease in the Secondary Permittee's geographic area of permit coverage during the reporting period.

[46] New Permittees refer to Appendix 5 for annual report questions.

GENERAL CONDITIONS

G1. DISCHARGE VIOLATIONS

All discharges and activities authorized by this Permit shall be consistent with the terms and conditions of this Permit.

G2. PROPER OPERATION AND MAINTENANCE

The Permittee shall, at all times, properly operate and maintain all facilities and systems of collection, treatment, and control (and related appurtenances) which are installed or used by the Permittee for pollution control to achieve compliance with the terms and conditions of this Permit.

G3. NOTIFICATION OF DISCHARGE, INCLUDING SPILLS

If a Permittee has knowledge of a discharge, including spills, into or from a MS4 which could constitute a threat to human health, welfare, or the environment, the Permittee shall:

A. Take appropriate action to correct or minimize the threat to human health, welfare and/or the environment.;

B. Notify the Ecology regional office and other appropriate spill response authorities immediately but in no case later than within 24 hours of obtaining that knowledge.;

C. Immediately report spills or other discharges which might cause bacterial contamination of marine waters, such as discharges resulting from broken sewer lines and failing onsite septic systems, to the Ecology regional office and to the Department of Health, Shellfish Program.; and

D. Immediately report spills or discharges of oils or hazardous substances to the Ecology regional office and to the Washington Emergency Management Division at 1-800-258-5990.

G4. BYPASS PROHIBITED

The intentional bypass of stormwater from all or any portion of a stormwater treatment BMP whenever the design capacity of the treatment BMP is not exceeded, is prohibited unless the following conditions are met:

A. Bypass is: (1) unavoidable to prevent loss of life, personal injury, or severe property damage; or (2) necessary to perform construction or maintenance-related activities essential to meet the requirements of the *Clean Water Act* (CWA); and

B. There are no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated stormwater, or maintenance during normal dry periods.

~~B.~~ "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.

G5. RIGHT OF ENTRY

The Permittee shall allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law at reasonable times:

A. To enter upon the Permittee's premises where a discharge is located or where any records shall be kept under the terms and conditions of this Permit~~.~~;

B. To have access to, and copy at reasonable cost and at reasonable times, any records that shall be kept under the terms of the Permit~~.~~;

C. To inspect at reasonable times any monitoring equipment or method of monitoring required in the Permit~~.~~;

D. To inspect at reasonable times any collection, treatment, pollution management, or discharge facilities~~.~~; and

E. To sample at reasonable times any discharge of pollutants.

G6. DUTY TO MITIGATE

The Permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this Permit which has a reasonable likelihood of adversely affecting human health or the environment.

G7. PROPERTY RIGHTS

This Permit does not convey any property rights of any sort, or any exclusive privilege.

G8. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in the Permit shall be construed as excusing the Permittee from compliance with any other applicable federal, state, or local statutes, ordinances, or regulations.

G9. MONITORING

A. Representative Sampling

~~A.~~ Samples and measurements taken to meet the requirements of this Permit shall be representative of the volume and nature of the monitored discharge, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions affecting effluent quality.

A. Records Retention

~~B.~~ The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this Permit, and records of all data used to complete the application for this Permit, for a period of at least five years. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by the Ecology. On request, monitoring data and analysis shall be provided to Ecology.

B. Recording of Results

~~C.~~ For each measurement or sample taken, the Permittee shall record the following information: (1) the date, exact place and time of sampling; (2) the individual who performed the sampling or measurement; (3) the dates the analyses were performed; (4) who performed the analyses; (5) the analytical techniques or methods used; and (6) the results of all analyses.

C. Test Procedures

~~D.~~ All sampling and analytical methods used to meet the monitoring requirements in this Permit shall conform to the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136, unless otherwise specified in this Permit or approved in writing by Ecology.

D. Flow Measurement

~~E.~~ Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be ~~-~~selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted industry standard for that type of device. Frequency of calibration shall be in conformance with manufacturer's recommendations or at a minimum frequency of at least one calibration per year. Calibration records should be maintained for a minimum of three years.

E. Lab Accreditation

~~F.~~ All monitoring data, except for flow, temperature, conductivity, pH, total residual chlorine, and other exceptions approved by Ecology, shall be prepared by a laboratory registered or accredited under the provisions of, *Accreditation of Environmental Laboratories*, Chapter 173-50 WAC. Soils and hazardous waste data are exempted from this requirement pending accreditation of laboratories for analysis of these media by Ecology. Quick methods of field detection of pollutants including nutrients, surfactants, salinity, and other parameters are exempted from this requirement when the purpose of the sampling is identification and removal of a suspected illicit discharge.

F. Additional Monitoring

~~G.~~ Ecology may establish specific monitoring requirements in addition to those contained in this Permit by administrative order or permit modification.

G10. REMOVED SUBSTANCES

With the exception of decant from street waste vehicles, the Permittee shall not allow collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of stormwater to be resuspended or reintroduced to the MS4 or to waters of the State. Decant from street waste vehicles resulting from cleaning stormwater facilities may be reintroduced only when other practical means are not available and only in accordance with the *Street Waste Disposal* ~~Guidelines~~guidelines in Appendix 6. Solids generated from maintenance of the MS4 may be reclaimed, recycled, or reused when allowed by local codes and ordinances. Soils that are identified as contaminated pursuant to Chapter 173-350 WAC shall be disposed at a qualified solid waste disposal facility (see Appendix 6).

G11. SEVERABILITY

The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Permit shall not be affected thereby.

G12. REVOCATION OF COVERAGE

The director may terminate coverage under this General Permit in accordance with Chapter 43.21B RCW and Chapter 173-226 WAC. Cases where coverage may be terminated include, but are not limited to the following:

A. Violation of any term or condition of this ~~general permit~~General Permit;

B. Obtaining coverage under this ~~general permit~~General Permit by misrepresentation or failure to disclose fully all relevant facts;

C. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

D. A determination that the permitted activity endangers human health or the environment, or contributes significantly to water quality standards violations;

E. Failure or refusal of the Permittee to allow entry as required in Chapter 90.48.090 RCW; ~~-~~and

F. Nonpayment of permit fees assessed pursuant to Chapter 90.48.465 RCW~~;~~

.

~~F.~~ Revocation of coverage under this ~~general permit~~General Permit may be initiated by Ecology or requested by any interested person.

G13. TRANSFER OF COVERAGE

The director may require any discharger authorized by this General Permit to apply for and obtain an individual permit in accordance with Chapter 43.21B RCW and Chapter 173-226 WAC.

G14. GENERAL PERMIT MODIFICATION AND REVOCATION

This General Permit may be modified, revoked and reissued, or terminated in accordance with the provisions of ~~WAC~~Chapter 173-226-230 WAC. Grounds for modification, revocation and reissuance, or termination include, but are not limited to, the following:

A. A change occurs in the technology or practices for control or abatement of pollutants applicable to the category of dischargers covered under this General Permit;

B. Effluent limitation guidelines or standards are promulgated pursuant to the CWA or Chapter 90.48 RCW, for the category of dischargers covered under this General Permit;

C. A water quality management plan containing requirements applicable to the category of dischargers covered under this General Permit is approved; ~~or~~

D. Information is obtained which indicates that cumulative effects on the environment from dischargers covered under this General Permit are unacceptable~~.~~; or

E. Changes in state law that reference this Permit.

G15. REPORTING A CAUSE FOR MODIFICATION OR REVOCATION

A Permittee who knows or has reason to believe that any activity has occurred, or will occur, which would constitute cause for modification or revocation and reissuance under General Condition G12, G14, or 40 CFR 122.62 ~~must~~shall report such plans, or such information, to Ecology so that a decision can be made on whether action to modify, or revoke and reissue, this Permit will be required. Ecology may then require submission of a new or amended application. Submission of such application does not relieve the Permittee of the duty to comply with this Permit until it is modified or reissued.

G16. APPEALS

A. The terms and conditions of this General Permit, as they apply to the appropriate class of dischargers, are subject to appeal within thirty days of issuance of this General Permit~~,~~ in accordance with Chapter 43.21B RCW, and Chapter 173-226 WAC.

B. The terms and conditions of this General Permit, as they apply to an individual discharger, are appealable in accordance with Chapter 43.21B RCW within thirty days of the effective date of coverage of that discharger. Consideration of an appeal of General Permit coverage of an individual discharger is limited to the General

Permit's applicability or ~~nonapplicability~~non-applicability to that individual discharger.

C. The appeal of General Permit coverage of an individual discharger does not affect any other dischargers covered under this General Permit. If the terms and conditions of this General Permit are found to be inapplicable to any individual discharger(s), the matter shall be remanded to Ecology for consideration of issuance of an individual permit or permits.

D. Modifications of this Permit are appealable in accordance with Chapter 43.21B RCW and Chapter 173-226 WAC.

G17. PENALTIES

40 CFR 122.41(a)(2) and (3), 40 CFR 122.41(j)(5), and 40 CFR 122.41(k)(2) are hereby incorporated into this Permit by reference.

G18. DUTY TO REAPPLY

The Permittee shall apply for permit renewal at least 180- days prior to the specified expiration date of this Permit.

G19. Certification and Signature

All formal submittals to Ecology shall be signed and certified.

A. All permit applications shall be signed by either a principal executive officer or ranking elected official.

B. All formal submittals required by this Permit shall be signed by a person described, above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described, above, and submitted to Ecology~~,~~; and
2. The authorization specifies either an individual or a position having responsibility for the overall development and implementation of the stormwater management program. ~~(~~A duly authorized representative may thus be either a named individual or any individual occupying a named position~~).~~

C. Changes to authorization. If an authorization under condition G19.B.2 is no longer accurate because a different individual or position has responsibility for the overall development and implementation of the stormwater management program, a new authorization satisfying the requirements of condition G19.B.2 ~~must~~shall be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification. Any person signing a formal submittal under this Permit shall make the following certification:

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

G20. Non-compliance notification

In the event a Permittee is unable to comply with any of the terms and conditions of this Permit, the Permittee ~~must~~shall:

A. Notify Ecology of the failure to comply with the permit terms and conditions in writing within 30 days of becoming aware that the non-compliance has occurred. The written notification ~~must~~shall include all of the following:

1. A description of the non-compliance, including dates~~.~~;
2. Beginning and end dates of the non-compliance, and if the compliance has not been corrected, the anticipated date of correction~~.~~; and
3. Steps taken or planned to reduce, eliminate, or prevent reoccurrence of the non-compliance.

B. Take appropriate action to stop or correct the condition of non-compliance.

G21. UPSETS

Permittees ~~must~~shall meet the conditions of 40 CFR 122.41(n) regarding "Upsets." The conditions are as follows:

A. ***Definition***. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology~~-~~-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

B. ***Effect of an upset***. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology~~-~~-based permit effluent limitations if the requirements of paragraph (C) of this condition are met. Any determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, will not constitute final administrative action subject to judicial review.

C. ***Conditions necessary for demonstration of upset***. A Permittee who wishes to establish the affirmative defense of upset ~~must~~shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and that the Permittee can identify the cause(s) of the upset;

~~2.~~1. The permitted facility was at the time being properly operated; ~~and~~

~~3.~~1. The Permittee submitted notice of the upset as required in 40 CFR 122.41(l)(6)(ii)(B) (24-hour notice of noncompliance~~).~~); and

~~4.~~1. The Permittee complied with any remedial measures required under 40 CFR 122.41(d) (Duty to Mitigate).

D. ***Burden of proof***. In any enforcement proceeding~~,~~ the Permittee seeking to establish the occurrence of an upset has the burden of proof.

DEFINITIONS AND ACRONYMS

This Section includes definitions for terms used in the body of the Permit and in all the appendices except Appendix 1. Terms defined in Appendix 1 are necessary to implement requirements related to Appendix 1.

40 CFR means Title 40 of the Code of Federal Regulations, which is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.

AKART means All Known, Available, and Reasonable methods of prevention, control, and Treatment. See also ~~State~~state *Water Pollution Control Act*, ~~Chapter~~Chapters 90.48.010 ~~RCW~~ and ~~Chapter~~ 90.48.520 RCW.

All Known, Available and Reasonable Methods of Prevention, Control and Treatment (AKART) refers to the ~~State~~state *Water Pollution Control Act*, ~~Chapter~~Chapters 90.48.010 ~~RCW~~ and ~~Chapter~~ 90.48.520 RCW.

Applicable TMDL means a TMDL which has been approved by EPA on or before the issuance date of this Permit, or prior to the date that Ecology issues coverage under this Permit, whichever is later.

Arterial Road – means a road or street intended to move high volumes of traffic over long distances at high speed, with partial control of access, having some intersections at grade. A major arterial connects an interstate highway to cities and counties. A minor arterial connects major arterials to collectors. A collector connects an arterial to a neighborhood (a collector is not an arterial). A local access road connects individual residences to a collector.

Beneficial Uses means uses of waters of the State~~,~~ which include, but are not limited to: use for domestic, stock watering, industrial, commercial, agricultural, irrigation, mining, fish and wildlife maintenance and enhancement, recreation, generation of electric power and preservation of environmental and aesthetic values, and all other uses compatible with the enjoyment of the public waters of the State.

Best Management Practices are the schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices approved by Ecology that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State.

BMP means Best Management Practice.

Bypass means the diversion of stormwater from any portion of a stormwater treatment facility.

Circuit means a portion of a MS4 discharging to a single point or serving a discrete area determined by traffic volumes, land use, topography, or the configuration of the MS4.

Component or **Program Component** means an element of the Stormwater Management Program listed in S5 - *Stormwater Management Program for Cities, Towns, and Counties*, ~~or~~ S6 – *Stormwater Management Program for Secondary Permittees*, ~~or~~ S7 – *Compliance with Total Maximum Daily Load Requirements*, or S8 – *Monitoring and Assessment*, of this Permit.

~~**Community-based social marketing** is a social marketing methodology. It employs a systematic approach intended to change the behavior of communities to reduce their impact on the environment. Realizing that providing information is usually not sufficient to initiate behavior change, community-based social marketing uses tools and findings from social psychology to discover the perceived barriers to behavior change and ways of overcoming these barriers.~~

Conveyance System means that portion of the municipal separate storm sewer system designed or used for conveying stormwater.

Co-Permittee means an owner or operator of an MS4 which is in a cooperative agreement with at least one other applicant for coverage under this Permit. A Co-Permittee is an owner or operator of a regulated MS4 located within or in proximity to another regulated MS4. A Co-Permittee is only responsible for permit conditions relating to discharges from the MS4 the Co-Permittee owns or operates. See also 40 CFR 122.26(b)(1).

CWA means the federal *Clean Water Act* (formerly referred to as the ~~Federal~~federal *Water Pollution Control Act* or ~~Federal~~federal *Water Pollution Control Act Amendments of 1972*) Pub.L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. (6-483 and Pub. L. 97-117, 33 U.S.C. 1251 et seq.).

Director means the Director of the Washington State Department of Ecology, or an authorized representative.

Discharge Point means the location where a discharge leaves the Permittee's MS4 through the Permittee's MS4 facilities/BMPs designed to infiltrate.

Entity means a governmental body, or a public or private organization.

EPA means the U.S. Environmental Protection Agency.

Fully Stabilized means the establishment of a permanent vegetative cover, or equivalent permanent stabilization measures (such as riprap, gabions, or geotextiles) which prevents erosion.

General Permit means a permit which covers multiple dischargers of a point source category within a designated geographical area, in lieu of individual permits being issued to each discharger.

Groundwater means water in a saturated zone or stratum beneath the surface of the land or below a surface water body. Refer to Chapter 173-200 WAC.

Hazardous Substance means any liquid, solid, gas, or sludge, including any material, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the physical, chemical, or biological properties described in ~~WAC~~Chapter 173-303-090 WAC or ~~WAC~~Chapter 173-303-100 WAC.

Heavy Equipment Maintenance or Storage Yard means an uncovered area where any heavy equipment, such as mowing equipment, excavators, dump trucks, backhoes, or bulldozers are washed or maintained, or where at least five pieces of heavy equipment are stored on a long-term basis.

Highway means a main public road connecting towns and cities.

Hydraulically Near means runoff from the site discharges to the sensitive feature without significant natural attenuation of flows that allows for suspended solids removal. See Appendix 7- *Determining Construction Site Sediment Damage Potential* for a more detailed definition.

Hyperchlorinated means water that contains more than 10 mg/Liter chlorine.

Illicit Connection means any infrastructure connection to the MS4 that is not intended, permitted or used for collecting and conveying stormwater or non-stormwater discharges allowed as specified in this Permit (S5.C.5 and S6.D.3). Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets, or outlets that are connected directly to the MS4.

Illicit Discharge means any discharge to a MS4 that is not composed entirely of stormwater or of non-stormwater discharges allowed as specified in this Permit (S5.C.5 and S6.D.3).

Impervious Surface means a non-vegetated surface area that either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development. A non-vegetated surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or stormwater areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater.

Land Disturbing Activity means any activity that results in a change in the existing soil cover (both vegetative and non-vegetative) and/or the existing soil topography. Land disturbing activities include, but are not limited to clearing, grading, filling and excavation. Compaction that is associated with stabilization of structures and road construction shall also be considered land disturbing activity. Vegetation maintenance practices, including landscape maintenance and gardening, are not considered land disturbing activity. Stormwater facility maintenance is

not considered land disturbing activity if conducted according to established standards and procedures.

LID means Low Impact Development.

LID BMP means Low Impact Development Best Management Practices.

LID Principles means land use management strategies that emphasize conservation, use of on-site natural features, and site planning to minimize impervious surfaces, native vegetation loss, and stormwater runoff.

Low Impact Development (LID) means a stormwater and land use management strategy that strives to mimic pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation and transpiration by emphasizing conservation, use of on-site natural features, site planning, and distributed stormwater management practices that are integrated into a project design.

Low Impact Development Best Management Practices (LID BMP) means distributed stormwater management practices, integrated into a project design, that emphasize pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation and transpiration. LID BMPs include, but are not limited to, bioretention, rain gardens, permeable pavements, roof downspout controls, dispersion, soil quality and depth, vegetated roofs, minimum excavation foundations, and water re-use.

Material Storage Facilities means an uncovered area where bulk materials (liquid, solid, granular, etc.) are stored in piles, barrels, tanks, bins, crates, or other means.

Maximum Extent Practicable refers to paragraph 402(p)(3)(B)(iii) of the federal *Clean Water Act* which reads as follows: Permits for discharges from municipal storm sewers shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques, and system, design, and engineering methods, and other such provisions as the Administrator or the State determines appropriate for the control of such pollutants.

MEP means Maximum Extent Practicable.

MS4 means Municipal Separate Storm Sewer System.

Municipal Separate Storm Sewer System means a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

1. ~~(i)~~ Owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control

district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of Washington State~~.~~;

2. ~~(ii)~~ Designed or used for collecting or conveying stormwater~~.~~;

3. ~~(iii)~~ Which is not a combined sewer;

4. ~~(iv)~~ Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.; and

5. ~~(v)~~ Which is defined as "large" or "medium" or "small" or otherwise designated by Ecology pursuant to 40 CFR 122.26.

National Pollutant Discharge Elimination System means the national program for issuing, modifying, revoking, and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318, and 405 of the ~~Federal~~federal *Clean Water Act*, for the discharge of pollutants to surface waters of the State from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington State Department of Ecology.

Native Vegetation means vegetation comprised of plant species, other than noxious weeds, that are indigenous to the coastal region of the Pacific Northwest, and which reasonably could have been expected to naturally occur on the site. Examples include trees such as Douglas Fir, western hemlock, western red cedar, alder, big-leaf maple; shrubs such as willow, elderberry, salmonberry, and salal; and herbaceous plants such as sword fern, foam flower, and fireweed.

New Development means land disturbing activities, including Class IV General Forest Practices that are conversions from timber land to other uses; structural development, including construction or installation of a building or other structure; creation of hard surfaces; and subdivision, short subdivision and binding site plans, as defined and applied in Chapter 58.17 RCW. Projects meeting the definition of redevelopment shall not be considered new development. Refer to Appendix 1 for a definition of hard surfaces.

New Permittee means a city, town, or county that is subject to the Western Washington Municipal Stormwater General Permit and was not subject to the permit prior to July 1, ~~2019~~2024.

New Secondary Permittee means a Secondary Permittee that is covered under a ~~municipal stormwater general permit~~Municipal Stormwater General Permit and was not covered by the permit prior to July 1, ~~2019~~2024.

NOI means Notice of Intent.

Notice of Intent (NOI) means the application for, or a request for coverage under, a General Permit pursuant to ~~WAC~~Chapter 173-226-200 WAC.

Notice of Intent for Construction Activity means the application form for coverage under the *Construction Stormwater General Permit*.

Notice of Intent for Industrial Activity means the application form for coverage under the *Industrial Stormwater General Permit*.

NPDES means National Pollutant Discharge Elimination System.

Outfall means a point source as defined by 40 CFR 122.2 at the point where a discharge leaves the Permittee's MS4 and enters a surface receiving waterbody or surface receiving waters. Outfall does not include pipes, tunnels, or other conveyances which connect segments of the same stream or other surface waters and are used to convey primarily surface waters (i.e., culverts).

Overburdened Community means ~~minority, low-income, tribal, or indigenous~~a geographic area where vulnerable populations ~~or geographic locations in Washington State that potentially experience disproportionate~~ face combined, multiple environmental harms and ~~risks. This disproportionality can be as a result of greater~~health impacts, and includes, but is not limited to, highly impacted communities.

"Vulnerable populations" means population groups that are more likely to be at higher risk for poor health outcomes in response to environmental harms, due to:

(i) Adverse socioeconomic factors, such as unemployment, high housing and transportation costs relative to income, limited access to nutritious food and adequate health care, linguistic isolation, and other factors that negatively affect health outcomes and increase vulnerability to ~~environmental hazards, lack of opportunity for public participation, or other factors. Increased vulnerability may be attributable to an accumulation of negative or lack of positive~~ the effects of environmental~~, health, economic, or social conditions within these populations or places. The term describes situations where multiple factors, including both~~ harms; and

(ii) Sensitivity factors, such as low birth weight and higher rates of hospitalization.

"Vulnerable populations" includes, but is not limited to:

- Racial or ethnic minorities;
- Low-income populations;
- Populations disproportionately impacted by environmental ~~and socio-economic stressors, may act cumulatively to affect health and the environment and contribute to persistent~~harms; and
- Populations of workers experiencing environmental ~~health disparities~~harms.

"Highly impacted community" means a community designated by the Department of Health based on cumulative impact analyses or a community located in census tracts that are fully or partially on "Indian country" as defined in 18 U.S.C. Sec. 1151.

PCBs means Polychlorinated biphenyls.

Permittee unless otherwise noted, the term "Permittee" includes city, town, or county Permittee, Co-Permittee, New Permittee, ~~-~~Secondary Permittee, and New Secondary Permittee.

PFAS means Per and Polyfluorinated Substances

Physically Interconnected means that one MS4 is connected to another storm sewer system in such a way that it allows for direct discharges to the second system. For example, the roads with drainage systems and municipal streets of one entity are physically connected directly to a storm sewer system belonging to another entity.

Project site means that portion of a property, properties, or ~~right~~rights-of-~~ways~~way subject to land disturbing activities, new hard surfaces, or replaced hard surfaces. Refer to Appendix 1 for a definition of hard surfaces.

QAPP means Quality Assurance Project Plan.

Qualified Personnel means someone who has had professional training in the aspects of stormwater management for which they are responsible and are under the functional control of the Permittee. Qualified Personnel may be staff members, contractors, or ~~volunteers.~~trained volunteers with professional certification. Permittees may train and certify volunteers.

Qualified Third Party means someone who has had professional training in the aspects of stormwater management for which they are responsible but are hired by private entities and not under the functional control of the Permittee. Qualified Third Parties may be contractors, or consultants.

Quality Assurance Project Plan means a document that describes the objectives of an environmental study and the procedures to be followed to achieve those objectives.

RCW means the Revised Code of Washington State.

Receiving Waterbody or **Receiving Waters** means naturally and/or reconstructed naturally occurring surface water bodies, such as creeks, streams, rivers, lakes, wetlands, estuaries, and marine waters, or groundwater, to which a MS4 discharges.

Redevelopment means, on a site that is already substantially developed (i.e., has 35% or more of existing hard surface coverage), the creation or addition of hard surfaces; the expansion of a building footprint or addition or replacement of a structure; structural development including construction, installation or expansion of a building or other structure; replacement of hard surface that is not part of a routine maintenance activity; and land disturbing activities. Refer to Appendix 1 for a definition of hard surfaces.

Regulated Small Municipal Separate Storm Sewer System means a Municipal Separate Storm Sewer System which is automatically designated for inclusion in the Phase II stormwater permitting program by its location within an ~~Urbanized~~Urban Area, or by designation by Ecology and is not eligible for a waiver or exemption under S1.C.

Runoff is water that travels across the land surface and discharges to water bodies either directly or through a collection and conveyance system. See also "**Stormwater**."

SAM means Stormwater Action Monitoring

Secondary Permittee is an operator of a regulated small MS4 which is not a city, town or county. Secondary Permittees include special purpose districts and other public entities that meet the criteria in S1.B.

Sediment/Erosion-Sensitive Feature means an area subject to significant degradation due to the ~~effect~~effects of construction runoff, or areas requiring special protection to prevent erosion. See Appendix 7 *Determining Construction Site Sediment Damage Potential* for a more detailed definition.

Shared Water Bodies means water bodies, including downstream segments, lakes and estuaries that receive discharges from more than one Permittee.

Significant Contributor means a discharge that contributes a loading of pollutants considered to be sufficient to cause or exacerbate the deterioration of receiving water quality or instream habitat conditions.

Small Municipal Separate Storm Sewer System means an MS4 that is not defined as "large" or "medium" pursuant to 40 CFR 122.26(b)(4) & (7) or designated under 40 CFR 122.26 (a)(1)(v).

Source Control BMP means a structure or operation that is intended to prevent pollutants from coming into contact with stormwater through physical separation of areas or careful management of activities that are sources of pollutants. The SWMMWW separates source control BMPs into two types. Structural Source Control BMPs are physical, structural, or mechanical devices, or facilities, that are intended to prevent pollutants from entering stormwater. Operational BMPs are non-structural practices that prevent or reduce pollutants from entering stormwater.

Stormwater means runoff during and following precipitation and snowmelt events, including surface runoff, drainage or interflow.

Stormwater Action Monitoring (SAM) is the regional stormwater monitoring program for ~~Western~~ Washington State. This means~~, for all of Western Washington,~~ a stormwater-focused monitoring and assessment program consisting of these components: status and trends monitoring in small streams and marine nearshore areas, stormwater management program effectiveness studies, and source identification projects. The priorities and scope for SAM are set by a formal stakeholder group that selects the studies and oversees the program's administration.

Stormwater Associated with Industrial and Construction Activity means the discharge from any conveyance which is used for collecting and conveying stormwater, which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant, or

associated with clearing, grading and/or excavation, and is required to have an NPDES permit in accordance with 40 CFR 122.26.

Stormwater ~~facility retrofits~~Facility Retrofits means both: projects that retrofit existing treatment and/or flow control facilities; and new flow control or treatment facilities or BMPs that will address impacts from existing development.

Stormwater Management Program (SWMP) means a set of actions and activities designed to reduce the discharge of pollutants from the MS4 to the MEP and to protect water quality, and comprising the components listed in S5 (for cities, towns, and counties) or S6 (for Secondary Permittees) of this Permit and any additional actions necessary to meet the requirements of applicable TMDLs pursuant to S7 –*Compliance with TMDL Requirements*, and S8– *Monitoring and Assessment*.

Stormwater Treatment and Flow Control BMPs/Facilities means detention facilities, permanent treatment BMPs/facilities; and bioretention, vegetated roofs, and permeable pavements that help meet Appendix 1 Minimum Requirements #6 (treatment), #7 (flow control), or both.

Surface Waters includes lakes, rivers, ponds, streams, inland waters, salt waters, and all other surface waters and water courses within the jurisdiction of the State of Washington.

SWMMWW or ***Stormwater Management Manual for Western Washington*** means ~~*Stormwater Management Manual for Western Washington (2019*~~the technical manual published by the Department of Ecology in 2024 (Publication No. 19-10-021) *(2024~~)~~.*

SWMP means Stormwater Management Program.

TMDL means Total Maximum Daily Load.

Total Maximum Daily Load (TMDL) means a water cleanup plan. A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation must include a margin of safety to ensure that the water body can be used for the purposes the state has designated. The calculation must also account for seasonable variation in water quality. Water quality standards are set by states, territories, and tribes. They identify the uses for each water body, for example, drinking water supply, contact recreation (swimming), and aquatic life support (fishing), and the scientific criteria to support that use. The *Clean Water Act*, Section 303, establishes the water quality standards and TMDL programs.

Tributary Conveyance means pipes, ditches, catch basins, and inlets owned or operated by the Permittee and designed or used for collecting and conveying stormwater.

UGA means Urban Growth Area.

Urban Growth Area (UGA) means those areas designated by a county pursuant to ~~RCW~~Chapter 36.70A.110 RCW.

~~**Urbanized Area** is a federally designated land area comprising one or more places and the adjacent densely settled surrounding area that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile.~~

~~Urbanized~~**Urban Area** means urban areas with a population of 50,000 or more people. Urban Areas are designated by the U.S. Census Bureau based on the most recent decennial census.

Vehicle Maintenance or Storage Facility means an uncovered area where any vehicles are regularly washed or maintained, or where at least 10 vehicles are stored.

Water Quality Standards means *Surface Water Quality Standards*, Chapter 173-201A WAC, *Groundwater Quality Standards*, Chapter 173-200 WAC, and *Sediment Management Standards*, Chapter 173-204 WAC.

Waters of the State includes those waters as defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington State and "waters of the State" as defined in Chapter 90.48 RCW which includes lakes, rivers, ponds, streams, inland waters, underground waters, salt waters and all other surface waters and water courses within the jurisdiction of the State of Washington.

Waters of the United States refers to the definition in 40 CFR 122.2.