City of Bothell
Surface Water Management Plan

Prepared by

City of Bothell™

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Version 2012-01

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Executive Summary

The National Pollutant Discharge Elimination System (NPDES) permit program's intent is to protect and restore waters. It is required under the federal Clean Water Act by the authority of the federal Environmental Protection Agency (EPA). EPA has delegated its permit authority to Washington State Department of Ecology (WDOE). In fulfillment of the Permit, the City has prepared a Surface Water Management Plan (SWMP).

The City's SWMP describes the implementation of programs to protect water quality by reducing the discharge of "non-point source" pollutants to the "maximum extent practicable" (MEP) through application of Permit-specified "best management practices" (BMPs). The practices specified in the Permit are collectively referred to as the Stormwater Management Plan and grouped under the following Program components:

1. Public Education and Outreach
2. Public Involvement
3. Illicit Discharge Detection and Elimination
4. Runoff Controls
5. Pollution Prevention and Municipal Operations and Maintenance
6. Monitoring

Public Education and Outreach is designed to reach specific audiences based on daily activities that create stormwater pollution. Audiences include the general public, businesses, homeowners and their landscapers, developers, engineers, planners, and contractors. In order to be as efficient as possible, the City uses proven social marketing techniques that have been utilized in social services, public safety, and disease prevention for many years. City programs at Bothell educate audiences about our water quality issues and establish a level of basic education concerning watersheds, stormwater, and the water cycle. For the ongoing behavior change programs, at least one targeted audience in one subject area is evaluated to determine the current level of understanding and adoption of targeted behaviors overtime. The results will be used to direct future education and outreach efforts most effectively.

Public Involvement is actively sought in the development of the SWMP. Citizen involvement increases understanding and creates a sense of responsibility towards the health of affected watersheds. Citizens may review and comment on the SWMP by visiting the City of Bothell's website at www.ci.bothell.wa.us.

Illicit Discharge Detection and Elimination efforts focus on discharges that are not entirely composed of stormwater. Investigations and response actions to illicit discharges are designed to detect, remove, and prevent illicit discharges. The City adopted an ordinance and penalty schedule to prohibit non-stormwater or other illegal or illicit discharges

to the City's surface and stormwater. Illicit connections (e.g., interior floor drains, etc.) that are connected to a stormwater system will be investigated using a systematic survey. Training has been developed for and provided to City staff based on their likelihood of encountering illicit discharges.

Runoff Controls for new and redevelopment have been established. Ordinances were adopted, a training program was established for plan review staff, construction inspections standards were improved, and efforts were initiated to prioritize the use of low impact development techniques (LID). A timeline has been prepared to address the obstacles and barriers regarding LID implementation.

Pollution Prevention and Municipal Operations and Maintenance and activities have been developed to reduce and eliminate polluted discharges from City maintenance and operations divisions. The City has an annual inspection program of all City-owned or operated stormwater treatment and flow control facilities. Work performed by the City on roads, sidewalks, and stormwater systems follows industry-wide NPDES Permit approved standards. The City has acquired a programmatic Hydraulic Permit Approval from the Washington State Department of Fish and Wildlife (WDFW) for work occurring in or along streams. A Stormwater Pollution Prevention Plan (SWPPP) was created for our Shop 1 facility and the Public Works Operations Center, which is co-operated with Northshore School District (NSD) Transportation. The SWPPP for the entire co-operated site was created jointly with NSD. Training on the use of BMPs is routinely provided to staff.

Monitoring of surface waters is an important aspect of the SWMP. The City embarked on three primary types of monitoring: 1) North and Swamp Creek are monitored to address high fecal coliform bacteria concentrations. The fecal bacteria monitoring is coordinated under WDOE's Total Maximum Daily Load (TMDL) guidelines; 2) In 2010, the City initiated a long-term ambient monitoring and bioassessment program for City streams. The program will develop a baseline of data. This will provide the City a method to track future trends and assess the effectiveness of the SWMP; 3) Stormwater monitoring will use the regional monitoring program run by NPDES Stormwater group. The results will be used to evaluate and improve the City's treatment and control of stormwater.

The SWMP is revisited annually to provide progress updates and future plans. The desired outcome of all these efforts is improved water quality throughout the City for the benefit of all its citizens.

Introduction

The National Pollutant Discharge Elimination System (NPDES) permit program is a requirement of the Federal Clean Water Act, which is intended to protect and restore our Nation's waters. The federal Environmental Protection Agency (EPA) has delegated permit authority to state environmental agencies. In Washington, the NPDES-delegated permit authority is the Washington State Department of Ecology (WDOE). City of Bothell must comply with the Phase II Municipal Stormwater Permit requirements issued to us by WDOE.

The Permit allows discharge of stormwater runoff from municipal drainage systems into the State's water bodies (e.g., streams, rivers, lakes, and wetlands) as long as municipalities implement programs to protect water quality by reducing the discharge of "non-point source" pollutants to the "maximum extent practicable" (MEP) through application of Permit-specified "best management practices" (BMPs). The practices specified in the Permit are collectively referred to as the Stormwater Management Plan (SWMP) and grouped under the following Program components, as summarized in the previous section:

1. Public Education and Outreach
2. Public Involvement
3. Illicit Discharge Detection and Elimination
4. Runoff Controls
5. Pollution Prevention and Municipal Operations and Maintenance
6. Monitoring

The Permit requires the City to report annually (March 31st of each year) on progress in Permit implementation for the prior year. The Permit also requires submittal of documentation that describes proposed program activities for the coming year. Implementation of various Permit conditions is phased throughout the five-year Permit term from February 16, 2007 through February 15, 2012. The Permit will be revised and reissued at the end of this period. As of December 31, 2012, the City of Bothell meets the initial Permit requirements.

This report is the City's Stormwater Management Program compliance document. The remainder of this 2012 SWMP document describes actions Bothell will take to maintain compliance over the sixth year of the Permit term for 2013.

Additional Permit information is located on WDOE's website:
http://www.ecy.wa.gov/programs/wq/stormwater/index.html

1. Public Education and Outreach Program

Per Permit Section S5.C.1:

"The SWMP shall include an education program aimed at residents, businesses, industries, elected officials, policy makers, planning staff and other employees of the Permittee."

Many stormwater issues are caused by the everyday actions of people that live in or visit our affected watersheds. While difficult, changing behavior is a cost-effective programmatic solution to surface water pollution.

The minimum measures are:

A) No later than two years after the effective date of this Permit, the Permittee shall provide an education and outreach program for the area served by the Municipal Separate Storm Sewer System (MS4). The outreach program shall be designed to achieve measurable improvements in the target audience's understanding of the problem and what they can do to solve it. Education and outreach efforts shall be prioritized to target the following audiences and subject areas:

I. General public

- General impacts of stormwater flows into surface waters.
- Impacts from impervious surfaces.
- Source control BMPs and environmental stewardship actions and opportunities in the areas of pet waste, vehicle maintenance, landscaping, and buffers.

II. General public and businesses, including home-based and mobile businesses

- BMPs for use and storage of automotive chemicals, hazardous cleaning supplies, carwash soaps, and other hazardous materials.
- Impacts of illicit discharges and how to report them.

III. Homeowners, landscapers, and property managers

- Yard care techniques protective of water quality.
- BMPs for use and storage of pesticides and fertilizers.
- BMPs for carpet cleaning and auto repair and maintenance.
- Low Impact Development (LID) techniques, including site design, pervious paving, and retention of forests and mature trees.
- Stormwater pond maintenance.

IV. Engineers, contractors, developers, review staff, and land use planners

- Technical standards for stormwater site and erosion control plans.
- Low Impact Development (LID) techniques, including site design, pervious paving, and retention of forests and mature trees.
- Stormwater treatment and flow control BMPs.

B) Each Permittee shall measure the understanding and adoption of the targeted behaviors for at least one targeted audience in at least one subject area. The resulting measurements shall be used to direct education and outreach resources most effectively, as well as to evaluate changes in adoption of the targeted behaviors.

C) Each Permittee shall track and maintain records of public education and outreach activities.

Goal

The goal of the education and outreach program is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.

Overview

The City of Bothell has chosen to utilize social marketing strategies to illicit behavior change as this has been proven highly successful for Phase I jurisdictions and has been used for over forty years in the realms of social services, public safety, and disease prevention.

Targeted Emphasis Outreach

The City of Bothell began planning an outreach strategy to encourage adoption of target behaviors among the target audiences concerning stormwater pollution BMPs in 2008. Specific outreach strategies to measure adoption were tailored using successful social marketing strategies and were initially focused on the resident target audience. Information was gathered from several outreach coordinators in surrounding cities, as well as our county coordinators, and combined with our past research findings to assess initial behaviors. The current emphasis areas include:

- Resident Target Audience
    - Natural yard care
    - Car washing
    - Pet waste
    - Septic system maintenance
    - Youth stormwater and water quality awareness education
    - Landscaping and buffers
    - Hazardous material use, storage, and disposal

- Business Target Audience
    - Carpet cleaning
    - Natural yard care
    - Illicit discharge identification and reporting
    - Fleet Maintenance
- General Public
    - Vehicle leaks
    - Low Impact Development (LID)
    - Environmental stewardship actions and opportunities

The emphasis programs are designed to follow a common path:

- Research and development
- Program implementation
- Adaptive management

Most programs are derived from successful Phase I and II permittee implementation efforts, as our jurisdiction lacks sufficient funding to field several new pilot programs. Research and development for existing programs will be spent gathering local data and tailoring for local implementation. The City conducted an evaluation survey in 2012 to assess current awareness and behaviors for most existing emphasis programs and is revising our outreach efforts according to these findings. On newer emphasis topics, the City is working with surrounding jurisdictions to create a sub-regional outreach program. This will allow for sub-regional evaluation, fielding, and refinement to reduce program cost. The long term goals for each emphasis topic were planned as follows:

	Table 1.1 - Schedule for Emphasis Outreach	2009	2010	2011	2012	2013
Residential	**Natural Yard Care**	Implementation				
	Car Washing	R & D		Implementation		
	Pet Waste	Implementation			Adaptive Mgmt	
	Septic System Maintenance	Implementation				
	Youth Stormwater Education	Implementation				
	Landscaping and Buffers	R & D			Implementation	
	Hazardous Mat'l Use, Storage, Disposal	Implementation				

		2009	2010	2011	2012	2013
Business	**Carpet Cleaning**	N/A	R & D	Implementation		
	Natural Yard Card	N/A	R & D		Implementation	
	Illicit Discharge ID and Reporting	N/A		Implementation		

		2009	2010	2011	2012	2013
General Public	**Vehicle Leaks**	N/A	R & D		Implementation	
	Low Impact Development	Implementation				
	Enviro Stewardship Actions and Opps	Implementation				

Key:

Research and Development

Implementation

Adaptive Management

The City's Surface Water Management Program is tracking outreach efforts as well as maintaining records of current public education and outreach activities. Please see the Bothell's Education and Outreach Summary Report 2012 (http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement/NPDESdocumentation.ashx?p=1652) for a complete list of activities, actions, and outreach materials.

2. Public Involvement and Participation

Per Permit Section S5.C.2:

City of Bothell citizens are encouraged to participate in the development of this NPDES Phase II Surface Water Management Plan. The City of Bothell has established a website to review the latest plan and has provided an online form to allow for public comment at:

http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement.ashx?p=1292

" The SWMP shall include ongoing opportunities for public involvement..."

The website is one of several media sources being used for the dissemination of pertinent information about public workshops, volunteer involvement, and public hearings regarding the affected watersheds to foster direct involvement and communication with local communities. The City will continue its collection and retention of information received from participants at these forums and will present them in Appendix B.

Public involvement increases understanding of local water quality issues and creates a sense of responsibility for the health of the affected watersheds. The City's NPDES Phase II SWMP shall include ongoing opportunities for public involvement and may include, but not be limited to, advisory councils, watershed committees, participation in developing rate structures, or other similar activities. The City shall comply with applicable State and local public notice requirements when developing its SWMP.

Other opportunities for public participation occurred at several public outreach events in 2012; Natural Yard Care workshops, Sustainamania, a City Council session, and Riverfest in Bothell. These outreach BMPs resulted in few comments received. Citizens asked questions at the events and wished to be informed, but they did not provide comments on the plan. We will continue to solicit input at events with modifications, such as offering the executive summary with an easy fill-in comment form, to encourage the general public to provide comments.

In reaction to the lack of response and input, the City has developed and implemented new BMPs each year in an effort to determine which outreach method solicits the best response. Past efforts included an open house, volunteer and festival events, utility billing inserts, local newspaper articles, social media posts, and continued online outreach to disseminate the SWMP and solicit participation by Bothell's citizens.

In July 2012, the City enclosed an insert in a sewer and water utility bill mailed to over 5,300 citizens within the King County portion of Bothell.

The flyer asked citizens to visit the City's website to review and comment on the SWMP. The citizens were then directed to answer four questions on the web page. Those who responded to the questions became eligible to choose and receive one of the following incentives: a car wash ticket, native seed packet, edible vegetable packet, or a pet waste bag dispenser.

A total of 20 responses were received for the following questions (see Appendix A).

- *What type of non-point source pollution do you feel is the biggest problem for the City?* The most common answers (five respondents) were chemical fertilizers/pesticides and vehicle leaks, with runoff and garbage having four respondents respectively.
- *Where would you like to see City efforts focused over the next four years?* Respondents overwhelmingly (12 out of 19) identified citizen education and outreach.
- *What is the best way to reach out to the general public?* Over half of the respondents (11) said mailers and flyers. Others mentioned events, website, email, and workshops.
- *How would you like to be involved in this process?* The majority (nine) left no response or responded with being unable to be involved in the process. The remaining respondents indicated they wanted to stay informed, reduce their personal pollution input, and continue to provide comments via email and the website.

The common theme was the desire for active and effective education and outreach programs with incentives as a key component to the SWMP. The City is making continued efforts to expand this outreach method to other residents of the City to solicit further comments for the SWMP.

The City will continue to make its NPDES Phase II SWMP, the annual report required under S9.A and all other submittals required by this Permit, available to the public via the City's Surface Water Program pages on our website.

3. Illicit Discharge Detection and Elimination

Per Permit Section S5.C.3:

Illicit discharge detection and elimination (IDDE) is an NPDES Phase II Permit requirement. The permit requires the City to have an ongoing program to detect and remove illicit discharges into the municipal storm and surface water system. The permit required full implementation of an IDDE Program by August 2011. Minimum performance measures include:

Municipal Separate Storm Sewer System (MS4) Mapping:

"The SWMP shall include an ongoing program to detect and remove illicit connections, discharges as defined in 40 CFR 122.26(b)(2), and improper disposal, including any spills not under the purview of another responding authority, into the municipal separate storm sewers owned or operated by the Permittee."

An MS4 map is required. There are three major categories of requirements for this map. The following three figures highlight each of the categories within the City's mapping data set (as seen in Figures 3.1, 3.2, and 3.3). We continue to improve the quantity and quality of data contained within them. The three categories are:

1) *The MS4 Itself*: This map is to include all known pipes, their outfalls, and structural BMPs that the City owns, operates, or maintains. In addition, outfalls greater than 24" are to also include the following attributes:

- Tributary conveyances (indicate type, material, and size if known)
- Associated drainage areas
- Associated land uses within those drainage areas

The City has had a GIS map of our storm and surface water system for some time. However, the City spent 2011 preparing for this requirement by examining the data set history, identifying where gaps are likely to exist, improving procedures for updating the data set, and identifying areas to programmatically examine for improvements in the upcoming year.

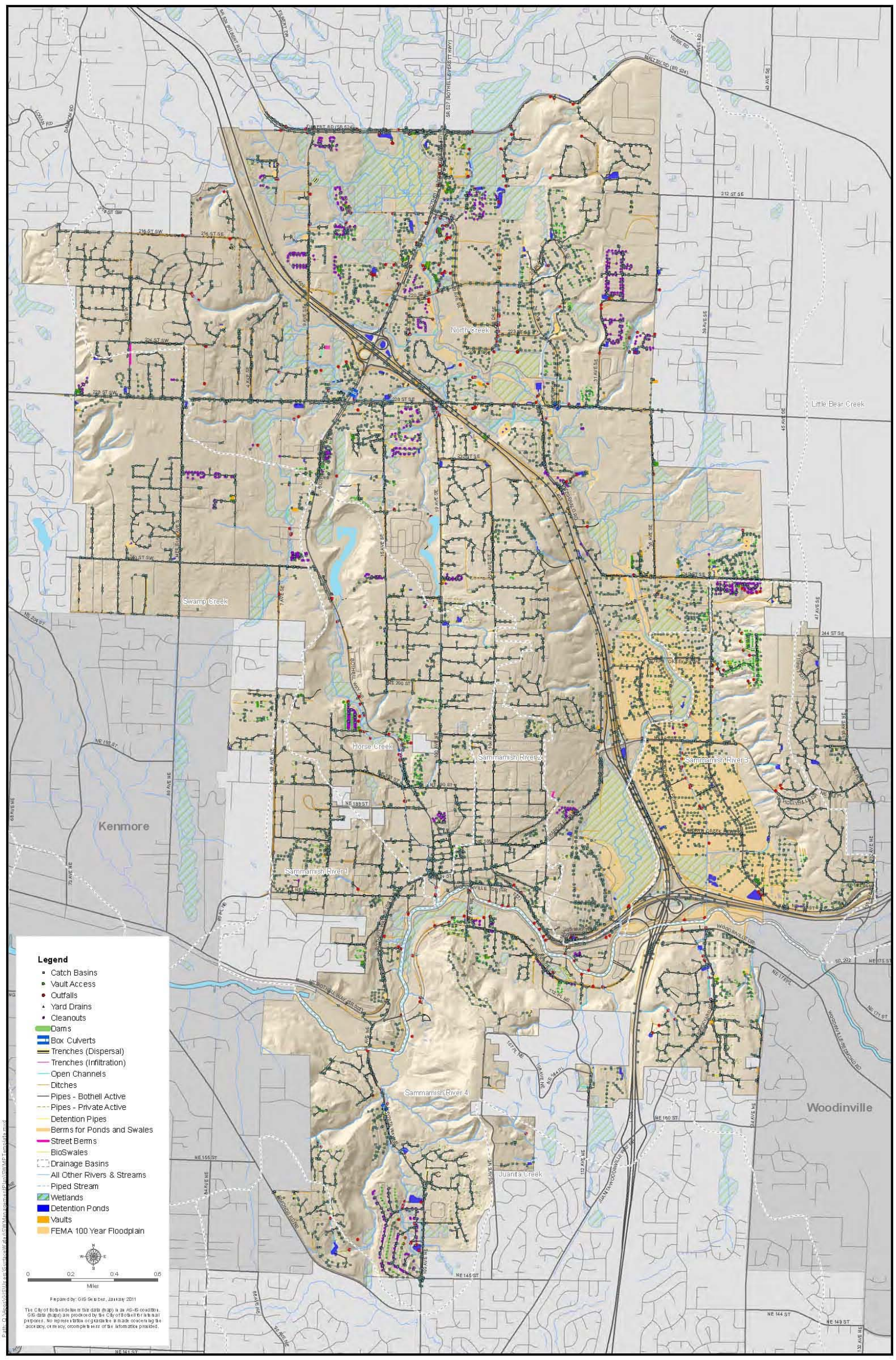
2) *All connections to the MS4 authorized or allowed after the Permit effective date.*

Our GIS program currently includes a process to enter the as-builts from completed construction projects, which includes private storm systems and their connections to Bothell's MS4. Our GIS map includes private systems connected to the MS4 prior to the permit effective date and continues to add connections from that date forward. Procedures are periodically evaluated to ensure the capture of all connections.

3) *Geographic areas served by the MS4 that do not discharge stormwater to surface waters.*

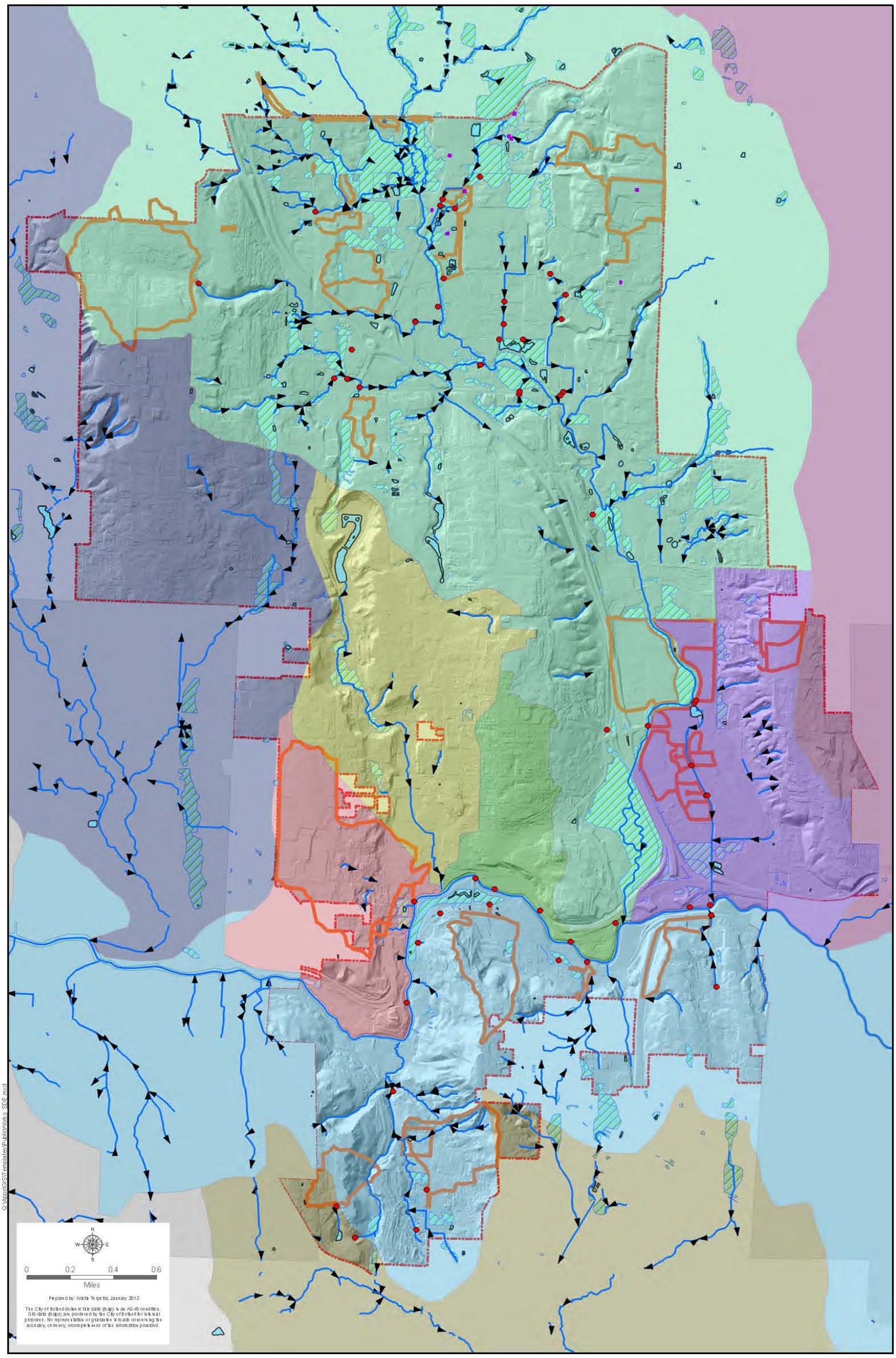
   Our data set shows infiltration facilities and also areas that lack a developed storm drainage system. Our map set will be continuously updated as new infiltration facilities are brought online and other areas are better mapped.

The map of Bothell's MS4 is available upon request, and the map products will be posted with the publication of this report.



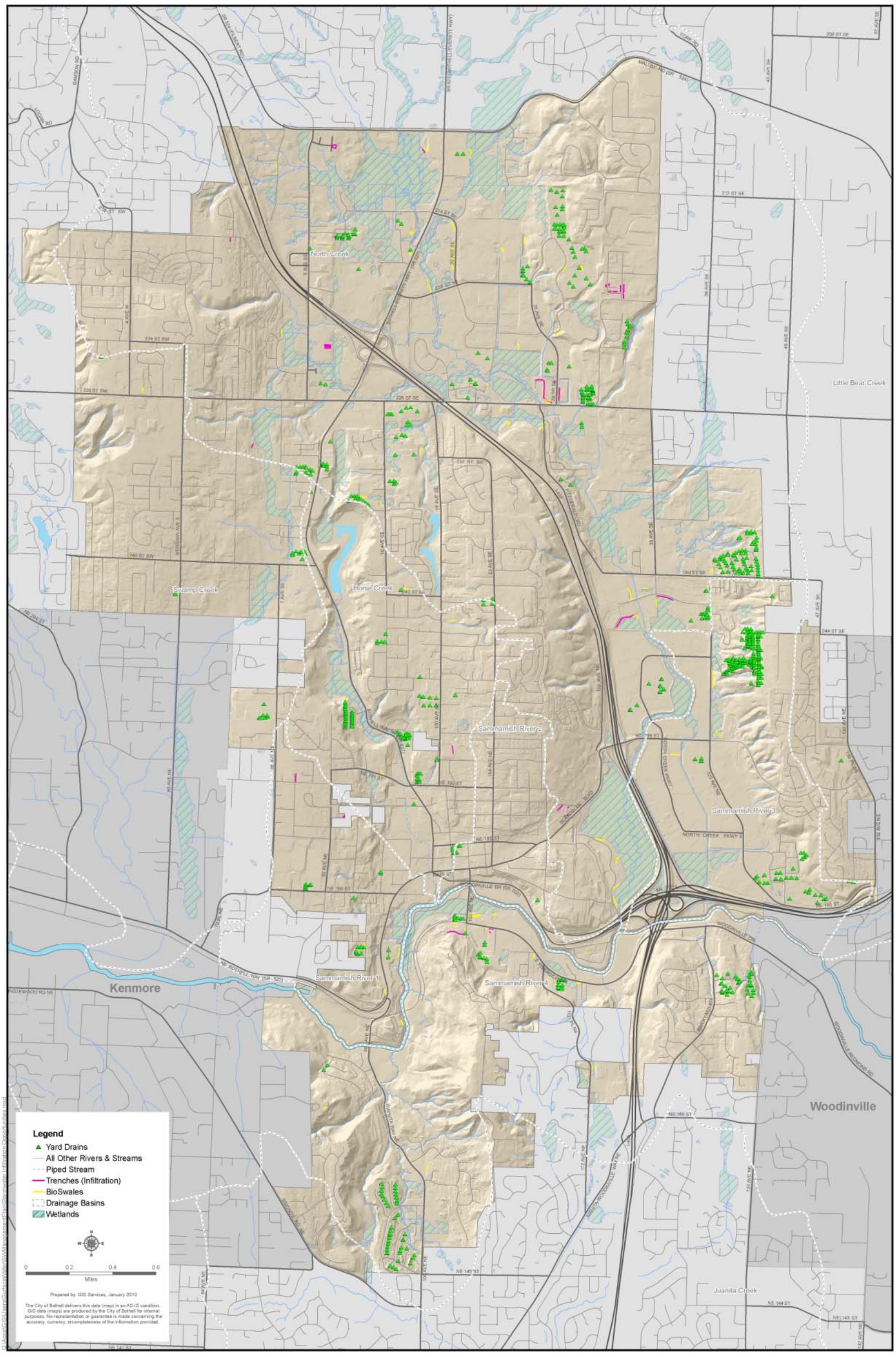
City of Bothell MS4 System **Fig. 3.1**

City of Bothell



Large Stormwater Outfalls & Corresponding Sub-basin Drainage **Fig. 3.2**

City of Bothell



Stormwater Infiltration Opportunities **Fig. 3.3**

City of Bothell

Ordinances for IDDE

In accordance with Section S5.C.3.b, City of Bothell developed, adopted, and implemented ordinances to prohibit non-stormwater or other illegal or illicit discharges to the City's storm and surface water and developed enforcement provisions for the ordinance, Bothell Municipal Code (BMC) Title18, Utilities.

The ordinance includes escalating enforcement procedures and actions BMC 11.20.010 (A) (3) Special Penalties for BMC Title 18, Utilities. The City developed a strategy to implement the enforcement provisions of the ordinance. During 2010, new procedures and policies were used that leveraged fines as appropriate.

In 2011, procedures were revised to place more emphasis on compliance rather than enforcement, allowing first time offenders to evaluate how their discharge occurred and what they could do to prevent a similar discharge in the future. If they were willing to complete this analysis, the City waived any fines that would have otherwise applied.

In 2013, a process to evaluate City codes for their impact on allowing and encouraging LID practices will begin. This is the first of the new requirements under the NPDES Permit that will be addressed by the Illicit Discharge Detection and Elimination program.

Illicit Discharge Detection Program

An ongoing program for detecting and addressing non-stormwater illicit discharges and connections into Bothell's MS4 has been fully implemented (prior to the August 19, 2011 Permit deadline).

Currently, the City responds to illicit discharge reports from citizens, staff, and other agencies. In other words, response activities are reactive. The program is ready to move the City to a more proactive approach, seeking to find potential discharges that need addressing prior to becoming a problem.

One major addition to the program in 2012 was access by a Local Source Control Specialist through grants awarded from WDOE and EPA. This specialist provides technical assistance and outreach to targeted business populations in an effort to be proactive against spills and illicit discharges.

Requirements of this program include:

- *Procedures for locating priority areas likely to have illicit discharges*

  This tabletop exercise, repeated periodically, includes evaluating land uses, business/industrial activities, areas with large quantities of materials storage, and areas with higher complaint levels. Areas of focus for 2012 include restaurants, car repair shops, landscaping companies, and mobile businesses.

- *Field assessment activities*

  This requirement runs hand-in-hand with the mapping program. The field assessments include dry weather screenings, verifying outfall locations, identifying previously unknown outfalls, and detecting illicit discharges.

  In summer and fall 2010, stream walks were conducted to satisfy field assessment requirements along three stream course centerlines: Horse Creek, Little Swamp Creek, and Perry Creek. In 2011, the City hired two Surface Water interns to complete the remainder of the City's streams and outfall screenings.

  In 2012, efforts for field assessment focused on identifying previously unknown segments of MS4 through a gap analysis, and screening them as they were identified.

  In 2013, we will continue to work on the list of gaps identified in 2012.

- *Procedures for responding to illicit discharges*

  In 2009, a spill response manual and tracking system for investigations related to surface water were implemented. There were 50 illicit discharge calls in 2010, 29 calls in 2011, and 21 calls in 2012. On average, the response time was less than 24 hours.

  The Permit requires an investigation within seven days, on average, for complaints, reports, or monitoring information that indicate a potential illicit discharge. Immediate investigations are required for those situations that are emergencies, urgent, or severe.

  In 2011, a new spill response manual, City of Bothell, Illicit Discharge Detection and Elimination Program Manual 2011, was written and introduced into the program. The manual was further revised in 2012, and will be revised again in 2013 as the program grows.

- *Procedures for tracing the source of an illicit discharge and procedures for its removal*

  The City currently uses the City of Bothell Illicit Discharge Detection and Elimination Program Manual, 2011. This manual is based on a template collaboratively written by the cities of Redmond, Woodinville, Kirkland and Bothell. Many of the methods were taken from City of Bainbridge Island's manual and the Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments by the Center for Watershed Protection, October 2004.

Public Employee, Business, and General Public IDDE Education

Education regarding the hazards associated with illicit discharges and improper disposal of waste is an ongoing task within the City of Bothell. Our Surface Water Program Coordinator and Recycling & Public Services Projects Administrator work with the general public to promote recycling events and educate citizens about recycling and proper disposal of waste.

In 2008, the City added a spill hotline, and in 2009 made that hotline available to receive calls 24-hours a day. Although the number is continuously publicized, we have not received a report via the hotline. Most callers report spills to the Public Works front desk or Operations and Maintenance.

In 2012, the City expanded its capabilities with a Local Source Control Specialist through grants awarded from WDOE and EPA. The specialist will provide technical assistance and outreach to targeted business populations in an effort to be proactive against spills and illicit discharges.

IDDE Program Evaluation and Assessment

The program currently meets the minimum requirements of the Permit by tracking the number and types of spills and illicit discharges, the number of inspections made, and feedback received from public education efforts. The City met the expected average timelines for response to illicit discharge incidents. For 2011 and 2012, the results of our IDDE public education efforts are summarized within the Education and Outreach Program report. In 2013, a broader program evaluation will be completed and an IDDE specific report created, summarizing the findings separately.

Training Municipal Field Staff on IDDE

The City met the August 2009 deadline requirement to train municipal field staff that is responsible for all aspects of IDDE activities. Follow-up training was developed in 2010, and training will be repeated as needed to address changes in procedures, techniques, or requirements.

Throughout 2009 and 2010, training opportunities were offered to all Public Works field staff in IDDE identification and reporting. Subsequently in 2010, 2011, 2012, and now in 2013, staff is completing mandatory training by workgroup throughout the entire City for field staff.

Training records are collected and retained.

4. Controlling Runoff from New Development, Redevelopment, and Construction Sites

Per Section S5.C.4:

On June 16, 2009, the City of Bothell adopted the 2009 Bothell Surface Water Management Manual that is primarily the 2005 Stormwater Management Manual for Western Washington. The manual applies to all construction sites, and meets the "Technical Thresholds" in accordance with Appendix 1 of the NPDES Permit for sites that disturb a land area one acre or greater, including projects less than one acre that are part of a larger common plan of the development or sale.

The City anticipates that the newly adopted standards will generally decrease peak flows and increase the quality of storm water runoff discharge(s) into Bothell's rivers, streams, ponds, and wetlands.

The minimum performance measures adopted include:

"Each Permittee shall develop, implement, and enforce a program to reduce pollutants in stormwater runoff to a regulated MS4 from new development, redevelopment, and construction site activities."

- An ordinance that addresses runoff from new development, redevelopment, and construction site projects. This was accomplished in Bothell Municipal Code Chapter 17.04 and the Bothell Surface Water Design Manual.
- The program includes a permitting process with plan review, inspection, and enforcement capability to meet the standards listed within the permit for both private and public projects, using qualified personnel. The process was adopted by August 16, 2009, and includes:
  - Review of all stormwater site plans for proposed development activities.
  - Prior to clearing and construction, inspect all known development sites that have a high potential for sediment transport, as determined through plan review based on definitions and requirements. Identify construction site sediment transport potential.
  - Inspect all known permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls. Enforce as necessary, based on the inspection.

- Inspect all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater controls, such as stormwater facilities and structural BMPs. Verify a maintenance plan is completed and responsibility for maintenance is assigned. Enforce as necessary, based on the inspection.
- Compliance with the inspection requirements above shall be determined by the presence and records of an established inspection program designed to inspect all sites, and achieving at least 95 percent of scheduled inspections
- An enforcement strategy has been developed and implemented to respond to issues of noncompliance.

- The program includes provisions to verify adequate long-term operation and maintenance of post-construction stormwater facilities and BMPs that are permitted and constructed pursuant to above. These provisions were adopted by August 16, 2009, and include:
  - Adoption of an ordinance that clearly identifies the party responsible for maintenance, requires inspection of facilities in accordance with the requirements below, and establishes enforcement procedures (see Appendix C, BMC Title 18 and BMC Chapter 11.02).
  - The City will establish maintenance standards that are as protective as or more protective of facility function than those specified in Chapter 4, Volume V of the 2005 Stormwater Management Manual for Western Washington, and King County Surface Water Design Manual, Appendix A, 2009 for flow control, conveyance, and water quality facilities. For facilities which do not have maintenance standards, the City will develop a maintenance standard.
  - The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facilities' required condition at all times between inspections. Exceeding the maintenance standard between the period of inspections is not a Permit violation.
  - Unless there are circumstances beyond the City's control,* when an inspection identifies an exceedance of the maintenance standard, maintenance shall be performed:
    - Within one year for wet pool facilities and retention / detention ponds.
    - Within six months for typical maintenance.

- Within nine months for maintenance requiring re-vegetation.
- Within two years for maintenance that requires capital construction of less than $25,000.

*Circumstances beyond the City'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 emergency work. For each exceedance of the required time frame, the City will document the circumstances and what qualified them as beyond its control.

- Inspections of post construction include:
  - Annual inspections of all stormwater treatment and flow control facilities (other than catch basins) permitted by the City according to S5.C.4.b., unless there are maintenance records to justify a different frequency.

Reducing the inspection frequency shall be based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the City will provide 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 signing authority granted within the NPDES Phase II Permit.

Inspections of all new flow control and water quality treatment facilities, including catch basins, for new residential developments that are a part of a larger common plan of development or sale, shall be every six months during the period of heaviest house construction (i.e., one to two years following subdivision approval) to identify maintenance needs and enforce compliance with maintenance standards as needed.

The program includes 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 activities will be kept. The City will keep records of all projects disturbing more than one acre, and all projects of any size that are part of a common plan of development or sale that is greater than one acre that are approved after the effective date of this NPDES Phase II Permit.

The program has made available copies of the "Notice of Intent for Construction Activity" and copies of the "Notice of Intent for Industrial Activity" to representatives of proposed new development and redevelopment. The City shall continue to enforce local ordinances controlling runoff from sites that are also covered by stormwater permits issued by WDOE.

Prior to February 16, 2010, the City verified that all staff responsible for implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, were trained to conduct these activities. Follow-up training shall be provided as needed to address changes in procedures, techniques, or staffing. The City shall document and maintain records of the training provided and the affected staff.

5. Pollution Prevention and Operation and Maintenance for Municipal Operations

Per Permit Section S5.C.5:

The City has an ongoing stormwater Maintenance and Operations program that was upgraded in 2010 to include a training component. The new component's primary goal was to prevent and/or reduce polluted runoff from City of Bothell facilities.

- The minimum maintenance performance measures include:

By February 15, 2010: "each Permittee shall develop and implement a maintenance and operations (M&O) program that includes training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations."

Use of maintenance standards of Chapter 4 of Volume V of the 2005 Stormwater Management Manual for Western Washington. For maintenance and operations standards for conveyance systems, the City adopted the King County Surface Water Design Manual, Appendix A, 2009. Whether or not a facility has individual maintenance standards, all shall minimally be maintained using the prior-referenced documents. For additional details, see Appendix C for annual audit reports and Policies and Procedures for All Lands Owned or Maintained by City of Bothell Public Works Department, January 20, 2010. The latter is available on the City's website: http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement/NPDESdocumentation.ashx?p=1652

The purpose of the maintenance standard is to determine if maintenance is required. The standard is not a measure of a facility's required condition at all times between inspections. Exceeding the maintenance standard between inspections and/or maintenance is not a Permit violation.

- Unless there are circumstances beyond the City's control, when an inspection identifies an exceedance of the maintenance standard, maintenance shall be performed:
  - Within one year for typical maintenance of facilities, except catch basins.
  - Within six months for catch basins.
  - Within nine months for maintenance requiring revegetation.

- Within two years for maintenance that requires capital construction of less than $25,000.

The above standards are annually attained. To ensure achievement, the program evaluates performance through the use of the NPDES Phase II annual report. An important component to successful tracking of performance is the use of an asset management software database. The Maintenance and Operations Division and SWM program anticipate acquiring a software program to ensure that needed work is performed in a timely manner and easily tracked.

The City has initiated an annual inspection program of all City-owned or operated, permanent stormwater treatment and flow-control facilities, other than catch basins. The program began in 2008 and is staffed with one Surface Water Inspector with oversight provided by an Environmental Engineer. Work orders are written and submitted to City of Bothell's Street/Storm Division field staff to take appropriate maintenance actions in accordance with the adopted maintenance standards. The work orders are returned to the Surface Water Inspector after the maintenance work is completed.

Maintenance and Operations staff routinely perform spot checks of potentially damaged permanent treatment and flow-control facilities, other than catch basins, after major (greater than 24-hour/10-year recurrence interval rainfall) storm events. If spot checks indicate widespread damage and/or maintenance needs, inspections are performed on all stormwater treatment and flow-control facilities that may be affected. Staff conducts repairs or takes appropriate maintenance action in accordance with maintenance standards established above, based on the results of inspections. There are 17 such facilities that are routinely checked before and after major storm events.

Citywide Catch Basin and Inlet Maintenance Program

The NPDES Phase II Permit requires the City to perform inspections of all catch basins and inlets owned or operated by the City at least once before the end of the Permit term, February 15, 2012. The 2013 new NPDES Permit requires an every two-year inspection and cleaning frequency. The City is exploring options to attain that level of maintenance for catch basins. The Maintenance and Operations Division is responsible for this Permit element.

The City shall clean catch basins if the inspection indicates cleaning is needed to comply with maintenance standards established in the 2005 Stormwater Management Manual for Western Washington. Decant water shall be disposed of in accordance with Street Waste Disposal.

The City may inspect catch basins on a "circuit basis," whereby a sampling of catch basins and inlets within each circuit is inspected to identify maintenance needs. Emphasis includes inspection of the catch basin immediately upstream of any system outfall. Staff cleans all catch basins within a given circuit at one time if the inspection sampling indicates cleaning is needed to comply with maintenance standards established under S5.C.4.c.

As an alternative to inspecting catch basins on a "circuit basis," the City may at times inspect all catch basins, cleaning only those catch basins where cleaning is needed to comply with maintenance standards.

Compliance with the inspection requirements noted above shall be determined by the presence of an established inspection program designed to inspect all sites, and achieving inspection of 95 percent of all sites.

There are approximately 6,553 catch basins (CBs) within the City. Some of the CBs drain into regional stormwater control facilities and others drain directly to surface waters with no treatment. The annual rate of cleaning CBs has increased since 2008. 590 CBs were cleaned in 2008; the annual cleaning rate had risen to 998 CBs in 2010. The three-year total for 2008, 2009, and 2010 was 2,382 CBs. In 2011, the City increased its effort by nearly two-fold with 4,830 CBs inspected and 3,012 CBs cleaned. In 2012 the City cleaned and inspected 1,331 CBs.

The City hired two summer interns in 2011 and one full-time staff to complete the inspection of all City-owned and maintained CBs as required by the Permit standards. Staffing requirements will be reviewed annually to ensure adequate coverage exists to meet the many different demands of the Street/Storm program of the Maintenance and Operations Division.

The City lacks an adequate computer database system to efficiently track which CBs have been serviced. The current system relies on paper documentation and highlighted maps showing areas serviced. It is anticipated that in the future, the ability to track inspections and work performed will be improved with the acquisition of an asset management database system.

Reduction of Stormwater Impacts by Public Works Department

By February 15, 2010, the City successfully established and implemented practices to reduce stormwater impacts associated with runoff from streets, parking lots, roads, or highways owned or maintained by the City, and road maintenance activities conducted by the City. The document *National Pollution Discharge Elimination System, Phase II Permit, Goals, Policies, Procedures, and Practices for All Lands Owned or Maintained by City of Bothell Public Works Department* can be

viewed on the City's website. The document addresses Public Works Department activities and is summarized below.

- The following activities have been addressed for the Maintenance and Operations Division:
  - 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
- Establish and implement policies and procedures to reduce pollutants in discharges from all lands owned or maintained by the City and subject to this Permit, including but not limited to:
  - Parks
  - Open space
  - Road right-of-way
  - Maintenance yards
  - Stormwater treatment and flow-control facilities.
- These policies and procedures address, but are not limited to:
  - Application of fertilizers, pesticides, and herbicides, including the development of nutrient management and integrated pest management plans
  - Sediment and erosion control
  - Garbage management
  - Building exterior cleaning and maintenance
  - Landscape management and vegetation disposal

Training Program

The City developed and implemented an ongoing training program for employees whose construction, operations, or maintenance job functions may impact stormwater quality. The training program began in the summer of 2009. It addresses the importance of protecting water quality, Permit requirements, operation and maintenance standards, inspection procedures, selecting appropriate BMPs, ways to perform job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns, including potential illicit discharges. Follow-up training is periodically provided as needed (e.g., new staff hires or changes in procedures, techniques, or requirements). The City

documents and maintains records of training provided which can be found in the NPDES Annual Report filed with WDOE. It also accessible from the City's website: http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement.ashx?p=1292.

Stormwater Pollution Prevention Plans

The City has developed and implemented a Stormwater Pollution Prevention Plan (SWPPP) for the heavy equipment at the Public Works Operations Center (PWOC) and Shop 1. Implementation of non-structural BMPs began in 2010. A schedule for implementation of structural BMPs is included in the SWPPPs. The SWPPPs include provisions for periodic visual observation of discharges from the facility to evaluate the effectiveness of the BMPs. Late in 2010, the Maintenance and Operations, Facilities, and Parks Divisions moved to a new facility that is co-managed and owned with the Northshore School District (NSD) Transportation facility. In 2011, the City and NSD began a collaborative effort to write an SWPPP for the Operations Center. This SWPPP was completed in early 2012. In 2011, Shop 1 was reassigned as a storage warehouse facility. It retains its SWPPP as a means to address site specific circumstances (e.g., decant facility).

The SWPPPs are audited annually. Individual audit reports are posted on the City's website at http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement.ashx?p=1292.

Records of inspections and maintenance or repair activities conducted by the City will be maintained in accordance with the Permit requirements.

6. Compliance with Total Maximum Daily Load (TMDL) Requirements

Per Permit Section S7:

"Permittees are not required to conduct water sampling or other testing except to meet TMDL requirements or to conduct sampling to characterize illicit discharge."

Applicable TMDLs are those that have been approved by EPA on or before February 15, 2007. City of Bothell is currently subject to two TMDLs. Each TMDL has individual options for which a course of required actions is outlined.

<u>North Creek Fecal Coliform Bacteria TMDL, Strategy A (Option 1)</u>

In 2007, the City submitted a Quality Assurance Program Plan (QAPP), (Kalenius, 2007) to conduct monitoring within North Creek's high priority tributaries. The QAPP has been reviewed by WDOE and was accepted in 2008. Key provisions of the QAPP are to initiate the approved monitoring within nine months of Permit issuance. Monitoring was initiated in October 2007. The City provides an annual summary monitoring report to WDOE, which can be found on the City's website: http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement/NPDESdocumentation.ashx?p=1652.

Under Option 1, in 2010 the City prepared a Bacteria Pollution Control Plan. The City conducted public review of the Bacterial Pollution Control Plan throughout 2011. The public is able to review and provide their comments on the plan by visiting the City's website at: http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement.ashx?p=1292. A final plan was submitted to WDOE in December 2011. The plan contains action plans and updates. The most notable was the plan to review adoption of a pet waste ordinance. The outcome was that the City did adopt a pet waste ordinance for private and public property in 2011.

In 2010 and 2012, through an interlocal agreement with Snohomish County Surface Water Management Program, the City conducted source tracking surveys for bacteria sources within two basins (Perry Creek in 2010 and Crystal/Queensborough Creek in 2012) to help determine sources of fecal bacteria.

A complete summary of findings is posted on the City's website (City of Bothell, Loch 2012). In general, the sources of bacteria pollution were found to be diffused, with no single site being identified as highly likely sole contributor to bacteria pollution for Perry Creek and Crystal Creek. Future source tracking surveys will be conducted if levels of fecal

bacteria exceed certain thresholds. The thresholds are part of the source tracking protocol developed by the Snohomish County Surface Water Management Program.

Swamp Creek Fecal Coliform Bacteria TMDL (Option 2)

Option 2 required monitoring of specific jurisdictions, but the City of Bothell was not required to monitor. However, in 2010 the City began monitoring Little Swamp Creek near 7th Avenue SE. The monitoring was in response to WDOE finding high levels of fecal coliform bacteria in the local area. In a collaborative effort between WDOE and the City, a sampling strategy was employed to determine possible sources of the bacteria. Sampling indicated a duck feeding pond to be the most likely source. Efforts have been underway since late summer 2010 to work with the owner to discourage duck feeding at the pond. The City will continue to long-term monitor Little Swamp Creek for fecal coliform bacteria. The monitoring results are annually included in the North and Swamp Creek Sample Results TMDL Report. A complete report on the results is available on the City's website (City of Bothell, Loch 2011).

7. Monitoring

Per Permit Section S8:

The City recognizes that the primary goal of NPDES Phase II Permit is to "*…reduce discharges of pollutants to the maximum extent practicable and to protect water quality*" (NPDES Phase II Permit, 2007). To determine the effectiveness of the SWMP in attaining the primary goal, the City has begun to implement a comprehensive long-term monitoring program.

- The City was not required to conduct water sampling or other testing during the effective term (2007 to 2012) of this NPDES Phase II Permit, with the following exceptions:
  - Any water quality monitoring required for compliance with TMDLs.
  - Any sampling or testing required for characterizing illicit discharges.
- The City provides the following information in each annual report:
  - A description of any stormwater monitoring or studies conducted by the City during the reporting period. If stormwater monitoring was conducted on behalf of the City, or if studies or investigations conducted by other entities were reported to the City, a brief description of the type of information gathered or received shall be included in the annual report(s) covering the time period(s) the information was received.
  - An assessment of the appropriateness of the BMPs identified by the City for each component of the SWMP.
  - Any changes made (or anticipated to be made) to the BMPs that were previously selected to implement the SWMP, and why.
  - Information required in regards to future long-term monitoring.

<u>Monitoring and Assessment</u>

The new 2013 through 2018 Permit allows Phase II jurisdictions to opt into a regional monitoring program. Rather than conducting an individual monitoring effort, the City can elect to pay into the regional monitoring group. The regional monitoring and assessment is broken out into three categories:

1) Status and Trends
2) Stormwater Management Program Effectiveness
3) Source Identification and Diagnostics

The City's current plan is to pay into all three of the regional monitoring group's program elements. However, the City shall continue its own monitoring when and where possible. Water quality monitoring conforms to the City of Bothell's Comprehensive Plan, Imagine Bothell, which calls for "…identification, protection, preservation/conservation, and

enhancement of those natural environment features which are most sensitive to human activities and which are critical to fish and wildlife survival and proliferation." Collection of data and observations (i.e., monitoring) is one method to determine attainment of the goal.

Status and Trends

In 2010, the City began to conduct surface water quality monitoring to determine the effectiveness of its SWMP at controlling stormwater-related problems that are directly addressed by actions in the SWMP. The effectiveness monitoring is intended to improve stormwater management efforts by evaluating issues that significantly affect the success of, or confidence in, stormwater controls. The program is built upon long-term monitoring consisting of ambient monthly data collection and periodic stream bioassessments. The results of the monitoring program shall be used to support the adaptive management process and lead to refinements of the SWMP. The bioassessment and ambient monitoring approach provides a watershed scale effectiveness monitoring tool that measures the integration of all land use effects to receiving waters.

Detailed descriptions of the monitoring results are on the City's website, Stream Health Assessment for City Streams: www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement/NPDESdocumentation.ashx?p=1652

Stormwater Management Program Effectiveness

This regional effort will focus on studying discharges from stormwater controls. This could include studies of BMPs to control construction site erosion, effectiveness of street sweeping efforts, and stormwater site designs aimed to reduce volume of stormwater runoff from the built environment.

Source Identification and Diagnostics

The goal of this effort is to implement a Source Identification Repository SIDIR). The repository will draw information from national and local studies. The intent is to provide the best available science in regards to stormwater management. One focus will be on development of an Illicit Discharge Detection and Elimination methods manual to assist local jurisdictions.

The City anticipates using the monitoring information to:

- Facilitate improved program policy and land use rules.
- Prioritize watershed restorative actions based on severity of water quality.
- Direct future monitoring efforts.

The monitoring of sites will be reviewed annually and sites may be added or deleted based on quality and usability of information collected.

Financial Costs to Implement SWMP

In 2008, the City began establishing account codes to track staff time, equipment purchases, contracts, and related expenditures by program component. For 2008, the City Surface and Stormwater staff expenses totaled $100,739. In 2009, the City refined and expanded its accounting practices to track additional costs. Table 7.1 details individual program costs by year. From 2008 to 2012 the City's Surface Water and Operations Divisions have spent approximately $7,513,190. The costs were offset by a WDOE Local Government Stormwater grant. From 2008 to 2012, the City received $306,147 from WDOE. These grant monies were primarily used to fund duties performed by Surface Water Management staff positions. In 2012, the City received $13,100 from Local Hazardous Waste Program and King Conservation District fund. A detailed financial account by years may be found in Appendix B.

Table 7.1: Annual Program Costs for NPDES Permit Phase II

Program Elements	2009	2010	2011	2012
General NPDES Actions: Annual Report & Program Development	$42,687	$73,078	$94,242	$54,924
SWMP Development	$6,611	$17,908	$11,091	$9,324
Public Education and Outreach	$46,356	$67,079	$133,115	$129,811
Public Involvement and Participation	$11,140	$16,361	$1,260	$999
Illicit Discharge Detection Elimination	$25,855	$84,717	$116,873	$102,952
New and Redevelopment	$55,698	$43,135	$48,825	$52,590
Pollution Prevention Municipal Operations	$1,381,794	$1,414,876	$2,085,746	$1,277,198
TMDL	$9,547	$26,097	$17,287	$22,637
Ambient Monitoring	N/A	$4,725	$13,726	$9,230
Stormwater Monitoring	N/A	$2,098	$1,599	0
Annual Total	$1,579,688	$1,750,074	$2,523,763	$1,659,665

Reporting Requirements

Per Permit Section S9:

The City keeps all records related to this Permit and the SWMP for at least five years. Except for the requirements of the annual reports described in this Permit, records shall be submitted to WDOE only upon request.

The City will make all records related to this Permit and the SWMP available to the public at reasonable times during business hours upon completion and submittal of a City of Bothell Request for Public Records form.

- The City will provide a copy of the most recent annual report to any individual or entity, upon request.
  - Per the City's Fee Schedule Resolution 1293, a reasonable charge may be assessed by the Permittee for making photocopies of records. Current copy charges are $0.15/page for sheets sized 11" x 17" and smaller; and $4.00/page for sheets sized over 11" x 17". If the requested records are available electronically, a disc may be created by City staff and purchased for $4.00/CD or $7.00/DVD.
  - The City may require reasonable advance notice of intent to review records related to this Permit.
- Each annual report shall include the following, available on the City's website at http://www.ci.bothell.wa.us/CityServices/PublicWorks/SurfaceWaterManagement.ashx?p=1292:
  - A copy of the City's current Stormwater Management Program.
  - Submittal of Annual Report Form for Cities, Towns, and Counties, which is intended to summarize the City's compliance with the conditions of this permit, including:
    - Status of implementation of each component of the SWMP in Section S5, Stormwater Management Program for Cities, Towns, and Counties.
    - An assessment of the City's progress in meeting the minimum performance standards established for each of the minimum control measures of the SWMP.
    - A description of activities being implemented to comply with each component of the SWMP, including the number and type of inspections, enforcement actions, public education and involvement activities, and illicit discharges detected and eliminated.
    - The City's SWMP implementation schedule and plans for meeting Permit deadlines, and the status of SWMP

implementation to date. If Permit deadlines are not met or may not be met in the future, include:
    - Reasons why deadlines were not met.
    - Corrective steps proposed and taken.
    - Expected dates that the deadlines will be met.
- A summary of the City's evaluation of its SWMP.
- If applicable, notice that the MS4 is relying on another governmental entity to satisfy any of the obligations under this Permit.
- Updated information from the prior annual report plus any new information received during the reporting period.
- Certification and signature, and notification of any changes to authorization.
- Obstacles related to the use of LID practices (City of Bothell, March 2011).
- The LID obstacle report describes the following:
    - LID practices that are currently available and that can reasonably be implemented within this Permit term.
    - Potential or planned non-structural actions and LID techniques to prevent stormwater impacts.
    - Goals and metrics to identify, promote, and measure LID use.
    - Potential or planned schedules to require and implement the non-structural and LID techniques on a broader scale in the future.

With the annual report, the City will include notification of any annexations, incorporations, or jurisdictional boundary changes resulting in an increase or decrease in the City's geographic area of Permit coverage during the reporting period, and implications for the SWMP.

Glossary of Definitions and Acronyms

BMPs – Best Management Practices: The schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices approved by the Washington State Department of Ecology that, when used individually 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 being discharged into the stormwater system.

CBs – Catch Basins: typically precast concrete boxes (18'x24"x36") that are inset flush with the surrounding surface such that their open grates can collect water runoff.

CWA – Clean Water Act: 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.

EPA – Environmental Protection Agency: is an agency of the United States federal government which was created in 1970 for the purpose of protecting human health and the environment by writing and enforcing regulations based on laws passed by Congress.

IDDE – Illicit Discharge Detection and Elimination: A Permit-required ongoing program to detect and remove illicit discharges from the municipal storm and surface water system.

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, and 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.

LID – Low Impact Development: 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.

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

MS4 – Municipal Separate Storm Sewer System: 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.

NPDES – National Pollution Discharge Elimination System: 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.

NSD – Northshore School District: located in Bothell, Wash., offers a wide range of academic and extracurricular programs to students in grades kindergarten through 12.

SIDIR – Source Identification Repository: A repository that draws information from national and local studies with the intent to provide the best available science in regards to stormwater management.

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

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

SWM – Surface Water Management: is a program that works to protect and restore the physical, chemical and biotic integrity of surface water through the promotion of ecologically sound land use practices, reduction and elimination of storm water impacts, the assurance of a high performance level from current and future storm water control

systems, and education and outreach opportunities to foster healthy watershed stewardship.

SWMP – Stormwater Management Plan: 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.

SWPPP – Stormwater Pollution Prevention Plan: directs an assessment and suite of actions to reduce and eliminate polluted discharges to surface and storm waters from pollution generating facilities.

TMDL – Total Maximum Daily Load: 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 (e.g., 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.

WDFW – Washington Department of Fish & Wildlife: is a state agency whose mission is **t**o preserve, protect and perpetuate fish, wildlife and ecosystems while providing sustainable fish and wildlife recreational and commercial opportunities.

WDOE – Washington State Department of Ecology: is a state agency whose mission is to protect, preserve and enhance Washington's environment, and promote the wise management of our air, land and water for the benefit of current and future generations.

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Appendix A

Bothell's Public Involvement and Participation

Received comments on SWMP 2012

Appendix B

Annual Program Financial Summary Tables

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2009 NPDES Program Costs

Program Elements	SWM Staff	Maintenance Operations & Equipment	General/ Misc.
General NPDES Actions: Annual Report & Program Development	$26,532	N/A	$16,155
SWMP Development	$6,611	N/A	N/A
Public Education and Outreach	$46,356	N/A	N/A
Public Involvement and Participation	$11,104	N/A	$36
Illicit Discharge Detection Elimination	$25,150	$705	N/A
New and Redevelopment	$55,698	N/A	N/A
Pollution Prevention Municipal Operations	$23,074	$1,358,720*	N/A
TMDL	$4,757	N/A	$4,790
Ambient Monitoring	N/A	N/A	N/A

*This sum includes $78,951 in Maintenance and Operations costs associated with street sweeping, maintenance performed at City-owned and operated stormwater facilities, vactoring catch basins and pipes in City right-of-ways, operation of a decant facility, and training of staff. Included in the sum is $251,670 for storm vehicle maintenance and $1,028,099 for Maintenance and Operations Storm Division crew, administrative staff, and management staff salaries and benefits.

2010 NPDES Program Costs

General NPDES Actions: Annual Report & Program Development	**$55,983**	**N/A**	**$17,095**
SWMP Development	**$17,908**	**N/A**	**N/A**
Public Education and Outreach	**$52,753**	**N/A**	**N/A**
Public Involvement and Participation	**$16,361**	**N/A**	**$36**
Illicit Discharge Detection Elimination	**$82,927**	**$705**	**$1,085**
New and Redevelopment	**$43,135**	**N/A**	**N/A**
Pollution Prevention Municipal Operations	**$32,009**	**$1,382,866***	**N/A**
TMDL	**$14,041**	**N/A**	**$12,056**
Ambient Monitoring	**$1,586**	**N/A**	**$3,139**
Stormwater Monitoring	**$2,098**	**N/A**	**N/A**

*This sum includes $71,994 in Maintenance and Operations costs associated with street sweeping, maintenance performed at City-owned and operated stormwater facilities, vactoring catch basins and pipes in City right-of-ways, operation of a decant facility, and training of staff. Included in the sum is $67,920 for stormwater vehicle maintenance and $1,242,952 for Maintenance and Operations Storm Division crew, administrative staff, and management staff salaries and benefits.

2011 NPDES Program Costs

Program Elements	SWM Staff	Maintenance Operations & Equipment	General/ Misc.
General NPDES Actions: Annual Report & Program Development	$77,051	N/A	$17,191
SWMP Development	$11,091	N/A	N/A
Public Education and Outreach	$76,982	N/A	$56,133
Public Involvement and Participation	$1,260	N/A	N/A
Illicit Discharge Detection Elimination	$113,832	N/A	
New and Redevelopment	$48,825	N/A	N/A
Pollution Prevention Municipal Operations	$22,509	$2,063,237*	N/A
TMDL	$11,528	N/A	$5,760
Ambient Monitoring	$12,940	N/A	$786
Stormwater Monitoring	$1,599	N/A	N/A

*This sum includes $69,073 in Maintenance and Operations costs associated with street sweeping, maintenance performed at City-owned and operated stormwater facilities, vactoring catch basins and pipes in City right-of-ways, operation of a decant facility, and training of staff. Included in the sum is $118,853 for stormwater vehicle maintenance and $1,875,311 for Maintenance and Operations Storm Division crew, administrative staff, and management staff salaries and benefits.

2012 NPDES Program Costs

Program Elements	SWM Staff	Maintenance Operations & Equipment	General/ Misc.
General NPDES Actions: Annual Report & Program Development	$54,924	N/A	N/A
SWMP Development	$9,324	N/A	N/A
Public Education and Outreach	$93,685	N/A	$35,945
Public Involvement and Participation	$999	N/A	N/A
Illicit Discharge Detection Elimination	$98,443	N/A	$4,508
New and Redevelopment	$52,590	N/A	N/A
Pollution Prevention Municipal Operations	$17,807	$1,257,008*	$2,383
TMDL	$4,347	N/A	$22,637
Ambient Monitoring	$8,069	N/A	$786
Stormwater Monitoring	N/A	N/A	N/A

'* This sum includes $57,923 in Maintenance and Operations costs associated with street sweeping, maintenance performed at City owned and operated stormwater facilities, vactoring catch basins and pipes in City right-of-ways, operation of a decant facility, and training of staff. Also, included in $1,257,008 is $101,189 for stormwater vehicle maintenance and $1,097,896 for Maintenance and Operations Storm Division crew, administrative staff, and management staff salaries and benefits.