

STORMWATER MANAGEMENT PROGRAM

Introduction

The Stormwater Management Program (SWMP) is a comprehensive program plan designed to reduce the discharge of pollutants from the City of Bainbridge Island's MS4 (Municipal Separate Storm Sewer System) in order to restore and protect beneficial uses of the Waters of the State. The SWMP resides in and is administered by the City's Water Resources Program under the direction and management of the Public Works Director, but its implementation, direction and guidance is applied across almost all City departments including Public Works Engineering and Operations and Maintenance, and Planning and Community Development. The Public Works Director provides the necessary oversight to insure that permit requirements are satisfied.

This program document summarizes the developing program meeting the required components of the Phase II NPDES (National Pollutant Discharge Elimination System) permit (sometimes referred to as the Municipal Stormwater Discharge Permit). The ordinances, guidance manuals and stormwater BMPs (Best Management Practices) contained and referred to in this program document are intended to direct City staff in permit compliance, as well as, provide technical assistance to the City's business community and general citizenry.

Funding, for SWMP and other elements of the City's stormwater management effort, is obtained through user fees from the City's Surface and Stormwater Utility. This enterprise funding is codified in the Storm and Surface Water Utility, Bainbridge Island Municipal Code 13.24.

Tracking of program elements and related tasks are accomplished utilizing four databases. These include the IDDE Tracking database, the Commercial/Private Facility Inspection database, SmartGov Community permit tracking database and the City's financial tracking software, Municipal Information Systems, or Munis. The IDDE Tracking database allows comprehensive tracking and documentation of reported and found illicit discharges and connections. Commercial/Private Facility Inspection database tracks inspections required under the IDDE and Development conditions of the permit. SmartGov allows for tracking development, redevelopment and construction projects. The Munis software creates the work orders and task tracking to track labor, equipment, and supplies for many of the program elements. Each program or database allows the processing of information for reporting purposes via the annual report to the Washington State Department of Ecology, the permitting agency.

For ease of use and reference, this document is divided into six volumes corresponding to specific program development and implementation requirements of the NPDES permit. For example, all Illicit Discharge Detection and Elimination (IDDE) permit requirements are

addressed within *Volume 3 Illicit Discharge Detection and Elimination*. However, certain program elements (i.e. Education) may be found in more than one volume due to cross-over of permit requirements. A narrative of the proposed activities established for 2016 can be found at the end of this document. Many of the proposed activities are continuing activities developed during earlier years of the Permit and continue to be refined and implemented.

Volume 1 Public Education and Outreach *(reference S5.C.1)*

1.1 Bainbridge Island NPDES Compliance Staff Training Plan (November 2007)

This training plan outlines the necessary training and education for staff including review staff, planners, maintenance crews and inspectors. Internal training sessions are conducted by City Staff to share knowledge or provide updates to previous training sessions. Internal training sessions include short presentations at staff meetings, round table discussions, and scheduled sessions for individual departments. These are a cost effective way to meet most of the training requirements. Out-of-house training is utilized when in-house resources are unavailable or required training requires licensed or certified instructors.

The City provides additional stormwater training topics that are critical to the operation of the utility. (I.e. Hazwoper, Decant Operations). These are areas in which City Staff need to acquire additional knowledge or skills in order to implement the City's SSWM Program appropriately and protect water quality.

The *City of Bainbridge Island Staff Training Plan Checklist* incorporated in the training plan serves as a guide for implementing the overall training program. The checklist can be used as a tool to track training attendance to help ensure compliance with Permit requirements.

1.2 Educational Surveys

The City evaluated the public's understanding of water quality issues with a follow on survey conducted in 2011 by Cunningham Environmental Consulting to evaluate changes in behaviors since the prior survey. This survey was part of the effort of the West Sound Stormwater Outreach Group. . The results of the survey are being used to select and focus current education needs.

1.3 IDDE Education and Outreach Program (December 2007)

The City conducts outreach activities to educate the public and business community on water quality protection in accordance with this plan. The City has identified target audiences and tailored education for identified groups. To date, the City has conducted many outreach activities aimed at educating local residents about illicit discharges, required storm pond maintenance, car washing, handling of dog waste and individual citizen impact on the natural environment. These programs have been successful and well received by the general public.

Outreach to the local business community, in the form of targeted Business Technical Assistance, focuses on eliminating illicit connections and illegal discharges to the City's stormwater infrastructure. This outreach is also an important part of the City's overall Illicit Discharge Detection and Elimination (IDDE) Program, (Volume 4).

1.4 Interlocal Agreements (ILA)

The City renewed a three year ILA with Kitsap County Public Works to join and take advantage of the education and outreach programs designed and implemented under the West Sound Stormwater Outreach Group (WSSOG). Joining this group effort allows the City to utilize County staff whose primary focus is on education and allows for a more comprehensive and cost effective outreach program

The city continues an ILA with the Kitsap Conservation District (KCD). The KCD provides expertise to farmers, animal hobbyists, and other agricultural entities in BMPs for soil management, animal waste handling and storage, pasture management, and irrigation with one of the the overreaching goals to help preserve water quality. This service provides an educational component, outreach component, and also supports the IDDE program with IDDE investigations.

1.5 Mutt Mitt Program

The city partners with Kitsap County Public Works as a part of the WSSOG to promote and participate in a Mutt Mitt program. This program allows individuals, neighborhood groups and businesses to sponsor stations and maintain the dispensers for dog waste pick up bags for their properties or their neighborhood. The city provides the necessary start up materials including signage and the sponsors operate and maintain them.

1.6 Miscellaneous Education

Education is also a large part of the City's website. Different information or issues are posted to inform the public of their impacts on water quality. Press releases are also posted for dissemination of information for subjects such as illicit discharges, IDDE activities, business

visits and various other activities. Water Resources also uses a Listserv to transmit information to the community.

1.7 Volunteer Stewardship and Monitoring

Volunteers assist with the Water Quality and Flow Monitoring Program monthly stream and stormwater effluent monitoring, routine flow gaging station download and maintenance, and annual stream macroinvertebrate monitoring.

The Bainbridge Island Watershed Council (all volunteer) conducts annual returning salmon counts in several Islands streams, conducts informal habitat assessment stream walks, and successfully planted salmon in a local stream. The Watershed Council also conducts regular watershed activities such as staffing local educational festivals and hosting annual events such as “Bike Your Watershed” and “Walk Your Watershed.”

In 2013, the City kicked off a multi-agency/community partnership to address nutrient and bacteria loading in the Murden Cove Watershed Nutrient and Bacteria Reduction Project. Much of the community partnership is volunteer-based such as the Bainbridge Island Watershed Council and the Sakai Intermediate School.

Volume 2 Public Involvement and Participation *(reference S5.C.2)*

The city provides opportunities for the public to become involved in the Water Resources Program or to assist the City in protecting water quality. The Annual Report and the SWMP documents, along with supporting attachments are posted each year to the City’s website. Comments on the program or its activities are solicited annually. The City’s website and press releases provide an avenue to reach out to the citizens and to become involved in program elements. These include public hearings, Council meetings/presentations, and volunteer opportunities.

Volume 3 Illicit Discharge Detection and Elimination *(reference S5.C.3)*

3.1 IDDE Program Manual (January 2009)

The IDDE Program Manual comprehensively addresses the conditions of S5C3 of the Phase II Permit. The manual is intended to assist City Staff in implementing the IDDE program. It is used as a guidance document for staff in their day-to-day activities related to IDDE. The document is

also used as a training tool to ensure that all staff are following the same procedures in responding to illicit discharge concerns. The IDDE program has become very effective in bringing value to the SWMP since its inception in 2008.

Additionally, a water quality incident reporting hotline/phone number is posted on the City website in coordination with Kitsap County and other local municipalities for the reporting of spills and illicit discharges. The reporting process is laid out in a series of Standard Operating Procedures (SOPs) provided by the local division of Department of Emergency Management and 911. The SOPs are included as an appendix.

3.2 Business BMP Manual (September 2013)

The Business BMP Manual has been developed as an educational tool to provide recommended best management practices for businesses in order to prevent or eliminate illicit discharges caused by poor housekeeping or business practices. Targeted Business Technical Assistance Visits continue to discover and correct deficiencies and illicit discharges.

3.3 Inter Local Agreements

3.3.2 Kitsap Conservation District

The City maintains an ILA with the Kitsap Conservation District to provide farm management expertise to farmers, animal hobbyists, and other agricultural entities in order to help protect water quality.

3.3.3 Kitsap County's Solid Waste Division of Kitsap County Public Works

This program provides the Comprehensive Solid Waste Management Plan for the City. This program element supports the IDDE program by providing citizens an avenue to dispose of unwanted waste and eliminate dumping to the MS4. Also provided are Household Hazardous Waste Collections conducted in coordination with the City. Local Source Control Business visits, which are regulatory visits to those businesses that are classified as small and medium waste generators, further aid the elimination of pollutants being discharged.

Volume 4 Development, Redevelopment and Construction Runoff Control *(reference S5.C.4)*

4.1 Bainbridge Island Municipal Code 15.20, Surface and Stormwater Management

The City's Municipal Code adopts the Department of Ecology's Stormwater Management Manual for Western Washington as well as the Kitsap's Low Impact Development Guidance

Manual regulating water quality and quantity changes from development, redevelopment and construction.

4.1.1 Low Impact Development (LID) Guidance Manual (June 2009)

This manual was prepared for use by Kitsap County and local municipalities in cooperation with Kitsap Home Builders Association and developed through a Department of Ecology grant.

<http://www.kitsaphba.org/LID/>

4.1.2 2005 Stormwater Management Manual for Western Washington (February 2012)

Developed by Department of Ecology to set standard Best Management Practices for stormwater quality and quantity. The Manual establishes engineering and development review requirements for construction and development as well as maintenance standards.

<http://www.ecy.wa.gov/programs/wq/stormwater/municipal/StrmwtrMan.html>

4.2 Bainbridge Island Municipal Code 15.21, Stormwater Facilities Maintenance

This code section mandates the requirement for maintenance of all stormwater facilities. Maintenance is conducted in accordance with the adopted stormwater management manual. All constructed private facilities must record a Declaration of Covenant and have a plan for Operation and Maintenance to assure the facilities are operated and maintained appropriately in perpetuity.

Volume 5 Pollution Prevention and Municipal Operations

(reference S5.C.5)

5.1 Public Works Road Maintenance Manual (March 2003)

The Road Maintenance Manual was developed to provide needed Best Management Practices for road maintenance activities with the goal of protecting water quality. This manual also contains required training components.

5.2 Stormwater Pollution Prevention Plan (SWPPP) for the Public Works Operation and Maintenance Facility and the Materials Management Facility (Decant).

This plan was prepared for use by the City's Operation and Maintenance Division to honor Bainbridge Island's commitment to pollution prevention and good housekeeping while

conducting municipal operations. The SWPPP outlines the goals and objectives for protecting water quality and establishes Best Management Practices for effectively managing operations facilities.

Volume 6 Monitoring

6.1 Water Quality and Flow Monitoring Program (April 2008)

The City's Water Quality and Flow Monitoring Program (WQFMP) implements permit monitoring requirements and directs and informs pollutant source identification efforts outlined in the IDDE program.

The primary goal of the WQFMP is to monitor, assess, and report on stormwater quality, and freshwater and marine water and habitat quality to support the City's efforts to protect and restore beneficial uses.

The WQFMP was developed and piloted through a Centennial Clean Water Fund grant and is an Ecology-approved program that consists of three components, a site evaluation report (SER), a sampling and analysis plan (SAP), and a Quality Assurance Project Plan (QAPP). Collectively, its components are designed to meet the following objectives:

- Characterize the chemical, physical, and biological integrity of Bainbridge Island streams, lakes, wetlands, and nearshore areas, and stormwater effluent quality.
- Identify short-term changes or long-term trends in water quality conditions.
- Collect water quality data related to surface and stormwater regulatory requirements (e.g. NPDES Phase II).
- Gather information for use in developing pollution prevention measures or water quality treatment best management practices (BMPs).
- Determine if water quality program goals are being met and whether streams and nearshores on and around the Island meet State standards.
- Provide opportunities for public outreach and water quality data to support public education program.
- Support reporting of water quality conditions to the general public, including shellfish harvest restrictions, recreational beach closures, and drinking water advisories.
- Determine the effectiveness of pollution prevention measures and water quality treatment BMPs.
- Respond to emergency situations such as oil spills, chemical leaks, sewage spills, and flooding events.
- Support field screening of the MS4 as required by the Permit
- Monthly grab sampling and in-situ physiochemical measurements, annual macroinvertebrate monitoring, continuous flow monitoring, targeted storm event monitoring, and sediment sampling fulfill field screening requirements.

6.2 Murden Cove Watershed Nutrient and Bacteria Reduction Project (2013 – 2016)

In 2013, the City launched a multi-agency and community partnership to address nutrient and bacteria levels observed in long-term status and trends monitoring in the Murden Cove Watershed, both in the primary stream (Murden Creek) and in the cove (Murden Cove). The City partnered with Kitsap Public Health District, Kitsap Conservation District, Bainbridge Island Watershed Council, Sakai Intermediate School, Islandwood, and Far Bank/Sage Enterprises. Each entity contributes staffing and/or funding to conduct a comprehensive watershed specific water quality study and education and outreach to the community. The City coordinates this effort and conducts and reports the water quality assessment.

6.3 Pollution Identification and Correction

Kitsap Public Health District has conducted surveys of the Island shorelines and drainage basins discharging to threatened and closed commercial shellfish harvest areas, allowing the further evaluation of pollutant impacts to nearshore areas, particularly shellfish beds and swimming beaches. The City supports these efforts through coordination and assistance from staff.

Previous joint shoreline survey efforts conducted in conjunction with the City have resulted in the identification and elimination of many bacterial discharges to adjacent water bodies and the subsequent re-opening of closed shellfish harvesting areas.

2016 Planned and Continuing Activities

The following are activities planned as a part of the Stormwater Management Program, as well as, continuing activities developed during earlier years of the Permit that are continuing to be refined and implemented.

If it is determined that modifications to any BMPs or any implementation schedule outlined in this SWMP are necessary to prevent or reduce pollutants that may be causing or contributing to an apparent violation of Water Quality Standards, additional operational and/or structural BMPs may be implemented.

S5.A.

- Continue refining the tracking of program elements and all related tasks accomplished with the use of Munis, SmartGov Community and the developed databases.
- Convene the Stormwater Permit Coordination Group on a quarterly basis. This permanent internal working group is comprised of affected City departments including Public Works Engineering and Operations and Maintenance, and Planning and Community Development to promote communication and coordination and to further the development of Permit required elements. The Public Works Director provides the necessary oversight for this group in order to insure that permit requirements are being satisfied.

S5.C.1. Education and Outreach

- The City will continue with their involvement with the education and outreach program services outlined in the current Interlocal Agreement with Kitsap County Public Works West Sound Stormwater Outreach Group (WSSOG).
- The City's WQFMP will continue to visit Island classrooms to educate teachers and students about the status of the Island's stormwater, freshwater, and marine water quality, pollution sources, and best management practices. The WQFMP will continue to train student scientists in water quality monitoring techniques and data assessment and interpretation.
- The City's WQFMP will continue to present water quality education and information at public events such as Earth Day Festivals, annual environmental conferences, and association meetings such as Rotary meetings.
- The City's WQFMP will continue to recruit, train, and utilize citizen volunteers in water quality monitoring and stewardship activities, including collaboration with the Bainbridge Island Watershed Council and the Bainbridge Island Land Trust.

- The City's WQFMP will report water quality conditions to the general public, including shellfish harvest restrictions, recreational beach closures, and drinking water advisories through annual report cards and periodic *State of the Island's Waters* reports.
- Continue coordination and maintain the cooperative effort with the Kitsap Conservation District (KCD) that provides expertise to farmers, animal hobbyists, and other agricultural entities in BMPs for soil management, animal waste handling and storage, pasture management, and irrigation with the overarching goal of helping preserve water quality.
- City will continue its partnership with Kitsap County Public Works to promote and participate in the Mutt Mitt program.
- Continue to utilize the city website, the Water Resources listserv, and press releases as an educational component and an avenue to engage citizens in program elements, and to disseminate information on subjects such as IDDE activities, business visits, permit reissuance, TMDL status and various work group activities.

S5.C.3. Illicit Discharge Detection and Elimination

- Continue documentation and investigations of illicit discharges and pollutant sources.
- Update standard procedures for inspection and data inputs to the tracking databases.
- Improve the reporting of water quality incidents through the reporting hotline/phone number.
- Track and map approved connections to the MS4.
- Respond to and/or provide support for emergency situations such as oil spills, chemical leaks, sewage spills, and flooding events.
- Provide necessary training and education for staff including review staff, planners, maintenance crews and inspectors to share knowledge or provide updates on previous training sessions. Provide specialized training to Operation and Maintenance staff for IDDE field reconnaissance performed in conjunction with their inspection and cleaning activities.
- Continue WQFMP's water quality and flow monitoring of stormwater, freshwater, and marine water quality to provide the following IDDE support:
 - Assist in directing and informing on pollutant source identification efforts.
 - Serve as a portion of the required field screening.

- Assist and collaborate with Kitsap County Public Health in conducting pollution identification and correction efforts for protection of Human Health beneficial uses to include swimming, boating, fishing, and shellfish harvest.

S5.C.4. Controlling Runoff from Development and Redevelopment

- Complete the review, revision, and adoption of all codes, rules, standards and enforceable documents to require Low Impact Development
- Review and inspect development, redevelopment and construction sites in accordance with the City's Stormwater Permit and Department of Ecology's Stormwater Management Manual for Western Washington.
- Insure that all constructed private facilities record a Declaration of Covenant and provide an operations and maintenance plan to assure the facilities are operated and maintained appropriately in perpetuity.

S5.C.5. Municipal Operations and Maintenance

- Inspect permitted water quality and flow control facilities
- Create an acceptance process for conveying newly constructed, dedicated stormwater facilities to Public Works, Operations and Maintenance for long term maintenance.
- Operate road maintenance activities with the goal of protecting water quality by using established Best Management Practices.
- Conduct biannual inspection at the Public Works Facility and Decant Facility in accordance with the Stormwater Pollution Prevention Plan (SWPPP). Refine or reestablish necessary goals and objectives for protecting water quality and Best Management Practices.
- Refine or institute additional Best Management Practices for pollution prevention at the Public Works and Decant facilities.
- Utilize WQFMP monitoring data to identify short-term changes or long-term trends in water quality conditions to inform changes in the SWMP's Best Management Practices, determine the effectiveness of pollution prevention measures and water quality treatment BMPs, and gather information for use in developing pollution prevention measures or water quality treatment best management practices (BMPs).
- Conduct regular work activities; cleaning of catch basins, water quality vaults, stormwater control facilities with a goal of minimizing yearly work volumes in future years.

S7. Total Maximum Daily Load Requirements

- Install and maintain pet waste education and collection stations at city owned and operated lands adjacent to stream and marine shorelines discharging to the TMDL area with a focus on locations where people commonly walk their dogs.
- Use appropriate investigative tools to ensure that contaminated stormwater is not contributing to the fecal coliform bacteria exceedances at DOH site 457, offshore Fletcher Bay.
- Designate the areas discharging via MS4 either directly or to creeks that discharge to shoreline areas along Rich Passage as high priority for illicit discharge detection and elimination field screening
- Review and, if necessary, increase the frequency of inspection and cleanout of catch basins to maintain catch basin sediment levels below 60 percent full in areas that drain to nearshore areas along Rich Passage below Lynwood Center and the northern shoreline of Fletcher Bay.

S8. Monitoring

- Participate in the Stormwater Work Group and monetarily support the Regional Stormwater Monitoring Program with the opt-in option.