Prepared by

City of Bothell™

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Executive Summary

In 1960, public awareness and concern heightened regarding water pollution. Pollution was so widespread and evident that it was easy to point to the major polluters. In 1972, the Federal Water Pollution Control Act, commonly known as the Clean Water Act (CWA), was amended to stop these point source polluters and improve water quality for fishing, drinking, and recreational use.

After these government Acts had existed for several years, water appeared to be cleaner, but testing determined that the chemical, physical, and biological health remained compromised. Many unseen pollutants were still entering rivers, lakes, and streams through non-point sources. Further testing showed that individuals were contributing small amounts of pollution that was being carried to local streams through storm drains. The United States Environmental Protection Agency (EPA) then expanded the CWA to include all municipal, industrial, and commercial facilities that discharge wastewater or stormwater through pipes, ditches, or channels into our natural waterbodies. These regulations require all of these groups to obtain a permit in order to continue discharging.

The City's permit, the Western Washington Phase II Municipal Stormwater Permit, is commonly referred to as the National Pollutant Discharge Elimination System (NPDES) permit. It requires the City to establish a stormwater program with a set of activities and actions aimed at protecting and restoring local rivers, lakes, and streams. The City of Bothell has included these required elements in its 2019 Stormwater Management Program (SWMP). Here are the six elements of the SWMP:

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Development Runoff Controls
- Pollution Prevention and Municipal Operations and Maintenance
- Monitoring

Public Education and Outreach

The everyday actions of people that live in, visit, or drive through Bothell are a common cause of many stormwater issues. Because our individual actions cause these issues, preventing pollution by changing our habits is a more effective and less expensive solution to the problem than trying to clean up pollutants after they have entered our land, water, and air. Our educational programs provide specific outreach activities designed to provide acceptable alternatives to individual daily habits that pollute stormwater.

Public Involvement and Participation

The City provides a number of opportunities for the public to participate in the decision-making process involving the development, implementation, and update of our SWMP. We provide these opportunities through direct requests (articles, events, website, social media, etc.), City Council sessions, and public hearings.

Illicit Discharge Detection and Elimination

The City has established an effective program for responding to spills and illegal discharges that includes education, assistance, and enforcement. Spills can come in many forms from business and residential sources, so we place efforts on reaching out to citizens to ensure they know how to prevent spills as well as how to report them if they occur.

Runoff Controls

The City has adopted new ordinances, improved its construction standards, and provided training to improve site conditions for new and redevelopment. Projects in the design phase are using new design standards updated in January 2019 that will translate into improved stormwater controls and treatment on new and redeveloped sites.

Pollution Prevention and Municipal Operations and Maintenance

The City is responsible for the performance of many aspects of local roads and waterways. Services occur year-round and, at times, under adverse conditions. The City conducts maintenance and operations with the intent to reduce and eliminate sources of polluted runoff from City actions.

Monitoring

Monitoring is set up to answer the question "*Is what we are doing making a difference to the streams?*" Because the answer is not easily quantified, counted, or measured, we use a variety of methods that provide signals along the continuum of stream health to give us accurate information.

This report further describes the different elements of the SWMP. We review and update the SWMP annually to provide a summary of our efforts and future plans. The outcome we are working toward is improved water quality throughout the City for the benefit of all citizens.

Here are several ways to provide comment about Bothell's SWMP:

Fill out an online form: www.bothellwa.gov/swmpfeedback

Email Christi Cox, Surface Water Program Coordinator: christi.cox@bothellwa.gov

Mail comments to:

City of Bothell – Public Works
Attn: Christi Cox
18415 101st Avenue NE
Bothell, WA 98011

View past reports on our website: www.bothellwa.gov/stormdocs

Introduction

The National Pollutant Discharge Elimination System (NPDES) permit program is a requirement of the Federal Clean Water Act (CWA), which is intended to protect and restore our Nation's waters (*see Executive Summary*). The United States Environmental Protection Agency (EPA) has given their permitting authority to state environmental agencies, which in our state is the Washington State Department of Ecology (Ecology). The City of Bothell must comply with the Western Washington Phase II Municipal Stormwater Permit requirements issued by Ecology.

This Permit allows the City to send stormwater runoff from municipal drainage systems (e.g., storm drains, pipes, ditches, etc.) into the State's water bodies (e.g., streams, rivers, lakes, and wetlands) as long as the City implements programs to reduce and eliminate pollution from non-point sources (*see Glossary*). The actions and activities specified in the Permit are collectively referred to as the Stormwater Management Program and are grouped under the following components, as listed in the Executive Summary:

- Public Education and Outreach
- Public Involvement
- Illicit Discharge Detection and Elimination
- Development Runoff Controls
- Pollution Prevention and Municipal Operations and Maintenance
- Monitoring

The City is required to report annually, by March 31, on its progress in permit implementation for the prior year, and submit a Stormwater Management Program (SWMP) report that describes proposed program activities for the coming year. Implementation of the various Permit conditions is phased throughout the Permit term, 2013 through July 2018. We will begin a new Permit cycle in August 2019.

Additional Permit information is available on Ecology's website:
http://bit.ly/NPDESpermit

The following sections summarize the City's program plans. This is the 11th year of such reports with each consecutive year built upon the previous one.

Education and Outreach

The everyday actions of people that live in, visit, or drive through this area are a common cause of many stormwater issues. Because our individual actions cause these issues, preventing pollution by changing our habits is more effective and costs less than trying to clean up pollutants after they have entered our land, water, and air.

Natural Yard Care workshop participants learning basic planting and sheet-mulching techniques at Centennial Park

The stormwater permit lists a number of different target audiences and which habits they should change to protect and improve our local streams. Our goal is to reduce or eliminate these habits or practices and replace them with better, safer, healthier alternatives.

Simply providing information, while helpful, does not necessarily motivate people to change their current habits. For this reason, we create programs that help people understand what habits are polluting, provide them with alternative habits that are less polluting, and even provide them with assistance to help them make better choices. By doing these things, everyone is able to make a meaningful difference and often save money just by making small changes in their daily habits.

Community volunteers planting native species in residential rain gardens

Below are some stormwater-related behaviors that we plan to focus on through 2019.

Residents

- Natural yard care
- Pet waste
- Septic system maintenance
- Hazardous chemical use, storage, and disposal
- Home maintenance (carpet cleaning, pressure washing, yard care, construction, etc.)
- Vehicle maintenance (car washing, auto repair and maintenance)
- Low impact development principles and techniques

Businesses

- Impacts from impervious surfaces
- How to prevent and report spills to minimize their damage
- Impacts from pollution on local rivers, lakes, and streams
- Dumpster and equipment maintenance
- Dangerous waste requirements for SQGs
- Proper landscaping maintenance practices
- Low impact development principles and techniques
- How to properly inspect and maintain their stormwater facilities

General Public

- Youth education on stormwater pollution prevention
- Impacts of stormwater on surfaces waters
- Impacts from impervious surfaces
- Hazardous chemical use, storage, and disposal
- Stewardship opportunities
- Impacts from outdoor spills and how to report them
- Low impact development principles and techniques
- City's plans to improve local water conditions

For 2019, we plan to focus our residential efforts on natural yard care, pet waste, and car washing. For our business target audience, we will promote spill prevention and reporting, as well as assistance with the state dangerous waste requirements for Small Quantity Generators (SQGs). We will be developing a new stormwater source control program this year, which will have an outreach component in addition to inspection and compliance. For our general public audience, we will continue focusing on youth education, stewardship opportunities, and reporting spills.

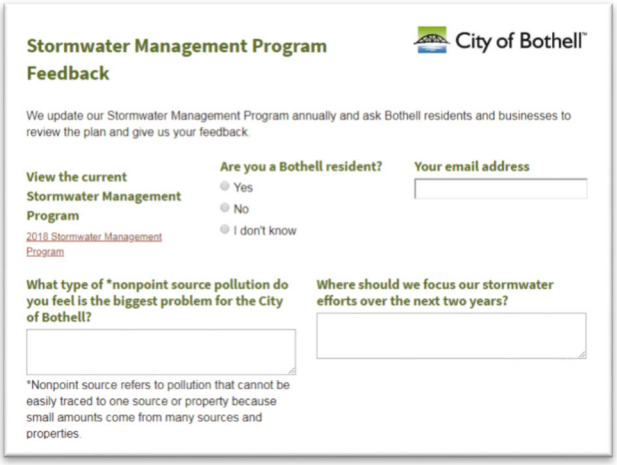
Each year we provide detail about our education programs in our *Education and Outreach Summary Report,* available on our City website: www.bothellwa.gov/stormdocs

Public Participation

We encourage City of Bothell residents, businesses, and the general public to participate in the development, revisions, updates, implementation, and funding rates for our Surface Water Management programs and services. We solicit feedback through our website comment form, annual public hearings, City Council sessions, or through direct comment requests (articles, events, social media reminders, etc.).

This year, City of Bothell will post its 2019 SWMP and Annual Report to the City website with a link to the comment form. We will also request direct comment through outreach efforts including social media and the Bothell Bridge, and we will send electronic communications to seek public input.

We encourage citizens to comment at any time throughout the year in written form.



Stormwater Management Program Feedback

City of Bothell

We update our Stormwater Management Program annually and ask Bothell residents and businesses to review the plan and give us your feedback.

View the current Stormwater Management Program

2018 Stormwater Management Program

Are you a Bothell resident?

- Yes
- No
- I don't know

Your email address

What type of *nonpoint source pollution do you feel is the biggest problem for the City of Bothell?

Where should we focus our stormwater efforts over the next two years?

*Nonpoint source refers to pollution that cannot be easily traced to one source or property because small amounts come from many sources and properties.

Online form to submit Stormwater Management Program feedback

Here are ways to provide comment:

- Visit our website: www.bothellwa.gov/swmpfeedback
- Email Christi Cox, Surface Water Program Coordinator: christi.cox@bothellwa.gov
- Mail comments to:

  City of Bothell – Public Works
  Attn: Christi Cox
  18415 101st Avenue NE
  Bothell, WA 98011

Illicit Discharge Detection and Elimination

The City has established a program for responding to spills and illicit discharges that includes education, assistance, and enforcement. As spills come in many forms from business and residential sources, we make efforts to reach out before they happen to ensure everyone knows what they should do to prevent spills, as well as how to report them if they do occur.

Surface Water and Storm Operations staff sweeping absorbent during a diesel fuel spill response

We will collect data regarding spill type, location, and frequency through 2019 to provide statistics and show trends over time. We will then submit this data to Ecology, who will determine regional trends and think about ways to reduce spills across the region.

One of the primary tools we use in investigations is a complete map of storm drainage and surface water systems. This important tool assists with effective investigation and it allows inspectors and maintenance workers to determine the extent of a spill for cleaning and reporting purposes. We are continuously updating the City's GIS mapping of Bothell's storm and surface water system with the addition of new infrastructure, and we are improving how we record any existing infrastructure.

Residential car wash suds in a catch basin

In addition to spill response activities, staff proactively screen the storm drainage system for pollutants, and conduct ongoing training to ensure all staff is knowledgeable about what is and what is not allowed into storm drains.

We will be developing a new stormwater source control program this year, which will have education, outreach, inspection, and compliance components aimed at helping businesses implement stormwater best management practices (BMPs). This program will cover a much wider range of businesses in Bothell, not just Small Quantity Generators (SQGs), as the previous source control program did.

Development Runoff Controls

The City adopted new ordinances, improved construction standards, and provided training to improve site conditions for new and redevelopment. Our focus through 2019 will be addressing minor updates to the storm design standards adopted in December 2016. These standards provide improved controls and treatment for stormwater runoff and pollution prevention.

Erosion and stormwater runoff controls at a private residential development

We conduct inspections every six months during the construction of any new residential facilities with privately owned and operated storm facilities that fall under the NPDES permit. These inspections are in addition to the regular erosion control construction inspections for permitting purposes. Annual inspections are conducted for all commercial and post-construction residential facilities. We typically submit inspection reports to the facility owner/operator with listed actions needed to keep the site within the City's adopted maintenance standards. In 2018, there were 51 privately owned/operated sites with 154 online storm facilities that fall under the NPDES permit.

For sites with privately owned/operated storm facilities that do not fall under the NPDES permit, we conduct inspections in accordance with Bothell Municipal Code (BMC) General Maintenance Requirements Section 18.04.270. We submit inspection reports to the owner with listed actions needed to keep the site within the City's adopted maintenance standards. In 2018, there were 315 known sites with privately owned/operated storm facilities.

Silt fence and straw used as erosion control methods

Pollution Prevention and Municipal Operations and Maintenance

The City has a role to prevent and eliminate polluted stormwater runoff from City day-to-day activities. We constantly look at all aspects of our maintenance and operations practices to ensure we are minimizing impacts to the maximum extent practical. These include how to keep City facilities and parking lots clean, and how best to maintain City roads and parks. Our intent is to identify places or actions that could be contributing to polluted stormwater runoff and find ways to remedy the problems. In 2009, the City investigated its maintenance shop and equipment and storage areas. Our findings led us to create a Stormwater Pollution Prevention Plan.

Storm Operations staff emptying vactor truck contents into a decant facility

When the Bothell Operations Center (BOC) was completed in 2011, we added it to our list of facilities to review. The BOC property is shared with the Northshore School District, who has joined our efforts to use proper stormwater BMPs. Surface Water staff conduct an annual audit of each facility, and they make recommendations on ways to continually improve stormwater and hazardous materials related materials use handling and storage for maximum safety and performance for each facility.

For other City business, such as our Capital Improvement Program or park lands, we created a policy document in 2009 that lays out actions to improve the City's clean water stewardship. This led to increased staff awareness about the important role they play in keeping polluted stormwater from being

Street sweeper removing debris from roadway

generated and discharged to waterways. We review the guidance document periodically and update it as needed.

To keep the policy document current, City staff routinely attend training in various aspects of water pollution prevention, such as the latest Low Impact Development techniques and how best to control soil erosion at active construction sites.

The City adopted the most recent maintenance standards available in December 2016 for maintenance of publically owned and operated stormwater facilities and storm drains.

Sammamish River alongside Brackett's Landing

In order to comply with the NPDES permit and to ensure proper maintenance and care of publically owned/operated permanent stormwater flow control and water quality treatment facilities, the City annually conducts site inspections and performs maintenance on any public stormwater facilities that fail to meet standards. At the time this report was written, there were 145 known sites with 396 publically owned and operated stormwater facilities within Bothell's city limits.

Storm Operations staff maintaining a pond

In 2017, the City's Storm Operations and Surface Water Management divisions began using an asset management program called Lucity. With this software, staff can more easily coordinate and accurately track any stormwater-related maintenance work within the City of Bothell.

The City's Maintenance and Operations staff also routinely perform spot checks of potentially damaged stormwater control facilities after major storm events. Staff may conduct repairs or take appropriate maintenance actions based on the results of these inspections. Staff routinely check 17 facilities for safe operations before and after major storm events.

Citywide Storm Drains Maintenance Program

The City has nearly 8,000 storm drains, also referred to as catch basins. They are often along the curbside and they capture runoff from roads and other hard surfaces (e.g., driveways, sidewalks, roofs, etc.). In addition to collecting stormwater runoff, these structures also capture pollutants like silt, debris, and vehicle wastes. To prevent those pollutants from entering local streams, the City has adopted a circuit method for inspection and cleaning. Circuits are inspected, cleaned, and maintained as necessary and in accordance with the NPDES permit.

Storm Operations staff vactoring a catch basin

Reduction of Stormwater Impacts by Public Works and Parks & Recreation

In 2010, the City established and implemented practices to reduce stormwater impacts associated with maintenance activities due to runoff from streets, parking lots, roads, highways, and park lands owned or maintained by the City. The policy and guidance documents are posted on the City's website. Public Works and Parks & Recreation will continue to update and review their operations procedures to keep practices up to date with the best available knowledge and technology.

Monitoring

Total Maximum Daily Load (TMDL) Requirements

The State is required to determine the highest amount of each pollutant that is allowed within a surface water body in order to meet water quality standards. Bothell has two watersheds with TMDLs within the City, both addressing the same pollutant: fecal bacteria. North Creek and Swamp Creek have fecal bacteria levels that, at times, pose a health risk to people who come in contact with the water.

The TMDLs require the City and others to take certain prescribed actions. One action is to conduct yearly monitoring of fecal bacteria levels in the streams. Bothell began monitoring in 2007 and will continue to do so into the foreseeable future. In 2015, the City provided Ecology with an updated Quality Assurance Project Plan to cover the next five years of TMDL monitoring.

The revised 2013 NPDES permit directed the City to conduct Targeted Source Identification and Elimination surveys beginning in 2014. For 2019, the City selected a stormwater drainage basin connected to a City owned stormwater detention pond for surveys after high fecal coliform levels were discovered entering the detention pond

which discharges to North Creek. The surveys will include monitoring for fecal coliform and education and outreach efforts to businesses and residents in the area.

The TMDL Annual Reports and the Bacteria Pollution Control Plan are available on the City's website: www.bothellwa.gov/stormdocs

Monitoring and Assessment

Since 2010, Bothell has monitored local streams for stream health metrics. We have several monitoring objectives, including: determining the stream health each year and assessing how conditions change over time, examining the effects of urban stormwater runoff and the cumulative effectiveness of City surface water management programs and actions, and screening for potential water quality pollution from non-point and point sources.

We collect water quality measurements such as temperature, dissolved oxygen, conductivity, pH, fecal coliform, and turbidity along with biological measurements of in-stream insects (macroinvertebrates). These measurements inform the City of potential impacts from pollution and aid in prioritization efforts for water quality improvement and restoration projects.

Historical data suggests that water quality in Bothell streams is not meeting state Water Quality Standards for fecal coliform, temperature, and dissolved oxygen and local streams are in poor biologic health. These results are consistent with other cities in the Puget Sound area (Figure 1). Preliminary trend analysis also shows increasing temperatures and decreasing dissolved oxygen in local streams over time. Data collected from 2010-2018 is important for providing baseline conditions and preliminary trend detection for stream health.

Surface Water staff measuring aquatic life

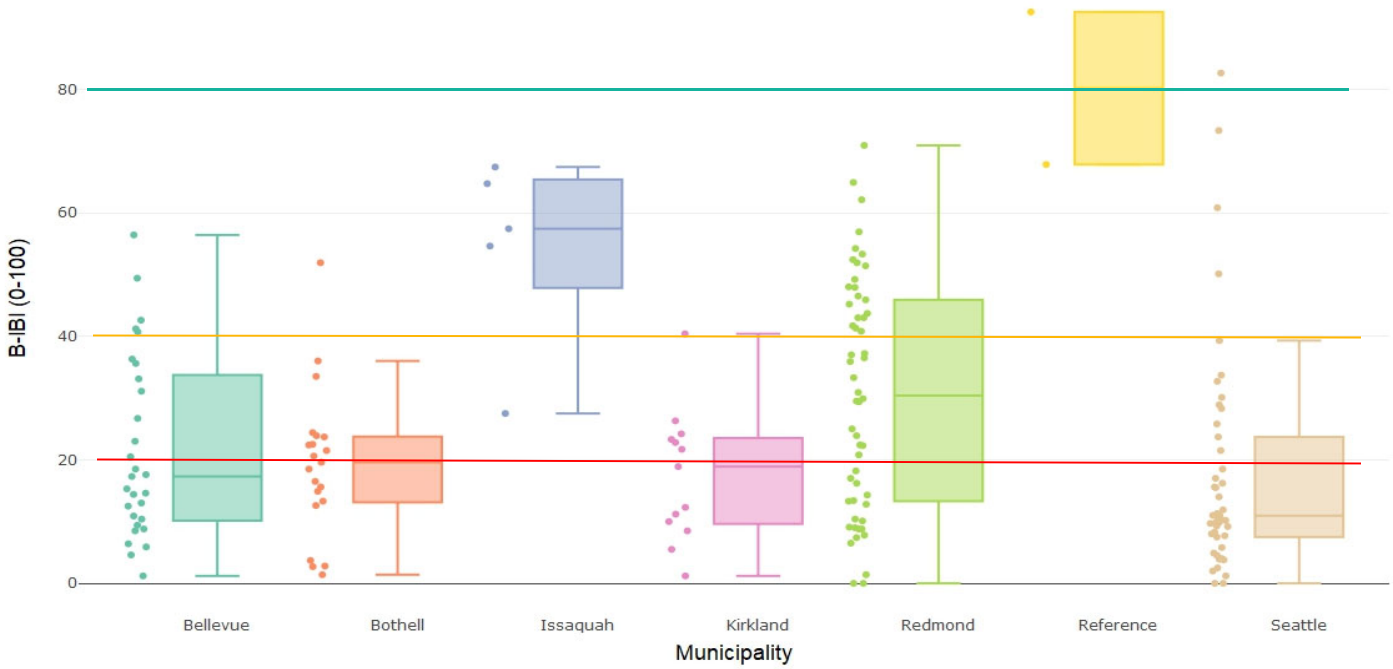


Figure 1. Benthic Index of Biotic Integrity (B-IBI) from several municipalities surrounding Bothell. Values below the red line indicate very poor status, below the yellow line poor status, and above the green line are excellent status. Results were tabulated from the Puget Sound Stream Benthos website. Results were downloaded from 2010-2018 and only include the most recent visit per site so that sites were weighted evenly.

Beginning in 2019, we plan to build on the historic data by collecting information where data gaps exist. To strengthen the overall monitoring program, the City plans to collect stormwater and surface water data by implementing three new projects that include:

- Watershed health monitoring following the Washington State Department of Ecology WHM protocols. This will give greater information for citywide water quality, physical habitat, and biologic health. Examples of metrics measured include: substrate type, riparian corridor condition, stream channel characteristics, macroinvertebrates, fecal coliform, nutrients, metals, and more. Monitoring locations are based on probabilistic (random) sampling design that allows for statistical inferences for all of Bothell while also comparing to regional data such as the County or State level.
- Effectiveness studies to evaluate how water quality improvement projects or restoration projects are improving stream health at the local scale. Often times these projects are not seen at the watershed scale and need to be studied at the local scale to show how programs and projects are improving stream health.

- Stormwater sampling of outfalls and within the storm system to provide data on where stormwater might be causing issues in receiving water bodies. This will also give us information on where it might be beneficial to provide stormwater retrofits, treatment, or education. Metrics measured in the stormwater system include total suspended sediment, fecal coliform, metals, and ammonia.

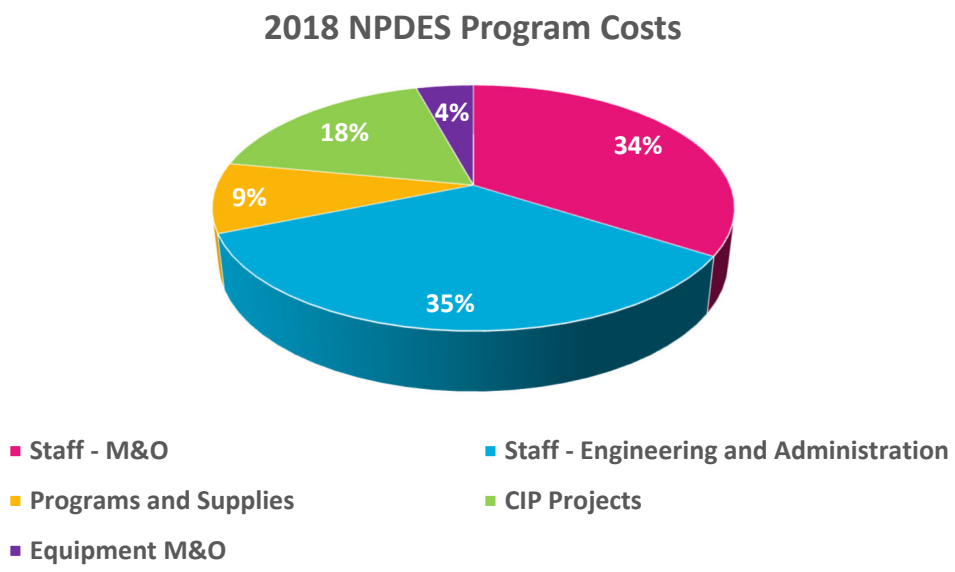
Detailed descriptions of the monitoring results are available on the City's website as Stream Health Assessment (or Bioassessment) reports: www.bothellwa.gov/stormdocs. We encourage citizens to review and provide feedback.

Financial Costs to Implement NPDES Permit

In 2008, the City began tracking staff time, equipment purchases, contracts, and related expenditures by NPDES surface water program component. The following table shows the amount spent on stormwater program elements including associated operating costs in 2018:

Category	Cost
Staff - M&O	$1,133,930
Staff - Engineering and Administration	$1,153,580
Programs and Supplies	$306,373
CIP Projects	$591,115
Equipment M&O	$140,882
Total	$3,325,880

The following pie chart shows the percent distribution of funds by category:



The costs increased over previous calculations due to capital projects and increases in compensation for existing staff. This level of spending will likely increase slightly over time as the City responds to increased permit requirements, inspection and maintenance needs for stormwater facilities, and as the City grows and adds new stormwater systems.

External and Internal Permit Coordination

Surface Water Management staff routinely attend outside forums to share and coordinate stormwater related policies, programs, and projects with other neighboring permit entities. The forum meetings include but are not limited to stormwater inspections, NPDES Permit coordinators, participation in Stormwater Outreach for Regional Municipalities (STORM group), Stormwater Monitoring Group (SWG), American Public Works Association (APWA), and ESA Regional Road Map.

The City's Goals, Policies, and Procedures for City Operations outlines internal coordination efforts between and within departments and divisions, along with results of annual feedback. We also conduct internal coordination as needed.

Annual STORM Symposium at Brightwater Center, November 2018

Reporting Requirements

Bothell keeps records related to this Permit and the SWMP for at least five years after the permit cycle. The records are available upon request. Copies are available for the public to view free of charge by submitting a Public Records Request on the City's website at www.bothellwa.gov. Requestors may also purchase hard copies for a fee, per our current 2019 fee schedule (Resolution 1383).

Glossary

Best Management Practices (BMPs): The schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices approved by the Department of Ecology that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State. For example, a structural BMP is the use of catch basin cloth inserts to capture sediment from turbid water prior to the water discharging into the stormwater system.

Clean Water Act (CWA): Formerly referred to as the Federal Water Pollution Control Act or 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.

Illicit Connection: Any man-made conveyance that is connected to a municipal separate storm sewer without a permit, excluding roof drains and other similar type connections. Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets, or outlets that are connected directly to the municipal separate storm sewer system.

Illicit Discharge: Any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to an NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities.

Low Impact Development (LID): A stormwater management and land development strategy applied at the parcel and subdivision scale that emphasizes conservation and use of onsite natural features integrated with engineered, small-scale hydrologic controls to more closely mimic predevelopment hydrologic functions. It aims to c*apture water, slow it down, allow it to enter our soil, and clean and cool* the *water before it reaches our streams.*

Maximum Extent Practicable (MEP): Currently, MEP is a concept, as the full meaning has yet to be determined.

Municipal Separate Storm Sewer System (MS4): A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

(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 of an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to water of the United States;

(ii) Designed or used for collecting or conveying stormwater;

(iii) Which is not a combined sewer; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollution Discharge Elimination System (NPDES): 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 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.

Non-Point Source Pollution (NPS): NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and ground waters.

Point Source Pollution: Any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.

Stormwater: Runoff during and following precipitation and snowmelt events, including surface runoff and drainage.

Stormwater Management Program (SWMP): A set of actions and activities designed to reduce the discharge of pollutants from the regulated small MS4 to the maximum extent practicable and to protect water quality, and comprising the components listed in S5 and S6 of the NPDES permit and any additional actions necessary to meet the requirements of the NPDES permit.

Surface Water: Includes lakes, rivers, ponds, streams, inland waters, salt waters, wetlands, other surface waters, and water courses as well as shallow groundwater.

Total Maximum Daily Load (TMDL): 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 (i.e. drinking water

supply, contact recreation such as swimming, and aquatic life support such as fishing), and the scientific criteria to support that use. The Clean Water Act, Section 303, establishes the water quality standards and TMDL programs.